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WHO GAVE THE WORLD SYPHILIS?

The Haitian Myth

Who Gave the World Syphilis?

The Haitian Myth

BY

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WITH INTRODUCTION BY

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DEDICATION

A VISION OF THE SEARCH FOR TRUTH

A field full of folk thronged together
Crying for Grace to find TRUTH,
But no wight so wise to know the way.
They blustered forth like beasts over the valleys and hills,
Long was the way and late, when they met a palmer
Appareled as a pilgrim. He had a staff
Bound with broad list like ropeweed twisted about,
A bowl and a bag at his side,
A hundred ampules fastened to his hat,
The signs of Assi, scallop-shells of Galicia,
Many crosses on his cloak, the keys of Rome,
The vernicle of St. Veronica with Christs features,
That all men might know from his signs
What saints he had sought.

This folk needs first to ask him whence he came.

"From Sinai," says he, "and from the Holy Sepulcre,
"Bethlehem, Babylon, Armenia, Alexandria, and Damascus,
"At all, as may be seen by signs upon my hat,
"Good saints have I sought for my souls health,
"Marching full wide in wet and dry."

"Knowest thou a holy saint that men call TRUTH?
"Canst thou tell where that saint dwelleth?"

"Nay, so God me help," said the fellow then,
"Never saw I palmer with pike nor script
"Ask for TRUTH till ye here now at this place."

(Modernized from Will Langland's Piers Plowman, written about 1380)

CONTENTS

Part One
THE HISTORIC MYTH

Part Two
THE PITFALLS OF EXTINCT HUMORAL PHILOSOPHY

CONTENTS—Continued

THE HAITIAN MYTH

Introduction

In 1905 and 1906, I had the privilege of observing the work of Captain Holcomb in an investigation of West Indian Bilharziasis. Observing his work and then reading his paper entitled, "The West Indian Bilharziosis in its Relation to the Schistosomum Mansoni (Sambon 1907), with Memoranda in Ten Cases," published in the first volume of the U. S. Naval Medical Bulletin, 1907, pages 55 to 80 inclusive, convinced the writer of this Introduction that Captain Holcomb was a disinterested searcher after truth, for this paper, detailing work done in the field, proved the validity of the species *Schistosoma mansoni.*

In 1932, while on duty at the Naval Medical School, in Washington, I was interested in getting the facts about the volume of Ruiz Diaz de Isla, and the importance of its bearing upon the question of the American origin of syphilis. There was, apparently, only one copy of this rare work in the United States, and that was in the Huntington Library, in San Marino, California. The Naval Medical School requisitioned for a photostat of this volume and acquired it. From this copy, Captain Holcomb has made his researches, resulting in exposing the fallacy of assertions regarding this work.

In order to acquire exact information he has translated the entire volume. As the work was published in 1539, the Spanish letters and characters as abbreviated and contracted are entirely different from those of modern Spanish. So far as the construction is concerned, it would be about comparable to reading Geoffrey Chaucer by an English-speaking person of the present day. In spite of these handicaps, Holcomb has dug out the facts in regard to this volume. Medicine is greatly in debt to him, for this research. He has shown the folly of laying up mountains of half-baked prejudice when a scholar digging into the records of the past can get at the truth of things

without further complicating the literature. In his Haitian Myth of European Syphilis, Holcomb has shown not only his capacity as a scholar and research worker, but also his ability to direct upon these fallacies and prejudices an effective sarcasm, irony and satire to drive his lessons home. It would seem impossible for a physician to read this work without being convinced of the fallacy of the American origin of syphilis theory, as well as that of duality of viruses as between yaws and syphilis. Several years spent among islands of the West Indies, some of this time on the Island of Haiti, as Director of Public Health of the Haitian Republic, has left me convinced that the reputed origin of European syphilis, laid upon this island, is without a valid foundation.

Socrates was required to take the hemlock because he was supposed to have misled the youth of his day by his teachings. Although guilt of the accusation was not a fact, he was required to swallow the hemlock anyway. How fortunate it is that modern medicine has not this same "hemlock law" to be used on those who mislead the medical teachings of the present time. After reading Holcomb's work, those misguided teachers should pray to Aesculapius for forgiveness because of their violation of the Oath of Hippocrates!

Naval medical officers, not alone of the United States, but of all the navies of the earth, have added much to the advancement of medicine. To mention the subjects which they have glorified by researches would be to cover the whole field of medicine. Because of the fact that they remain for long periods in places and climates where serious diseases of all types may prevail, they have a great advantage over those who make but cursory trips into these out-of-the-way places. It is but normal for them to have first hand knowledge of diseases which, to others living in protected communities, seem very distant and unreal. In spite of this, medical officers of the navies of the world have not been taken seriously. Almost as a class, they are considered as "playboys" in medical science. A history of their actual accomplishments will prove

how fallacious this attitude is. It is a pleasure for me to write this introduction and call the attention of the medical profession to the debt it owes to Captain Holcomb.

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May 4, 1936.
New York, N. Y.

Part One

THE HISTORIC MYTH

There is an inveterate opinion that syphilis had its European origin in Haiti, an island of the West Indies, first called Española, and that it was imported with the return of Columbus from his first voyage. There is an abundance of evidence through contemporaneous books, edicts, and chronicles, that the disease under numerous names was widespread all over Europe before he returned from his second voyage in June 1496.

Not Good Form to Dispute the Myth of the Haitian, or American Origin of Syphilis

It is not good form to disagree with those who believe in the American origin of syphilis. Astruc believed devoutly in this theory, and militantly rejected all other evidence, reviling with fervor those heretics who entertained the doctrine of its great European antiquity. But this attitude is no less true in these modern times, for Rolleston, referring to the work of Jeanselme (*Histoire de Syphilis,* Paris, 1931) thus sums up his attitude: "He [Jeanselme] has come to the conclusion that all documents concerning syphilis, with a date prior to 1493, are apocryphal, either because they are antedated by fraud or error, or because interpolated passages have been introduced." If such is true it becomes a serious matter to entertain a view of its great European antiquity.

Continuing, Rolleston says: "Professor Singer believed that the outbreak of the disease which occurred at the end of the fifteenth century, was not syphilis, but paratyphoid fever. The speaker thought that *all the best people held the opposite view.*" (The italics are mine).

Jeanselme (Fig. 4, *Histoire de Syphilis,* Paris, 1931) publishes a reproduction of the frontispiece of Ruiz de Isla's first edition, an illustration reproduced as an exhibit by other writers to give weight to what it is assumed may be found in the text. It has seemed to suggest that Jean-

selme knew something of what was contained in this work, and with this knowledge he might substantiate a charge of fraud, error, or interpolated passages. Therefore the comments that follow are from this, the first printed edition of the work, owned by the Henry E. Huntington Library and Art Gallery, of San Marino, California.

Nor do we find the view of the American origin less deeply rooted even in America, for in a review of Professor Pusey's book, The History and Epidemiology of Syphilis (Annals of Medical History, New Series, Vol. 5, p. 510) it is stated: "Along with almost every student of the subject, with the notable exception of Sudhoff, Pusey is convinced that it was an American disease, and was imported into Europe by the crews of Columbus."

To a man sitting in the darkness of ignorance looking for light, the foregoing may make him ashamed to confess his mystification over the kind of evidence upon which the American origin of the disease is founded. The teaching of the learned John Baptiste Montanus (1488-1551) which so long intrigued the scholars of Europe, in effect that Columbus in 1496 introduced the disease into *Naples,* on his return from *Calicut,* sounds apocryphal as to authority, and anachronistic as to fact. For Columbus did not return to Naples in 1496, nor was he ever there after the discovery, and furthermore, Vasco da Gama, the first navigator to reach India by sea, did not arrive at Calicut until May 20, 1498 (Charles VIII being dead by this time) and his account, if true, would have introduced the disease from India, and not from America.

But the man sitting in the darkness may get greater confusion from the account as it continues, for he says that Columbus' soldiers brought with them Indian women infected with the French Disease, and as Naples was then besieged by Charles VIII of France for several months, the women were sent over to the French and infected that army so that the disease was spread all over Europe. But the man sitting in the darkness, groping for light, wonders if this muddled account is downright fraud or plain error. For Charles VIII was not at Naples in 1496, having left

there May 20, 1495, never to return, and there was no siege of Naples lasting several months, for Charles VIII with his army left Capua on the way to Naples February 18, 1495, and arrived at Naples February 22, 1495. Nor were there hostilities of any kind, for midway between the two cities the Neapolitan leaders came to an accommodation with Charles by which their ancient liberties and privileges were secured to them. A reliable account of the event is given by several contemporaries, among them Phillip Comines (1445-1511), Charles' minister, who was engaged for more than a year with the business of the expedition. Instead of a siege he says: "The King of France was received into the city with all possible solemnity and acclamation of joy; all the people came out to meet him, and those who had been obliged to the house of Aragon came first," etc. How a siege of Naples lasting several months could be crowded into the period from February 18 to 22 is a sleight-of-hand miracle, and being a miracle does not have to be explained. But to the man sitting in darkness there can be no shame in rejecting the account of Montanus, as a very crude fabrication or blunder, even should it sadly result in him not being considered one of the best people.

As to the frightful epidemic at Atella, which attacked the French garrison troops left behind at Naples, and who were all but wiped out on this occasion, the summer of 1496, Bircher, and Sudhoff, and others, believe it was typhoid. Beyond all doubt it was not syphilis.

The principal testimony used against Columbus by the modern popular writers, is that of the Spaniards, Ruiz Diaz de Isla, Oviedo, and the venerable Las Casas. Oviedo and Las Casas were both lads in their 'teens at the time Columbus returned from his first voyage, and their testimony is not only founded on hearsay, but reveals little pretense of a conviction that the disease was imported after the first voyage. In fact Oviedo says the disease appeared in Spain in 1496, as does the muddled account of Montanus. Neither Las Casas nor Oviedo visited the West Indies before 1502.

The testimony of Ruiz Diaz de Isla is of a distinctly different character, and he is considered the most convincing authority of the Haitian origin, the only one to place the origin with the first voyage completed March 1493. He states that an epidemic of his Serpentine Disease of the Island of Española, generally interpreted to be that treponematosis called syphilis, broke out at Barcelona immediately on the arrival of Columbus there in 1493, and that he treated persons of the first armada who had the disease, and further in an expunged passage in a manuscript copy of the book referred to by Pellicer (1797), and later extracted and published by Montejo, it has been made to appear that he claims to have treated at Barcelona upon arrival of the first armada at that port, an unknown pilot of Palos named Pinzon, which is supposed to refer to one of the three brothers Pinzon who went with Columbus on the first voyage.

Ruiz Diaz de Isla was not a physician but a surgeon, thus being one of the class to whom the treatment of leprosy, syphilis and similar affections had long been relegated. He wrote a tract giving an account of his experiences with the disease, principally in the Hospital of All Saints, located in the city of Lisbon in Portugal. He did not choose to call the disease by its Spanish name, buvas or bubas, but invented the name Serpentine Disease of the Island of Española.

It is a remarkable fact that many of the writers who have expounded his testimony have never seen the book, and have trustfully taken speculation for facts, interpolating passages into his text with a sleight-of-hand finesse to improve the case.

The Mystery of the Codex

Although abroad we have such propagandists of the doctrine of the American origin of syphilis as Astruc, Iwan Bloch, Jeanselme, Dohi, Haustein, and others, the principal exponent in America is William Allen Pusey, whose work published in the Commemoration Volume of the American Medical Association, has carried great in-

fluence, and it was later published by the American Medical Association as a separate volume. Recently, 1933, another volume on the history and epidemiology of syphilis has appeared by the same author, in which the same doctrine is repeated.

According to Professor Pusey, credit for unearthing the evidence of Ruiz Diaz de Isla belongs to Montejo y Robledo, who made his report to the Fourth International Congress of Americanists, meeting at Madrid, Spain, in 1881. Furthermore, Pusey goes on to say (quoting Bloch) that Montejo discovered a special work by Ruiz de Isla, "which was published between 1510 and 1520." Reference to the paper of Montejo reveals the fact that the document in question is a manuscript of the book (Codex P. 42 Nat. Lib. Madrid) brought to light nearly one hundred years earlier by Pellicer.

The time that Ruiz de Isla's work was written and published is important only in the attempt to make it nearly contemporaneous with Columbus, and because Montejo, whose writing on this author has recently come to be the main source, yet other writers have speculated on this subject, and attributed the work to a date as early as the year 1504, and as late as 1555, whereas it was actually published by Domenico Roberto in Seville, September 1539.

Jean Astruc Believed the Work Was Written in 1555

Jean Astruc frankly confessed at the end of his famous work, that he never saw the book of Ruiz de Isla, and attributes it to the year 1555. He reasons that as the work was dedicated to King John of Portugal, and as this king died 1557, then it must have been written about this time. There is no concealment on the part of Astruc as to why he settled upon this date, but his confession that he never saw the book makes it possible to assume that the sole source of his information with regard to Ruiz de Isla was the extract translated from the Spanish into Latin by George Jerome Welch (Velchius) and published in 1668.

Other writers, discussing the work of Ruiz Diaz de

Isla, have usually confined their comments to the first part of the first chapter as published by Welch, seeking to make the work nearly contemporaneous with Columbus.

Gaskoin Believed the Work Was Written 1506

Gaskoin, writing in 1867 (Med. Times & Gaz., vol. 2, pgs. 62, 89, 115, 200), was another to comment on the date. The words in the Spanish text, speaking of the island of Haiti may be translated: "And as this island was discovered and found by the admiral Don Christopher Columbus, *at present* holding intercourse and communication with its people." (*E como esta ysla fue descubierta y hallada por el almirante don Cristobal Colon/ al presente teniendo platica y comunicacion con la gente della*).

The Spanish words *"al presente,"* translated by Gaskoin and others into English as *"at present,"* led Gaskoin to conclude that the work had "the appearance of having been penned some date before the death of Columbus, A.D. 1506; and some would say before his return to a neglected existence in Spain, A.D. 1504." Montejo had already, in 1857, published the same material about the text of the Codex of Ruiz de Isla (see Siglo Medico 1857, p. 71, D. Bonifacio Montejo), and Gaskoin was familiar with Montejo's work. However it appears that Montejo, at this time, placed the writing of the codex between the years 1510 and 1520.

The words *al presente* appear in other places in the Ruiz de Isla text. For instance, further on in the same chapter, he refers to King Charles VIII thus: *"El Cristianismo rey Carlos de francia que al presente reynaua,"* which literally translated with the same meaning as in the foregoing, would be rendered: "The most Christian King Charles of France *at present* reigning," etc., which, adopting the same assumption as in the other incidence, would lead to the erroneous conclusion that the work was written before April 1498, at which time King Charles met his death.

Again he uses these words *"al presente"* in describing his experiments on the person of a victim of the disease

from the Island of Española, which experiments revealed the secrets of mercury, and which secrets, he says, were unknown the first fifteen years. So, adopting the same method of reasoning we might place the writing of the book fifteen years after 1493, or in 1508.

It should therefore be apparent in order to give a consistency to his text, that Ruiz de Isla uses the words *al presente* on these three occasions in the idiomatic sense, meaning "at this time."

The speculation of Gaskoin might escape notice were it not taken as a fact by some, for George Gaskoin is quoted as an authority for this date by Haeser, and he would appear to be the authority for the date given by Riesman.

Montejo Believed the Work Was Written Between 1510 and 1520

Although many writers dealt with the work of Ruiz de Isla before the now famous paper of Montejo appearing in 1881 at the International Congress of Americanists—such as Welch, Astruc, Pellicer, Campany, Pio Rengifo, Lancereaux, Rollet, Thiene, Bacot, and the Spanish medical historians Morejon and Chinchilla—none of these except Pellicer and Campany, refers to the codex brought to light by Montejo.

The account now in vogue, is that it was Montejo who discovered at the National Library at Madrid, the manuscript of Ruiz de Isla's book, and that this manuscript is dedicated to King Manuel of Portugal, who died in 1521. Now, as Ruiz de Isla states he had more than ten years' experience in the hospital of All Saints, in Lisbon, Portugal, upon which ten years' experience the book, so he tells us, is predicated, then it follows the work may have been begun ten years earlier, and so we are invited to assume it was written by 1510, and at latest by 1520. This assumption is presented by Iwan Bloch in his many writings, and in the books of Pusey and Jeanselme.

Montejo, in his early paper (Siglo Medico, March 1857), and in his book (*La sifilis y las enfermedades que se ha*

confundido con ella, Madrid, 1863), appears to have been more certain that the work was written in 1510 and at latest 1520, for in his paper before the International Congress of Americanists, Madrid, 1881, he simply says that Ruiz de Isla first planned to dedicate his book to King Manuel of Portugal who died in 1521. He seems to have altered his early view, for on this latter occasion he informs us that it had always been his firm belief that the work was written the first third of the fifteenth century (Actas, p. 380). However his disciples continue to state, with assurance, the early assumption as a fact, that the manuscript was written or "published" between 1510 and 1520.

Montejo was not the first to invite attention to this manuscript of Rodrigo de Isla. This had been previously done long before, in 1797, by Juan Antonio Pellicer in his annotations on the text of Cervantes work, Don Quixote de la Mancha (Part II, Cap. xxii, p. 237-9). In this work, Cervantes introduces a zealous scholar, who, discoursing with Quixote, ironically pointed out that the great Virgil had forgotten to tell who was the first in the world to catch a cold, and who was first to be rubbed with ointment for Morbo Gallico (French disease). Pellicer, adding to the merriment, undertook to furnish in his annotations the omitted information by referring to the codex in the Royal Library (P. cod. 42), and gravely surmised that Rodrigo de Isla had insinuated this person to be the pilot Vicente Yañez Pinzon. Montejo was well aware of this annotation, and in his second conclusion supports and gives credit to Pellicer's contention that the filthy disease was imported by the companions of Columbus who went on the first voyage (*secunda Tesis: Los que acompanaron a Colon en su primer viage importaron al volver a Europa entre los testimonios del descubrimento del nuevo mundo, las Bubas: esta sucia y dolorosa mercaderia comc la llamo Pellicer el erudito anotador de Quijote.* P. 377).

Pellicer's note is strongly prejudiced toward the American origin, and he resents as inventions, the statements made by Leonardo de Fioravanti, and the Spanish surgeon

Andres de Alcazar (whose work was published at Salamanca, 1575, with license of Protomedico and the King) that the disease flourished at Naples in 1456, during the campaign of Alonzo el Sabio (Alfonso V, King of Aragon and Navarre, but Alfonso I of Naples and Sicily). Andres de Alcazar, well aware of, and discussing the fable of Christopher Columbus and the American origin, rejected the slanders that attached to the latter and his companions.

The Mystery of the Dedication

It is now said by writers, who seek to make Ruiz de Isla a contemporary of Columbus, that he dedicated his work to King Manuel of Portugal who died in 1521, and therefore it must have been written before that date. There is absolutely no excuse for this statement. The work was not dedicated to King Manuel. He begins his prologue by dedicating the work to King John of Portugal, thus:

"Prologue.

"Treatise named the Fruit of All Saints against the Serpentine Disease of the Island of Española, dedicated to the very high and mighty Senor Don Juan of Portugal, third of this name. Done by Ruy Diaz de Isla, citizen of Seville."

Further along in the prologue, addressing John III, he thus refers to his father, King Manuel: "It was my intention to offer him (Don Manuel) this product of my labors gathered from my large experience. Further, since our Lord God called him to raise him to Heaven, my wish could not be carried out, hence your highness as his descendant, lord and patron of this holy place, I humbly beg that you agree to accept it, and protect it from copiests."

Later on in his chapter of All the Doubts (folio li, col. iii) commenting upon his statement in the Prologue and Prohemio, he apologizes that he, a Castillian and citizen of Seville, should dedicate the work to the King of Portugal, not his master. Offering as justification, he states that he prepared the work in the famous Hospital of All

Saints in the city of Lisbon, where he had first served with a salary in the time of King Manuel, and that the book from the first to the last letter was the fruit of this service. This is followed immediately with reference to his service there in 1524 and 1528, during the reign of King John III to whom he dedicated the book. These two latter periods are completely ignored by modern writers, who reject King John from the picture.

Therefore where Montejo states (Actas, p. 380) that Ruiz de Isla first intended to dedicate the work to King Manuel, the statement is correct, but for reasons clearly stated he did not do this. So the oft repeated statement that the book was dedicated to King Manuel is an interpolation without foundation in fact.

Ruiz de Isla Clears the Mystery of Date and Dedication

Let us examine some features in the text which should show that the assumption that it was written as early as 1510, or even as early as 1520, is incompatible with the author's statement that the disease first made its appearance at Barcelona, in 1493.

A whole chapter is devoted by Ruiz de Isla to the *Palo,* or Holy Wood (guaiacum). Modern writers attribute the first works on this subject to Nicholas Pol or Poll, 1517, and to Leonard Schmaus, in 1518. This should arouse some suspicion of an anachronism. The chapter in Oviedo's Sumaria setting forth the superstition of the American origin is devoted to the subject of the Holy Wood, guaiacum. This work was first published in 1526, more than a decade before the work of Ruiz de Isla, and as we shall see later, four years before he could possibly have finished his work. Oviedo believed in the superstition of the holy wood, that Divine Mercy always, in permitting us to suffer for our sins, provides the remedy to cure a disease thus inflicted among the people who were so to suffer. As guaiacum was the specific antidote for the bubas, and as it came from America, it followed that the disease came from America also. This superstition has been dealt with in an-

other paper. Ruiz de Isla recounts an extensive experience with the wood, and says that its virtues were not discovered until after twenty years (Cap. x, del Palo. folio XLI, col. 3). He makes this same statement in his Prologue. Here again our suspicion of an anachronism should be aroused.

In the chapter on Mercury (folio L, Cap. 12) he refers to the work of John de Vigo, his 5th book on Morbum Gallicum, or syphilis. As the work of de Vigo was printed at Rome in 1514, certainly Ruiz de Isla could not have prepared his work in 1510.

Turning to the chapter Of All the Doubts (folio LI, col. 4), he tells us of his ten years' experience in the hospital of All Saints, in Lisbon, Portugal, upon which experience his book is predicated. It appears that these ten years were a total of three separate employments. The first was during the time of King Manuel, the second in 1524, in the time of King John III, and another time in 1528. It was at this latter time that he accomplished the compilation and arrangement of his experience. Sticking strictly to the dates he gives, without making deductions as to the time it took him to write his book, we have now arrived at the year of 1528. This is the passage in question:

"On two other occasions I have resided in the said hospital: and one of these was in the year of twenty-four during the reign of the most serene King Don Juan, third of this name. And I then had in this famous hospital the ward for surgery and for the pestilence that had prevailed about the city. Likewise I was in the said hospital in the year of twenty-eight; and I was given at this time the ward for this serpentine disease where I finished the compilation and correction of this work." (*Otras dos vezes he residido en el dicho ospital: y la una dellas fue el año de veyente y quarto reynante el serenissimo don Juan rey tercero deste nombre. E tuue en el famoso ospital la enfermeria de la cirurgia /y por pestilencia que en la ciudad ouo la dexe. E assi mismo fuy otra vez en dicho ospital en el año de veyente y ocho: y me fue dada otra vez enferm-*

eria deste morbo serpentino /donde acabe de copilar y corregir esta presente obra, folio li, col. 4).

Further along in this chapter Of All the Doubts, he tells us of cases of the morbo serpentino that he had under observation for 20, 30, 36, and even 40 years. Now if this book was written in 1520, then the case under observation for thirty years would date back to 1490, or three years before the return of Columbus from his first voyage. The case under observation 36 years would date back to 1484 or before the return from the first voyage. The case under observation 40 years would date back 13 years before the return. It would be silly to apply these calculations to the date 1504 offered by Gaskoin, Haeser, and Riesman, as it would take us back to 1464, at which time according to Bloch, Ruiz de Isla was an infant two years old!

It may be well to explain before quoting the passage in question (which like others quoted is from the first printed edition) that our author states that he has made two important discoveries in connection with the disease. First, it was cured by mercury; and second, it was a disease of three species or stages. Lancereau and Chinchilla are among the few authors who recognized Ruiz de Isla's early—very early—clinical view of the disease. After one has perused the whole fifty-four folios of his book, one may see that he is concerned largely with treatment of persons in the late stages of the disease, or to conditions he assumed to be late stages of the disease. This is evident when he tells of the first case from Haiti that he treated with mercury, who he said had gout which was a sequel of the disease of the island of Española. So for him to say that he treated persons who were *afflicted* with the disease in Barcelona, or the fleet, does not mean that he *treated* them in Barcelona, in 1493. We therefore ask indulgence to suspend for a moment the enthusiasm to convict America, or Columbus, or to remove the stain of the French disease (*morbum gallicum*) from France, and for this moment to endeavor to view the matter in the light of determining the relation of the so-called American disease (*morbus americanus*) to the inconsistencies to be further pointed

out in what might appear to be stupid comments of this author, in order that we may arrive at a better understanding of this particular ambiguity. Thus he speaks of his experience:

"The author has said in the clarification of the definition, that within 20 years after one has had the first species the second species develops. And I have seen it appear in some after 30 years, and I have seen one that appeared in 36 years, and I have been informed of one case which made its appearance in the second species after 40 years. . . . Although I have treated this disease for 40 years, yet I have not seen nor heard tell of over 10 persons pass beyond 20 years." (*En la clarificacion dela definicion dize el autor que dentro de xx años torna la segunda especie despues de auer tenido la primera y quel ha visto algunos venirle alos xxx años y que vido a uno que le vino alos xxxvi, y que fue informado que a uno le auia venido la secunda specie alos xl años. . . . porque yo ha xl años que curo desta enfermedad y no he visto ni oydo dezir passar diez delos dichos xx años,* folio liii, col. 3).

It so happens that on the page from which this quotation is selected Ruiz de Isla makes this statement of 40 years' experience with the disease, or a statement to this effect, no less than four times. On another page when discussing his fourth precept, he makes a similar statement twice. This in his chapter of the universal precepts, secrets of the disease (according to the title) unknown until discovered by him. In this chapter he lays down thirteen precepts. The fourth precept has to do with what he calls laxatives or purges—a preparation for administering mercury since the time of Roger. It is in discussing this fourth precept that he recounts his thirty years' experience with laxatives followed by ten years' experience without the laxatives, which is his preferred method. And he says he reached this conclusion after forty years experience with the disease. (*Es conclucion que el auctor ha quarenta años que cura y platica esta enfermedad: y los treyenta años curso los laxativos en compañia de grandes phisicos: teniendo lo mas del dicho tiempo cargo de gentes en ospitales*).

He repeats all these statements in his chapter Of All the Doubts. Ruiz de Isla claimed an extensive experience with the disease. On folio iv and elsewhere, he says he had observed more than 20,000 cases.

If Montejo, Bloch, Jeanselme, and Pusey are right in their deduction that the manuscript of Ruiz de Isla's book was prepared at latest by 1520, and if it was predicated on 40 years' experience, then it follows that he had been engaged in the treatment of the disease since 1480, or 12 years before Columbus left Spain on his first voyage. The mathematics involved is so simple as to be beyond controversy. To the man sitting in the darkness of ignorance, the charge of antedating, interpolating, fraud or plain error, seems to be on the wrong foot.

Perhaps no passage in his book should prove more conclusively the fact that the work of Ruiz de Isla is not a work contemporaneous with Christopher Columbus, than a passage in his precept on the subject of Wine, contained in the same chapter as the extract just quoted. After a long preamble he says that the secrets of wine have been very difficult to understand, and was not understood until this work of his. In the beginning, he says, it had a good reputation for the sickness, and was used because it calmed the pain; but intemperate use had led to corruption and even death. Until the year of 1507 it was considered good for the disease, but its dangers were recognized by 1515, when he prohibited its use by the sick for 30 days, and thus, until the year of 1520. It was not however until the year of 1530 that he completed the classification and understanding of its effects, which were very difficult to comprehend. (*E hasta el año de quinientos y siete lo auian por bueno/ y despues del año de quinze por delante fue alcançado ser dañoso: y yo lo tiraua a mis dolientes treynta dias: y esto hasta el año de veynte/ que de ay adelante se alcanço mas por entero sus daños hasta el año de treynta que yo lo acabe de graduar y conocer sus efectos: los quales han sido muy trabajosos de alcançar,* folio xxxviii).

In view of the foregoing references, all of which were made by Ruiz de Isla himself, it is difficult to understand,

if knowing of them, how any one, even with an ardent desire to be reckoned among the best people, might conclude that the book was written in 1504, or 1510, or 1520, for if it were, then the 40 years of experience which he so frequently claims would carry us to a date before that fateful day in May 1493, when Christopher Columbus arrived at Barcelona, and from which city Ruiz de Isla says that the epidemic started.

The License to Print and the Manuscript

Let us now turn to two matters of sequence. The first is the license to print, and the second is the printer's date on the first edition. A manuscript of course had to exist before the book. At the time Ruiz de Isla printed his book, and long before, the laws of Spain required that before printing, a manuscript should be examined by the protomedicos, and duly licensed by the King. In some books both the certificate of the protomedicos and the license are printed. In this case the license is published in the book immediately after the title-page, and is signed for the King by Don Juan Vazquez, and dated Valladolid, July 10, 1537. The final impression of the book tells us it was printed at Seville, at the house of Dominico Robert, a printer of books, and finished the 27th day of September 1539.

An examination of this license brings out three facts. First, it was not issued until 1537, or after the two works of Oviedo: Second, it was issued to Rodrigo de Isla, the name appearing on Codex P. 42, and not to Ruy or Ruiz Diaz de Isla as the name appears in the two printed editions of his work: Third, the license is issued for a work on bubas, not the serpentine disease of the island of Española, as appears in the printed edition of the work. Therefore the license corresponds to, and refers to the title of the manuscript described by Pellicer, Campany and Montejo at the National Library at Madrid, entitled: "Treatise called Fruit of All Saints against the Malady of the Island of Española, by Master Roderigo de Isla, Surgeon, citizen of Lisbon, for the Common and General Profit of Patients sick of the same disease, that is commonly called Bubas,"

and identified by all three as Cod. p. 42. In the printed editions he changes his name from Rodrigo or Roderigo to Ruy or Ruiz to which he adds the name Diaz. Now he calls himself a citizen of Seville, not Lisbon, and furthermore decides to name the malady Serpentine Disease. His book it may be noted appeared 13 years after the *Sumaria* of Gonzalo Fernandez de Oviedo y Valdez, which was published at Toledo, 1526. Oviedo in this work devoted a chapter to the Holy Wood, claiming it to be a specific for the bubas, because God always provided a remedy for a disease at the place where the disease was inflicted as a punishment for sin.

Ruiz de Isla's work was published too, 4 years after the appearance of the first books of Oviedo's *Historia General y Natural de las Indias,* which was published at Seville, September 1535, and which popularized the superstition of the Holy Wood. This superstition was not original with Oviedo, for the pious credulity of the Spaniard in the virtues of the Holy Wood already existed in 1517 as set forth in the work of Niccolo Pol. Oviedo gave what he considered a logical reason for its virtues, and was copied by Las Casas, Gomara, Herrera, and others. These works of Oviedo, as well as the propaganda to promote the sale of the Holy Wood, were the source from which Ruiz de Isla took the suggestion that the disease was native to the island of Española. Having no experience himself in the island, it was necessary to look outside of his own experience for this information.

As for Oviedo, he earned for himself the reputation of being sponsor of the Holy Wood. Herrera gives an account of how the virtues of the Holy Wood was revealed to the Spaniards by a native woman. Herrera places the date of this as 1503 (Decada I libro v, cap. ix, p. 141). In his first edition of the Natural History, Oviedo gives an account of the Holy Wood in his chapter on trees (Liber x, cap. 2, pg. 346). This was published in the Venetian collection of Lusinus in 1566 in a Latin translation, wherein he is called Consalvi Ferrandi. Thus Gideon Harvey (*c.* 1640-1700) facetiously refers to this excerpt:

"The misery of the ancient Varolists was the greater, for being destitute of proportionate remedies; but an Evangelist arriving from the West Indies in 1518 with a small cargo of an indubious antidote, viz., *Lignum guaiacum*, soon filled their hearts with joy. Nic. Poll intimates that about three thousand (whose abortive purgative and mercurial cares had left them desperate until the happy exploitation of this blessed wood) were restored to their chieftest wishes. Ulrich Van Hutten after *eleven salivations,* many hundred purges, and other frustraneous attempts was unexpectedly redintegrated to his orthostadian health. Consalvus Ferrandus, a Spaniard (vide Ferrand Hist. Nat. lib. 10, sect. 1, cap. 2) being pocky beyond the controlling of all European helps, undertook an exploratory voyage to Hispanola where arriving, his very looks discovered him Varolous to the natives, who in a very short time recompensed his pains in so hazardous a voyage. The rejoiced Gallican being returned to his native soil, acquainted the Portugal Physicians with the success of the Indian Cure, seriously recommending the trial were some of their Lusitanian Varolists, who receiving a miraculous cure from the sacred wood, hung pieces of it in their churches, and kneeling down before it, blessed God for his mercy in discovering so sacred a wood, whence it was after called *Lignum Sanctum,* or Holy Wood: hereupon the poor people who could not go to the price of it (for as Massa reports, that at Venice Guaiacum upon its first importation was at fifty crown the ounce, which made some sell it again to the apothecary after they had made use of it, who in the same manner sold it ten times over as Montanus states) attained a perfect cure by profusing their prayers before it in their churches. Mercury was now quite cast out of doors and banished, everyone bringing a charge against it; some declared themselves far the worse for using it, others pretended they were precipitated into a lameness, palsie, cachexy, etc., by it. Fernel, Palmer, Thorner, Lottic, etc., proclaim the wood divine, sacred, miraculous and what not? Massa and Huttenus protest there is no sort of pox pos-

sible but what is cured by this sacred antidote" (Gideon Harvey, Great Venus Unmasked).

Ruiz de Isla, like a good Spaniard, found it easy to believe that Divine Providence had placed this remedy among the sinful pagans who although very ignorant had always known the cure. It is thus he introduces the subject in his chapter on the Palo or Wood. As used by the physicians for the *febrecitantes,* it had marvelous virtues, for some patients could survive in spite of the treatment; however says Ruiz for the most part the marvelous medicine was mercury.

When he comes to his last chapter, "Of All the Doubts," he undertakes to prove for the discerning that the disease must have come from America, because the wood came from there. What he wrote in the first chapter on the disease being identical with the lichens of the Greeks, the mentagra of the Romans, and the empeynes of Spain seemed to require no proof. Placing the letter "G" in the margin of the text dealing with the Haitian origin, he thus comments under this identifying letter in his final chapter:

"In the first chapter it was told how the disease came from the Island of Española and many doubt this, and hold that it appeared in the army of King Charles of France in the year 1494 and on this I have said enough in the same chapter, furthermore I wish to give a reason so that among the discerning it may be seen clearly, and so I say that in the year of 1504 I was given in writing all the treatment that the Indians used for this disease, according as I have written them, as of the guaiacum as well as the mapaun and tuna. For if the orderly treatment by which the disease is cured and healed was placed within reason by those ignorant people, it follows that the disease was prevalent among them for a long time, so they had regulated the decoction as well as the diet, and the term they should keep from women, as well as protection from dampness and air, while, in truth, ever since this sickness has prevailed among us, none of these things have I seen controlled until today. Neither of mercury, nor wine, nor our temperaments have I seen until today written properly,

where may be found clearly the treatment for the disease whether among Christians, or Moors and Gentiles of all communicable parts: although this people being the most stupid ever seen, were wholly familiar with its cure and regulation: For which reason it is clear that the disease had always prevailed among them, for they knew the cure as persons very familiar with the disease. For if this were not so, many other generations much wiser than they, would have found the cure for this disease, for *which reason all erroneous argument concerning the aforesaid may cease.* For I have had long experience and have cured persons who had it in the aforesaid armada, and cured persons who were afflicted (*adolecieron*) in Barcelona, and I could give other proofs which are omitted, *because it seems to me I have said enough for one to see clearly and those who should wish will find more particulars in the chapter on the treatment with guaiacum*" (folio liii).

Thus all those who have followed Ruiz de Isla, must be convinced of the truth of the Haitian origin by swallowing bait, hook, and line, that ridiculous superstition, and one-time convincing proof of origin, regarding this Indian remedy, the Holy Wood, an extinct delusion long since discarded by the discerning.

Ruiz de Isla's Two Accounts of Origin

The propagandists of the Haitian origin of syphilis seldom go further into the testimony of Ruiz de Isla than the opening account of the first chapter, and its reiteration in the chapter Of All the Doubts. For the first chapter devoted to origin gives two distinct accounts. The first attributes the disease to the voyage of Columbus, and the second identifies it with the ancient disease of the Greeks, called Lichens, and described by Pliny more than fourteen hundred years earlier, and called by him Mentagra.

The First Account, A Barcelona Epidemic

An early champion of the theory of Haitian origin was Jean Astruc, who in 1736 published a work in six books, later extended to nine, entitled *De Morbis Veneris.* This work went through a number of editions, was translated

into several languages, including the English language, and, as Pusey aptly comments, constitutes a landmark in the history of syphilis. Astruc was one of the many authors who uses this much quoted first part of the first chapter from Ruiz de Isla's book. The sense is so altered in the Latin text that it does not correctly convey the meaning intended by Ruiz de Isla. We will quote a translation of Astruc's text because of the important bearing it has on the shape in which Ruiz de Isla's text was first broadcast, and for other reasons.

"Roderic Diaz (commonly called Rui Diaz) of Isla, a physician of Seville, in a Treatise written in Spanish *contra las bubas,* and dedicated to John III, King of Portugal, and consequently written before 1557, the year in which King John died, has the following observations, Cap. I, in the translation into Latin by George Jerome Welsh in his *Adnotatione ad Observatione 4 Marcelli Cumani...*

"This disease appeared in Spain in the year 1493 at Barcelona which was first infected, and afterwards all Europe, with the rest of the world. It took its origin in the Island of Hispanola, as has been found from long and certain experience. For when that island was discovered by Admiral Christopher Columbus, this disease being infectious, was easily communicated to the soldiers who kept company with the natives and soon spread through the army. As they were never before acquainted with any pains of that kind, they attributed the cause of them to the troublesome voyage, the hard labor of sailing, and such other distresses as to everyone seemed the most probable. And as at the same time that Columbus the Admiral arrived, the Catholic King to whom he gave an account of his voyage, and the discoveries he had so lately made, resided in Barcelona, immediately the whole city began to be seized with the same disease, which had spread itself quite over it. . . . But as it was hitherto not understood, and appeared to be very formidable, fasts, religious devotions and alms were appointed, that God would be pleased to protect them from the disease. But the following year, viz. 1494, when Charles the most Christian King

of France who then enjoyed the crown, led a great army into Italy, a great many Spaniards, who were their enemies, and were infected with the disease, lived there at that time so that the King's forces were immediately seized with it. Being ignorant, however, of the name or nature of the disease, they imagined it to be owing to the air of the country. On this account they called it the Neapolitan Disease; whereas the Italians and Neapolitans who at this time were unacquainted with it, named it the French. But afterwards according as it happened, everyone gave it the name he thought proper, taken from the country whence he imagined it proceeded. Thus the Castilians called it Boas. In Portugal, it was called Castilian disease, and in Portuguese India, the Portuguese disease" (From the translation printed for W. Innys, and J. Richardson. C. Davis, J. Clark, R. Mansby, and H. S. Cox, London, 1754).

The statement of Ruiz de Isla that the crews of Columbus contracted the disease from native women is gratuitous slander, and had its origin in the propaganda for the sale of the Holy Wood. Columbus kept a journal in which he made an entry each night and each morning. Not only are there no entries to substantiate this illness among those of his crew during the first voyage, but on the contrary they were exceptionally healthy, and so healthy that he recommended that the sovereigns send learned men to examine the salubrity of the regions. His first letter written to the Treasurer, and which now exists in two Spanish versions and ten Latin translations, published in different parts of Europe contemporaneously with the event, all describe the Islands as a sort of earthly paradise.

Ruiz de Isla did not say that infected Spaniards living in Italy, among the Neapolitans who were unacquainted with the disease, and supposed it to be French, infected the army of Charles VIII, as appears in the interpolated account quoted by Astruc. What Ruiz de Isla said was that Spaniards joined the army of Charles, and thus the disease was conveyed from Spain into Italy. (*y al tiempo que por ella entro con su hueste yuan muchos españoles en ella inficionados desta enfermedad y luego se empeço a inficionar*

el real del dicha dolencia). So the origin shifts with time and place. Charles is made the indefinite intermediary; he got it from who-is-this, gave it to whats-his name, who delivered it to where-is-this. We agree with Jeanselme that the vicious custom of interpolating a text to accommodate a theory is not unusual. Welch and Astruc knew the Spanish and French were enemies at this time and so they had a consignment of infected Spaniards all ready, by 1494, residing in Italy to waylay Charles. It was Charles who opened Pandora's box out of which flew with magic speed the otherwise delicate anaerobic treponema, skipping all over Europe, Africa, Asia, and if we are to believe Dohi, to India, China, Japan, and the most remote corners of the world like lightning. The part of Charles cannot be dealt with here, but there is ample proof that there were no Spanish mercenaries in Charles' army, that Charles left Naples May 20, 1495 to return to France before any Spanish forces arrived off Naples, and, on account of the seige of Navarro, he did not get over the mountains and arrive at Grenoble in France, until October 20, 1495, or more than a month after the Blasphemy edict of the Diet at Worms had been prepared, in which, as well as by much other evidence, it is established that syphilis, or *bözen blattern* (the evil pox) was already raging in Germany. This wild-fire spread of the disease, appearing so suddenly that it was blamed on the air, each country naming it after a neighbor, and which manner of spread through the air is wholly incompatible with the known nature of the treponematosis called syphilis, seems to have made no more impression of improbability on some mentalities of the modern age, than it did on the mind of the fifteenth century.

We purpose to question further along if Ruiz de Isla was in Barcelona in 1493.

Boas or Buvas, an Ancient Disease of Spain

It will be noticed that Astruc uses the Latin word *boas* for the Spanish word *buvas* (syphilis) now more commonly called *bubas,* and a word used to this day by the

natives of the Philippines to designate the disease syphilis. Astruc uses the same word, *boas,* in other parts of his book. For instance, in the beginning of his book he says the venereal disease is known in Spain as the *bubas, buvas, buas* or *boas* (*Hinc lues veneres ab Hispanis Las Bubas, Buvas, Buas vel Boas.* Liber I, Cap. I., also Liber VI, Seculum XVI).

Now the *boas* has been the Latin name for a syphilis-like eruption for over one thousand years. Thus, Pliny the Elder (*c.* A.D., 23-79) served as procurator in Gallia Narbonensis and Hispania Tarraconensis, and he incorporated in his Natural History, particularly in Book xxvi, several remedies for the boa. This book abounds with remedies for Lichen with ulcers in the mouth (a Greek name for Mentagra) for carbuncles and ulcers of the genitals, disease of the male organs, swellings of the testicles, etc. In chapter 35 on the Poplar, he says, *Boa* is the name given a malady which appears in the form of red pimples about the body; for the cure the patient is scourged with a branch of elder. Cap. 75. The eruption called *boa* is treated with cow dung, a fact to which it is indebted for its name. Cap. 73 mentions that the leaves of ebulum bruised in old wine and applied topically are curative of the disease called *boa* which makes its appearance in the form of red pimples. Sext. Pompeius Festus (*c.* 506 A.D.) describes the condition bova as a swelling of the legs.

Following the invention of printing, the first book on the *buvas* in the Spanish tongue was the poem of seventy-four stanzas forming a part of *Sumario de la Medicina en romance travado, con un tratado sobre las pestiferas buvas* by Francisco Villalobos, and was published at Salamanca by Antonio de Barreda, 1498. The first part, the Summary of Medicine, is drawn from the work of Avicenna. The second part which deals with the pestiferas buvas was a distinct break with the past, and was a splendid attempt to describe the current and diverse opinion of his time. For, in a manner rivaling Fracastorius, he describes the disease clearly in the language of the native Castilian troubadors, modern Spanish being then in the making.

The disease, he contends, was a *pestiferas buvas,* and because it was pestiferous in character, he considered that it differed from other eruptions which according to the doctrine of Avicenna arose solely from an excess or fermentation of one of the humors of the body. Of the seventy-four stanzas of the poem, the word *buva* is first used in the 39th, where the term is applied to the primary sore. It is next used in the 41st, where it is applied to the eruption. The word is used but five times in the poem. He usually refers to the skin eruption by such words of Arabic origin as *postillas, botors, essere,* etc. The disease itself he calls the *Sarna of Egypt* (Stanza xxxviii). The habit of conferring the title on the country of some favorite enemy is an old one. He refers to the Biblical account of how Sarah conferred the dreadful disease on the unsuspecting Egyptian Pharaoh. The term, *sarna,* is a very old term applied by pre-Columbian writers to a skin eruption. Thus, Isidorus, Bishop of Seville (*c.* 570-636), describing the ancient impetigo says: *"Impetigo est sicca scabies: prominens a copore cum asperitate et rotunditate formae. Hanc vulgus sarnam appellat"* (cap. viii). In other words: Impetigo is a dry scabies. It bursts forth upon the body as an eruption of rough and circular form. It is commonly called sarna. All through the middle ages, and into early modern time, the terms *impetigo, scabies,* and *morphea* were used with much confusion. This is brought out strongly by the writings of Lanfranc in his chapter on the morphea; by Henry de Mondeville in his chapter on Impetigo; and by the learned Niccolo Leonicensus through the first 48 pages of his 56 page work on *Morbum Gallicum,* that work devoted to a scathing controversy on an epidemic that started physicians to thinking for themselves, and gave to venereal disease its first popular name.

In his seven volume posthumous work on the History of Spanish Medicine, Don Antonio Hernandez Morejon (1773-1836) says with authority that the disease is known to the Spaniard by the names *bobas, buas, boas,* and more commonly as *bubas.* (*Los espanoles denominaron a esta enfermedad bobas, buas, boas, y mas comunmente bubas.*

Historia de la Medicina Española, Vol. I, pg. 274). And Morejon calls attention to a passage in Ruiz de Isla's book wherein he states that *ten years before the voyage of Columbus,* the women were in the habit of cursing their children with death and disablement from the evil bubas.

This passage is contained in the remarkable chapter Of All the Doubts, in the work of Ruiz de Isla. Morejon viewed the fable of the American origin as a silly delusion, and devotes over twenty pages to pointing out its flagrant inconsistencies. This is what Ruiz de Isla has to say of the name bubas, immediately following his statement of how he had treated persons of the fleet, and persons who had been afflicted with the disease in Barcelona:

"The cause which gave rise to the name bubas in Castile, came about in this manner. It (the name) was employed by women for ten years before the disease made its appearance and was unknown, who shouted such curses to their children, step-children, and servants as: that they might die of the bubas: May I see thee suffer the bubas: The evil bubas consume your eyes. Then at the end of the ten years the disease appeared frequently and caused the death and disablement of men and ate their flesh, so that this name is employed to designate this disease" (folio liii, col. 2, par. "H").

The foregoing, marked "H" in the margin of the text, amplifies or explains a statement in the first chapter also marked with the letter "H", to be cleared up in this chapter Of All the Doubts. In the first chapter so marked, he gave the familiar formula of how each country honored some other country with the disease, traceable at least to the days of Pliny. The term bubas however, was one of those several exceptions that had taken root through long use in Spain. Spain had not been directly affected by the invasion of Charles VIII, and its physicians, as Ruiz de Isla states elsewhere, did not consider his Serpentine Disease a new disease. A new conception of Pests and Pestilence was going through the labor-pains of overthrowing older theory. As a consequence, a pot-pourri of contagion and infection muddled the attempts to comprehend

venereal infection. The expulsion of the Jews from Spain had been marked by pestilence wherever they went. It is not surprising that Leo Africanus in his account of the first alleged appearance of *morbum gallicum* in Africa, attributes it to the Jews expelled from Spain by Ferdinand in 1492, and further, he (born in Moorish-Spain like Ruiz) says it was a common custom, when casting a curse upon anyone, to assign them to the ravages of this disease.

Ruiz de Isla like Villalobos, refers to both the primary sore and the eruption as bubas, just as we call the primary sore and the later eruption of yaws by the same name today. The bubas of the primary and secondary stages of recent time, constituted his first species of the disease. There were no bubas in his second and third species.

A great part of Montejo's paper is concerned with a discussion of the word buba. For some 19 pages he takes us through editions of dictionaries produced by missionaries among the Indians, most of them published the 18th century. His first conclusion was that the word was not of American Indian origin; his second conclusion being that the word existed in the Castilian language before the discovery of America (*la palabra buba existia en la lengua castellana antes del descubrimento de Nuevo Mundo*). He goes on to say the word is encountered in the Spanish incunabula dating prior to 1493, along with its derivative adjectives *abubado* and *boboso*. He calls attention to the Dictionary of the Spanish Academy which describes the word as provincial of the Asturias, and in which it is defined as "an eruption or small tumor of pus which arises on the body." This is the meaning also given the word *pupa*. Incidentally the Dictionary of the French Academy (1674) defines *bube* as a small elevation or pustule, and further, these definitions are the same as that given by Pliny for *boa* or *boas*. The use of the name *bubas* for syphilis, was not peculiar to Spain, nor do all Spanish authorities trace it to the Asturias. The erudite Cobarruvias (1611) assigned the word a French origin, as did the Dictionary of the Royal Academy of Madrid (1726-39). Astruc, Gruner,

Haustein and others, print records of the Universitatis Mannascae Commentarii, and from Manosque where the disease in 1496 in southern France, is referred to as *Infirmitas de las bubas,* and *de la maladie dite de las bobas,* and this was two years before the work of the Spaniard Villalobos.

The term *buba* as applied by the women of Spain ten years before the discovery, was regarded as applicable to a disease sufficiently grave to strike terror into the hearts of those who might be cursed with it. He has ingeniously made this plain enough. That it was regarded as no casual affection is perhaps well shown in the Spanish version of the Dance of Death. This poem was written at least 50 years before the discovery, and in one of the strophes, Death calls up a victim to die of the *buvas.* Villalobos was therefor wrong when he said the disease was not mentioned in science, or history, or poetry, but he was writing in the sense of the changing views of infection and pestilence. It is certain the word was also used at this time in the Latin works as *boas,* for Alexander Benedictus mentions it in his work *de Pestilencia,* which was printed in 1493. It was also applied to the serpent or a serpentine disease, for Pliny, Isadore of Seville, and others, apply the name to a serpent of Calabria, which was supposed to suck the milk of cows—a name now applied to a monster serpent of South America, which constricts, or crushes its prey.

Ruiz de Isla's description of this feminine intuition for naming the disease, and having this name ready and waiting for ten years before it arrived, is, to say the least, unique.

The Second Account of Origin—Mentagra

Ruiz de Isla gives two accounts of the origin of syphilis, and neither of them is original with him. Both had been going the rounds of Europe for from two to four decades before his book appeared.

After giving the account of the Haitian origin, he proceeds to tell us that the disease is identical with a disease

described by Pliny in the opening chapter of book 26 of his Natural History. He says they are both the same disease. Other writers in Europe, twenty, thirty, and even forty years before said the same thing. At least one had already written a book giving it a title identical with the disease of Pliny. Following the account of the contagion arriving from America, he tells us why he called it the Serpentine Disease, then follows a remarkable account of how the disease spread to vegetables and animals, and then he winds up his chapter on origin with this account:

"This sickness (Serpentine Disease) has been found at no other time because no doctor has found any writing of this disease, save that of Pliny, who wrote of it in book twenty-six of his Natural History, the first chapter. And he describes it in these words. There appeared upon the face of a man a sickness new and never known, and of which their ancestors were ignorant. It was seen at the time of Pompey through contagion of a cavalier who brought it from Asia to Rome. As a result this city was infected, and all Italy, Europe, and the whole world. The disease was characterized by great ugliness of the face, and grievous ulcers covering all of the body. So great the suffering of those who had this disease, that anyone would rather choose any other way of death than to suffer of such an affection. And also says this same Pliny in the aforesaid book, that the Greeks called it *Lichens,* that is to say the *Empeynes,* and the Latins called it *Mentagra,* it affecting the member of generation which was the first to suffer. And he said it was so contagious that by mere kissing it was passed from one to the other. There came to Rome and to other cities to treat it, Masters (surgeons) from Egypt who were paid large fees. *And, says the author (Ruiz de Isla), the principal symptoms which Pliny describes, are those of the Serpentine Disease of the Island of Española which in all resemblances* is the *same sickness,* because in the same manner their ancestors were ignorant of it as Pliny writes of the time of Pompey. And in the same way they introduced to cure this sickness, men without any indoctrination of the elements of medicine, to

whom those patients infected with the disease paid much money, and by consequence of the example of Rome many other cities gave and give the same large salaries" (folio iii, col. 4).

To anyone believing Ruiz de Isla to be a positive witness to the origin of syphilis in Europe, the foregoing passage ought to produce a puzzle of guileless candor. It would be hard to match a more deliberate contradiction in the same chapter of any work as the passage wherein he says the Serpentine Disease was first brought to Europe by Columbus, and then double-crosses himself by saying that the Serpentine Disease is the same old European disease as the *Lichens* of the Greeks, the *Mentagra* of the Latins, and a disease known in Spain in his time as *Empeynes*. As a witness for the Haitian origin of syphilis he impeaches himself, and his testimony at once becomes utterly and candidly worthless.

The indignant Spanish medical historian, Morejon, demands to know what Ruiz de Isla means by saying no doctor had written of the disease save Pliny. Was he ignorant of the works of such Spaniards as Gaspar Torrella (1497), Francisco Villalobos (1498), Juan Almenar (1502), and others! (Vol. I, pg. 280).

The work of Pliny, including his description of Mentagra was well known, and it had long been confused with or identified as syphilis by the early writers. This idea was therefore not original with Ruiz de Isla. Leonicensus, the first to use the name *morbum gallicum* (1497), begins his work with a denial of its identity with his *morbum gallicum*. Sebastian Aquillus, an opponent in the dissertation at Ferrara brought it up for consideration. Gaspar Torrella considered it at length in his first work (1497). Other early writers following the discovery of America discussed it in connection with syphilis, or the epidemic called *morbum gallicum,* some claiming an identity, and some denying it, according as they comprehended the application of the term *morbum gallicum,* for some applied this indefinite term to typhus. Among those considering mentagra with morbum gallicum were Sebald Clamosus

(1496); Otto Raut (1501); Antonius Beneventus (1502); Jacob Cataneus (1517); and Wendelin Hock (1502).

Jacob Grünpeck, the young astrologer, when he brought out his second book on the disease, which he called *Libellus de Mentulagra, Morbo rabido et incognito* (1503), selected a root word, *mentula,* meaning penis. It suggests the obscure "joke" in the name *mentagra* which has been transmitted to us from Pliny in the contracted and abbreviated texts. Like Torrella, who called the disease *Pudendagra,* we see the beginnings of that attempt to locate the infection of the disease in the organ of generation, an idea soon to find expression in the term *lues venerea.* Then Wendelin Hock (1514) came out squarely and gave his book the title, Mentagra, commonly called French sickness (*Mentagra, vulgo Mala Francosz*).

Other writers both before and after the work of Ruiz de Isla held the view that syphilis and mentagra were identical. Among them we may mention John le Maire (1521), Jaques Bethencourt (1527), Joseph Struthius of Posen (1540), and Paul de Sorbait (1682). It should therefore be apparent that the view of the identity of syphilis and mentagra was not original with Ruiz de Isla, for he copied it from other writers who had long before held the same opinion. Even Fracastorius who invented the name syphilis in 1530, which scholars complain was not in the texts before the discovery of America, did not neglect a reference to Pliny's mentagra.

One of the first surgeries to be licensed in Spain after the time of Ruiz de Isla, was written by Andres Alcazar and published at Salamanca 1575, who uses these ancient titles. The Fifth Book of this surgery is entitled, "Of Pudendagra, or Mentagra, or Lichens, commonly called Morbo Gallico." (*Liber Quintus, De Pudendagra, vel Mentagra, vel Lychenis, vulgo Morbo Gallico*).

So many early writers on syphilis identified the disease with mentagra, that we quote the opening passages of Pliny's Book 26, in order to compare his new disease with the account of Ruiz de Isla:

"The face of man has new diseases unknown to all

former ages, not only in Italy, but almost the whole of Europe. Still, however, they have not spread in all Italy nor Illiricum, Gaul or Spain, or elsewhere, so much as at Rome and its environs. Even though without pain and without destruction of life, yet they were diseases so loathsome that any kind of death would be preferable to them. The most grave of these was called *Lichens* from its Greek name. Whereas, for the most part it became visible on the chin, by way of a joke, at first playfully (for it is the nature of man to accentuate the misery of others), it soon became generally though improperly known as *Mentagra.* The disease takes possession of the whole face spreading from within, excepting only the eyes, the foulness, to speak the truth, descending downwards to the neck, breasts, and hands, covering the skin with a filthy scurf. This lues was unknown to the ancients, and even in the time of our fathers. It first spread into Italy the middle of the reign of Tiberius Claudius Caesar, in a member of the equestrian order, a native of Perusium, secretary in attendance upon the Roman quaestor in Asia, through contagion, and by him imported to Rome. The disease did not effect either females, or female slaves, nor yet the lower classes, nor indeed, the middle classes, but it spread rapidly through the upper classes through *osculi*: It was in the highest degree exceedingly filthy, and those who underwent a course of treatment, suffered cicatrices as hideous as the disease. For truly the disease was cured only by caustics, and only when applied to the very bone could the body cast off the disease, it was so rebellious and resistant. And there arrived out of Egypt, the mother of such diseases, physicians who gave it their sole care, who were able to accumulate large fortunes."

Ruiz de Isla seems to have missed Pliny's observation that the disease did not cause death, and furthermore he says the disease appeared at the time of Pompey, whereas Pliny informs us that mentagra appeared at the time of Tiberius. Pliny goes on to tell about elephantiasis, a Greek name for leprosy, and it was this disease affecting the

face which he says first appeared in the time of Pompey. Ruiz de Isla got the two accounts a little mixed.

Pliny was not the only writer before the discovery to treat of mentagra, identifying it with lichens and impetigo, for other writers, Ruiz de Isla to the contrary, continued to refer to the disease by this name. Thus, Marcellus Empiricus, born in Bordeaux, a Roman physician of the time of Theodosius I (379-95 A.D.), and who wrote his *De Medicamentis* about the year 410, deals with it in his chapter xix, under a title, "Of Lichens, called Mentagra or Impetigo; Of Elephantiasis and leprosy"; etc. Aetius of Amida, a physician to the Emperor Justinian I (527-565) in his Tetrabiblion (Sermon VIII, Cap. xvi), a chapter on Impetigo, deals at length with Mentagra under several sub-titles. Among other prescriptions for Mentagra he gives some of the ointments of Pampilius, the Roman syphilographer (14-38 A.D.) who is reputed to have made a fortune with his unctions. A still later writer dealing with Mentagra, was John Actuarius, (d. 1283) ordinary physician to the court of the Palaelogi. He recommends much the same treatment as quoted by Aetius, and used by Pampilius (Liber V, cap. vi). And so Ruiz de Isla was in error when he said that the disease was treated by none of the ancients save Pliny.

The Empeyne of Ruiz de Isla or Impetigo of the Ancients

In his first chapter on origin of his disease, we have seen that Ruiz de Isla judged the Serpentine Disease to be the same as the Mentagra of the Latins and the Empeyne of Spain (folio iii col. 4). They were equally contagious as he illustrates by reciting the case of a cavalier who contracted a buba of the hand through contact with an empeyne of the first specie on the neck of a servant. (*E vi un cauallero que yua caualgando y puso la mano a vn criado suyo moço de espuelas en el pescueço: y el moço tenia vn empeyne en el pesueço de primer especie y con parte de la mano que le toco en el empeyne le nascio una buba*).

In discussing his first species he describes the character of the eruption which arises in the first species from each one of the four humors. The eruption arising from the black bile, or melancholic humor is the empeynes, which he describes as healthy in the middle and spreading at the margins. (*Las bubas malenconicas son como empeynes que sanan por medio y crecen por los cantos y orillas que dando sano en el medio y faziendo su rueda en cerco.* folio vi). He also describes the empeynes as a symptom of the second species, along with crusts, scabs, ulceration and ugliness of the skin (folio xix). Lesions of this character are often seen in native races suffering from yaws.

Modern Spanish dictionaries define empeyne as "the hoof of a beast," "the instep," "the groin," "a teter or ringworm," etc. The older dictionaries and hispano-latin lexicons take us nearer to the time of Ruiz de Isla. The Dictionary of the Madrid Royal Academy (1726-39) describes one of its meanings as an *Impetigo* arising from bile or phlegm and appearing over the body as a *tiña seca.* Its Latin name was *Lichens,* and the physicians divided it into four species. Cobarruvias (1611) gives its Latin synonym as *Impetigo,* and so do Bravo and Salas in their Latino-Hispano Thesaurus and Compendium respectively.

Villalba likewise identified the disease with impetigo. In recounting the epidemic of mentagra as it prevailed in Spain in A.D. 37, he says: "This Mentagra of the Romans corresponds to that form of empeyne that we call fulminating (fiero). . . This disease is now (1802) unknown in Spain, and only encountered in the medical history of the nation, a surgical writer (Robledo, *Tratado noveno de cirugia,* cap. iv) having observed it in a friar in 1687" (Villalba Vol. I, p. 31).

All the surgeons of the Middle Ages treat Impetigo as a syphilis-like affection, its clinical characters being overwhelmed by their theories as to its humoral pathology. Roger (Cap. xlii) treated it with an ointment containing arsenic and mercury, preceding this treatment with purges such as condemned by Ruiz de Isla. Lanfranc called it a sign of leprosy (Tract III, Doctrina Prima, Cap. vii, *De*

Lepra, et judiciis leprosi). Henry de Mondeville in his chapter on Impetigo devotes a large part of it pointing out the confusion in the understanding of skin diseases. He says one cannot take much truth from writings for what one calls *serpigo,* another calls *impetigo,* a third *pannus,* a fourth places two of the diseases in one species and treats them both in the same manner, whereas a fifth divides *impetigo* into three species and treats each differently. His chapter on Impetigo, in which he deals with the confusion in the understanding of this disease, is the longest of his chapters dealing with skin affections (*Troisieme Traite, Primiere Doctrine, Cap. xv. De l'impetigo et de la dartre*). Leonciensus, in his work on the *morbum gallicum,* gives us a discussion on the manner his favorite enemy, Avicenna, confused *impetigo excorticata* and *albaras nigra,* for Leonicensus declares that impetigo and the ancient Greek Lichens are the same thing.

Ruiz de Isla was not alone among the writers of the Post-Columbian period to consider an identity between impetigo and Syphilis for John de Vigo, Bethencourt, Alcazar and others have held or referred to the same belief.

The Myth of the Unknown Pilot of Palos

The thirteenth chapter of Ruiz de Isla's work is well named. It is called the chapter Of All the Doubts. It is in this chapter that he introduces that phrase about his great experience in the treatment of persons in the fleet and in Barcelona. The passage in the printed text of the first edition reads: "For I have had long experience, and have cured persons that had it in the foresaid fleet, and cured persons that were afflicted in Barcelona" (*porque de todo tengo larga esperiencia que he curando personas que la tuuieron enla dicha armada, y cure personas que adolecieron en barcelona*). On these words it has been interpreted that Ruiz de Isla was in the city of Barcelona in 1493, whereas he says no more than that he treated persons who were afflicted in Barcelona.

Nowhere else does Ruiz de Isla say anything from which it could be inferred that he was in Barcelona in

1493, and as his veracity must be brought into question by other passages in the book, it will be fair to leave this question open for the moment.

The crucial words upon which his supposed presence in Barcelona hangs, appear to belong to the opening chapter. I refer now to the words found by Pellicer, Campany and Montejo in the codex, which words are not in either of the two printed texts. According to Montejo, the words are: "and presently it was seen in the fleet itself, and in a pilot of Palos who was called Pinzon, and others whom the aforesaid malady kept attacking." These words are suppressed in both printed editions. Montejo assumes that they may have been eliminated by the protomedicos who reviewed the text. However it is equally possible that the author expunged the passage himself. I give below the text of the second edition and the text of the manuscript as recorded by Montejo in his paper read at the Fourth International Congress of Americanists in 1881.

The extract quoted by Montejo from the edition of 1541 reads as follows: "because of all this, I have had long experience in curing persons who had it in the aforesaid fleet, the first assembled when they discovered this land, in which came many people having them, and I did treat persons that were afflicted in Barcelona before King Charles of France passed into Naples, and could quote authorities which are omitted" (*por que de todo tengo larga esperiencia que cure personas que la tuvieron en la dicha armada primera que se hizo quando descubieron esta tierra en que vinieron hartas personas con ellas y cure personas que adolecieron en Barcelona antes que el Rey Carlos de Francia passare a Napoles y otros muchas approvacions podriamos decir las cuales cessan*).

In the chapter Of All the Doubts from which this is extracted, Ruiz de Isla is arguing to support his contention of Haitian origin as set forth in the first chapter. To support this he is referring to the virtues of the Holy Wood. "I wish to give," he says, "a reason so that among the discerning it may be clearly seen." Then he proceeds with the material given by Oviedo as to how the Indians

had always had the disease, and had always known the cure—he himself had seen a writing of it in 1504. Because the Indians always knew the remedy, was sufficient proof that the disease came from them. "For if this were not so many other peoples much wiser than they would have found the cure for this disease, for which all erroneous argument that may be made concerning the aforesaid may be given up." It does not seem to occur to Ruiz de Isla, that if these wiser people did not know the disease, they could not know the remedy. Then follows the above statement quoted by Montejo about his long experience which is followed by this summing up: "For this is enough it seems to me to suffice of this, and those who wish more, may find more particulars in the chapter on the cure with the Wood."

In the following passage Montejo quotes from the codex. This belongs in the first chapter already referred to, the words in italics being the words expunged from the printed texts:

"According as has been found by long and certain experience, and this island was discovered by Admiral Don Christopher Columbus, at that time holding conversation (intercourse) and communication with the Indies. As it was of its very nature contagious, they got it easily and presently it was seen in the fleet itself *in a pilot of Palos who was called Pinzon and others whom the aforesaid malady kept attacking.* And it was revealed a disease never seen," etc. (*segun que por muy larga y certa esperiencia se ha hallado, y como esta ysla fuese descubierta y hallada por El Almirante Dom Cristoual Colon al presente teniendo platica y communicacion en las yndias. Como el de su propia calidad sea contagioso, facilmente se les apego e luego us visto em la propia armada em hun piloto de Palos que se llamava Pinçon y en otros que el dicho mal fue presigiuiendo. E como fuese dolencia escubierta nunca vista.* Actas 4th. Congresso International de Americanistas, Madrid, 1881. Tome I pg. 385).

It is rather singular that the work of Ruiz de Isla should have escaped notice for so many years. Chinchilla

invites attention to the brief note in the work of Nicolaus Antonio's *Bibliotheca Hispana,* including the works to the year 1684. Here only a brief note is made of the 1542 edition. Three years later Velchius published a part of the first chapter as a footnote to the 4th Adnotation to Marcellus Cumanus, previously quoted. The first reference to the codex (p. 42) was made by the learned Pellicer, a librarian of the National Library, who undertook to supply the information omitted by Virgil as to who was the first to be anointed for the *morbo gallico,* and who he declares was none other than Vicente Yañez Pinzon. A few years later D. Antonia de Campany y de Montplau, in his *Questiones Criticas,* Madrid, 1807, takes up the subject of Codex P. 42, and thus determines the pilot to whom it refers. "Furthermore, in the manuscript of this work of de Isla, which is in the custody of the Royal Library at Madrid (est P. cod. 42), he specifies that the first, or one of the first who contracted the *lue venera,* and whom he treated at Barcelona, was Vicente Pinzon Yañez, a pilot of Christopher Columbus, upon the first return to Spain. But as this valuable notice is not found in the printed work, we are now unable to guess correctly the motive for this suppression, if it were not out of respect for the character and good record of Pinzon."

Vicente Yañez Pinzon has certainly been elected by Spanish writers to fill the void, the omission, the ambiguity, and the anachronism of this expunged passage from the text of this now famous chapter Of Origin and Nativity.

This is the void upon which K. Dohi has built a volume to prove that *To-kasa* (Chinese eruption) reached Japan from Haiti several jumps ahead of the invasion of the European.

It would seem to require a high-power sleight-of-hand ability for interpretation, particularly when weighed with the rest of the text, to assume that Ruiz de Isla claims to have personally treated this pilot of Palos at Barcelona.

Great liberties have been taken with the text of Ruiz de Isla. Gaskoin says: "The diary relates that Columbus

on his return to Europe from the West, after a few fine days at starting, fell in with uninterruptedly wet weather, and then—if we may believe de Isla—his unsheltered crew *began to be affected with symptoms of a new complaint, which racked the limbs and joints with terrible throes, and covered the skin with revolting and strange eruptions. The first in whom this complaint showed itself was one of the brothers Pinzon, who sailed with Don Christopher as pilot, it then appeared in others of his companions*" (the italics are mine). What authority is there for this unjust statement by Gaskoin! There is no mention of the pilot in either of the printed editions. Only an unfair enthusiasm to place the origin of the disease in America could induce such interpolation of an expunged passage into the record. We hold no brief for Ruiz de Isla or for the Protomedicos, whosoever of them expunged this passage, but we admire their judgment. However the words of Gaskoin have been taken up by authority, and are quoted practically verbatim by Haeser, who in turn is cited by Riesman and others.

The Myth of the Sea Journey to Barcelona

Montejo, taking issue with other students of the life of Columbus, claims that the latter brought his ships around by sea to Barcelona. This is assumed, as also that Ruiz de Isla was then at this city and therefore an eyewitness to the Haitian origin of syphilis. He regarded a journey of 200 leagues overland from Palos to Barcelona, as too hazardous and fatiguing to undertake, and he therefore assumes that Columbus, after remaining at Seville for a time, continued his journey by sea through the Atlantic Ocean, the Straights of Gibraltar, into the Mediterranean, reaching Barcelona early in May and not the middle of April. He seems to ignore the fact that the little Niña, according to Columbus' journal, was leaking badly; that its owners had discharged the mission for which it had been drafted; that by January 25, 1493, provisions had run low and that she was otherwise in need of being refitted; and that Columbus' journal comes to an end with the arrival at Palos, March 15, 1493.

The rolls show that the crew was paid for eight months. (namely, August-December 1492 and January-March 1493 inclusive). The pilots received at the rate of 20,000 maravedis per annum. Garcia Hernandez, listed as steward received pay at the rate of 9,000 mr. He may have been, as Irving believes, the physician of this name who testified at the first Probanza. Maestre Juan, *cirujan* (surgeon), rated as barber, received pay at the rate of 9,000 mr. He according to the *Diario* of Columbus appears to have been left behind at Navidad. They were all paid for eight months. Had they gone to Barcelona they would have been able to claim pay at least through the month of May. (See Thatcher Vol. I, Chapter 54 and 55).

Furthermore one is puzzled to note that Ruiz de Isla begins his book by saying the disease first appeared at Barcelona in epidemic form, although, as a citizen of Seville, he took no note of the presence of the disease in the latter city at this time, although Columbus remained there awaiting the *carta mesagera* dated Barcelona March 31, 1493 (reply to his letter to the sovereigns) and left there three of his Indians when he undertook to complete his overland journey. He had arrived at Lisbon March 4, the date of the famous Santangel letter, and it is evident from the entry made in his journal that he planned to go to Seville there to await the *carta mesagera* directed to him at Seville. It was at this city at this time that Las Casas, then a lad, tells the circumstances under which he first saw the Indians.

Montejo bases his assumption of the sea journey to Barcelona in part on an ambiguous passage in the text of a book, the title of which he had forgotten, but written he believes sometime in the sixteenth century, and this book originally reposed in the library of either D. Serafin Calderon or Sr. Marques de la Romana, but which of the two he had forgotten. The passage he had seen in 1867 and carried in his memory some fourteen years, states: "Columbus arrived where he entered into Barcelona the 4th day of May 1493." And this passage he considered fitted in with a passage on the tomb of Fernando Columbus, the

natural son of the Admiral, located at Seville, and which passage reads: "and returned with success, the 7th day of May the following year" (Actas, pg. 399).

Upon these two ambiguous passages, which do not exactly agree, and the ambiguous statements of de Isla, Montejo constructs a theory that Columbus did not journey overland to Barcelona, but sailed from Palos, with the survivors of the wreck in his overcrowded caraval, arriving at Barcelona early in May 1493, or more than a month and a half after the arrival at Palos.

That Columbus did not arrive at Barcelona until early in May, as Montejo believes, is doubtless correct. But that he took his ships, or crew, or more than six of the ten Indians kidnapped from America, to Barcelona is in conflict with contemporaneous evidence. There is a considerable confusion in the works of the early historians as to the date he arrived at Barcelona. Montejo, in his work, *La Sifilis y las enfermedades que se han confundido con ella,* has rightly criticized the dates of arrival at Barcelona as given by Las Casas, Fernando Columbus (Italian version) and others, and largely on the evidence of the *carta mesagera* addressed by the Sovereigns to Columbus, dated Barcelona March 30, and which he concludes could not have reached Columbus at Seville before April 20, 1493, and the task of transporting through 200 leagues, the gifts, the birds, plants, specimens of gold, Indians, and companions would constitute a cumbersome and expensive cavalcade, and consume at best until sometime early in May. Montejo's mistake is in assuming, on the evidence, if such it may be called, of de Isla alone, any such incongruous attempt at a circus-parade was even contemplated. There is an abundance of evidence that Columbus traveled light, that he took with him but six of the ten Indians, and none of his companions, particularly the Pinzons, with whom he was already at loggerheads. This matter had been suitably dealt with, previous to the work of Montejo, in Navarrette's comments on the testimony of the witnesses taken at the Probanza of 1512. (The trial of the case brought by Diego Columbus, son of the Admiral, against the Fiscal

regarding the claims of prior discovery of Española by the Pinzons).

After publishing in full the testimony of the witnesses, all of whom were either survivors of the first voyage, or other contemporary witnesses, Navarrette thus sums up this matter in his Observation IV: "On the other occasion that Pinzon (Martin Alonzo) had parted from the Admiral, when they were returning to Spain, he arrived at Bayona, in Galicia, and desired to go from there to Barcelona, to give an account to the Sovereigns of the success of the voyage. But, their Royal Highnesses, gave him to understand, that their agreement had been with the Admiral, whom they had appointed to undertake the discovery, which caused him such grief and anger that he proceeded homeward ill, and died of anguish a few days after his arrival, about the time the Admiral departed for Barcelona. Thus says Fernando Columbus, whom Herrera follows, although Las Casas does not express so much of the circumstances (Colon, Hist. del Alm. Cap. 41; Herrera, Dec. I lib. 2, cap. 5; Casas lib. I, cap. 75). On the 15th of March 1493, at noon Columbus entered Saltes (at Palos), (Diario del Alm. Tome I, p. 165), and arrived at Seville the 31st, Palm Sunday, according to Bernaldez (Hist. de los Reyes Cath. cap. 118 *al fin*). The Sovereigns made their reply to his first letters on the 30th of the same March, and he received this letter at Seville, where he was seen at this time by Las Casas (Casas, lib. I, cap. 77 & 78). As a consequence of this he was not able to leave for Barcelona until well into April. By these dates we are able to determine that the death of Martin Alonzo occurred the first part of the same month (April). Therefore it was not likely that the Admiral arrived at Barcelona from Seville by the middle of April, according as said by his son, considering the distance and the delays that this same Fernando Columbus says were necessary in order to satisfy the curiosity of the people who gathered along the route, and in the streets of the villages, to marvel at the sight of the Indians and the curiosities conveyed from the New World. The date thus given of the entrance in

Barcelona, in view of the foregoing, would be impossible until at least the very end of April, and here Columbus remained until the 30th of May according to contemporary notices. These considerations demonstrate sufficiently the utility of the documents we publish, in order to reveal the truth, in our search for the reliable among the diverse prejudices of the historians and witnesses, and the excessive credulity of those who follow one or the other without examination" (Navarrette, M. F., *Colleccion de los viages y descubrimientos que hicieron por mar los Españoles,* Madrid, 1825-37 Tome III, pg. 610).

We are aware that the news of the discovery was broadcast long before Columbus arrived at Barcelona. And without awaiting his arrival, word was sent to Rome, for the Bull of Pope Alexander VI ceding rights and privileges in the new lands to the Spanish Sovereigns was dated May 2, 1493. This view that Columbus arrived at Barcelona early in May is supported by the *carta mesagera* of the Spanish Sovereigns dated March 30, 1493; by the letter of Hannibal Januarius to his brother, an ambassador of the Duke of Ferrara to the Court at Milan, dated April 9, 1493; and Peter Martyr's letter of May 1, 1493 addressed to C. Borromeo, all written at Barcelona.

An account of Columbus' overland journey is given by his son in chapter 41 of his History of the Admiral. In this chapter he tells of Martin Alonzo's arrival in Galicia from where he despatched a letter to the Sovereigns telling of the successful issue of the voyage, and requested permission to go to Barcelona. But the Sovereigns informed him that they purposed to deal only with the Admiral. This caused him such sorrow and anger that he proceeded to his home in disordered health and died of anguish in a few days. The Admiral, he says, left Palos for Seville with the purpose of proceeding to Barcelona where the Catholic Kings then resided.

On the journey it was necessary to tarry for some time due to the admiration of the people of the towns through which he passed, who came to meet him in the streets and highways in order to see the Indians and other novelties

he brought with him. This account, given by Columbus' son, who was in position to know the facts, was written before the work of Ruiz de Isla was published, as Fernando was dead by this date, and it is thus quoted. (*Pero antes que llegarse a Palos, havia partido el Almirante a Sevilla, con intencion de ir a Barcelona donde estaban los Reis Catolocos. En el viage le fue preciso detenerse algun tiempo, porque era tanta la admiracion de los Pueblos, por donde pasaba, que de todos concurria mucha Gente a las Calles, i Caminos para ver los Indios, i las otras cosas i novedades, que llevaba*).

An account of the journey is also given by Francisco Lopez Gomara, the chaplain of Cortez. His work published 1552, before the Italian version of the work of Fernando Columbus, differs in many particulars from the latter. He says the Spanish Sovereigns were established at Barcelona when Columbus disembarked at Palos to begin his journey there. Although the route was long, and the difficulties of transportation great, he was much admired and honored by people who came forth to see him on the way, for it was rumored he had discovered a new world, and had brought back great riches, and men of a new form, color and dress. Then he engages in accounts of the peoples speculations pertaining to the rumors of fabled regions known to the Carthaginian; the lost continent of Plato; Seneca's tragedy, Medea; and concluding that Columbus finally arrived at the Court on the 3rd of April. His list of the trinkets brought back is one of the most complete, but is no more than might have been carried by Columbus and his six Indians. He concludes his account saying: "The six Indians were baptized, the others did not come to Court, and the King, the Queen, and Prince Don Juan, their son, were sponsors, by attesting with their persons, the Holy Baptism of Christ of these, the first Christians of the Indies and New World" (*Estaban los Reys Catolicos en Barcelona cuando Colon desembarco en Palos, y hubo de ir alla. Mas aunque el camino era largo, y el embarazo de lo que llevaba mucha, fue muy honrado y famoso, porque salian a ver le por los caminos*

a la fama de haber descubierto otra mundo, y traer del grandes, riquezas y hombres de neuva forma, color y traje. Finalmente el en la Corte, con mucho deseo y concurso de todos, a 3 de abril, un año despues que partio della. Los seis indios se baptizaron, que los otras no llegaron a la corte: y el Rey, la Reina, y el principe don Juan, su hijo fueron los padrinos, por autorizar de Cristo en aquellos primeros cristianos de las Indias y Nuevo Mundo. Hispania Victrix).

Another account of the overland journey is contained in the *Elegias Varones Ilustres de Indias,* an epic by Juan de Castellanos. Very little is known of this author beyond that given by Nicolaus Antonio and the annotations of Muñoz. The first part was published in 1589 without place of printing. His account of the overland journey, the most detailed of all, is contained in Canto Sexto, v. 55 to 59 inclusive. It details the flocking of people to the highways, the fear of the children and maidens of the Indians, the astonishment of the peoples, and the speculations of the Doctors, until the arrival at Barcelona.

Las Casas, the contemporary, one of those who first saw the Indians at a certain bridge in Seville, and Oviedo, an eyewitness of the arrival at Barcelona, both say that but six of the ten Indians were taken to Barcelona and there baptized. Columbus, the six Indians, and certain exhibits listed by the learned Muñoz are all that any competent contemporary historian or witness mentions as having reached Barcelona. Says Oviedo, Columbus brought back nine or ten Indians, as evidence for the King of the success of the adventure, and then further on he says that one Indian died on the voyage to Spain, and that Columbus took only six to the Court at Barcelona. (*E llevo deste camino el almirante nueve o diez indios consigo, para que como testigos de su buena ventura besussen las manos al Rey. . . . digo que despues que Colon salio en Palos con los indios que llevaba destas islas, de los quales uno se le avia muerto en la mar, tomo los seys que yban sanos, e dexo alli dos o tres que estaban dolientes, e fuesse a la corte de los Catolicos a darles cuenta de su prosperadad*).

No reliable evidence has been produced to impeach these accounts. As has been stated by Marius Andre, there is no evidence that the journey was made by any others than Columbus and but six of the ten Indians brought back by him. True, recent accounts as that of Filson Young and Jacob Wasserman, have described an overland journey by "armed sailors" with all the show of a circus parade. Perhaps the most authentic account of this overland journey is given by the Admiral's son Fernando, his historian, and who by kinship was in a position to know the facts. He had died just before Ruiz Diaz de Isla's book appeared. Another early account written when the incident must have been more than a tradition is the account of Gomara, the chaplain of Cortez, and whose work was published before that of Fernando. There is no authentic evidence that Fernando's work was first published in a Spanish text. Las Casas copied verbatim a great deal from it. Luis Colon, a nephew of Fernando, was instrumental in having an Italian translation published at Venice (1571), and this was later retranslated into Spanish for Barcia's collection (1749). Its text therefor unknown to Ruiz de Isla, Gomara, and probably Juan de Castallanos.

There is no official evidence that Columbus excited a noteworthy interest when he arrived at Barcelona. Las Casas gives a glowing account, mentioning only Columbus and his six Indians. Oviedo in the preface of his History, says that he was at Barcelona when Columbus arrived with his Indians and his exhibits. He says nothing of any other persons accompanying him, nor does he, an eye-witness, take note of any epidemic of the bubas in this city. On the other hand he distinctly says that the bubas did not make appearance in Spain until 1496. When R. H. Major, of the British Museum, was preparing for the Hakluyt Society in 1847, the volume entitled "Select Letters of Christopher Columbus, and other original documents relating to the Four Voyages to the New World," he supplied the following note from a correspondent: "While there (Barcelona), in the spring of 1844, I searched the admirably arranged

archives of Aragon, and also those of the city of Barcelona for such notice (of arrival of Christopher Columbus) but without success. I could not find so much as mention of the name of Columbus.

"The Dietaria, or day book of Barcelona notices the arrival of ambassadors, the movements of the King and Queen, and even records incidents of as trifling note as those which in our day serve to fill the columns of a court journal—yet not a word appears in regard to Columbus."

Campany's Spanish translation of the Catalan records of arrival and clearances of ships at the port of Barcelona, this period, are equally sterile.

More of the Unknown Pilot

Who was this unknown pilot of Palos named Pinzon?

Pusey suggests that he was Martin Alonzo Pinzon, who was pilot of the Pinta (History and Epidemiology of Syphilis, 1933, p. 22).

More recently, Sir D'Arcy Power gives startling information. For, writing on the history of syphilis, he says: "I think for my own part, that it came as a disease introduced from the New World by Columbus from his *second* voyage of discovery" (p. 36). . . . "Columbus left Seville to make his *second* voyage to the New World on August 4, 1492. He arrived in Palos in Andalusia on his return home on March 15, 1493, having previously touched at Lisbon March 6th. Pinzon, one of Columbus' captains, had driven north with his ship about the same time, and entered the *French port of Bayonne*" (p. 37, A Short History of some Common Diseases. W. R. Bett, 1934). The italics are mine.

Here is some brand new information. Columbus is said to have made his *second* voyage in 1492, and Pinzon instead of making his land-fall at Bayonia, a Spanish port on the Atlantic litoral, sailed past the whole northern coast of Spain to reach the far distant *French port of Bayonne*. What a splendid opportunity we have here to get the disease into the French army of Charles VIII. All the early Spanish historians, including Montejo, say that

Pinzon made his landfall at the *Spanish town of Bayonia,* and Montejo especially warns foreign writers against this oft repeated error (Actas, p. 390).

Oviedo, the star witness, says that Martin Alonzo Pinzon, the pilot of the Pinta, died a few days after his arrival, not at Barcelona, but in his house in Palos (*Fuesse a Palos a su casa, a murio desde a pocos dias, porque yba muy doliente,* Oviedo, Nat Hist. Lib. II cap vi). A statement to the same effect is made by Fernando Columbus, Las Casas, Antonio Herrera, Muñoz, Navarrette, and others.

Thus, to agree with the assumed interpretation of the text of Ruiz Diaz de Isla by Pusey, the unembalmed body of the dead Martin Alonzo Pinzon is transported by sea from his house at Palos to far off Barcelona, where he might be treated by our famous surgeon. As a matter of fact it is unfair to Ruiz de Isla to assert that he claims to have been at Barcelona in May 1493. He simply states that the disease first made its appearance in Barcelona, and further that he had treated persons who were afflicted in Barcelona. He does not say that he treated a pilot of Palos by name of Pinzon, but in an expunged part of his manuscript, saved from the waste-paper basket, he simply says that the disease appeared in a pilot of Palos by name of Pinzon. Possibly he took this suggestion from the text of Oviedo. We will see later how Ruiz de Isla might fall into the error of supposing that even Martin Alonzo Pinzon died of his Serpentine Disease, for much of his second species and a large part of his third species was not syphilis at all.

There were three brothers Pinzon who went on the first voyage of Columbus. These were Martin Alonzo, Vicente Yañez, and Francisco.

Martin Alonzo was eldest, born about 1450, and about 43 years old when he returned. As previously stated the first of the Spanish historians say he died a few days after arrival at Palos. Oviedo, who was a young page in the suit of Prince Juan, at Barcelona at this time, says that Martin Alonzo sailed from Bayonna de Mino for Palos where he entered the port the same time as Columbus, and

fearing to be arrested, he jumped into a small boat, and went to hide himself in a retreat from which he came out only after Columbus had left for Barcelona. One Alonzo Valez de Alid, testifying 39 years after the discovery at the Probanza of 1532, gives much the same testimony. Another eye-witness, testifying 42 years after the event, Francisco Mendel, says that Martin Alonzo landed in a state of illness, and first taking refuge in his own house, later went to a refuge in the Convent of Rabida (*Venia malo, e lo pasaron de su casa al monesterio de la Rabida, y yo le fue a ver.* Probanza, Dec. 22, 1535). He died fifteen or twenty days afterwards, says Las Casas, who follows the account of Fernando Columbus. In general all contemporaries agree that he died in a few days after arrival at Palos and probably before Columbus reached Barcelona. All of those who assign any cause to his illness, say he died of grief and remorse after hearing that his sovereigns had refused to receive him. He never left Palos, and he was survived by five children, four boys, and one girl who was an epileptic. The eldest son, Arias Alonzo Pinzon, giving testimony at Palos, October 1, 1515, described himself as being then 45 years old.

Vicente Yañez Pinzon was over 30 years of age at the date of the return. He went out as the Pilot of the flagship and when this ship was wrecked, he was transferred to the Niña and returned home with Columbus. He did not go on the second voyage. The quarrel of his brother with Columbus created a breach of suspicion with the Pinzon family, and the early death of Martin Alonzo probably saved him from measures of discipline Columbus so frequently threatened in his journal. In 1499, together with two of the sons of Martin Alonzo, Vicente left Palos with four caravals, on a voyage of discovery. His first landfall was the coast of Brazil. In course of the voyage he lost two of the caravals, and on them were many of his friends and neighbors. On the 5th of September 1501, he received royal permission to colonize and govern the lands he had discovered, but it does not appear that he made a second voyage to these parts. In 1506 he undertook an expedition

to find a passage from the Atlantic Ocean to the South Sea. This voyage was unsuccessful, and another attempt was made in 1508 with the same result. He testified at the first Probanza (March 21, 1513) at which time he said he was more than 50 years old (*de mas do* 50 *años de edad*). Oviedo says he died in 1514. Navarrette says he died before 1519. There is no evidence that he accompanied Columbus to Barcelona, or of any illness or of the place and cause of his death.

The third brother was Francisco Martenez Pinzon. He is mentioned by Oviedo and Las Casas, and the latter describes him as a mate on board the Pinta with Martin. No other information is available concerning him. He does not appear to have taken any part in the voyages of Vicente Yañez, nor did he testify at the first Probanza. Doubtless, as the Pinzons were claiming to be the discoverers of Española, and as he was on board the Pinta at the time of Martins first desertion, he would have done so were he living, for the deposition of Hernan Perez Mateos, a cousin of the Pinzons, and a friend and informant quoted by Oviedo, was taken in the far-away city of San Domingo, Haiti.

There were several pilots who went on the first voyage, but only two of them were Pinzons of Palos. It is extremely doubtful if Ruiz de Isla ever came into contact with either of them.

Montejo says the testimony of Ruiz de Isla fits in with that of Oviedo. This is difficult to discover. Oviedo says the disease was brought back from the second voyage in 1496, and although in Barcelona and an eyewitness to the events surrounding the return of Columbus, he was oblivious to the epidemic of bubas described by Ruiz de Isla. What he says has already been pointed out by Frederick Buret. Before closing his 13th chapter, and taking up the two plagues, bubas and chigoes, which he describes in the 14th chapter, Oviedo writes: "It appears to me that I might be accused of carelessness were I to omit speaking of the two plagues of which the Christians had to suffer on this second voyage which the Admiral made. . . . One of

these plagues was carried to Spain on the return from this voyage of Columbus and thence to all the other provinces of the entire world (*Me paresce que de me podria notar a descuydo dexar de decir dos plagas nuevas que los chripstianos, en este secundo viage des almirante padescieron. . . . Una dellas fue transferida con esla vuelta de Colon a España y de alli a todas las provincias del mundo toto.* Lib II cap. xiii Oviedo NAT. HIST.).

As Columbus returned from his second voyage June 11, 1496, the manner of fitting the testimony of Oviedo with that of Ruiz de Isla is discordant. As a matter of fact it does not fit at all.

The Kidnapped Indians and their Fate

During his first voyage Columbus spent less time at Haiti, or Española, than he did in other parts of the West Indies. The halcyon paradise of islands that Columbus so enthusiastically celebrated in the Santangel letter, so widely published in Europe upon his return from the first voyage, was succeeded by the disappointments and distresses incident to the establishment of a settlement in Española the second voyage. The ignorance, incompetence, and improvidence of the first settlers, resulted in what seemed a hell of pestilence. Oviedo's History, fixed Española as the source of all evil. The manuscript of Ruiz de Isla calls the bubas "the Disease of the Island of Española" not because he had been there, but from rumor. According to his testimony he began to prepare his book in 1528, or two years after the appearance of Oviedo's Sumaria, and his work was not published until four years after the appearance of Oviedo's General and Natural History of the Indies. Many writers assume that all the Indians brought back from the first voyage were natives of Haiti, and that some of them were women, and these women were taken to Naples, and from there spread the disease. This is a part of the absurd account of John Baptist Montanus, who had Columbus return from "Calicut" to Naples in 1496.

Columbus brought back 10 Indians from his first voy-

age. One seems to have sickened and died on the way back. Three were ill or for some other reason were left behind at Seville where he had awaited the arrival of the *carta mesagera,* which needless to say would never have reached him had he continued his journey by sea. Only six made the overland journey to Barcelona and were christened in the cathedral. Of the original 10, only 4, and they were mere youths, came from Haiti the region of Samana Bay. The others came from the Bahamas and Cuba. Of those left behind at Seville, one seems to have died. One of the six taken to Barcelona was presented to Prince Juan, and lived for about two years. The remaining 7, according to Dr. Chanca, the Fleet Physician of the second voyage, embarked to return to the West Indies. On the way back 5 of these died. One of the two who remained alive absconded soon after the first landfall, and the remaining Indian who was from the Bahamas, christened Diego, from Columbus's brother Diego Colon, continued faithful for some time. The mortality among them in the brief period of less than one year indicates that they suffered severely from their contact with the civilization of the Old World.

As to the sex of those brought back they are referred to as men (*hombres*) by contemporary Spanish historians, as well as those testifying in the first Probanza. Before the wreck of the Santa Maria, Columbus had kidnapped in all 19 Indians, none of them from Haiti. Of these, 9 were men, 7 were women, and 3 mere children. Upon leaving Navidad, the site of the wreck of the flagship, three youths were ordered taken on board the Niña the night before departure. Four more youths were kidnapped at Samana Bay. Three other Indians had been placed on board the Pinta October 17, 1492, which constituted the 10 brought to Europe. It is doubtful if any Indians brought back were females. Certainly none of them ever got to Naples, and the yarn of John Baptist Montanus of how they were sent over to the French army to spread the disease to Europe, Africa, Asia, and the whole world is a blundering fabrication.

Roman Pane and His Myth of the Disease We Call French

There is often published as supporting and confirming the texts of de Isla, an extract from the work of Ferdinand Columbus, accredited to Roman Pane, and which is quoted by Montejo, Bloch, Jeanselme, Kohi, Pusey, Williams and Riesman. Among those who had gone on the second voyage was one Ramon or Roman Pane. He had accompanied Fray Bernardo Boyle as a missionary to the Indians, and upon the desertion of this worthy with Pedro Margarite, who absconded in the ships brought over by Bartholomew Columbus, in the latter part of 1494, this Roman Pane and a Franciscan, Fray Juan Borgoñon, succeeded to first place in this missionary adventure. He was instructed to investigate the religious beliefs of the Indians and his report is preserved by Ferdinand Columbus (cap. xli).

Montejo, examining this work, found this much quoted passage, which has been interpreted to refer to a previous existence of syphilis at Española. Nothing could be further from the truth.

On this second voyage Columbus touched at several windward islands, including the island now known as Porto Rico, searching for Navidad, where, on the first voyage, had been left 39 survivors of the wreck of the Santa Maria. The authentic contemporaneous record of the event under consideration is given in a letter of Dr. Alvarez Diego Chanca, the physician of the fleet of Columbus, who wrote an account of the first part of the voyage to the Chapter at Seville early in 1494.

On their way to Española, searching for Navidad, they had kidnapped a number of women from outlying islands and from Porto Rico. The Indian chief of the vicinity of Navidad was called Guacamari, Guacanagari, Guagagiona, etc., and Columbus had parted from him on the first voyage on terms of friendship. Now, upon reaching the site of Navidad all Europeans left behind had perished of disease, or had been murdered by the Indians. Guacamari, the cacique, feigned sickness and would not come to the ships to face Columbus but sent his brother in his place. The

incident quoted by Ferdinand Columbus had to do with the women kidnapped from the islands on the way to Haiti. This account is the version of Fray Roman which doubtless suffered in the translations. It reads as follows:

"They say, that Guagagiona being in the land where he had gone, saw a woman whom he had left on the sea, from whom he had great pleasure, and immediately he sought many lotions to cleanse himself, on account of being plagued with the disease that we call French (*que llamanos Frances*). He placed himself afterwards in a Guanara, which signifies a place by itself, where he was cured of his ulcers."

The foregoing fragment is alleged to have been written in 1495. We can pass over the indefinite words, "they say," and the anachronism of the words "French disease," and compare this account with evidence of Dr. Chanca. He is writing of the second voyage and has reached the point of the arrival off the site of Navidad, and the events that took place there:

"In the ship there were ten women of those taken in the islands of the caribs; the most of them were from Boriquen (Porto Rico). That brother of Guacamari talked with them; as we believe, he told them to do that which they did immediately on this night. And it was that in the first watch, they threw themselves very quietly into the water and made their way ashore, so that by the time that they were missed, they had gone such a distance that with the boats they were unable to take more than four, whom they took as they were coming out of the water. They swam more than a full half league."

Peter Martyr (Dec. 1, 2), who though a contemparary, was not a witness, says one of these women was called Catalina, and they swam a distance of about three miles. Furthermore, Martyr changes the account making Guacanagari the one who talked with Catalina, and he is also presumed to have suggested the flight to her.

We are interested to know if Guacamari had the ulcers of a venereal disease. The account of Dr. Chanca thus continues:

"On the morning of the next day, the Admiral sent to Guacamari to tell him that he should send to him those women who had fled the night before and that he should command immediate search to be made for them. When they arrived, they found the village abandoned by its inhabitants, so there was not a soul in it."

This is the last we hear of Guacamari or of his brother in Dr. Chanca's account, which was written in January, and soon after the ships left the vicinity. On April 24, 1494, Columbus once again visited the site of Navidad in hopes of getting in touch with the chieftan, but the latter absconded to the hills at the sight of the ships. Ferdinand Columbus and Herrera both mention him later in connection with the rising animosity of the Indian caciques against the Spaniards, who formed a league which Gauacanagari (Gaucamari) refused to join. Herrera also tells of a visit to Columbus by this chieftain to inform him of the plot against the Spaniards, which he refused to join. The rest of the caciques learning of his exposure of their plans, he found himself overwhelmed with their reproaches. Unable to bear with the hostility he met on all sides he at last took refuge in the mountains behind the coast where he is said to have died obscurely and in misery (Charlevoix, Hist. de St. Domingo lib. iii.)

The incident that probably gave rise to the ulcers of Guacamari is told by Dr. Chanca. On arrival of Columbus at the site of Navidad, Guacarami had feigned illness on account of a wound and would not come to the ships himself, but had sent his brother to represent him. However, Columbus decided to visit him in person and to take a physician and a surgeon along. Thus we take up the narrative of Dr. Chanca.

"I and a surgeon of the fleet were present. The Admiral told Guacamari that we had knowledge of the ailments of men that he might consent to show us the wound. He answered that he was willing, upon which I told him that it would be necessary, if he could, that he should go out of the house, because from the throng of people it was dark and it was impossible to see well. He did so at once;

I believe rather from timidity than good-will. He went out leaning on an arm. After he was seated, the surgeon went to him and began to unbandage him. He then said to the Admiral that the wound had been made with a *ciba,* which means to say, with a stone. When he was unbandaged we came to examine him. It is certain that he had no more wound on that leg than on the other, although he cunningly made out that it pained him greatly" (*Es cierto que no tenia mas mal en aquella que en la otra, aunque el hacia del raposo que el dolia mucho*).

This is the first-hand evidence of the physician who examined the leg, found no ulcers, and no evidence of syphilis, and is the only fact of record bearing on the health of Guacamari. Peter Martyr in his Decades, says that Columbus sent Melchior Maldonado to the cacique who examined the leg after removing some dressings and found no wound. Jane suggests that this Maldonado might have been the surgeon who accompanied Dr. Chanca. Las Casas writing long afterwards, and who was at the time a lad in Spain, says that Guacanagari exhibited his "wounds." The account has been further embellished out of the imagination of other historians.

The direct evidence of Dr. Alvarez Diego Chanca puts a different light on the account of Fray Roman Pane, the Poor Hermit, which has doubtless suffered some in the translations. There is nothing in it to support the account of Ruiz de Isla, for it took place during the second voyage.

Thus, the truth is, some native women were kidnapped at Porto Rico and taken to Haiti. If they had any disease to give Guacamari, they brought it from that island or obtained it from their kidnappers. How can a modern physician consider a disease was transmitted to this cacique before they escaped!

Part Two

THE PITFALLS OF EXTINCT HUMORAL PHILOSOPHY

The Evolutionary Perspective of Disease

It is our task to examine into this new and unheard of Serpentine Disease with a view of learning if it was really syphilis, for the name died with Ruiz de Isla. Not only is this obligation prudent, but is essential if we purpose to serve Truth instead of Prejudice.

The further back one searches for an understanding of a given disease, the nearer we approach a point of infinity, usually a mere name such as *leuce,* or *nonus,* or *bubas.* Our progress in the interpretation of disease has always been a building-up or constructive process, followed by a break-down or analytic. Our progress has been profoundly influenced by superstition and philosophy, assembled about a tissue of facts represented by its incurableness, its loathsomeness, its contagiousness, and their opposites. That disease was long believed to have its cause in punishment of the Gods for violating a temple, a ritual, or for heresy, is too well known to furnish an example. A doctrine of inheritance has prevailed since remote time.

The route we have traveled is strewn with theories, theories which have exerted a powerful influence upon the inherent fears of the race. It was but yesteryear the theory of phlogiston, the philosophers stone, judicial astrology, and the humoral theory profoundly influenced the thoughts and speculations of the scientific world, and so much so, that to understand the doctrines of the doctors and the surgeons of the past we must know something of the humoral theory that influenced them.

Throughout the Middle Ages and into modern time, disease was considered primarily due to a theoretic disfunction of theoretic body fluids known as humors, which

were expressed as sanguine, phlegmatic, yellow-bilious and black-bilious. With the advent of the European art of printing, practically all of the books of medicine were texts of the ancients with little or no evidence at recording current experience. Before the time of Ruiz de Isla, the books and the teachers expounded disease on the basis of humoral disfunction, omitting, or giving in a fragmentary manner those clinical symptoms now known as objective, such as a physician observes, or the subjective, such as the patient feels and interprets. It was a natural consequence of this, that St. Anthony's fire came to represent some seven different conditions in modern nomenclature, such as erysipelas, ergotism, scarlet-fever, or any condition accompanied with erythema and fever. It was a natural consequence of this that such a confusion as that complained of by many of the medieval surgeons came about, in connection with the skin diseases, with the increasing translations or transliterations from the ancient texts, introducing such terms as *morphea, baras, albaras, essere, pruna, asaphata, pustulis, psora, impetigo,* etc. Thus we have noted Lanfranc, Mondeville, and Leonicensus each complaining of the confusion that existed in their respective times, for the name given a certain manifestation often changed with time and place and person.

Of contagion there has always been some rough understanding. Contagion through the air is a very old doctrine, and like the superstition of a contagion residing in the menstrous woman, goes back to a remote and dim period of antiquity. The Middle Ages had built up too on the side of religion, a pious belief in the Divine wrath, and that disease was inflicted as God's punishment for sin, or even as a mark of Divine favor as in the case of Lazarus or Job. As a result, those afflicted turned to God, and agreeable to the confession in the Niciene creed, sought forgiveness of sin and its consequences, in the intercession of Saints at shrines made holy by faith. By tedious pilgrimage they made faith in their creed more than a mere mummery. On the side of philosophy, the pseudo-science of judicial

astrology predicted pestilence, as well as other matters of human destiny, so that princes had their astrologers as well as their physicians and confessors, and these astrologers zoned off the human body into regions corresponding to the 12 regions of the heavenly zodiac which exerted an influence over them. The famous Paul Middleburg, and John Muller are each said to have predicted the advent of syphilis. They are both quoted for these predictions by the earliest syphilographers. Paul Middleburg forecasted the disease on the conjunction of 1484, and John Manard said it would last for 100 years, and be all over by 1584. Of course Middleburg did not call it syphilis, for this name was not invented by Fracastorius until 1530, who says with assurance (for he believed in the astrological origin of the disease) that it is well known that syphilis or *morbum gallicum* was predicted by astrologers long before it appeared.

Leprosy came under the special care of the church, for its diagnosis was not in the hands of the medical profession, but in the hands of the clergy, agreeable to chapter thirteen of the Levitican law. It was out of the breakdown of that pot-pourri of disease called leprosy, that the *morbum gallicum* of some came into existence. Yet to a certain extent leprosy had been immune to controversy on its humoral pathology for long before the Christian surgeons began to write, a form had been attributed to each of the four humors. Then out of *morbum gallicum* came the diseases we know as typhus, typhoid, syphilis, chancroid, gonorrhoea, and other diseases, due to the considerable rearrangements and readjustments of the clinical classification of modern times even into a sixth venereal disease.

Following the year 1484, when typhus and other contagious diseases prevailed extensively about Europe, a new interest and conception of pestilence was forced upon the unwilling physicians, whose first consideration in its presence was flight. Dissertations based on ancient humoral etiology befogged the issue, characterized not infrequently by each writing about a different modern disease. Who

would believe for instance that earnest Simon Pistor was considering a venereal disease in his *Positio de Morbo Franco,* Leipsig, 1498. And out of all this confusion scholars swayed by extinct prejudice, are still taking sides, resisting bitterly any attempt to estimate long-time errors, often unconsciously echoing doctrines of a defunct humoral pathology, without making an attempt to estimate the pot-pourri of disease to be unscrambled to get to the facts.

The Rise of the Surgeons

Surgery which had developed to a creditable art at the time of Celsus and the beginning of the Christian era, had reached a zenith in the Byzantine Empire through the encyclopedic writings of Paul of Aegineta, in the most complete system of operative surgery which has come down to us from ancient times. The Arabic writers of the Eastern Caliphilate, such as Haly Abbas and Rhazes were but little more than copiests, whereas Avicenna was a wet blanket to its progress, contemptuous of this "manual art" so far beneath the dignity of the Philosopher. In the Western Caliphilate of Spain a bright star flickered for a while in Alzaharavius, better known as Albucasis. In the prohemio of his surgery he points out that the art is already so neglected that scarcely any vestige of it remained, and, what manuscripts existed, he tells us, were so faulty that one was in doubt of the author's meaning, and furthermore the apprenticeship was so long, and the necessity for an accurate knowledge of anatomy so great, that no one had the inclination to undertake its study. Alzaharavius in his work on Theory and Practice, describes four types of leprosy in Spain, one of which he called the serpentine variety, a name applied to the disease of Ruiz de Isla. The causes of leprosy he described as intrinsic and extrinsic. The intrinsic causes he gives as three: 1st. hereditary, 2nd. bad food, and 3rd. a contagion from another leper. He discusses at length the rôle of the menstrous woman and the corrupting influence of her blood on the male sperm, as well as the transmission of malignant humoral taints to the foetus. The flower of medical Europe took up this

theme later, and used exactly the same type of philosophy to explain the phenomena of syphilis through the greater part of the 16th century. His chapter on *alcoab,* also known as *asaphati* by the Arabs and to which disease william Salicet (1275) gave the name "pustulis," a disease ascribed by him to intercourse with a filthy or menstrous woman or prostitute, Alzaharavius identifies as the eruptive stage of the serpentina. In his chapter on the eruption *albaras,* an Arabic term, translated by Constantine Africanus as *morphea* he attributes this, also a first sign of leprosy, to intercourse with, and resulting from the gross and adust blood of the menstrous woman. Morphea was the direct descendant of the *vitiligo* of Celsus, the *leuce* of the Greeks, and the *tzarath* of the Hebrews. The work of Avicenna translated into Latin by Gerard of Cremona about the same time as the work of Alzaharavius, ignored the art of surgery, and pronounced the dictum that surgery was beneath the dignity of the physician who should not practice the "manual art" beyond the use of the cautery and caustics.

A fresh impetus to surgery in Christian Europe grew up coincident with the Crusades and followed the translation at Salerno of Arabic works by Constantine Africanus and his co-workers. His translation of the arabic work of Ibn al Jazzar, commonly called the *Viaticum* was largely drawn from by Roger and Jamerius, the two earliest Italian surgeons. Roger simply makes reference to Hippocrates, but Jamerius refers to Hippocrates twice and to the Viaticum or to Constantine six times. Rolando the commentator of Roger introduces Alexander, the Surgeons of the rising school of Bologna, Avicenna and Galen. From this time on there is a steady increase among the surgical writers of references to these two latter writers. Galen had laid down the dictum that surgery was an inferior branch of medicine, and treated the surgeon as a mere instrument or inferior, a sad thesis, which found an echo of acknowledgement in the Prologue of the works of nearly all the Christian surgeons. The popularity of Avicenna increased. The Four Masters, commentators on the works of Roger, Jamerius and Rolando, made over fifty references to

Avicenna, which was exceeded by Bruno and Theodoric, until we reach Henry de Mondeville who made over 300. Guy de Chauliac made over 500, and d'Argelata, more than 1000. The popularity of the Canon of Avicenna grew until it formed half the medical curriculum of European universities in the latter part of the 15th century, and continued as a textbook up to 1650 A.D. at the universities of Louvain and Montpellier.

Shortly before the time that the Canon of Avicenna was translated under the direction of Gerard of Cremona at Toledo, Pope Innocent had, at the Council of Clermont, the Council of Rheims, and the Lateran Council of 1134 A.D., introduced restrictions upon the practice of surgery by clerics. Neuburger has pointed out reasons of policy within the Church that led to this discrimination. There was the temptation to cultivate the lucrative rewards from such practice at the expense of priestly duties. Some years later the edict of the Council of Tours declared that the Church abhorred the shedding of blood (*ecclesia abhoret a sanguine*), a dictum that outlawed the art of surgery from the culture of the schools, and dropped its practice into the lap of the barbers, or worse still, the mountebanks. The Fourth Lateran Council, meeting Nov. 11, 1215, contained two canons we may note. First, canon xviii: Priests, deacons and subdeacons forbidden to perform surgical procedures. Next, canon xxii: Before prescribing for the sick, physicians shall be bound under pain of exclusion from the Church, to exhort their patients to call in a priest, and thus provide for their spiritual welfare.

The prevailing character of philosophy reserved for the priest a seat at the bedside of the sick and dying. The Council of Le Mans (1247) went still further and placed a prohibition of surgery upon monks, a sad prohibition for the hospitals and leper asylums of the Order of St. Lazarus, as well as the Order of St. John. Therefor the only measure of surgery left in these holy eleemosynary institutions was an appeal to the intercession of Saints, in accordance with the confession of the Nicene creed. We note about this time the leper asylums began to languish (See The

Antiquity of Syphilis, R. C. Holcomb, Medical Life, June 1935).

Nor were the dicta of the Church the only repressions upon surgery in Spain. During the Visigoth domination the laws of Chindaswind and Receswind (641-672) had been particularly vengeful of failure of a physician or a surgeon to produce a satisfactory result in treatment of a slave, freedman, or nobleman. This may have accounted to some extent for the depressed condition in which Alzaharavius found the art. In 1241, Ferdinand III re-enacted these laws, the Fuero Judzgo of the Basques, which formed the basis of Spanish medieval law. These laws and some other circumstances probably had a share in stunting the further development of the art of surgery in Spain.

It has been frequently claimed by Catholic writers that the Church placed no restriction on the dissection of the human body, but directed an edict rather to a gruesome custom of the crusaders of transporting remains pickeled and otherwise through Christian countries. However, some investigators were at least deluded in this belief for the Anatomy of Guy de Vigevano of 1345 opens with the statement: "It is prohibited by the Church to make an anatomy of the human body."

Many of the channels through which the traditions of medicine have reached us are surrounded by superstitions or prejudices regarding the impurity or sanctity of the dead, which made any attempt at post-mortem study taboo. When the British attempted to introduce trial by jury into India, the jury to be one-half Europeans and one-half Hindoos, the latter said among other things, looking at or examining a corpse was out of the question. Here only the Chandâlas, the lowest caste, handled the corpse, executed criminals, and performed impure offices generally. The Hebrew closed the eyes, in pious ritual, and buried his dead within a day. The early Mohammedan viewed with horror not only the dissection of the human body, but any image or drawing of it, in whole or part. The aversion toward the autopsy was as deep then as it is today in many quar-

ters, only to be practiced for the most part upon the friendless and abandoned.

We know that in Spain this aversion, which was largely inherited from the Moors, who had placed human dissection under a ban, was lifted in 1488 when Ferdinand and Isabella granted the confraria of St. Cosme and St. Damian of the city of Zaragosa, a right in perpetuity to perform autopsies.

The character of the surgery that developed as a result of these traditional prejudices was restrained in evidences of originality. But there are many passages in the works of Bruno, Theodoric, Salicet, Lanfranc, Henry de Mondeville, Guy de Chauliac, Peter d'Argelata and Bertaphalia, that we can admire. Theodoric, Salicet, Lanfranc and de Mondeville had a good knowledge of venereal infection and venereal disease. Along with Gilbert, Gordon, Gaddesden and Valescus de Taranta they were familiar with the venereal form of leprosy.

In Spain in 1488, the same year the privilege of the anatomies was granted, the office of the protomedico was firmly established in the responsibility over lepers, a function previously exercised by the clerics. But at the same time the surgeons were further restricted by another ordinance which provided that no surgeon or apothecary might administer medicines without the approval of the medico. Morejon cites laws of Aragon, Valencia, Cataluña, Navarre, and Galicia relating to the examination not only of physicians and surgeons, but also to such cults as *maestros de llagas, albebristas, ensalmadores, exoristas,* etc.

In his Antidotario, Ruiz de Isla says the law states that a doctor and no other shall administer laxatives. The law quoted by Monejon for Zaragoza (1488) states that no surgeon or apothecary might give *xaropes* (medicinal potions), or medicines or laxatives without the authority of a physician under a penalty of 300 sueldos.

A tendency for investigation was afoot. The knowledge of anatomy was very inaccurate and was based largely upon the anatomy of the pig. At these demonstrations, a barber or a surgeon handled the knife, and the physician ex-

pounded the ritual from a book. Vesalius, a physician, not afraid to do his own dissections had not yet published his epoch-making work. The news of autopsies is by this time coming from many sources. Ruiz de Isla tells of autopsies at the hospital of All Saints on patients dying of a lung affection. From distant points comes news of more of these investigations. At Montreal, Canada, 1535, the expedition of Jacques Cartier gives a description of an autopsy on a patient dying of scurvy. Oviedo tells of an autopsy at San Domingo city, Haiti on a case of conjoined twins. From the Portuguese settlement at Goa (India) we note the Vice-Roy ordering an autopsy on a patient dying of cholera. And when serious mortality seized the fleet of Sir Francis Drake on the Spanish Main, he ordered his surgeon to investigate, beginning with the dead body of his brother, Joseph Drake (1573). The story of autopsies on syphilitics from 1497 to 1761 has been told by E. L. Zimmermann (Janus 1934 and J. Hopkins, Bul. Inst. Hist. of Med. Vol. III, p. 355).

Before the year 1500, books had been produced in Italy, Germany and Spain dealing with venereal infection, describing it as a new disease. France kept out of the controversy for more than a quarter of a century, when a book appeared to laud the virtues of the Holy Wood. It was many years later that Will Clowes of London produced his work on *Morbus Gallicus.* A contemporary of Ruiz de Isla in England was Thomas Vicary (1490-c. 1591?), the first Master Surgeon of the Commonality of Barber Surgeons, whose features are immortalized by Holbein in that picture where Henry VIII is depicted handing him the charter of the Commonality (1540). About this time the guild of the barbers was the most powerful guild in London, numbering 185. The Surgeons numbered barely 12, but by uniting, age-long rivalries and struggle for advantage were ended. Ruiz de Isla takes occasion to refer to a custom of Spanish surgeons taking cases of bubas into their houses for treatment. The Spanish satirist, Hidalgo, in his satires on the bubas, refers to the same custom on the part of the surgeons. Baas (p. 562) mentions this as a

custom of the Saxon barbers. In the charter of the London Commonality of surgeons and barbers, in addition to the right of the company to obtain without obstruction the bodies of 4 malefactors each year for their anatomies, there was an agreement limiting the surgeons to their art and the barbers to theirs. As the surgeons, so it was declared, had a custom of taking persons affected with the "great pockes" into their houses for treatment, "which was very perillous for infectying the kings liege people there being washed and shaven," they were prohibited from exercising the art of the barber. On the other hand the barbers were excluded out of the art of surgery, the extraction of teeth excepted. The texts of the earliest writers all charge the physicians with ignorance regarding the disease, for it had long belonged properly in the field of the surgeon to whom it had been abandoned. Yet in England another 55 years was to pass before a surgeon of this Commonality was to produce a work on this disease.

Of the French surgeons, Theirry de Hery, one of the most influential of the French barber-surgeons was gathering experience in Italy with the army of Francis I (1537). His book on venereal disease was not published until 1552. Ambroise Paré was already beginning his career in Paris where as a rustic barber's apprentice he had come up from the Provinces (1529). The work of Paré on venereal disease was largely copied from de Hery, to whom he gives full credit.

The Advent of the European Art of Printing

An event of tremendous importance which tended to liberate and develop and record the thoughts and experiences of mankind was the European invention of the art of printing. At this distance it is hard to conceive its far-reaching consequences. Prescott has pointed out that in the Celestine monastry at Paris there is a manuscript copy of Gratians Canons, upon which the copiest was engaged at the copying for twenty-one months. A single copiest undertaking the task of producing 4000 copies would require 7000 years, or considering the task in the light of a

progression, it would require more than ten years' labor with more than 1000 copiests at task the final year. At the present time with the aid of printing, the task would easily be performed with a small force in three months or less.

Some idea may be had of the rarity and value of medical manuscripts from the fact that even so late as 1471, Louis XI, the father of Charles VIII, desiring to borrow a copy of Rhazes from the small library of the Faculty of Medicine at Paris, was called upon not only to deposit a considerable quantity of plate, but in addition, a nobleman was required to join with him as surety in a deed, binding himself under a great forfeiture to restore it (Robinson's Charles V, Vol. I, note x, p. 237). The works of the ancients were then far more difficult of access than they are today. Villalobos tells us he wrote his poem, *El summario de la medicina en romance trovado con un tratado sobre las pestiferas bubas* (1498), because physicians never saw or went through Avicenna or Galen more than once, if at all.

In the presence of an intense illiteracy, a paucity of printer's supplies, crude and elemental tools, one could hardly look for a sudden development of printing. Yet the new invention spread throughout all Europe with surprising swiftness. If before 1460 we might note but two cities, Mainz and Haarlem, with presses, the number was increased to ten by the close of a decade. By 1480 more than 100 establishments in nearly as many cities, had set up presses. The following decade saw this number nearly doubled, and by the dawn of the 16th century over 250 separate printing establishments were in operation.

Beginning in the German cities, the art spread to Italy by 1465, to France by 1469, to Spain by 1474, and into England by 1476.

The earlier works were ecclesiastical, civil, letters, and some scattered subjects. Works on medicine found but a scant and a limited interest and demand. The language of medicine was Latin, a language supposed at least to be possessed alone by the cultured. Only about the schools and the Universities might one expect to find repositories

of books. Printing found its most encouraging field under the shadow of the Italian schools. The fall of Constantinople to the Turk (1453), had released through the medium of scholarly refugees, the pent up currents of Greek culture, and this Byzantine learning found its most fertile soil in the cities of the Italian peninsular.

Throughout the ages, and long before the establishment of the Christian Church, man has sought to control the opinions of his fellow man. Long before the invention of printing the Church assumed to control the expression of all opinion distasteful to her. The rise of Humanism and the Renaissance are mere metaphors which grew out of the cloud-burst of opinion set free through the art of printing, laying the foundations of current Modernism. German cities were the chief offenders against the restrictions of the Church, and the German printers were bold. The sack of Mainz by Adolph of Nassau drove some German printers and artisans into other cities of Europe, and the Church Universities, that at first could hold the matter in hand, soon found the output of books beyond their control. By 1479 Pope Sixtus found it necessary through the threat of a growing heresy to give special directions to the archbishops of certain German cities. On June 1, 1501, Pope Alexander VI, becoming restive, issued a Bull against unlicensed printing. This Bull found an echo in Spain, where July 8, 1502, from Toledo, it was decreed, as many books sold in the kingdom were defective, false, or apocryphal, or pregnant with vain and superstitious novelties, it was therefor ordered that thereafter no books should be printed without special license from the King, or some person duly commissioned by him for this purpose. After this date in Spain we find the medical books of this country licensed by the King usually for a limited period of 10 years, and approved by the Protomedico. The Pope's Bull of 1501 was directed mainly against the ecclesiastical provinces of Cologne, Mainz, Trier and Magdelburg. Finally, during the Lateran Council of Pope Leo X, there was promulgated by Bull of May 3, 1515, a Papal censorial decree, to apply to the entire Church. All writings, without ex-

ception were submitted to censorship. The examination was entrusted to the bishops or to the censors appointed by them, and to the inquisitor. Printers offending against the Bull incurred the punishment of excommunication and they were further liable to a fine, and confiscation and destruction of the book. After this date the approved books were published bearing the privilege of the sovereign state and ecclesiastic approval. Books published after this date reflect the weight of this censorship. They were mostly dedicated to Popes, Kings, Princes or Rulers, whose protection they sought. Opinions were tinctured accordingly. The merry satires of the contemporary physician Gaspar Lucas Hidalgo on the bubas failed of approval. In France in 1535, shortly before the appearance of Ruiz de Isla's work, Francis I prohibited by edict, under penalty of death, the printing of all books. Happily this stringent provision was repealed and the Sorbonne was given the right to decide a system that continued until the French Revolution. In England under Henry VIII the Church having been disorganized, printing was confined to the Company of Stationers founded 1556. Later, under Elizabeth, the Star Chamber confined printing to London, Oxford and Cambridge. Between 1524 and 1548 various stringent regulations were drawn up by the German Diet.

The restrictions briefly sketched above came into existence before that courage of opinion that reflects a current opinion had fairly found expression. Directing our attention to the period before the year 1500 some interesting facts are revealed. The combined incunabula of the British Museum and the Bodleian collection for this period comprises 10,000 works. A cross section of this collection reveals 41 per cent Italian, 34 per cent German, 10 per cent French, 7 per cent from Netherlands, 4 per cent Switzerland, 2 per cent English, 1.5 per cent from Spain and Portugal, .5 per cent other countries. It is thus plain that 75 per cent of all works up to this time were printed under Italian or German influence.

Medical works are in minority. Among the first books to be printed on medical subjects were two works neither

of them written by physicians, but by Roman encyclopedists. The first, the Natural History of Pliny (23-79 A.D.) was printed at Venice 1469. The other, a long lost work of Celsus (25 B.C.-50 A.D.), copies of which were rediscovered 1426, 1427, and 1443. This work was printed in Florence (1478). These works as well as the works of Valescus Taranta, printed 1470, and the surgery of William Salicet, printed in 1476, are of special interest for their treatment of venereal diseases. Pliny wrote of mentagra, and one can find few of the early syphilographers who failed to puzzle over this disease as moderns do today over yaws and syphilis. Ruiz de Isla in his chapter on origin says that the Serpentine Disease of the Island of Española is the same disease in all respects as the mentagra of Pliny, and that no physician had written of it except the said Pliny. In this he was in error as well as those who have echoed his loose statement, for as has been shown, the name survived in other texts.

The work of the first syphilographers after the advent of printing, as Singer has pointed out, marks a distinct break with the past. For instead of copying the stereotyped texts of the ancients, they incorporated their own experience along with their interpretation. The language for the most part was not their native tongue and depended for expression on the limited classic terms of bye-gone days. This classic language was the Latin into which the theories of Galen and Avicenna had been translated, for both had written originally in other tongues. Paracelsus during a brief and stormy career as a teacher at the University of Basel was the first to dare to lecture on medicine in the vernacular and for this he was reviled to an echo. Nevertheless terms for this disease, like bubas, pustulis, grossa verole, mal franzos, brosulus, scorra, sarna of Egypt, not to mention the disease of many Saints, came into a momentary view in these early incunabula.

The Humoral Physiology and Pathology of the Surgeons

Before attempting to present Ruiz Diaz de Isla's definition of his Serpentine Disease, in order to understand what

he is writing about, it is advisable to review briefly the status of humoral physiology and pathology, as taught by the surgeons. The surgeries of Roger, Jamerius, Rolando, The Four Masters, Bruno, Theodoric, Salicet, Lanfranc, Henry de Mondeville, Guy de Chauliac, d'Argelata, and Bertaphalia, are considered in the comments that follow. These represent fairly the progress of Surgery during what we know as the time and the Christian surgeons of the Middle Ages. The authorities that influenced them in the theoretic consideration of disease after Jamerius, were mainly Galen and Avicenna. Roger and Jamerius mention only Hippocrates and Constantine or his Viaticum. From Rolando on, Avicenna and Galen take the stage. Avicenna drew largely from Galen, and of over 180 authorities mentioned by the enumerated surgeons, Avicenna and Galen absorb more than two-thirds of all the references. Roland makes reference to Avicenna but twice, but d'Argelata makes reference to him more than 1000 times. The Canon of Medicine of Avicenna, came to absorb practically all the teaching of medicine, and Ruiz de Isla frequently falls back upon the finality of this authority. It is essentially a work of medical philosophy, rather than of experience.

Briefly, Avicenna taught the body consisted of *members.* These members were derived primarily from the *humors,* which in turn were derived from *aliments,* and which in turn were derived from the *elements.* There being no cellular theory, the ultimate source was the element.

In contrast to certain auxiliary members there were four *principal, vital* or *noble members,* namely, the heart, brain, liver, and generative organs. Otherwise the members were also classified as simple and compound. The simple members were composed of substance homogenous throughout, as flesh, bone, nerves, and the like, and the compound members were not of a homogenous substance, but composed of several different substances, as for instance, the face or the hands, thus each compound member being composed of more than one type of member. So the members of the body included all the organs, parts, and structures comprising it.

The four ultimate elements were *earth, water, air* and *fire.* These were the primary components throughout the human body, as well as other bodies. The primary powers exhibited by these four elements were also four in number, namely they were *hot* or *cold,* and *dry* or *moist.* Drugs and food taken into the body were also hot or cold and dry and moist in four degrees. The magic number to remember was four.

One of the most important qualities of the body as a whole, or of its various constituents or members, was the quality called *temperament,* or, as it was called by many surgeons of the Middle Ages, the *complexion.* The temperament or complexion resulted from a finely balanced interaction and interpassion of the four primary powers of the elements, such as dryness, humidity, hotness, and coldness. The equilibrium reached through a very fine interrelationship of the members, became uniform throughout the whole, producing in the individual, a characteristic temperament or complexion, named from some predominating humor, and resulting in four different temperaments, as *sanguine, phlegmatic, choloric,* and *melancholic.* Each of the members was endowed with a temperament of its own, best adapted to its active or passive state. Thus the heart was hottest, then the blood, liver, and so on, to the skin. The coldest thing in the body was the phlegm, next the hairs, bones, cartilages, etc., to the skin. The order of moisture began with the phlegm, then the blood, the oil, fat, brain, etc. The driest was the hair, followed by bone, cartilage, ligaments, etc. This consideration of temperament introduced a complex interpretation of the patient, his disease, his regimen, and the antidote or treatment.

The primary fluids of the body were the four *humors.* These humors were the *blood, phlegm,* the *yellow,* and the *black bile.* Each of these four humors was endowed with the four primary powers exhibited by the elements, such as heat, cold, dryness, and moisture. They possessed as well an essential and accessory function or faculty, as well as differences of taste such as sweet, sour, insipid, salty.

These humors took their origin in the second of four different stages of digestion.

The *first stage of digestion* took place in the stomach, during which the essence of the aliment was yielded up, passing into the intestines this essence, a chyle, was attracted by the liver, and drawn through the venous channels to the gateway or port of the liver through the portal vein, where it was distributed to the whole organ.

The *second stage of digestion* took place in the liver. Here the blood was formed. Here digested products resulted in the four humors. The excess of any one of them, or the imperfection of any one of them, was an error or a defect in the digestive virtue of the liver.

The *third stage of digestion* took place in the blood vessels. Here the nutriment which left the liver in the form of blood and other humors, underwent a third digestion before reaching the members.

The *fourth and final stage, of digestion* took place in the members, where each received its appropriate elements.

After the time of Albert Magnus, a *fifth digestion* was described by some, which had to do with the reproduction of species, and which may be found described in the work of Guy de Chauliac. It was a theory of what Darwin called Pangenesis, which, as pointed out by Professor Zirkle, really existed in some shape since the time of Hippocrates, having to do with the generation of sperm, which contained a composite of all the elements of likeness of all the members of the body. This pangenetic digestion was regarded either as a product of a fifth digestion, or as a superfluity above what was needed for growth and development of each member, which finally reached the testicles, this stage of superfluity being reached at puberty.

The *residue of each digestion* was disposed of appropriately. The first digestion through the alimentary canal as excrement or alvine discharge. The second digestion to the spleen, gall bladder and urine, and the two other digestions through the skin as perspiration, and through invisable as well as visible orifaces such as nostrils, ears, mouth, etc.

The *nutritive faculty,* or *virtue,* as the surgeons called it, had four subservient virtues, by which the aliments were transformed into the likeness of the member nourished. These were; (a) *Attractive virtue* which enabled a member to draw whatever nutriment it needed for its preservation or function. Thus the liver attracted the chyle. (b) *Retentive virtue* which consisted of a holding property, a power which enabled the member to hold the aliment while an alterative faculty transformed it into its own likeness. (c) *Alterative virtue,* or as the surgeons called it, *assimilative virtue,* which alters, or transmutes the aliment thus attracted and held into a suitable temperament or complexion for assimilation. (d) *expulsive virtue* this being a faculty by which the superfluities of digestion were expelled. During the third faculty, that of alteration, the superfluities, consisting of excess, or unsuitable ingredients, by a process called *maturation,* were attenuated, or thickened, or broken up to more readily prepare them to be expelled through an appropriate aperature.

The school of Avicenna placed the causes of disease in three groups. These they called: (a) *Primative,* causes which were extracorporeal and befell the body from without, such as heat, cold trauma, etc. (b) *Antecedent* causes which befell the body from within, excitant in their character such as a disturbance in temperament of the humors. (c) *Conjoined causes,* a cause also intracorporeal, joined to and with another cause, both of which must be present at the same time, as in fever or sepsis. Their resemblances and differences would be hard to follow in modern though. For instance, the mind was considered a cause distinct from the body, therefor a primitive or extracorporeal cause. Our main interest arises from the fact that disease was considered as arising largely from causes resulting from disturbances operating within the body. Ruiz Diaz de Isla will designate for us what he considered each of these causes in his Serpentine disease.

The processes of chemical nature with which the ancients were most familiar were those resulting from fermentation in bread-making, wine-making, and cheese-

making. Galen uses the example of bread-making to explain the process of *pepsis,* or *coction,* or *digestion.* Thus, as we see the humor-like products of fermentation in the bread-sponge arising to the surface to be expelled, in like manner certain *adust* imperfectly maturated, superfluous or excoriating humors were expelled from a member. As the surface of the bread developed roughness or asperities from such products of fermentation as carbon dioxide, and alcohol coming to the surface, so the surface of the skin revealed a like surface phenomena due to peccant humors. It was easy to comprehend a fever or rise of temperature accompanying this fermentation or coction, to be an *ebullition* or boiling as the surgeons called it. And if the product of the "*ebullicion,*" as Ruiz de Isla called it, was *adust* or *corrosive* little red burns made their appearance as hot papules, pustules, bubas, postillas, botors, peccas, etc. Or thru some disfunction of the subservient nutritive faculties some one of the six apostemeta or accumulations might result. Humors becoming thick or gross might be very difficult to expell from the superior places or to the surface. Or for some other reason they accumulated in some location to form these various apostema, to which subject the whole of Lanfranc's minor surgery is devoted. Sometimes there was enough power to even bring about a *solution of continuity,* and thus a collection of pus was formed, in a member of similar parts.

A defect of the digestive virtue, affecting each of the four humors had long been considered a cause of leprosy. Avicenna wrote of leprosy in an academic style. The Florentine surgeon, Gentilis de Fulgineo (d. 1348) produced a famous glosses on this tract wherein he draws from more practical and perhaps experienced writers as Rhazes, and Alzaharavius, whom he calls Azaravius. Two of the surgeons mentioned in the beginning of this section do not treat of leprosy as a separate entity. These are Bruno and Salicet. In the place of leprosy, Salicet gives a splendid description of infection through venery, of the chancre and chancroid, of the eruption which he called *pustulis* (the verole of the French and the pockes

of the English), and of the tertiary lesions of syphilis. He is also one of the first to introduce venereal prophylactic treatment. Alzaharavius, the Spanish surgeon, long before had described four types of leprosy. *Leonina,* arising from the red bile, *elephantina,* arising from the black bile, *vulpina,* arising from the sanguine humor, and *serpentina,* arising from the phlegm. "Zaharavi" as Ruiz de Isla calls him, considered one of the causes of leprosy to arise through venereal infection from a menstrous woman. He also considered the disease hereditary in a sense that a delay in its appearance depended on whether conception took place the first, second, third, or fourth day of menstruation. It was natural, as a result of such a system of pathology, that bleeding to release peccant humors was practiced, and with meticulous consideration of the proper area to be drained.

The liver was early in being considered the seat of syphilitic pathology. As one follows such a disease as *morphea* through the works of the surgeons from Roger, we will find its pathology turns back upon the liver. The disease is usually described as arising out of a defect in the digestive virtue of the liver. Ruiz de Isla's pathology centered about such a defect in the digestive virtue of the liver. The idea that the liver took a first place in participating in the derangement caused by the syphilitic poison was common to most all of the early syphilographers, but to what extent, and in what manner, they were as far from an agreement as the writers of pre-Columbian times.

In conformity with the doctrine of Galen each of the noble members had its purifiers, or *emunctories* as they were called, the purpose of which was to cleanse them of the morbid matter that might be generated in them. The brain, the heart, and the liver, each had certain sets of glands, or emunctories for their cleansing. The emunctories of the brain were the glands of the neck. The heart had the glands of the axillae, and the liver had the glands of the groin. *Inguina emunctorium hepatis,* said the ancients. The liver was long considered the cause of the affections located in the groin as well as the lower extremi-

ties. Thus, Ruiz de Isla says, we have the apostemas in the groin, which are the emunctories of the liver, and which are commonly called *encordios* and which are difficult to re solve (*Assi mismo en las emunctorios del higado que es las yngles apostemas que vulgamente encordios son llamados: los quales se trabajara dellos ressoluer*). An evil temperament of the humors originating in the liver if of a bilious character passed down to the organs of generation causing ulcerations. An evil temperament of a sanguinous character might remain in the blood mass causing hemorrhoids. Other evil temperaments passed down the legs causing oedemas, ulcers and other conditions.

A malign influence from menstrual blood of women had long influenced the writings of the ancients. The numerous rumors handed down by Pliny; the text of 13th Leviticus; the beliefs of primitive peoples as described by Sir James Frazier in the Golden Bough, all testify to some supposed malignant taint inherent to menstrual blood, making it taboo. That such beliefs are not confined to primitive peoples, and still crop out unexpectedly, is evidenced by a controversy carried on in the British Medical Journal in 1878, and by the aversion to the presence of a menstruating female at a Hebrew ritual of circumcision. Avicenna, although he followed Galen to some extent in recognizing an indefinite contagious quality for lepra, laid more stress upon a phenomena of fermentation in the humors within the body, than upon any influence from without. Thus a fetus absorbed hereditary taints from the placenta, which was regarded as the accumulated menstrual blood, and which in turn was the superfluities of the humors of the mother. In this sense small-pox, measles and leprosy were considered hereditary. The Arabs of the Western Caliphilate laid much more stress upon the subject of a transmission through nearness, and conversation or intercourse with lepers. Ancient Leprosy, so called, was always regarded as a readily contagious disease, and spread through contact with a menstrous woman (Jamerius, Bartholomeus Angelicus, Peter Abano, Peter d'Argelata, etc.). Not only do these works trace leprosy to the mens-

trous woman, but also such conditions as ulcers of the *virga* (Gaddesden, Velascus of Taranta), such eruptions as *albaras, asaphati* and *pustulis* (Alzaharavius, William Salicet.), and *malum mortum,* or syphilitic leg ulcers (Alzaharavius, Gaddesden, Andrew Boorde, and John de Vigo).

Although Cataneus, John de Vigo, Brassavolus, and and many others gave the menstrual woman a rôle in the transmission of syphilis, Ruiz de Isla has little to say of her except in connection with those who develop alopecia. Fracastorius (1542) is usually credited with being the first to describe alopecia as a symptom of syphilis after the discovery of America. It had, however, long been described in leprosy, in fact the *vulpina* type of Alzaharavius took this name for its resemblance to the moulting of a fox. According to Ruiz de Isla, with the first species we have the symptom of the falling out of the hair of the head, eyebrows, eyelashes and beard, and at times all the hairs of the body, which results in a great ugliness and infamy. The condition he considered to arise through intercourse with a woman during her menstrual period, and he illustrates his belief by referring to an experience in a small village where he found 9 or 10 men thus affected with alopecia. They all told him they had contracted their infection from the same woman. Later this woman came under his care, and he questioned her as to why all these men had become afflicted with an alopecia after intercourse with her, and she informed him that she had infected other men with the disease and that they had not become bald, but the men who suffered the alopecia had intercourse with her while she was having her menstruation, which was a satisfactory explanation for Ruiz de Isla. As proof that this was the cause, he states that in a large city, among 500 infected, not more than 10 lose their hair with the first species, whereas here in a small place where only 20 persons were infected, 10 lost their hair.

Four Hundred Years of Progress in Communicable Diseases

It is frequently stated with the air of finality, that syphilis was unknown before 1497. To a certain extent this is true, and it is equally true of nearly all of the communicable diseases.

For more than fourteen hundred years of the Christian era there was but little change in the classification of fevers, and a clinical thermometer was unknown for more than another four hundred years. From the time of Celsus (liber iii), until the time of Ruiz de Isla very little occurred in this matter that contributed to scientific advancement. Avicenna treated of ephemeral fever, continuous fever, febre causon (febris ardens, quartana, peridoca, sextana, septana, etc.), hectic fever, and pestilential fever. Bartholomeus Anglicus, nearly three centuries later treated of ephemeral, hectic, putrid, quotidian, tertian, quartan and acute fevers. An examination of the works of the surgeons of the Middle Ages will reveal a rehash of much the same classification that we find in Celsus and Avicenna, the modifications coming largely from Arabic sources, and consisting principally of the tendency to explain the phenomena as some fermentative change going on in the humors, rather than due to some external influence.

Within a few years after the work of Ruiz de Isla, appeared that epoch-making work, *De Contagione,* of Fracastorius (1542). Typhus, syphilis, and small-pox, were now beginning to emerge from a pot-pourri of pestilential conditions. The number of conditions described, when compared with a modern list, was limited, and some of them have walked the plank into oblivion. In the main, Fracastorius treats of small-pox and measles, pestilential fevers, ephemeral fever, typhus (lenticulae, puncticulae, or peticulae), contagious phthisis, rabies, syphilis, the Greek elephantiasis, leprosy and scabies, and in a short chapter, a rather confused group of cutaneous affections, under names derived mostly from Greek and Arabic sources (Liber II). This work, which beyond all question, constitutes a landmark in the knowledge and philosophy

of contagion, treats of small-pox and measles jointly, also leprosy and scabies, and continues the confusional descriptions of the ancient Greek elephantiasis, which had been repeatedly identified with the Arabic leprosy of the Middle Ages, and which by the dawn of the nineteenth century had been largely absorbed in the so-called tertiary stage of syphilis.

Perhaps no conditions contribute more to the confusion surrounding the term *morbum gallicum,* than the widespread epidemics of typhoid and typhus. Students, such as Hirsch, have shown that typhus at least, prevailed extensively in consecutive epidemics, all over Europe after the year 1483. At, and before the time that Ruiz de Isla wrote, it was comprehended, if at all, within such names as *febris maligna putrida, calentura maligna punticular, morbi aestivi, fiebre diaria, fiebre sudorifica, fiebre lenticulari, plugon, febris tabifica, morbus tabificus, maculae tabificae, pintas, pintas de tabardillo, tabardillo de pintas, tavadillo,* etc. It was not until Alonzo Torres in 1570, wrote on *fiebre puncticulari,* that in Spain, at least, there was a better understanding of this fever (Villalba, Vol. I, año 1570). And it was not until modern times that typhoid fever was recognized as a distinct entity, although Fracastorius gives a circumstantial description of it in his account of abdominal typhus.

In contrast to the 12 conditions described by Fracastorius, the pioneer writer on contagion, the American Public Health Association, and the United States Public Health Service, now list 62 communicable diseases (Reprint No. 1697, from Public Health Reports, Vol. 50, No. 32, August 9, 1935). It therefore ought to be apparent to anyone who will peruse the 15 chapters of Book II of Fracastorius' work on contagion, that his classification was due to a changing philosophy, as well as experience. An opportunity for speculation is apparent to any who will examine this list of 62 communicable diseases, with a view of determining when, and from where they arrived to menace the health of mankind.

A perusal of a work such as Ruiz de Isla's, will reveal

numerous evidences of theories and experiences which will account for, or furnish a hint as to where some of these 62 communicable diseases might be found. His third species was a continued fever, also constituting one of the accidents of the second species. The physicians did not recognize it as a species of the serpentine disease, and had no idea how the peccant humors might be purged through the mouth by the use of mercury. In his censures, which grow bolder in this second edition, he says: "When the fever comes, one physician says it is a hectic fever; another it is an ardent fever; another, a humoral fever; and still another, a phlegmatic fever . . . and then come the stools, and here a physician says it is a rheumatism of the liver; another that it is rheumatism of the stomach; and still another, that it is a rheumatism of the spleen: and under these circumstances the sick man becomes worse, and as usual, falls into the hands of a charlatan who administers mercury." The third species was characterized by a high mortality, and in this particular differed from the first species from which 98 out of 100 would return to health without any purging medicines. Although he clearly states in other parts of his work that the disease is only transmitted through direct contact of the well with some licor or virolencia from a buba in the first species during the first year of the disease, nevertheless, in his first chapter, dealing with the origin of the disease, he departs from this doctrine. Here he has it spread through the means of water in which the clothing of "Galicos" had been washed, and this water sprinkled on garden vegetables infected them, principally the cabbages, which in turn infected children and even animals. Thus he describes a disease spreading like wildfire, affecting one-third of the population, and accounting for a mortality of 10 per cent. of all the towns of Europe!

Could an epidemic of this character be considered syphilis?

Typhus and the Expulsion of the Jews from Spain. The Pest of the Marranos.

Two countries have been charged with the spread of *morbum gallicum,* commonly called the French disease, throughout Europe. These countries are Spain and France. Their accusers were mainly writers under Italian and German influence at the beginning. There are two incidents from which the disease is supposedly traced to Spain, and these are, first, the return of Columbus from the West Indies, the first voyage; and second, the expulsion of the Jews from Spain. On the one hand, Columbus left Spain with 88 persons, and in consequence of the wreck of the flagship, only 44 persons along with ten Indians returned to Europe, and of these there is no evidence that any ever left the boundaries of Spain. On the other hand, Jews by thousands were expelled from Spain. Like other countries, Spain had suffered successive waves of pestilence since 1483. In 1490 the great epidemic of *calentura maligna punticular* (typhus), had swept through Grenada and other parts of Spain.

Early in 1492, and about the time that Columbus was preparing for his voyage of discovery, a tremendous exodus took place from Spain. A body of distressed men, women, and children, numbering conservatively about 160,000 individuals in all conditions of health, homeless and hopeless, sought an asylum in other countries of Europe. The Catholic Sovereigns of Spain signed the edict for the expulsion of all Jews from their dominions on March 30, 1492, and these unfortunate people had until July 31, 1492, to make all their preparations and withdraw.

These refugees sought asylums in Portugal, England, Germany, France, Italy, and the north coast of Africa. Many of those turning toward Africa, crossed over to the Christian settlement of Ercilla, and attempted to reach Fez, but this attempt resulted in a horrible assault by the roving bands of the desert. Large numbers turned towards Italy. The pestilence broke out at Genoa, Rome, Naples, and other cities of the Italian states.

At this time, general infectious diseases were but

vaguely recognized, if at all. Each disease had several names varying with place and person, or as often occurred, the same name was applied to widely differing diseases. Medicine at this time was more of a philosophy, than a practical science.

Bartholomeo Senarega, a Genoese ambassador to Charles VIII, in 1492, later wrote a commentary covering the years from 1488 to 1514 (Rerum Italicarum Scriptores, Muratori, tome xxiv). He writes of the disease commonly called the pest of the Marranos. Thus he tells of the short sojourn of these refugees at Genoa:

"No one could behold the sufferings of the Jewish exiles unmoved. A great many perished of hunger, especially those of tender years. Mothers, with scarcely strength to support themselves, carried their famished infants in their arms, and died with them. Many fell victims to the cold, others to intense thirst, while the unaccustomed distresses incident to a sea-voyage aggravated their maladies. I will not enlarge on the cruelty and avarice which they frequently experienced from the masters of the ships that transported them from Spain. Some were murdered to gratify their cupidity, others forced to sell their children for the expenses of the passage. They arrived at Genoa in crowds, but were not allowed to tarry there long, by reason of the ancient law which interdicted the Jewish traveler from a longer residence than three days. They were allowed, however to refit their vessels, and to recruit themselves for some days from the fatigues of the voyage. One might have taken them for spectres, so emaciated were they, so cadaverous in their aspect, and with eyes so sunken; they differed in nothing from the dead except in the power of motion which indeed, they scarcely retained. Many fainted and expired on the mole, which being completely surrounded by the sea, was the only quarter vouchsafed to the wretched immigrants. The infection spread by such a swarm of dead and dying persons was not at once perceived; but, when winter broke up, ulcers began to make their appearance, and the malady which lurked for a long

time in the city, broke out into the plague in the following year" (Apud Muratori, tome xxiv, col. 531-32).

Another Genoese, Baptist Fulgosis, writing in 1509 (*De dictus facisque*) from Milan where he was then in exile, refers to the new disease, so called, and identified as *morbum gallicum,* saying that it appeared in Italy two years before the campaign of Charles VIII to Italy, and that it came out of Spain from Ethiopia (Africa).

Many writers referred the disease to Spain or Africa. Thus, Francisco Villalobos writing in Spain (1498), on the Pestiferous Bubas, calls the disease the Sarna of Egypt, and traces its origin back to biblical times, when Abram took his beautiful and alluring wife Sara into Egypt, and passing her off as his sister led Pharoah into appropriating her for his harem. Thereupon being afflicted with a disease from her, he sent her back. Under the names Abraham and Sarah the same thing was attempted on another sovereign who also fell for her beauty.

Leo Johannes (c. 1494-1552), the Moorish slave of Pope Leo X, in his description of Africa, published at Rome, March 10, 1526, speaking of *morbum gallicum* says: "If any Barbarie be infected with the disease commonly called the Frenche poxe, they die thereof for the most part, and are seldome cured. This disease begineth with a kind of anguish and swelling and at length breaketh out in sores. Over the mountains of Atlas and throughout Numidia and Libya they scarcely know this disease. In-so-much that often times the parties infected travel forthwith into Numidia or the land of Negroes, in which place the air is so temperate, that onely by remaining there they recover their perfect health, and return home sound into their own countrye: which I saw many doe with mine own eies; who without the helpe of any phisitian or medicine, except the foresaide holesome aire, were restored to their former health. Not so much as the name of the malady was ever known unto the Africans before Ferdinand, the King of Castile expelled all Jews out of Spaine: after the return of the Jews into Africa, certain unhappy and lewd people lay with their wives; so at length the disease spread from

one to another, over the whole region: in-so-much that scarce any one familie was free from the same. Howbeit, this they were most certainly persuaded of, that the same disease came out from Spaine: wherefore they (for want of a better name), do call it the Spanish poxe. Notwithstanding at Tunis and over all Italy it is called the French disease. It is called likewise in Egypt and Syria: for there it is used as a common proverb of cursing: "The French pox take you!" (John Pory's translation, 1600).

This usually fatal disease of Leo Johannes, which was cured by getting away from the mosquito infested coast, and which was unknown in Africa before the expulsion of the Jews, and which invaded Africa before the discovery of America, is somewhat inconsistent with the modern scientific knowledge of our treponematosis, but the history of the so-called *morbum gallicum,* literally reeks with anachronisms and inconsistencies.

Stephen Infessura gives a graphic account of the plague as it appeared at Rome early the Spring of 1493. He calls it *Pestis Marranorum.* The Spanish word *marrano* is applied to hog, to filth, or to the excommunicated. He tells us that in the month of June 1493, the Spanish ambassador expressed his astonishment that the Pope should receive in Rome these Marranos, who, as enemies of the true faith, had been expelled from Spain, by the King, his master. Of these unfortunate fugitives many were encamped under the city walls near the Appian gate; but some entered secretly into the suburbs, where it is supposed, adds Infessura, they introduced the plague which caused many deaths, among others that of Cardinal Comitibus. The Pope in April 1494, wrote to Charles VIII, then planning his campaign to enter Italy, advising him not to visit Rome an account of the Great Plague, which was at that time raging in the city (*Diarium urbis Romae. Eccard. Corp. hist. med. aevi.* lxi, p. 2012).

During July and August 1493, the plague raged intensely at Rome. On the 26th of July, and on the 11th of August, such public celebrations as the anniversary of the death of Pope Innocent VIII, and the celebration of the

elevation of Pope Alexander VI, were omitted, owing to the plague then raging in the city (*Diarium Curial Romae, sub Alexandro VI*).

Among the letters of Petrus Delphini is one dated Florence, January 4, 1494, addressed to Cardinal Senensis (afterwards Pope Pius II), advising the Cardinal not to visit Rome for the Plague, although abated, had not yet ceased its ravages (*Petrus Delphini Veneti Generalis Camaldulensis Epistolarum, libri, Venetiis,* 1524).

Petrus Pintor (1420-1503), a Spanish physician of the household of Pope Alexander, who appears to have come from Valencia with this Pope in 1494, described the pestilence of Rome as arising from certain astrological conjunctions of the planets occurring as early as March 13, 1493, before the return of Columbus to Spain from the first voyage (*Aggregatior sententiarum doctorum de praeservatione curationeque pestilentiae,* 1499). And in another work quoted by Sanchez (*De Morbo Faedo his Temporibus affigenti,* 1500), he refers to the pestiferous conditions which had existed in the city of Rome since the year of 1494 to the year 1499, and that this pestilence was commonly known as the *morbus gallicus* (*sicut evenit hoc tempore scilicet ab anno* 1494 *usque ad praesentem annum* 1499 *adhuc affigens quidam morbus qui a vulgo in civitate Romana appellatur morbus gallicus*). As Charles VIII, the French King, to whose invasion the disease is ascribed, arrived at the city of Rome December 31, 1494, the last day of the year, it would appear that the disease took on in one day a wild-fire epidemic character unknown to the treponematosis called syphilis. However one cannot fairly judge them in the light of more than 400 years of progress in the understanding of the general infectious diseases. Whatever stupidity there may be lies in not taking this into account.

Villalba, quoting Zurita, tells of the arrival of nine caravals at Naples in August 1492, with the Jewish refugees from Spain, suffering the pestilence. And, consequent upon the corruption of the air, there died in this city 20,000 persons, and from here it was spread throughout the king-

dom of Naples, continuing its mortality for an entire year (Villalba, año 1492).

It is not strange therefor that pestilence prevailed extensively in Europe at the time of the invasion of Charles VIII, the latter part of 1494 and early in 1495. The conditions for the spread of an epidemic were ideal. Leonicensus, who formally christened it the French disease, without giving a tangible description, called it an "Epidemic commonly called the French disease." That an extensive epidemic prevailed there can be no doubt, but he in common with his contemporaries had but a vague comprehension of the general infectious diseases, which are the causes of epidemics. The posthumous work of the Florentine surgeon Anthony Benevenius (c. 1440-1502) in his *de Abditis rerum* (1507), commenting upon the widespread epidemic says: "In the year of Christ 1496, a new kind of disease had spread itself not only over Italy but almost all Europe. Beginning first in Spain, it traveled thence through Italy, and so over France and other countries, seizing great numbers of people wherever it went." So the accusing finger can point to Spain with more reason for the pestilence as a result of the expulsion of the Jews, than to the evasive and mythical charge lodged against the puny 44 survivors of the first voyage of Columbus.

We are amazed at the character of the mortality ascribed to syphilis. In the first chapter of Ruiz de Isla's book, he tells us why he named it Serpentine Disease. The disease, he says, was so frightful, and so consumed the bodies of those suffering from it during the first fifteen years, and before mercury was discovered, that it would be unbelievable were it not true, for he knew of the death of kings, dukes, and grand señores, who had died of the disease, and he knew of no town but where at least ten out of every one hundred persons had died of the disease. It was as horrid as a serpent, therefor the name.

Was this a usual mortality for syphilis!

Let us go on and see what he says of its infectivity: "For in the city of Baeza in Andalusia, in Spain, of which city the author is a native, we have vegetable gardens in

which are kept tubs of water, where they go to wash the clothes of those infected. This dirty water is sprinkled upon the vegetables and one may see the swelling of the bubas on the herbs, principally the cabbages" (Cap. I folio iii, col. 3).

Villalba, Morejon, and others tell us of a famous epidemic that took place at Baeza in 1488. And the account of Ruiz de Isla goes on telling how at this time the children at play would cut these bubas from the cabbages, moisten them with saliva, and stick them on the face to imitate those infected, and thus they exposed themselves. And then in consequence of the manner in which it was spread to plants, many animals became infected with the disease! (*E por el consiguiente fueron vistas muchas animalias tocadas de la dicha enfermedad*).

This ought to give anyone's credulity a shock! Was this delirium of Facts, Lies and Mystery the treponematosis called syphilis, or was it the disease so cleverly described in Zinser's Rats, Lice and History!

It spread like wild-fire. There was no escape from it. It spared neither Cardinal, virgin, nor infant. It made the voyage of discovery to India with Vasco da Gama, and if we may believe Varthema, it outstripped him in the journey. The venerable Las Casas tells how it spread through the air; so does Leonicenus and others; but the most earnest bit of syllogistic reasoning on the subject of transmission through the air, is the dissertation of Professor Simon Pistor of Leipsig (1499), resurrected and published by C. H. Fuchs.

It was at this point that Ruiz de Isla began the comments: "No doctor has found any writing of the disease save that of Pliny." This was the comment that stirred the ire of Morejon. But there was no reason for Morejon to get excited. He should have been amused. There has always been a conspiracy of silence on this disease. When the writer began the study of medicine, some forty-three years ago, the text-books on the practice of medicine ignored syphilis. There was no chapter on the disease in the work of Austin Flint. The first edition of the work of

Adolph Strumpel, though it contained more than 1,000 pages of text, had no chapter on syphilis, except a little over a page devoted to syphilis of the rectum. This impudent invasion into the preserves of dermatology and surgery was not so shocking as what was to come, for Osler, in his text-book on medicine, was bold enough to treat of the loathsome and unmentionable disease in his section on the general infectious diseases. The surgeons wrote of it in their Surgeries. They did the dirty work, for the pre-Listerians described many different kinds of pus, one of which they called "laudable." The dermatologists likewise claimed it for they had undertaken the task of creating some order out of the chaos of skin diseases. They abandoned the disorderly and incompetent doctrines of humoral pathology, and carefully described the development, figure, and colorful bloom of the skin manifestations, and—I hate to write this—we were advised not to begin active constitutional treatment so early as to destroy the evidence of the flower and bloom of the secondaries, and thus lay a mask over the diagnosis, for the treponema was then unknown. And able scientists, who give more weight to the blundering historical opinions of Ruiz de Isla, and less to the evolutionary aspects of disease, believe to this day in the superstition of the Haitian origin of syphilis, for they have been led astray by Bloch in his discourses on his *morbus americanus,* and his extravagant interpretation of Montejo's text. Yet one may doubt if any of them would wish to change the name of the Archives of Dermatology and Syphilology to the Archives of Dermatology and Morbus Americanus.

The Book of Ruiz Diaz de Isla

The book of Ruiz de Isla, although first printed in 1539, received scant notice outside of Spain. Nicolaus Antonio listed it in his Bibliotheca Hispana, which included Spanish writers down to 1684. He mentions here the second edition only as follows:

Rodericus Diaz (vulgo Rui Diaz), De Isla, medicus Hispalensis scripsit: Tratado contra las bubas, sive, Fruto

de Todas Santos, o Antidoto eficaz contra el Mal Frances hallado, y dispuesto en el Hospital de Todas Santos de Lisboa, Ad Joannem III Portugalliae Regem, Hispali apud Dominicum Roberti in folio, 1542.

In 1687, George J. Velchius, printed in a Latin version, that part of chapter I. which deals with the Haitian origin, omitting the balance of the same chapter, which dealt with the identification of the disease with the mentagra of Pliny, and the empeynes of the Spain of his day. This version was published as a note in connection with the 4th Adnotation of Marcellus Cumanus in his copy of d'Argelata's surgery, which had come into the hands of Velchius as a pledge for a debt. After Velchius, this version was referred to by a large number of writers in Spain, France, Italy, and elsewhere, but only in connection with the seething controversy over the delusion of the Haitian origin.

As to the character of Ruiz' Serpentine Disease of the Island of Espanola, it was simply assumed to have been syphilis, and as most of those propagandists who pushed his statements to the fore had no other interest in the matter, no critical examination of his text has been published.

The existence of the manuscript of Ruiz de Isla was brought prominently to light by another librarian of the Madrid library, Don Juan Antonio Pellicer in 1797, who used it to complete the merriment of the text of Don Quixote.

Modern notice of his work is largely due to Bloch's several papers taking notice of Montejo's paper at the Fourth International Congress of Americanists that met at Madrid in 1881. Here too, all the comments are confined to extracts from the book and the manuscript bearing upon the Haitian origin of the disease.

There are some differences between the first and the second printed editions of the work. The second edition is somewhat longer, by several folios, and the language is changed in places. The chapters and titles are however identical. A review of the second edition was published in 1841 by Chinchilla (Anales Historicos de la Medicina en General, Tome I Part III & IV, pgs. 200-211).

The review that follows deals with the first edition which is owned by the Henry E. Huntington Library and Art Gallery, San Marino, California. This work consists of 13 chapters which may be briefly summarized as follows:

Chapter

I. The origin and nativity.
II. The definition of the disease. and the first species.
III. The relapsing *mal acomplissionados* of the first species.
IV. The second species.
V. The *mal acomplissionados* of the second species.
VI. The third species.
VII. The *mal acomplissionados* of the third species.
VIII. The universal regimen.
IX. The universal precepts.
X. The Wood (guaiacum).
XI. The Antidotario.
XII. The qualities and effects of Mercury.
XIII. Of all the doubts.

It will be seen from the above that his book deals with a disease characterized by three species. Our inquiry prompts us to attempt to interpret, so far as we are able, into modern terms, the pathology he classified in each of these species.

Ruiz de Isla was a surgeon, not a physician as frequently misstated. He calls himself a surgeon in the title; he says he was employed as a surgeon at the Hospital of All Saints in Lisbon. Doubtless he belonged to a confraria of St. Cosmos and Damien, as he apologizes that on account of lack of time he has been unable to secure an emblem containing Saint Cosmos with which to embellish the title page of the first edition. His comments about physicians though often polite, bursts forth at times in terms of censure, satire, and irony bordering upon contempt, particularly in their use of laxatives; their handling of the third species, the continued fever; and in their neglect of mercury, or their strictures on its use. He surrenders the second intention of the treatment to the physicians, because the law in his time forbade any but physicians to use laxatives and other medical potions.

Very little is known of him other than the information

contained in the two editions of his book. He was born at Baeza, which was under Moorish dominion up to the eve of the discovery of America, and until it was captured by Ferdinand and Isabella, after a trying and memorable siege, and which city capitulated in December 1489. In his prohemio he claims to have treated the disease in Castile, Aragon and Portugal. In a note at the end of a review of the second edition of his work, published in 1542, Chinchilla (ibid, 212.) states that Ruiz makes a statement that he was 75 years of age, and reasons from this, that the statement referred to the year of 1537, the time the manuscript secured the license of the king. Therefor he concludes our author was born in 1462. Bloch, Pusey, K. Dohi, and others state he was born 1462 and died 1542 at the age of 80 years, expiring at this advanced age after the labors of producing the second edition. There is no statement of his age in the first edition, therefor it may be assumed that the footnote of Chinchilla has reference to his age at the time of the second edition of 1542, in which case he was born in 1467 and was about 25 or 26 years of age at the time Columbus returned from America the first voyage.

His repeated statement at the time of the first edition in 1539 that he had 40 years' experience with the disease will place his first contact with the disease as in 1497-99. This statement appears both in Chapter VIII, dealing with the universal precepts, and in Chapter XIII, Of All the Doubts. In the former, in addition to stating he had 40 years experience with the disease, he mentions the last period of service at the Hospital of All Saints as in 1528. In both of these chapters he speaks of thirty years experience with laxatives in the company of great physicians (which included his "more than ten years" service at the "famous hospital") and of 10 years experience without laxatives, which completes the period of 40 years experience with the Serpentine disease, and which obviously places the date of his first experience as 1498. This is confirmed by other evidence in his book, notably his ex-

periments and experiences with mercury, the secrets of which he says were unknown for the first fifteen years.

Chinchilla states there is nothing certain known of his death.

Chapter I, The Origin and Nativity

In this chapter Ruiz treats of the origin of the disease. Here he gives two accounts; one, imitating Oviedo, places the origin of the disease on the Island of Española. Here he describes the wild-fire method of spread, wholly incompatible with his further description wherein he says it can spread only through contact of the healthy with the *"licor"* or *"virolencia"* of a buba of the first species during the first year of the disease. The second account identifies the disease with the mentagra of Pliny and the empeynes of Spain.

Both these accounts have been described.

Ruiz de Isla Defines His Serpentine Disease of the Island of Española

In the second chapter of his work Ruiz de Isla writes of the general definition of his Serpentine disease of the Island of Española, explaining the differences between the first, second, and third species, together with the treatment of the first species in this manner:

"The Serpentine Disease is an epidemical contagious disease of the nature of leprosy. It is caused by an ebulition of the humors; from which proceeds the evil temperament in the members; in consequence of which there follows a weakness of their natural virtues, resulting in three species, which are characterized by bubas, and botors, and pains, and apostemata, and ulcers, and fevers, which make their appearances over the body.

"The author will now consider each element he has propounded in the foregoing definition, taking it up word by word, to be certain of a better understanding of the intention he accords to it.

"With reference to the name of the sickness, the Serpentine Disease of the Island of Española, I have already made this known in the first chapter, where I gave my explanation for such a name.

"It is a disease, as is abundantly proved by the statement that it brings about an evil complexion (temperament), and a bad assimilation, and a solution of continuity, thus impeding the operations of the members, and the natural virtues of the human body.

"And as to the name epidemical, nothing else is intended, other than it is contagious, and that it has appeared in an infinite number of people.

"And I have said it is of the nature of leprosy, which is through the resemblance it has to it, thus, it is contagious, also it universally affects the whole body, also it makes ulcers in the face, nares, eyes, and hands, similarly as in leprosy.

"And where I have written it is an ebullition of the humors, this is the manner in which the humors are altered. In those who are infected with the disease, it causes an ebullition with a hot eruption apparent over all of the body, which ebulition endures for two months more or less, according to the complexion in each case.

"And I have said this is followed by an evil temperament in the members, that is, after the passage of the ebullition already spoken of in the humors. This evil complexion remains in them in the form of a congestion or of a rheumatism. If the corruption is in great quantity it causes an evil digestion in the members, resulting in the pains, and tumors, and apostemas, and ulcers, which make their appearance in the members and continue in them.

"And referring to what I have said of the consequent weakness in the natural virtues (nutritive faculties): Whereas this is a malady that produces an evil temperament in the likeness of the members and their functions, according as said, there may be therefor no relief accorded to the disease. The humors rotting every day in greater quantity, receive a disposition out of which proceeds the weakness in the natural virtues, and this diminishes their operations, so that the humors receive such a temper that a heat extraneous to them is kindled, which results in a continuous fever, and the consumption of the members, depending on the part of the humors which are corrupted

in most quantity, according as will be more fully explained in the chapter on the third species, and recounted further on.

"And I have said that we have many differences, such as the accumulations (apostemas), for the disease produces phlegmons, and erysepelas, and oedemas, and sclerosis, apostemas, sinuses, and aquosas, and a great variety of shifting ulcerations. And these conditions cause the corruption of the bones as will be more fully explained with its signs in the fourth chapter of this book, dealing with the second species. These differences result in three species. It appears with the pustules or eruption (*bubas o botores*), which are discharged all over the body by an ebullition that is caused in the humors according as I have said. These bubas do not bring pain, nor itch, nor matter, nor are they transformed into ulcers. The botores have disappeared in the course of one year, and at the end of the said year, of one hundred persons, ninety-eight return to health without any treatment, as if there had been no harm to them in its passing. This we designate as the first species, for it is the beginning of the said disease and sickness. And by reason of other differences we have a second and a third species, which differences will be explained in this chapter, and also in those dealing with the second and the third species. And after a return to health from the eruptions (*bubas y botores*), within a period of twenty years, a little more or less, the sickness returns another time. This comes with pain, apostemas, and ulcers. These will be had two years after the bubas, or after four, six, ten, fifteen, and up to twenty years. And when these last mentioned conditions have come, we have the second species. For what has come secondarily we are able to call the second species, and by other differences which they have from the first species, which are, on the one hand the pustules and eruptions (*bubas y botores*), and on the other the accumulations and ulcers (*apostemas y ulcers*).

"The first species heals itself spontaneously according as said.

"The second species has no spontaneous cure, but it is ordinarily treated with mercury or guaiacum.

"The first species is more contagious than any other sickness.

"The second species is not contagious, nor is it transmitted in any manner, consequently one may communicate with all the world.

"The first species, although it cures itself very well, by this circumstance cannot prevent a return as the second species.

"The second species has an excellent treatment according as I have said.

"With the bubas and botores, which are characteristic of the first species, one does not have ulcers, nor with the ulcers, which are of the second species, can the bubas be produced, because that which comes first is not able to come later, and that which comes later, which are the apostemas and ulcers, are not able to be the first. By these differences which exist between them, those that come first, and those that come secondly, they are named, the one the first species, and the other coming second, the second species, for there are great differences between each of them.

"The second species of the sickness, not healing as one might wish, which is with the ointments, according as I will tell more at large further on in its chapter; the rotting and corruption of the humors each day in greater quantity, causes a weakness of the natural virtues from which the humors receive such a disposition, that an extraneous heat is kindled and changes them. From this proceeds a continuous fever which is the cause of the consumption of the members and muscles. And when it is changed to a fever, we now suffer the difference between this and the second species, which fever the second species does not have. In the second species the peccant humors are in particular localities, and in the third species the peccant humors are distributed generally.

"Other differences will be found in the chapters giving the causes and symptoms, together with the method of treatment. Because of these differences we have named

the bubas or botores the first species, for being the beginning of this disease or sickness they are the *primitive* causes. Then come the apostemas and ulcers a time after the completion of the botores when the humors have become more corrupted, and these are called the second species. They are the causes *antecedents.* And when the fever appears with the consumption of the members this we call the third species which are the causes *conjunctive.* Therefor there are great differences and diversities among them according as I have said."

Thus Ruiz de Isla explains his definition of the Serpentine Disease and its three species. It is plain that his *first species* consisted of what we now call the primary sore and the secondary eruption of syphilis. His *second species* consisted of six apostemata, such as described by all of the surgeons of the Middle Ages, of ulcers and of other conditions to be briefly referred to later. Some of these, though not all, were late manifestations of syphilis. His *third species* was a continued fever, so called, with a high mortality.

From this point he goes on to refer to three of his friends, whose opinions differed from his. Then he attempts to clear up all doubt as to whether the second species, though not continuous, might arise out of hidden remains of the first species. To substantiate his views he refers to three doctrines long entrenched in the medical writings of the Middle Ages. These were: (a) The doctrine of the transmission of variola to the child through the superfluities contained in the menstrual blood of the mother. (b) The doctrine of the inheritance of leprosy and *albaras,* and, (c) The doctrine of the survival of the poison from the bite of a mad dog making its appearance as rabies, after a period of years. He bases his theory on observation of some 20,000 cases he had seen pass to his second species.

Avicenna, he says, has written of how one disease cures another, in which manner quartan fever cures epilepsy and a fever also cures a spastic condition (*El auicena escriue que unas enfermedades sanan a otros:*

assi como la quartana que sana la epilensia/ y la fiebre que sana el spasmo). This has a trace of the modern in it, for recently we have begun in some quarters to treat late lesions of neuro-syphilis by an artificial malarial infection and by diathermy. And then continuing he says that Avicenna has written that the *viruelas* and *sarampion* (diseases now called small-pox and measles) arise from an ebullition in the blood, being caused by remains of the superfluities of the accumulated menstrual blood of the mother (for so the ancients regarded the placenta or after-birth), which being absorbed by the child during gestation, were thrown off in the shape of this disease, and the body purified, as soon as enough strength had accumulated in the expulsive virtue. In some this took place at two years, some at four, some at ten, and he had seen one case in a man who did not discharge these absorbed superfluities until after more than twenty years. The doctors, he says, give this as the reason that no one can escape having the *viruelas*. This doctrine it may be pointed out was not original with Avicenna, for the same thing will be found in the earlier work of Haly Abbas (Theorice Lib. VIII, cap. iv, de variola, etc.), who, by the way, also introduces a doctrine of its spread through pestilential air in the vicinity of another patient. However the doctrine of Avicenna continued to be quoted and believed long after the discovery of America by some of the best people, and will be found expressed at length by Fracastorius in his work on contagion (Lib. II, cap. ii).

The next doctrine he brings up in support of his ideas as to the delay in the appearance of his second species, is the transmission of leprosy. "Zeharaui," he says, has written, that if a woman should conceive the first day of menstruation, the child will be a leper. If she should conceive on the second day of menstruation, the child will turn into a leper in 15 years. And if on the 3rd day, the child will become a leper after thirty years. He refers to the glosses of Gentile de Fulgineo, his comments on Avicenna's tract on leprosy, wherein the commentator, quoting "Azaravius," says that if a woman is

impregnated the fourth day of her menstruation, the child will develop *albaras* after a certain length of time. Zaharaui, Azaravius, Alzaharavius, are names given the Spanish surgeon Albucasis, and the *albaras* mentioned above, is a direct descendant of the *leuce* of the Greeks, the *tzarath* of the 13th chapter of Leviticus, and it is called *morphea* in the translations of Constantinus Africanus.

The final doctrine that he brings up in support of the delay in his second species is the doctrine of the revival of the hidden poison of rabies. Here he points out, the doctors have written that the malignancy from the bite of a mad dog remains dormant for seven years. This doctrine of delayed incubation is very old, and is discussed by most of the Greek, Arabic, and Latin writers through more than 1000 years. Fracastorius shortens the incubation period to from the 20th day to the 6th month. He also introduces the superstition that a person once bitten by a mad dog, may have a second attack if he lies down under a sorb tree.

If these diseases can lie hidden, the superfluities or the poison, incubating through long periods, why, argues Ruiz de Isla, should this not likewise be true of the second species of the Serpentine Disease of the Island of Española.

One cannot read the work of Ruiz de Isla without being impressed by his experience, the use he made of it, and the bold manner in which he blazed the way of recording these current experiences. In some ways he was ahead of his contemporaries, for he was a thinker, and his opinions, right or wrong are worthy of a thoughtful consideration, evaluating them to his period.

The First Species

The first species, says Ruiz, is very contagious, and like leprosy and sarna, is transmitted to the healthy through conversation with the infected. There are some, he says, who consider that it arose from certain astrological causes, but he personally had never seen nor

heard tell of any who had not been infected without a just cause. Whereas, if it had come from the heavens, there would be many people infected without tangible cause! True, religious persons, virgins, children, and honest and respectable persons were also infected, but this was due to sleeping in the same clothing as the infected, drinking from the same cup, and through other personal contacts with persons in the first species, and until the end of the botors (eruption), which period would be completed in one year. After the completion of the first species there was no further danger of infection, and one might have intercourse with a woman who was in the second species of the sickness without risk of contracting the contagion. He illustrates this by saying that daily one may see a woman in the second species give suck to a healthy child, and the child fail to contract the disease. The infection was only transmitted during the first species, or the stage of the *bubas* and *botors,* and then it was spread through contact or touching some part where there were bubas, sores in the mouth, sweat, drivel and similar virus. It could be transmitted to a healthy child by a woman who might give it suck while she was in the first species, and the infection make its appearance in the child's mouth. Should a child be infected, and a healthy woman give it suck, the infection is transmitted to the nipples and the breast. Every day, says de Isla, it is proved that the infection may be transmitted by the bubas of the sick touching the flesh of the healthy, by sleeping in the same bed, or drinking from the same cup. In fact the whole matter may be summed up in one statement, that the contact of any licor or virulence of the buba of the infected, with the flesh of the healthy is the cause of the primary infection (*Que si discretamente lo quisere des mirar todo sale a vna cuenta: y que dando qualquier licor o violencia de la buba del paciente en la carne del sano/ alli es causada la primera inficion*). This, acting upon the blood and humors, creates in them a hot botoral ebullition transmitted throughout the body, from which proceeds the botors or pustules or bubas.

As to the signs of the first species many people are ignorant of them, and as a consequence no measures are taken to avoid serious accidents, so he gives the signs, that those infected might take immediate counsel. The disease begins principally on the shameful parts of women as a *hogaje* or *tumor* or *buba*. Or it may arise in some other part of the body as a result of touching a buba of some female, by having intercourse with her, or sleeping with her as said in the causes. Another sign is a *hogaje* in the throat with roughness which impedes the swallowing, which in one person may be greater than in another. Another sign is an apostema, or knotty swelling, or *encordio* in the groin, which is most frequent in the sanguine. A little later pains appear in the shoulders and hips, and at times a little pain in the middle of the chest. Following this comes the bubas or botors which are the most certain signs. These bubas and botors delay their appearance for two months after the appearance of the *holgaje* (*sic*), or first buba or ulceration. The character of these bubas or botors, vary with the complexion (temperament) of the patient, and are of four varieties, one for each humor, so that one is sanguine, another choloric, another phlegmatic, and a fourth melancholic. These bubas make their appearance each one according to the complexion. He describes the character of each. The bubas of the sanguine were large, ruddy, sanguine, etc., and might be distributed on all parts of the body. The bubas of the choloric were small, and appeared mostly in hairy places as the beard, head, and chest, coming and going quickly. The phlegmatic bubas appeared often with crusts, and were of a humid character. The melancholic variety were the *empeynes,* which were usually sound in the middle and spread about the edges and margins. Thus one might recognize the humor affected by the character of the botors it sends forth for they are developed by, and are the evacuations of the antecedent humor.

Taking up the prognosis he refers to what he has already said in his definition, that of 100 sick, 98 are

healed without the assistance of the physicians (and their laxatives to evacuate the antecedent humor) and some are well in two months, some in three, five, six, eight, and nine months. And by the end of one year they will have been cured, passing through all four stages, which are, the beginning (*principo*), the developmental (*aumento*), the height (*estado*) and the declination (*declinacion*). (*Ya es dicho en la difinicion que de cien personas que adolecen desta primer especie se sanan de si mesmo las nouenta r ocho sin cura de fisico ni otra ninguna de los quales algunos se sanan en dos meses y otros en tres y en cinco y en seys/ y en ocho y en nueue: y por todo termino en vn año que puede tardar la enfermedad fasta ser sana en el qual tempo de necessidad han de passar todas sus quartro tiempos que es principo r aumento y estado y declinacion*). It is advisable to explain here that a surgeon, could not under the laws of Spain, at this time, prescribe a laxative to assist the evacuation of the antecedent humor. This, he has already explained, takes place with the appearance of the bubas and botors, the evident signs of the evacuation, or throwing off of the peccant antecedent humor. In making a variety of eruption for each humor, he did exactly what all the surgical writers through the Middle Ages have done. In fact some Spanish surgeons even divided the *empeynes* (his melancholic variety) into four varieties, one for each humor. In dividing the progress of the disease into four periods, he did exactly what Guy de Chauliac did for leprosy, *i.e.* (1) *principium,* (2) *augmentum,* (3) *statium,* (4) *declinationem saltim ad mortum.*

The first species may last no longer than the continuance of the bubas, and until the end of these it is contagious, and with their passing it is no longer able to attach itself. The first species usually fell to the care of the physician because he regulated the evacuation of the antecedent material, using phlebotomy, and laxative medicines (*y sobre todo para esta primer especie/ los señores fisicos sean llamados/ porque por ellos sea administrado*

lo que en esta cura de primer especie conuiene; porque sean mejor regidos y las materias anteceedentes conoscidas y euacuadas). However, as the disease cures itself (by throwing off the antecedent material with the botors) it is better not to seek the help of medicines, but to observe the Universal precepts, principally with regard to coitus and wine, and in most cases the first species comes so lightly that it is sufficient to observe the precepts laid down in the present chapter, and for those in whom the disease appears with great gravity the treatment will be given in the succeeding chapter.

The treatment of the first species he divides into four intentions, each of which he treats with appropriate heading. These are:

The first intention is the regulation and order of one's life.

The second intention is the evacuation of the antecedent material.

The third intention is the vaporization and control of the conjunctive material.

The fourth intention is the rectification or correction of the complexion or temperament.

The first intention concerns itself at length with the six things *non-natural,* such as food, drink, sleep and wakefulness, activities, diversions, consumption and evacuation, etc. These directions are regulated for the stages of *principo, aumento, estado,* and *declinacion.*

The second intention concerns itself with the actual evacuation of the antecedent humor for which reason it is suitable that the physician should recognize each stage, in order that the evacuation may be governed properly. In the definition it was explained that one is healed within two months, another in four, or six, and all by the end of one year, and all these pass through four periods of the first species in a different manner, therefor the author will describe the states as they occur in those whom the author calls the good consummators (*bien acomplissionados*). The *principo,* or beginning, is the stage during which the ulceration continues in the

member; the apostema in the groin; and roughness in the throat. The *aumento*, or increase, is the time the botors begin to make their appearance. The *estado* or height, includes the period during which the bubas reach their full development, and until they have all disappeared. The *declinacion* is the final stage from the disappearance of the bubas until the patient is free of all pain and sensations from the disease, and is completely restored to health. Here, in discussing the prognosis, he approves purging one or two times, a practice advocated by the surgeons from the time of Roger, although later he condemns it in chapters 8 and 13. In the latter chapter he explains that from the first letter to the last, his book is the fruit of the experience gathered at the Hospital of All Saints at Lisbon. He began the preparation of the book there in 1528, but for the last 10 years he had omitted all purging, in connection with the second intention.

Taking up the third intention which is the vaporization and control of the conjunctive materials, he discusses in detail those symptoms or conditions which come under the control of surgeons, and, throughout the Middle Ages, are called "accidents" in the texts. He devotes some 21 columns of text to a description of 28 of such accidents, which arise in the first species, together with their treatment, and which are here briefly enumerated in order to reveal the splendid character of this earnest surgeon's work.

1. The slight pains described among the first signs.

2. Bubas arise all over the body, some with matter and some without matter. Those that do not make matter have no need for any treatment: except one should not touch them, nor remove their crusts, nor scratch with the nails. In those who observe this caution the crusts heal and drop off, but in those who do not they return and spread to all the body.

3. Bubas arise in the head, and if they come without matter it is sufficient to wash the head once a week. Here, too, crusts should not be removed.

4. Bubas arise on the face.

5. Bubas of the lips.

6. Bubas arise inside the nares.

7. Bubas of the eyelids.

8. Bright red spots arise on the palate, varying in size from a small botor (pimple), to the size of a copper coin (*blanca*).

9. Also the *hogaje* with roughness of the throat.

10. Troublesome bubas between the fingers of the hand.

11. *Clavos, crietas,* and *piedras* in the palms of the hands and the soles of the feet. (These symptoms of crab-yaws (*clavos*), with fissues and pebbles, are also again described in the first species as symptom 16, and will appear again as symptom 27 in the second species. This condition, at a time when shoes were a luxury, seemed to cause a great amount of disablement, and the crablike gait of the victim is even now observed by those who are familiar with the victims of yaws in the subtropics.)

12. Bubas on the tips of the fingers.

13. Bubas arise in men and women in any parts where the flesh rubs together, such as between the fingers, the scrotum, the thighs, between the buttocks, beneath the prepuce, etc.

14. Two varieties arise about the buttocks. One is the buba, the other is a fleshy *verruga.*

15. Likewise there arise in the emunctories of the liver, which are in the groins, apostemata which are commonly known as *encordios,* and which are healed with difficulty. This brief description of a chancroidal bubo has already been quoted.

16. *Clavos y grietas y piedras* in the soles of the feet. The term *clavos* is still used in spanish speaking parts of the West Indies for crab yaws. As to the gait he says: *Empero si se hisieren grietas que alas de vezes dan algun pena y impiden el andar.*

17. Bubas in the toes.

18. Alopecia. This is an earlier description of the condition than that given by Fracastorius. This accident

of the first species is characterized by the falling out of the hair of the head, eyebrows, eyelashes, and at times hair in all parts of the body. This accident he attributes to intercourse with a menstrous woman.

At this point Ruiz tells us he has now described the accidents which appear about the body, and that he will now take up those which appear in the generative organs. This organ, being one of the four noble members, communicates its affections throughout the body and therefor must be treated with much care.

19. First there is an ulceration of the glans or on the outside or the inside of the prepuce.

20. Sordid ulcers sometimes appear on the glands which sometimes destroy the member.

21. Phimosis.

22. Paraphimosis. A vivid description.

23. Verrugas beneath the prepuce.

24. A Gonorrhoea. (With apologies to Astruc, this is an earlier description of this symptom as an "accident" of syphilis, than that of Brassavolus, but is not earlier than that by Bethencourt.)

25. Serious corrosive ulcers of the glans sometimes completely destroying it.

26. Phimosis with ulcers beneath the prepuce, and the accidents which arise through surgical ignorance of the proper manner of opening the foreskin.

27. He takes up ulcers and *hogajes* which appear in the shameful parts of women.

28. Sordid and corrosive ulcers in women.

The foregoing is a comprehensive epitome of the scope of his first species, which it may be seen included Ricord's primary and secondary syphilis, chancroid, gonorrhoea, and some symptoms now only known to yaws. One looks in vain for that frightful mortality described elsewhere. It was a disease which by throwing off the antecedent cause in the botoral ebullition, was all over in from 2 to 12 months.

For the treatment of most all of the above conditions he proposes the application of a water of corrosive subli-

mate more or less strong, according to the sensibility of the part, or with a powder of mercury. He recommends great prudence in the use of the cautery because a spreading infection takes place beneath the eschar. For exterior ulcerations of the genitals his powder of mercury was the best, but if it was beneath the prepuce he began with the *aqua verde* of Lanfranc and if this was not effective he resorted to a mercurial ointment.

Before he takes up the fourth intention, which is but a short item on the correction of the complexion, he devotes an interesting section to the subject of prophylaxis.

Prophylaxis and Control

Ruiz Diaz de Isla devotes a section of chapter ii to advice concerning the suppression and avoidance of infection by the serpentine disease. This is contained in his discussion of the first species, which, according to him, was alone contagious, and which was limited in its contagion for a period of 12 months. He was not the first to deal with this subject, but his handling of it is in greater detail than most previous writers.

Perhaps one of the first of the medieval surgeons to deal with venereal prophylaxis was William Salicet in his surgery (1276), in his chapter dealing with hard and soft sores upon the glans or about the prepuce, following coitus with a prostitute, a filthy or menstrous woman. Measures of local venereal prophylaxis are described in the works of Lanfranc, Bernard de Gordon, Arnold de Villanova, John Gaddesden, and others. By the middle of the 14th century we may notice cities taking steps through edicts to prevent the spread of venereal leprosy, "*infirmitas nefanda,*" and "brenning." An edict of Edward III (1346) recognized the spread of leprosy through women of the stews, a method unknown to modern leprosy. At London we find a barber employed with the guard at the gate to enforce the casting-out regulations against the lepers. The following year, at the papal city of Avignon, August 8, 1347, we note an edict providing for a systematic inspection of brothels each Saturday, to

discover girls therein with evidence of disease contracted through venery. Any found were to be lodged apart. In 1430 the regulation of the stews at Southwick imposed a fine upon a stewholder who harbored a prostitute with any sickness of "brenning." At the same time they were forbidden to admit any man who suffered *"infirmitas nefanda."* One third of a century before the work of Ruiz, another Spaniard, Gaspar Torrella, a physician-bishop, in one of his works, *De dolor in Pudendagra, Dialogus,* has Vulgus ask Medicus if it would be possible to exterpate the disease. Thereupon Medicus assures Vulgus of an infallible method. This would consist of appointment by the governing authorities, of matrons to inspect the public women. Those discovered infected were to be segregated and placed under suitable treatment by physicians and surgeons, and by this means the disease would be rooted out. This method of regulation by inspection had already been placed in practice at Avignon.

Thus Ruiz argues for prophylaxis and regulation:

All persons who wish to remain free of the disease should have advice. Therefor, any person having intercourse with a woman, should immediately wash the genitals very carefully with a little water or urine. If this is done, they will certainly never suffer an infection in these parts, because as already stated, the infection is due to the licor or violencia of a buba of the first species coming into contact with the flesh of the sound for it is at this point that the first buba appears. In order to prove this, he cites a personal experience of how a surgeon, contracted a first buba upon his finger at the site where he had touched another buba (*Para prueua de lo qual digo que yo vi vn cirugiano que de solamente poner vn dedo sobre una buba le nascio en aquella parte con que toco ala buba otra buba*). Again he mentions a man who gave a buffet to a slave, and the slave had a buba on the lip, and that part of the hand that struck the buba was soiled with a sanguinous discharge. The hand being poorly cleaned, a first buba (*primero buba*) arose at this site. Another incidence was that of a

cavalier who struck a servant on the neck, and the servant had here an *empeyne* of the first species, and upon that part of the hand that came in contact with this *empeyne* arose a buba. This *empeyne* from descriptions given elsewhere resembled the circinate form of yaws, so-called ringworm yaws, seen on the back of the neck in native races. He could cite further incidents of infection which for the sake of brevity are omitted.

Therefor, a man who has intercourse with a woman, even if he should touch or attract some infection, if he will wash and clean himself with care all the malignancy will be removed. In proof of this he has observed a large number of people whose heads contained the bubas of the first species, and he has ordered their heads sheared and washed by barbers. These barbers have washed the heads until the blood from the bubas ran over their hands, and as a consequence he had never seen one infected by this means. Therefor all persons exposed should wash themselves immediately with water to be secure against this infection. Other doctors have approved this practice of washing in order to avoid these *"fogajes"* (*sic*) and ulcerations of the member. In any case the practice is excellent and in view of his great experience he would recommend it to any one who would avoid the disease.

He then takes up the subject of advice for cities, towns, and places where the disease should be exterminated. To begin with the town should employ a knowing and conscientious surgeon who should inspect all women who work for hire. This surgeon should be versed in a knowledge of the first species, so, should he find a woman infected, she could be segregated, obtaining a truthful history of the time of her infection, in order to suspend her activities to the completion of the infective year, for the disease is not contagious beyond 12 months. He ought also consider the infectiousness of the buba which at most continues for 12 months, although one may be cured in 3 months, another in 6 months, another in 10, and another in 12 which is the ultimate limit of the first species. For example, a woman after four or five months

from the first buba who had passed the stage of botors, and had been clean of them for more than one month, ought not to be hindered in her employment. This would illustrate a case not going the full term of 12 months. Again, a woman after 12 months still having a buba in some part of her body should be prohibited in her employment. On the other hand if a woman has an ulcer of the second species, it is not necessary to restrict her, as the second species is not contagious. Not until the surgeon certifies that the woman is sound should anyone give her shelter and employment under penalty of certain punishment. Infected women should be placed in restraint in some house under charge, or in a hospital for the term of infectivity, or better still in prison. Above all any woman having an ulceration or *hogaje,* or other evil disposition of the genitals, should be restrained in her employment, for any such evil disposition is a danger. All those infected, should (as prescribed for lazars), wear some token by which they would be known, under severe penalty if evaded. Likewise tavern-keepers, small wayside inns, etc., should not employ or receive women servants or prostitutes unless they carry a certificate of inspection. Particular attention should be given to the larger taverns of great traffic in order to enforce these regulations. The surgeon should make an inspection each Saturday for which he might collect 10 maravedis. And through such good regulations the sickness would prevail very little.

Thus Ruiz de Isla constructs a system of prophylaxis and control which fitted into his theories and experience with the disease and its infectiousness. Strangely, after stating so positively the source of all infection he omits any suggestion of an inspection of the ships from Española, from where, according to the title of his book the disease had its origin and nativity.

Chapter Three, The Mal Acomplissionados of the First Species

In the definition, and in chapter 2, our author states that of 100 persons in the first species, 98 recover their

health within a period of from two months to one year without the aid of medicine from the physician. There is therefor a small percentage who, owing to a bad constitution, or a failure to properly observe the universal precepts, and who indulge in frequent and disorderly coitus, or whose condition is mixed with scabies, and who suffer of pains that disturb their sleep, and the like. Such are often satiated with bubas, and these bubas instead of healing turn immediately into ulcers which belong to the second species. The treatment of these is therefor dealt with largely in the fourth chapter which deals with the second species.

Chapter Four, The Second Species

As to the causes of the second species, it has been stated in the definition, that the sickness began as an ebullition in the humors which was completed in the term of one year. At the end of this period there were still some relics or remains, but of so slight a character as not to be sensed. With the passage of time, little by little, by way of a congestion or rheumatism, within the course of twenty years, these relics alter and corrupt the humors within some of the members. The error in the digestive virtue of the liver, causes the evil complexion of the members which is revealed by the pains, apostemas, and ulcers making their appearance in some part of the body. Because the liver is a noble member, it is capable of distributing this error in its digestive virtue all over the body, thus attacking the maintenance of the members, and the digestion becoming depraved and corrupted, the members are weakened and obstructed resulting in the pains and apostemata of this species.

As to the signs of the second species, one does not look for them to appear until after the first species has been healed. These signs usually appear before the end of 15 years, but in some cases the term extends to 20 years, which is the ultimate limit. The second species is usually ushered in with pains in the joints, and in the bones of the arms and legs. These pains usually increase

between the period of vespers and dawn. Then appear the apostemata, namely, all six varieties, as the phlegmons, erysipelas, oedemas, sclerosis, watery tumors, and sinuses. The phlegmons arise in the fleshy parts, and end in one or two months, passing through the four stages of beginning, increase, maturity, and decline (*principo y aumento y estado y declinacion*). Erysipelas arises all over the body. The odemas for the most part arise in the emunctories of the brain, although we see them elsewhere about the body. The scleroses appear along the shafts of the arms and legs, and the testicles, following suppuration, in four or five years. The apostemas aquosas are filled with water, and the water may be displaced by pressure of the finger, without sensation of pain, and for the most part these arise about the forehead and head, and are not very large. The ventosa comes about the knees, and pressure with the hand will pass the ventosity from one extremity to the other. With this brief statement he leaves the apostemata with the comment that the doctors have written abundantly of them from whom it may be learned to what genera they belong, and which pecant humor causes them. All these apostemata must be treated in order to restore the patient to health. They appear by way of a putrefaction, and according to the genera, result in an ulcer of a shifting concave type. However, on the throat, soft-palate, uvula, hard-palate, and in the nares, ulcers appear without the primary apostema. There are also clavos and fissures (*grietas*) of the palms of the hands and the soles of the feet, and also a great number of other conditions to be found with their treatment in that part of this chapter dealing with the third intention, which is concerned with the conjunctive material. All these signs do not appear in every case, for in some there are one, and in some there are others. They will be recognized as the second species by a history of the patient having had the first species.

As to the prognosis, the second species is so perilous, that it must be treated immediately with diligence as

soon as recognized, for it has been known for a long time as an abominable and terrible sickness. All those contaminated with it suffer pains, apostemas and ulcers, their nares, eyes, uvulas, and soft-palates being consumed, their speech destroyed, and they suffer other distresses. The sickness is of such a character that those affected, each day pass from bad to worse, and as a result of his large experience, Ruiz believes that any apostema or ulcer of the second species, even if no larger than a lentil, must be treated promptly with the proper remedy. The disease follows the first species within 20 years. In some it appears in 2 years, and in some in 5, 10, 15 and up to 20 years, and it may be treated with the ointments, by guaiacum or something newly discovered. But no matter how fine the complexion, and even if treated by the best physicians and surgeons in the world, one can only hope to be healed with the proper remedy. If he should neglect this treatment one may prognosticate the fever, and still more, the death; for each day he suffers more damage, the disease takes greater possession of him, and he goes from bad to worse, until he enters the third species. It is of utmost importance for those of the second species to observe the universal precepts (chapter 9), because only by observing them, principally the one relating to coitus, may one expect a cure, for only a slight lapse is sufficient to destroy all progress made in the cure. And, says the author, all those sick, who have lusty women, die of the sickness (*E dize el autor que todas los enfermos que tienen mugeres forçosas mueren de la enfermedad*). In fact, he argues, it is largely through ignorance of the importance of the universal precepts, and a neglect of them, that the employment of mercury has received a bad name.

The universal cure of the second species, comprises five intentions. The first is the regulation and order of ones life, the second the evacuation of the antecedent material, the third, the vaporization of the conjunctive material, fourth, the correction of the accidents, and fifth, the rectification of the complexion or temperament.

The first comprises the regimen of the six non-naturals, as the food, drink, sleep, etc., which are important considerations during the first 30 days. This subject is treated at some length here and in the fifth chapter.

The second intention comprises the evacuation of the antecedent humor which is accomplished in two ways, one with remedies taken by mouth, the other by use of ointments causing a resolution and an evacuation of the reuma from the members by the mouth. He mentions some of the drugs employed by the first method, which are good when the disease comes complicated with many other conditions, such as pain in the head, lacrimation of the eyes, asthma, arthritis, sciatica, podagra, scabies, salt phlegm, and all the varieties of leprosy. Some are purged of the superfluities of the liver through the palms of the hands and the soles of the feet. There is also produced all six genera of apostemata, and the varieties of elephantiasis. Women suffer amenorrhoea. Others suffer from ulcers of the lung, of the kidneys, and the neck of the bladder. As to the use of laxatives in this second intention, these, and other remedies, are relinquished to the skill of the physician. Of a second method, that of evacuating the material from the members by use of the ointments, this will be explained in chapter 8, in which the universal ointment has the preeminence.

The third intention is concerned with the evacuation of the conjunctive material, which as a general rule, cannot be made ready for evacuation before the antecedent, which, if not said many times, will be understood. This is the most important section, and comprises some five folios.

In order to comprehend his second species we list those special symptoms he describes under this intention. There are 33. When he describes the fourth intention, he adds more, bringing the total of the accidents of this species to 41.

1. Pain in the head; worse from early afternoon until near dawn, and sometimes accompanied with distortion of the eyes, commonly called *vizcos*.

2. Pains in one or both eyes, more intense in the afternoon.

3. Pains in the nutritive and spiritual members, as the stomach, intestines, kidneys, breasts, and below the nipples.

4. Pain in the neck, with distortion of the eyes, unable to move the neck or rest it on the pillow.

5. Pain in the hip similar to sciatica which causes difficulty in walking.

6. Swelling of the testicles.

7. Many times the knees apostematize with a white tumor resembling the apostema ventosa. (The description though very brief suggests the Charcot joint.)

8. A diverse variety of ulcers appear all over the body, in the arms, feet and head. There are also ulcers with crusts and *empeynes*.

9. Simple and compound ulcers of the head.

10. Lacrimation of the eyes.

11. Crusts and scabs in the nose thrown off when washing the face; each day or every other day, in case the humors settle down in this place. It is accompanied with rotting of the cartilages and bone on the inside. The bones and matter are thrown off; the bridge of the nose becomes a livid color, and collapses from a lack of support beneath. The corrosion causes a loss of the front teeth and perforation of the palate.

13. Sometimes this condition begins on the outside with rotting of the bones within.

14. About the bridge of the nose, in this second species, ruddy pimples like *barros* appear, except they are thicker and make more matter, and cause the nose to become a bright red causing a great ugliness of the face.

15. A great variety of ulcerations appear in the mouth, upon the uvula, soft-palate, or palate which may be consolidated in 20 days.

16. Corruption of the bone of the upper jaw, about the front teeth, which results in a great disfigurement. This is a circumstantial description of one of the many

forms of gangosa, for it destroys the palate the bone being thrown off from the mouth and nares.

17. Ulcers of the palate with destruction of the bone and ulcers in the nares, turbinates, jaws and epiglottis.

18. Ulcers of the tongue caused by the reuma that comes from the brain and stomach, so that what one eats returns as a morbid humor through the mouth, and these humors being continually thrown off cause ulcers of the tongue.

19. The respiration is obstructed in two ways. One form is produced by an apostema arising in the esophagus (*sic*) almost encompassing it after the manner of a quinsy (*como esquinencia*), and unless promptly cured, within a few days it rots and causes death. The signs of this apostema are the shortening of the breath, a continual squeaking sound in the chest, which when the patient sleeps resembles the sound of insects, causing him to choke, and makes it difficult to sleep or to swallow. The material of the apostema sometimes escapes through the mouth or through the neck over the tip of the larynx (*sobre la nuz de la garganta*). When these apostema ulcerate the air will escape. It is a very serious and often fatal accident. The other type of suffocation has the same signs except that it does not make the apostema that is thrown off by the mouth. This accident was observed many times at the famous hospital, where when the patient died he procured an anatomy. In these, the apostema flowed from beyond the esophagus (*sic*) the lung being found ulcerated and corrupted to a great fetidity.

20. Apostemata and ulcers of the neck of the phlegmatic type that come to a putrefaction with little sensation.

21. Many types of apostemas, ulcerations and swellings appear in the member of generation due to a humor of the second species. Even one as small as a lentil should be treated with diligence.

22. Ulcerations of the scrotum.

23. Apostemata ventosas of the knees, already mentioned in this intention but which produce concave ulcers.

24. Many forms of ulcers appear in the shameful parts of women.

25. Sequestra are formed in the shaft of the bone of the leg.

26. Excrescences in the soles of the feet, which when cut, a material like grated cheese is expressed.

27. In the second species there are clavos and fissues and piedras in the palms of the hands and the soles of the feet.

28. A very painful excrescence of the great toe.

29. Many women in the second species have a fetor with their courses.

30. Some women are found pregnant with the arrival of the second species. In these the perils of active treatment are dreaded, and the women should be excused from it. However, there are cases with marked ulceration of the face, jaws, palate, soft-palate, and tongue, which if neglected, will cause great damage. Likewise some have the rotting concave ulcers of the arm and leg. In such cases as those, in whom the pregnancy has arrived at three months, and not passed the sixth month, the ointment may be administered safely, provided one does not anoint the abdomen, or back, and only the arms and legs; such as at the hips, knees, and ankles; and the shoulders, elbows, and wrists. Other interesting warnings are given in this item.

31. Sometimes it happens that with the arrival of the second species, a woman is nursing a child at the breast, and through ignorance, the child is lost with the treatment. Others not daring to give any treatment increase the perils. He advocates the treatment of the mother, taking the child from the breast while the ointments are administered, and keeping it off the breast for 3 days after the ointments have ceased. But of those women melancholic in humor, who do not come to the salivation, the child is kept from the mothers breast for six or eight days.

32. Many suffer over long periods with grave ulcers of the legs. His description of this condition is very long. Sufficient to say that he identifies it with the ancient surgical ulcers described by all of the Medieval surgeons, a condition descending from the liver, and which was then commonly known in Spain as *tabernas* (*Esta su proprio nombre es vlcera quironia: los cirugicos dizen que procede del higado. El comun vulgar llamale tauernas*).

33. The *malum mortum* of the medieval surgeons, which he gives a title all its own (*Del Mal Muerto*). This is the last of the accidents described under the third intention. He identifies this condition and its treatment as one described by Guy de Chauliac, for which the latter used the famous ointment of mercury known as sarracen ointment (*el galieno pone en guido en el libro vi cap iii de scabie el unguento sarasencio*). He repeatedly says in his work that the virtues of mercury were unknown for the first fifteen years. Yet the sarracen ointment was a well known ointment of mercury described by Theodoric (1266) in his Surgery, chapter xlix, *De Malo Mortuo.* The latter not only describes its virtues in this condition, but also says it operates by its virtue of throwing off the material by the mouth. (*Item vnguentum sarracenicum, quod sanat scabiem, cancrum, malum mortuum, phlegma salsam, educendo materiam per os: & dicitur etiam curare leprosos in principio, confert etiam arthreticae & podagrae*). The disease was long known as a sequel to leprosy, and writers from the time of Alzaharavius to Andrew Boorde had been attributing it a condition arising out of intercourse with the menstrous woman. Even Ruiz de Isla was aware of its supposed venereal origin for he says that Alzaharavius has written that the disease was caused by the woman who has conceived the fourth day of menstruation, the disease appearing in 20 years (*Escreue este auiso dize el zeharabi que al que viene esta enfermedad es la causa engendrar se en el quarto dia que las mugeres estan con su costumbre*). Certainly he could not regard this as a new disease whatever the cause. The *malum mortuum*

is described by the Salernitans, Rolando, Four Masters, Theodoric, Lanfranc, Guy de Chauliac, Bernard de Gordon, John Ardene, Peter d'Argelata, and many others all writing during the Middle Ages, and who considered it a manifestation of their venereal leprosy. Immediately after the discovery of America, the earliest syphilographers described it as a manifestation of their disease. Gaspar Torrella in his De *dolor in Pudendagra*, calls it the ancient disease of Saint Semetis. Francisco Villalobos in his poem on the *Pestiferas Bubas*, paraded it as a symptom of this disease. John de Vigo in the first surgery of this period assigns it the third chapter of his Book V. on the French disease (*Morbus Gallicus*).

The fourth intention of the cure deals with accidents that arise with the universal cure and his mercurial ointments. He gives a graphic description of a distressing degree of salivation, the swollen jaws, blubber lips, ulcerated and swollen tongue extending from the mouth so that the victim was unable to talk; or had to repeat a request several times to be understood.

Before taking up the fifth intention, which is a very short item having to do with the rectification of the complexion, he takes up eight additional accidents of the ointments, the treatment of all belonging properly to the physician. Some of them were perilous conditions accompanied with a high mortality, and the first of those conditions to give some inkling to the cause of the frightful mortality which he says wiped out 10 per cent of every town in Europe. They are:

34. Of a hemorrhage from the mouth and the nose. This is an accident which he says occurs in the febrecitantes (third species) and persons unfavorably disposed toward the disease. The treatment of the febrecitantes is in the main left to the physician. Among the remedies employed in this condition he mentions China root. Versalius and Fracastorius both wrote of it in 1542, and are often credited as the first to mention this remedy. According to Fracastorius it was brought to Europe from the Far East. Having been imported from China by mer-

chants sailing from thence to Calicut and Ceylon, where it was used for many sicknesses, particularly the *morbum gallicum!*

35. The Essere. Here again we encounter a disease described as *epinyctis* by Celsus and the Greeks, and which is translated from the works of the Arabic writers as *essere.* Thus it appears in the work of the Persian, Haly Abbas (d. 994), Avicenna, and others. The disease is treated under this name by Guy de Chauliac (1363), Peter d'Argelata (d. 1423) and Leonardo Bertaphalia (cir. 1440), in their respective surgeries. Among those syphilographers preceding Ruiz de Isla, it appears in the works of Villalobos (1498), Juan Almenar (1502) and John de Vigo (1514). Essere has been diversely interpreted by modern writers. Robert Willan, one of the first modern dermatologists, interpreted it as a form of nettle-rash, although he states it had been variously interpreted as scarletina, urticaria, erysipelas, pupura, erythema, and uredo. William Hebeden uses the name for the title of his chapter on lichen tropicus. As for Ruiz he describes it as a very dangerous and fatal condition. The accident belongs to the first species, is very dangerous and is cured with great difficulty. It begins with the pouring out of the blood into the surface of the body, which is the essere, and referred to as botors. The signs are an acute swelling, the blood appearing principally in the neck, breast, and arms, producing the ruddy color which could be blanched by pressure of the finger, afterwards returning to the ruddy color. It was accompanied with the continued fever, dizziness of the head, smarting of the eyes, loss of appetite, and much emaciation. This accident he had seen happen only in the first species, and prompt phlebotomy was the best treatment. There was a considerable desquamation of the skin, the patient was consumed more and more until he died. This essere was commonly called brotoeja (*y desta essere que vulgamente se dize brotoeja*).

36. Febris ephemera. This disease he also attributed to the movement of the humors set up by the ointments, and often followed the first ointment to be given the pa-

tient and it endures for 24 hours. After describing the fever in general terms, he makes the interesting observation that Avicenna has said that one fever heals another, as the fever heals the spasm, the quartana the epilepsy, and so the ephemeral fever heals the serpentine sickness. Even after a single anointment, the ephemeral fever is able to produce a splendid cure and the body returns to health. There are times when the ephemeral fever passes on to a putrid or hectic fever. However, this fever is very beneficial when it comes, and for the most part leaves the body perfectly healed (*Esta fiebre es muy prouechosa quando viene: porque queda el cuerpo por las mas vezes muy perfectamente sano*).

37. Continued Fever. This like the ephemeral fever is an ancient affection and both according to Ruiz properly come under the care of the physician. It is caused by some air getting into the pores with the ointments, or the ointments by their property of opening up the pores allow air and humidities to enter when sleeping close to the ground.

38. Gumminess and pain in the Stomach. This is another condition arising from the ointments, because the ointments take away the humidities of the members. This results in a weak stomach. Like the other conditions it was properly treated by the physician.

39. Tenesmus. This appears in two forms, is also a result of the ointments, and properly treated by the physician.

40. Hemorrhoids. These result from the ointments, which interferes with peristalsis, and like the other conditions of this intention are to be treated by the physician.

41. Of an accident that comes to the womb of women when using the ointment. A pain in the abdomen or stomach or any part of the body.

All the above accidents happen in hospitals where there are a number of people under observation, he saw them many times when he resided in the famous hospital in the company of great physicians.

Chapter Five, the Mal Acomplissionados of the Second Species

This chapter continues to deal with the second species, but with those who are of an evil complexion, do not observe the rules of treatment, nor the rules of the regimen and precepts. Sometimes the cause is due to the ignorance of the operator who does not understand the use of the ointments, or how to employ them properly in each complexion, some of which fault he lays at the door of the masters. In others it results from excesses on the part of the patient, and particularly in their failure to observe the precepts relating to coitus (*Assi mismo qualquier persona cursada del coyto se aura por mal acomplissionada*). In his section on prognosis he goes into this subject at some length explaining how the Indians of the Island of Española made an abstention from coitus for 10 moons, one of the main rules of their treatment with guaiacum. Nearly two columns are devoted to explaining its pernicious effects (See also Oviedo Nat. Hist. lib. x, cap. ii). The chapter is short, only a little over one folio in length, and adds nothing new to the symptoms.

Chapter Six, the Third Species

This third species is a febrile condition which he describes as a continued fever. Referring to the fourth chapter on the second species, and his definition of the disease in the second chapter, he states that the second species is due to an evil complexion in the humors, which, being altered into the form of a congestion or rheumatism, causes an evil complexion and an error in their operations, due mainly to the error in the digestive virtue of the liver, which error is supervened upon the other members of the body, resulting in a weakness of their faculties. Thus, from this failure in the sustenance is caused pains, apostemas, and the ulcers. From day to day this error continues, corrupting the humors still further, with a resulting weakening of the natural virtues, from which results the fever, with consumption of the members, and ultimately death (*de lo qual se debilitan y enflaquescen las*

virtudes naturales y se prossigue la fiebre y el consumimiento de los miembros: y por consiguiente la muerte).

The signs of this condition are first, the continued fever: The pulse begins to increase in quantity about 3 in the afternoon until 3 in the morning, and ends with a slight sweat. It consumes the members of the sick, and makes them very thin and weak. The face is saddened and emaciated. He suffers from thirst, a loss of appetite for food, and a bad digestion of the stomach. The legs and feet swell when he attempts to walk. At times he has stools, and if he has pains, they will leave when he passes flatus or sneezes. If there are ulcers, the matter from them is thin and white. Ulcers discovered in the bones are for the most part hideous and inflammatory. At last the stools are horrible and in a greater quantity than when they are formed. The flesh of the arms is consumed, the knees are swollen, and there is pain in the hip. When these symptoms come the pulse beat is altered, and, as a consequence the natural virtues. Toward the end many pinturas appear, and they are surrounded by flies. These are the final signs, and they do not appear in all, but some of them in one, and some of them in another.

In the prognosis he points out that the third species results from the second species, due to an increase in the corruption of the humors. It proceeds with a greater urgency than the second species, and therefore he advises that with the first sensations of the second species, one undertakes treatment as soon as possible with mercury or the guaiacum. It is also important to observe the universal precepts, for unless one observes them one cannot expect a cure, for those who are incontinent in their coitus contract the defect in the digestive virtue of the liver, even though there be but one lapse, and this defect in the liver, results in a defect in the members, and a return of the sickness (*porque sino los guardaren en ninguna manera pueden ser sanos por qual coyto luego incontinente haze errar la virtud digestiva en el higado aunque no sea sino una passada/ y errando el higado/ yerran por el consiguiente los miembros y de todo es tornada la enfermedad*).

The physicians were for a long time deceived by this fever, for they were ignorant of the action of mercury, and how to cure the fever with it (*y los fisicos con esta fiebre han sido muy engañados/ porque como a ellos mucho tiempos les fuesse ignoto las operaciones del mercurio ignorauan esta fiebre y su cure*).

Discussing the treatment of the third species, he proposes the same five intentions that he has laid down for the second species, namely, 1st., the order of life in relation to the six non-naturals. 2nd, the evacuation of the antecedent material. 3rd, the vaporization of the conjunctive material, 4th, the correction of the accidents, and 5th, the rectification of the temperament. In dealing with the third species, as with the second, he treats in separate articles all those accidents that develop in the third species, which serve to illuminate his definition.

1. The febrecitantes suffer a continued fever highest from 3 p.m. to 3 a.m., followed by a perspiration. Concerning the character of this fever there was a great diversity among the physicians. One would claim that it was a humoral fever, others that it was an ardent fever, others called it a putrid fever, and still others called it a hectic fever (*desta fiebre han seydo grandes las diuersidades que ha auido entre los medicos. Unos dizen que es fiebre humoral: otros dizen que es latica: otros dizen que es putreda: otras dizen ques etica*).

2. The members of these febrecitantes are consumed by the fever.

3. The arms are consumed until little remains but the bone, and apostemas develop at the elbow.

4. A fragility of the bones develops, and he refers to those sick who merely by the movement of carrying the hand to the head incur a fracture which is difficult to unite (*Assi mismo muchas vezes ha acaecido de solamente alçar el braço para poner la mano en la cabeça quebrarse el huesso totalmente altraues que va del hombro al cobdo y muy pocas vezes recibe consolidacion*).

5. Likewise these febrecitantes suffer greatly from

thirst which results from the fever, the heat in the liver, and the putrefaction of the humors.

6. The appetite is destroyed.

7. A bad digestion of the stomach.

8. As the humors become more corrupt there develops an incontinence of feces. This may continue for some days, and when it appears it is a bad sign, and often indicates the approach of death.

9. The feet swell. They are worse at night and go down in the morning. This is a bad sign and comes to many on the approach of death.

10. Swelling of the abdomen. As the humors rot in greater quantity, and the liver and the members become further weakened in their digestion, these febrecitantes develop a swelling in the belly and all parts of the body. These are symptoms very suspicious of approaching death.

11. Another variety, ydropesia ventosa, swells the legs by day and the chest by night, the throat below the beard and in back, and this swelling goes and comes quickly, now in one extremity, now in the other.

12. A sadness and yellow color of the face.

13. Crusty ulcers called bubones, or an ulcer similar to the yaws lesion with excrescence of the flesh below the crusts (*Assi mismo quando los cuperos van en mucha corrupcion se les hazen bubones que son ulceras costrosas/ y tirando la costra queda la vlcera con una escrescencia de carne crecida para arriba*).

14. The pus of these febrecitantes is white, thin, repulsive and scalding.

15. Ulcers in the bones.

16. If they attempt to get up or walk, they suffer great and painful fatigue.

17. The febrecitantes suffer pains with bororygmus, and when they pass flatus or sneeze the pains leave.

18. Pain in the hip similar to sciatica.

19. The stools are likewise repulsive due to the scalding character of the humors in the liver and the stomach.

20. The breath is putrid due to the corruption of the liver.

21. Punturas. *Assi mismo alos semejantes en la postrimera voluntad les acuden punturas o manera de pleuris de que por las vezes se despacha.*

22. In their weakened and corrupted condition they are the prey of flies.

The fourth intention is brief, and in a single paragraph he refers to what has already been said in chapter iv, when dealing with the fourth intention of the second species. The fifth intention deals principally with the need to observe the universal precepts.

Chapter Seven, the Mal Acomplissionados of the Third Species

This is a short chapter, and like chapters iii and v deals with those who for some reason do not respond to the curative treatment, or who when cured, return to corruption through some fault. In this chapter he repeats some of the signs already given, saying here that there are a total of 19. He names the three most important symptoms of the third species as 1. the continuous fever, 2. emaciation, and 3. pallor of the face. Other signs happen, but if any febrecitante develops ten or more of the enumerated signs, one is unable to produce a cure. So serious was the third species, that the only hope to avoid it was not to neglect the regimen and the treatment. It was in this third species, and the accidents that accompanied it that the high mortality described by Ruiz de Isla in his first chapter must have occurred.

In leaving Ruiz de Isla's account of the symptoms, one is forced to the conclusion that this earnest surgeon, even if due to the over-simplification of his theories he included more than syphilis in the clinical picture he has portrayed for us, nevertheless, he went much farther in sensing the so-called secondary and tertiary lesions of the disease than many of his contemporaries.

Chapter Eight, the Universal Regimen

This is one of the most important chapters of the book, and lays down for the use of masters and their patients a regimen for guidance during the first thirty days use

of the ointments with any species of the disease. In his preamble he gives wholesome advice to masters and *"obrantes,"* or those who administer the ointments. They should understand the species, the particular intention of the cure for which they are used, the benefits they bring, what to avoid, why one patient is healed and then later returns to corruption, why some are not benefited, the method of increasing and decreasing the proportion of mercury, how it operates in those of the bilious, sanguinous, phlegmatic and melancholic complexion, the accidents which occur as a result of an excess of the ointment, the places to which they must be applied, namely, at the joints, from where their repercussion and opening virtues operate to cause the peccant humors to rush toward the mouth from where they are evacuated.

In preparation for the treatment one should first shear and shave the beard preliminary to salivation; wash the legs; scrub the feet; and cut the nails. A brief summary of his rules follows:

1. As to the best time of the year to begin the treatment, there seemed to be a great deal of difference of opinion, but he considered on the whole that most any time would be suitable. The rich with their comforts, and means of protecting themselves from the cold, may be treated in the middle of winter, but for the poor it was better to undertake the cure in the spring, summer, or early autumn.

2. All physicians, surgeons and masters should know precisely the species, and if the patient is of the relapsing or unfavorable type (*mal acomplissionado*) or of the favorable type (*bien acomplissionado*), or if he is a febrecitante. Knowing these grades, he should comply with the regimen set forth in each case in the preceding chapters.

3. The quantity and quality of the ointment should be graded proportionally to the physical strength and corporeal disposition of the sick. The average amount being from one-half to one ounce distributed to twelve joints. Much is entrusted to the *obrante* giving the ointment,

who should be experienced and intelligent, for upon whether it is well or poorly given depends the cure.

4. The joints one should anoint are the following: The wrists, around their circumference, the width of the hand. The hollow of the elbows. Around the shoulder about the area of a porringer. Over the hips, an area equal to a common dish. Around the circumference of the knees. Around the circumference of the ankles. To these are added the abdomen (which would have filled many of the physicians of the Middle Ages with horror), and along the whole length of the spine from above downwards, the width of the palm of the hand. The evacuation by mouth may be looked for after from three to eighteen anointments, between which limits the complexions are graded.

5. He establishes a procedure for administering the ointments: in the beginning they should be administered once each day, in the evening, until five anointments. If up to this time there should be no signs of a salivation, there being no evidence of a fluxion to the mouth, then anoint twice each day, and then if after ten days none of these signs make their appearance, anoint in addition to the twelve joints, the abdomen and spine. After twelve anointments the number may be increased to three each day, without increasing the amount of the daily dose, and thus continued to a total of eighteen anointments, beyond which limits one ought not to go. He makes a variation to this procedure in one known to be completely melancholic, and who does not evacuate by the mouth. In these he uses the Fourth Ointment (see rule 7, and the Antidotario), the strongest of his four grades of ointments, and does not exceed a total of 15 ounces of the ointment, to be administered in 18 anointments in a period of 9 days.

6. In a more circumstantial explanation of the foregoing rule he describes the signs of beginning salivation, his theories of how the ointment acts, the quantity of phlegm to be evacuated in one day (a porringerful) beyond which the operator ought not continue the anointments.

7. He proposes four grades of ointments, doubling

in each one the amount of mercury, and which are known respectively as the First, Second, Third and Fourth Ointments. These ointments, together with his Universal ointment, he describes at greater length in his antidotatio.

8. The signs and symptoms which demand the suspension of the ointments.

9. The use of the four grades of ointment is explained. If the First is not strong enough the *obrante* may employ successively the Second, Third and Fourth Ointments.

10. This explains the hygiene to be observed in the matter of habitation, the bed, clothing of the sick, and the regimen of the non-naturals.

In closing this chapter he earnestly advises the *obrantes* to observe carefully the rules he has laid down for their guidance, because only with them and an intelligent use of the universal ointment, as well as a knowledge of requirements for rectification pertaining to each species, he will be able to cure those sick with the disease who come to his hands. In fact his treatise will advise them in theory and in practice, and by observing his advice they will avoid many accidents. Much of the cure of the disease is in this chapter, as any will find who practice its rules.

Chapter Nine, the Universal Precepts

He begins this chapter by stating that it pleased Divine Mercy, when this sickness was perceived, to reveal the remedy most suitable for it, which was the ointments, but as all were ignorant of the rules and precepts they should follow, many relapsed. In this chapter on the precepts he purposes to set forth a regimen for the patient which he declares to constitute the real secrets of the cure, and which until his day were unknown. This chapter must have been written after 1530, although these precepts are referred to in every chapter of the treatise except the first and twelfth. In this chapter he lays down 13 precepts, giving the greatest space to coitus, laxatives and wine. They are enumerated as follows:

1. Coitus. He begins by explaining that the sickness is due to an error in the digestive virtue of the liver,

which, being a noble member, in turn attacks the maintenance of all the members, and these members suffering from these effects over a long time, require a long time on a good regimen that they may recover their strength. Therefore a single lapse in the prohibition of coitus is sufficient to throw out the harmony between the liver and the members, and the digestive error returns to the liver, and this in turn again affects the maintenance of all the members. To support this theory he quotes Avicenna and Galen, in order to show that the evil effects of coitus upon the vital and animal virtues are notorious. He discusses its effect upon the choloric, sanguinous, phlegmatic and melancholic complexions, the latter being the least damaged on account of the coldness of their temperament. One who has a single lapse in the matter of coitus may destroy the progress of the cure, and bring about a return of the sickness. To illustrate this point, he cites a case treated with guaiacum at Lisbon, who by 30 days had been healed of his ulcers, but who by the 35th day suffered a relapse so that the disease returned in a worse form than at the beginning. He questioned this patient with regard to any excesses, and found he had departed in no way from his regimen, except that on the 28th day of the treatment he had had coitus with a woman, and it took 4 additional months of treatment to cure him of this relapse. He cites other incidents among febrecitantes and the second species who had relapsed for this cause. To support his theory, he refers to the practice of the Indians of the Island of Española, who in their regimen abstained from women for 10 moons.

2. The Air. He advises that the sick should take the ointment in a place well sheltered, and afterwards ought not expose themselves to the air, because the pores being opened, the entrance of a little air will obstruct them. Therefore they should only venture out in fair weather, when there was no wind, and then only when well protected. All this is particularly necessary when taking guaiacum.

3. Water. One should beware of using water after

starting the ointments, and he prohibited all from wetting the hands or face or feet, during the course of treatment. If the treatment was with mercury, this prohibition should be observed for 30 days, and if with the diet (guaiacum) for 40 days. Whether the treatment be with mercury or guaiacum, the members are opened, and wetting the body obstructs them, disturbs their digestion, and brings about a return to the sickness.

4. Laxatives. This is one of his important discoveries. It is in this precept he gives the interesting bit of information about the early treatment of the disease at he hospital of San Salvador at Seville, to be referred to later. It had long been the custom of the physicians to employ in this disease, laxatives or purges, as they were called, which expelled the peccant humors from the member. In course of time the physicians had laws approved making it a penal offense for anyone other than a physician to prescribe a portion or laxative. He tells how jointly with great physicians at the Hospital of All Saints, he visited the sick, and watched them prescribe a large number of laxatives. At length he concluded that they were worthless, and a patient was better off without them. During his forty years experience with the disease, he had watched their effect, thirty years of which was in the company of great physicians in hospitals, and seeing no benefit in them, he avoided their use in his patients during the last ten years. For mercury is the proper purge for these humors. (*Es conclusion que el auctor ha quarenta años que cura y platica esta enfermedad: y los treynta años curso los laxativos en compañia de grandes phisicos: teniendo lo mas del dicho tiempo cargo de gentes en ospitals. E viendo que las purgas y pociones no aprouechauan mas antes se reconoscie traer mucho daño me aparte totalmente dellas de las dar a mis dolientes diez años*).

5. Phlebotomy. He does not bleed before the ointments, but afterwards, because at this time a phlebotomy contributes to a prompt cure.

6. Clysters. He does not administer enemas or cly-

sters, but if they should be necessary they ought to be of pure oil.

7. He advises the prohibition of wine, and in case of great weakness the wine ought to be allowed only when well diluted with water. It is in this precept that he tells us that wine was at first considered as beneficial, but realizing that it was harmful he had prohibited its use by his patients for 30 days, but the full comprehension of its dangers was not realized until the year of 1530.

8th, 9th, 10th, 11th, 12th, and 13th, deal respectively in short paragraphs with flesh, fish, fruits, vegetables, the acids (vinegar), and overeating, each one of which he has previously referred to.

Food for the Discerning

One approaches with interest Ruiz's chapter on Guaiacum, or Holy Wood, which was long reputed a specific for *morbum gallicum.* In his final chapter Of All the Doubts, where he comments on the origin of the disease, he argues that the fact that the stupid Indians of Española used guaiacum for a long time to treat the disease was proof that the disease must have existed among them for a long time. More particulars he assures us will be found in the chapter on the wood.

Guaiacum, or Palo Santo, was the original Indian remedy. In Spain it was called *palo santo,* or holy wood. In Italy it was called *legno santo,* also holy wood. The Latin writers called it *lignum sanctum, lignum indicum* or *lignum vitae;* holy wood, Indian wood, or wood of life. In Germany its supposed specificity for syphilis contributed the names *Franzosenbaum* or *Pockenholzbaum.* The holy properties were based on the superstition that certain diseases originate as a punishment for sin, as frequently encountered in the Scriptures, and Divine Providence mercifully provides the antidote or remedy for the disease so inflicted at the place where the disease originates or among the people who are thus afflicted. As the so-called holy wood came from the land of the pagans, it followed that there the disease surely originated. This

doctrine given expression by Oviedo in his Sumaria (1526), was copied by Ruiz de Isla, and the first of the Spanish historians, as Las Casas, Gomara, and Herrara.

Long before the work of Oviedo, the wood was used in Spain, and certainly before 1517. The learned Villalba places the introduction of the wood as 1501. Herrara gives an account of the revelation of its virtues by an Indian woman to her master in 1503. Although Ruiz de Isla frequently says the wood did not come into use until 20 years after the appearance of the disease, nevertheless, he says he had seen writings about guaiacum, mapuan (holy wood), and tuna as early as the year 1504. These two statements are in seeming conflict, and we would be puzzled which to accept were it not for the fact that the name holy wood according to our best authorities, Oviedo and Las Casas, was given to the variety coming from Porto Rico which was first explored by Ponce de Leon in 1508. Peter Martyr mentions the wood in his *De Rebus Oceanicis et Novo Orbe.* The first of these decades was published 1511, the second and third decades, Nov. 9, 1516. Martyr says that John Baptiste Elisius identified a hard wood used by the Indians for utensils, as *hebene* (ebony), and Oviedo says some persons call the *palo santo* the *hebaeno.* Martyr attributes no medicinal virtues to it. It seems very likely that according as Ruiz de Isla has said, the wood did not come into use as a medicine until 20 years after the discovery.

The first rumors we hear of its wonderful virtues came from Germany. The Emperor Maximillan dispatched a commission to Spain, to examine into these rumors for the benefit of German sufferers. One of the important members of this commission was Matthew Lang, Bishop of Gurk. One Dr. Nicholaus Pol seems to have accompanied this commission, and in his report, dated December 19, 1517, he states that recently 3,000 Spaniards had been cured by guaiacum of the *morbum gallicum,* in Spain, where it was known as the Holy Wood. The following year, another German, Leonard Schmaus, a physician of Salzburg, within the diocese of Bishop Lang and to whose

investigation he refers, produced another book praising its virtues. But a work of much greater popularity was produced by still another German, Ulrich von Hutten (1519), which was soon printed in Latin, German, French and English editions. In this work he claims to have suffered the French disease since 8 years of age, and had been marvelously cured by guaiacum and its regimen in 40 days.

It was the supposed virtues of guaiacum that brought forth the first French work on syphilis by Jaques de Bethencourt (1527), who broke the long silence of the country from whom the disease was so reproachfully named. With due regard to the regimen of its use the title of Bethencourt's work in English is "A New Lenten-like Penance and Purgatory of Expiation for Usage of Patients Afflicted with the French or Venereal Disease." A work was later published in Italian by a Spanish priest, Francisco Delgardo, who wrote a book in 1528 in which he stated he had suffered from the disease 23 years, or since 1503, and was quickly healed by the holy wood. Brassavolus, however claims he introduced the use of the wood in Italy two years earlier, or in 1526. Anthony Gallus, of Paris, says he cured a most violent form of the French disease with the holy wood in 9 days time. Benvenuto Cellini declares that he healed himself with *legno santo* in 4 days. The collection of Lusinus on *Morbum Gallicum,* is made up largely of the works of authors who extravagantly praised the virtues of *lignum sanctum*. And even down to the days of the great Boerhaave, who republished this collection, its properties were going strong, for that great and lovable clinician, praising it, says it will act as a purge, reaching places that mercury cannot reach and there dissolve the poison.

But all the writers were not deluded by the fact that many of their patients recovered in spite of the treatment. The surgeon Michael Angelus Blondus (1542), who was one of the many who wrote of the great European antiquity of the disease was the first to frankly criticise the use of the wood. He confesses that his patients under the

lenten-like purgatory of starvation and purging became as bloodless as so many ghosts, and ere the moon had completed its orb many relapsed into a worse condition. "Let us not talk then," he writes, "of the disease being brought over to us by Indians, thus openly exposing our simplicity by so saying" (*Nec dicamus morbum ab Indis trasfretasse ad nos. Quoniam fatuitatem profitebimur, dicentes*). And this same year (1542) Fracastorius in his *De Contagione,* in some extended comments on the wood states, "I have observed many patients who drank this wine and were made ill by it, and lapsed into a condition beyond cure."

So on approaching Ruiz de Isla's chapter on the Palo, in view of the argument by which he clinches for the discerning, the fact that the disease arose in the island of Española, we ought most certainly find there the further particulars he assures us are so convincing.

Chapter Ten, the Wood

It has pleased Divine Pity, says Ruiz, in giving us the ulcers and afflictions, to also give us the medicine for them, as with this sickness, which always had its origin and nativity in the island of Española, as I have said in the first chapter of this treatise. The people of this island were cured in this way: They were put in a bed raised above the ground, well sheltered from all air, and, taking a certain wood they have for this sickness, they cut it into small pieces, and boiled it in water until it was diminished to one third. The diet they took with it is of incredible description, they eating nothing except a bread made from a root which they called cassava and made into a biscuit. With this they drank for medicine the water cooked with the wood, principally night and morning, each time one-half pint, and during the day all the water they wished. What they drank night and morning, being well sheltered, produced some sweating. And then after this cure had continued for 20 days they ate a very thin piece of river fish, and a small sour fruit of their land which they call guavas. And by means of this

diet much of their flesh was consumed, the ulcers healed, their pains departed, and their apostemas were resolved.

They entered upon this cure the beginning of a full moon and remained on it for one month, and they had for the principal precept the abstention from all women for 10 moons, not doing, nor abstaining from any other thing to aid the cure. Thus they were cured of their disease and sickness, and it relieved them of their fat which gave them much satisfaction. One of the woods they use for this cure they call guaiacum, which means the wood of health (*palo de salud*) and they consider it a very holy and blessed medicine. They do not take this medicine alone for this serpentine sickness, any more than for many others (*y no tan solamente lo toman ellos para esta enfermedad serpentina mas para otras muchas*). Thus, they take it for a poor color in the face for it makes a good color. Likewise when they go to their wars they take it in the manner already described, for it makes them lighter and more suitable for their method of fighting. And, says the author, the wood has this virtue, because it lightens their bodies very much, and makes them very swift, and these Indians, in taking the water for this purpose, have considered very discreetly, for it certainly makes the body very light and free, as I have observed by experience here. They say also that the water is very good for those who have taken some poisonous thing. They also say it is good for the lung, and a provocative of sleep, and all these things I maintain to be so, because I have observed many of them from experience.

On good information there are seven varieties of the wood. And all appear very much like each other, there being very little difference. That called guaiacum is the best. There is another called mapuan, and it produces its effect more quickly but is not so efficient. The other species are harmful. Likewise the disease is cured with the root of a herb they have that is called tuna, which is said to make a very bitter water.

At this point Ruiz digresses from the account of guaiacum to go into the subject of tuna. He tells the story

of an Indian who being condemned to death, petitioned the Governor of Española to spare him and grant pardon on condition of revealing a secret by which the Spaniards sick of the serpentine sickness might be healed in 3 days. The Governor refused the petition, the Indian was hung, and, says Ruiz, the secret died with the Indian. As to these tunas they are described by other early writers such as Oviedo and Padre Acosta, both of whom had visited the West Indies and knew tunas as the fruit of a cactus, not as the root of a plant. Oviedo tells how eating of them colored the urine a blood red. He ate some once, and when he observed the result he nearly passed away with fright. The statement of the Indian that these tunas could heal the sickness in 3 days made a profound impression on Ruiz.

Returning to guaiacum, there was quite some difference in the effect of this decoction on the Indian and the Christian. The Indians were delicate, effeminate, of thin complexion, and, because of the weakness of their constitutions lived only about 40 years. This was because they ate no meat, having no animal much larger than a rabbit, and the fishes caught in their rivers. They had no wine, which gave them but little animation, and on the whole this made it possible to accomplish the cure with them, using the decoction and the diet, more easily than with the Christians who were more robust, and created with a stronger constitution. In contradistinction, the Christian ate meat, wheat bread, drank wine, and things more strengthening. For this reason the Christian needed a stronger diet than the Indian. He had observed, for instance, that with women, who were weaker in their constitutions than men, that a cure with the wood and diet could be made more easily than with men. Therefore in the first and second species but few were benefitted by the wood, unless they were very weak. On the other hand, for the febrecitantes, who are in the third species, and are already much consumed, and are very weak and feeble in their complexion, guaiacum is a very marvelous medicine (*Empero para los febrecitantes que estan en tercera*

especie que son ya consumidos/ y estan muy flacos y la complission muy debil. Para estos la cura del palo es muy marauillosa medicina, etc.).

There are also others, treated with mercury who have several relapses, and who are as a consequence very weak and feeble, for whom the wood is beneficial.

He gives a long discourse on humoral pathology, beginning with his theory of the error in the digestive virtue of the liver, and what he assumes takes place in the members. As to the administration of the wood he deals with this in the following particulars.

1. The time of the year suitable to undertake the cure.
2. The qualities of the wood of the island of Española, by which its efficiency for cure may be judged.
3. Of the preparation of the decoction.
4. The arrangement of the bed for the sick, and their protection from the air.
5. How the sick must refrain from wetting the hands or face or other part of the body, from the day the cure is begun until it is complete.
6. Formulae for making the decoction.
7. The necessity for freshness in preparation of the decoction.
8. The decoction should be luke warm when taken.
9. The sick must be made to sweat especially the first 9 days.
10. The amount of the decoction to be taken daily night and morning, and in the middle of the day, except that the febrecitantes should take it but once each day.
11. The hours for food and decoction.
12. Of the bread suitable for the sickness.
13. and 14. Of raisins, figs, almonds, filberts, nuts and other similar things to be taken.
15. Of meats suitable to be taken.
16. Of purges.
17. Of the good signs that appear in the sick, when a case is well managed, also the signs that the cure is being hindered through some excess or bad management.

18. Of the bad signs that appear by which it may be recognized that the cure has gone wrong. Of all the excesses the worst was that of disregard of the rule for coitus. He illustrates this with the case of the man at Lisbon who being practically cured, after a single lapse in the rule of coitus, had relapsed into a worse condition than at the beginning.

He closes his chapter on guaiacum by saying that in conclusion he makes known that the secret of the cure is in the diet, and any herb exerting a beneficial action on the liver will work as well as the decoction of the wood, such as the seed of fennel, pieplant or rhubarb, spikenard and the like, bergamont mint or rosemary, boiled in their water and drank night and morning so as to procure a sweat. By this means he had cured many persons completely. One should know that there are three things that heal this sickness, namely, the diet, the sweat, and the purging through the mouth with mercury, and of these three the purging through the mouth is the principal. In this connection he makes known that an evacuation by mouth the size of an egg is worth seven stools by the bowel. And the sweat too is a marvelous thing as well as the diet which is the subject of this chapter. And he declares that who will drink well-water the period of one moon, night and morning, procuring a sweat, and during the day drink water boiled with the seed of fennel, and observe the general rules, will without doubt be cured of their ills (*Lo demas es hazelles saber que el secreto desta cura es la dieta que si con la dieta cogieren aca qualquier yerua de vretica/ que tenga acatamiento al higado/ assi se hara la obra como con el agua del palo/ assi como simiente de hinojo y ruypontico y reubarbo/o espiquemardi y sus semejantes y sandalos/ y con el oregano y canteuesso y romero cozido en su agua/ y beuido a noche y mañana: y procurando algun sudor he sanado yo hartas personas. Han de saber que tres cosas sanan esta enfermedad/ conuiene a saber dieta y sudor/ y el purgar por la boca con el mercurio: y destas tres el purgar por la boca es el principal. Del qual les hago saber que vale mas tanto*

como vn huevo por la boca que siete camaras por baxo: y el sudor es muy marauillosa cosa y que mucho ayuda y la dieta por el consiguiente pero sobre todo lo escripto desta cura eneste capitulo digo que quien beuiere el agua de su pozo una luna noche y mañana y procurare algun sudor/ y guardare la dieta/ y entre dia beuiere su agua cozida con simiente de hinojo/ y guardare las reglas generales que sin duda sanara destos males).

And by thus ending his chapter on Guaiacum he takes away from the discerning the last vestige of what he considered a proof that the disease had its origin and nativity in the island of Española. Even the diet was too mean for the robust Christian, and only fitted for a weak and effeminate carib of an inherently feeble constitution.

Chapter Eleven, the Antidotario

The chapter of the ointments and other remedies used by surgeons in the treatment of the Serpentine Disease is one of the longest of the treatise. In this chapter he tells us he has placed and described the ointments, poultices, waters, powders, caustics, and other measures with which he treated the disease. The principal remedy is mercury. This ointment applied over the emunctories, opens the ways and passages, penetrates all parts of the body, and throws off the peccant humors through the mouth. He deplores the use of other remedies with it, such as gums, salts, and hot medicines in general, for the hot medicines cause accidents and make the mercury act more strongly than is necessary. There were others that claimed that mercury only served the function of opening up the passages so that the treacle might enter to the innermost parts, but this was a delusion. Through his own experience with 20,000 people, and an equal number treated by masters to whom he had communicated the cure, he was assured that mercury alone performed all the necessary operation of evacuation, quietly and efficiently, casting forth the peccant humors by the mouth, and restoring the body to health.

Alone, in its metallic state it had no virtue, but had to

be combined with unctuous ingredients. Four ointments were then described, each suitable for one of the four complexions. He named these respectively the First, Second, Third, and Fourth Ointment, in each the mercury being increased in strength. The basic ingredients of the ointments were not altered, the only ingredient altered being the mercury.

First Ointment

Of hogs grease, eight ounces; mercury, one-half ounce; butter of the cow, one ounce; oil of marshmallow, dill, laurel and manzanilla, of each one-half ounce. All well incorporated in a mortar according to the art. This ointment was recommended for the chloric, as they were the most easily affected by the action of mercury.

Second Ointment

Here all the ingredients were the same except the mercury was increased from one-half ounce to one ounce. This ointment contained the amount of mercury advisable for the sanguinous.

Third Ointment

All ingredients the same except mercury, which was again doubled, and consisted of two ounces. This ointment was adapted for the phlegmatic, who were more difficult to evacuate than the sanguinous.

Fourth Ointment

All ingredients the same except mercury, which being double the preceding, amounted to four ounces. This was the ointment usually employed for those of the melancholic complexion.

By means of these four ointments, the amount of mercury could be increased or diminished. Thus, if the first was not sufficient to bring the evacuation by mouth, one might use the second, which if not enough, might be superseded by the third, and, if necessary, passing on to the fourth.

The foregoing completes the method usually employed up to his time in practicing with the ointments. He

will now describe his own methods which he had found very satisfactory. Some obrantes prepare the ointments in their houses after the manner of idiots, yet the art provides clearly the functions of each, and the medicine should be prepared only in the apothecary shop, for the law requires that only a doctor and no other shall administer medicines of the nature of laxatives, for which reason apothecaries can prepare any of the four ointments from the following.

Ointment of Mercury

The grease of a hog and mercury, of each one pound, well incorporated according to the art.

From the above ointment any one of the four ointments above described may be thus prepared.

Ordering one ounce of the above ointment (which contains one-half ounce of mercury) combined with 7½ ounces of hog lard, will make precisely the First Ointment.

If the second ointment is desired, order 2 ounces of the Ointment of Mercury, incorporated with 6 ounces of hog fat, which will contain one ounce of mercury, exactly the quantity of the Second Ointment.

If the third: 4 ounces of the Ointment of Mercury combined with 6 ounces of hog lard makes the Third Ointment.

The fourth: Take 8 ounces of the Ointment of Mercury, and add 4 ounces of Lard, which results in an ointment 8 ounces of which are Lard, and 4 are mercury, exactly the Fourth Ointment.

By this method the apothecary may prepare all that is necessary in this sickness, and all physicians are enabled to order from the apothecary shop what is completely necessary for this sickness, increasing or decreasing the amount of mercury for each anointment, for the reason that one anointment by the Third, contains a quantity of mercury equivalent to three anointments by the First.

He also explains at some length how one may make the First Ointment do duty for the Third Ointment, or the Third do duty for the first: Thus: By using the First Ointment twice each day instead of once each day, and

increasing each anointment by one-half the usual quantity for one day, one will use three times the usual amount of the First Ointment, which is the equivalent of the Third Ointment. Then should one wish to reduce the Third Ointment to the dose of the First Ointment, this is readily accomplished by using one-third the usual dose. He acknowledges all these explanations are prolix, but one has to have regard for the ignorant who do not yet understand, and who by prescribing through the apothecary shop will avoid perils and accidents as well as fault.

Notwithstanding the value of the foregoing ointments, the author has been accustomed to employ an ointment with which he has cured an infinite number of people, and which works marvelously. This ointment is called throughout the treatise:

The Universal Ointment

Of hog lard 8 ounces, of mercury 3 ounces.

He calls this the Universal Ointment because the quantity of mercury that it carries is more adaptable than any others of those described. Thus, it produces evacuation in the choleric in two or three anointments. In the sanguine in 5 or 6 anointments. In the phlegmatic in from 14 to 15 anointments. With the melancholic it has to be used as pointed out elsewhere. These cases are generally difficult of response.

The next ointment he describes is the Ointment for Sweating. This is suitable for use in virulent and sordid cases of the first species, and was communicated to him by a famous master who cured a large number of people with it at the beginning of the sickness. This contained the lard of the hog ½ pound, mercury 4 ounces, white lead and litharge, of each 2 ounces, along with other ingredients. However, to promote the sweat he adds more clothes and other physical means.

Then he gives another section devoted to an ointment which is very good for those who have complicated along with "the island sickness," the sarna or salt-phlegm, and who should be anointed with cold ointments, for the reason

that hot ointments are harmful. This ointment consists of litharge ointment 3 ounces, the white ointment of Rhazes 2 ounces, argentum vivum 1½ ounces (or an amount suitable for the complexion of the patient), mastic 2 drachms, myrrh 1 drachm, all incorporated into an ointment according to the art. It should be realized that those people who have the serpentine sickness complicated with scabies, are of a light complexion and require very little of the ointment to accomplish the evacuation by mouth, and it is sufficient in them to anoint only the emunctories, namely, the groins, armpits, behind the knees, the bend of the elbows, the palms of the hands, and the hollows of the feet. Use two drachms each time, and if by the 5th evening there is no evacuation, increase to three, and so on up to the quantity of one ounce.

He defends himself of censures for using an excessive quantity of mercury by inunction, and therefor one must understand that whereas ½ ounce of mercury may act severely in the choleric, producing accidents of the mouth, in the melancholic 4 ounces is safe, producing no accidents. The object is to purge the antecedent material, and as the mercury is placed in the ointments for this purpose, it follows that sufficient must be placed in each one, and if less is put in, it only moves the materials but does not evacuate them. If it is given knowingly and skillfully, with a proper understanding of the demands of each complexion, it evacuates the peccant humors and heals the disease.

He describes under subsequent titles, methods of preparing and of extinguishing mercury, the qualities and conditions it must possess in order to be suitable to be employed, the adulterations, and tests for them. An article explains how the quick-silver or live-silver is killed or extinguished, by incorporating it with unctuous materials. The method of preparing the unturas. The selection of the best type of fat, and its preparation for use.

Another article describes the preparation of a sheet

of lead "very resolutive," which is prepared by mixing 3 ounces of lead and one ounce of mercury, which being fused together, are hammered into a sheet more or less thin and preserved for use.

A section treats of the preparation of a very marvelous powder of mercury, which he prepared by mixing two parts of nitric acid with one of mercury. This was placed in a suitable vessel over a slow fire until all the acid was consumed, after which the residue was dried and preserved for use. This powder he claims had marvelous virtues when applied to ulcers.

The chapter concludes with an extended discussion of the use of caustics.

Ruiz de Isla and Mercury

Ruiz de Isla was a surgeon. As a surgeon he made contact with his patients, treated their ulcers whatever their origin, for we have gone far enough to realize that to him at least, they arose out of an ebullition in the humors. For treatment his field was largely the ointments. He acknowledges with humility that this or that treatment, particularly that which concerns guaiacum, was due to the industry of the physicians. Several times he refers to the fact he was engaged on a salary by King Manuel, and served at the Hospital of All Saints as a surgeon for more than ten years, in company with great physicians. In his Prohemio he says one of his two great discoveries was the value of the secrets of mercury in the treatment of the disease. In his first chapter he refers to the ravages of the disease during "the first fifteen years and before the virtues of mercury were discovered." He seems to have known nothing of its virtues in the disease during the early years, when according to Villalobos it was commonly used, for in the chapter on the precepts he gives a lengthy account of how Ferdinand and Isabella ordered the protomedicos to take charge of the sick of the hospital of San Salvador at Seville, and endeavor to find a cure for this serpentine sickness. The physicians, he says, assembled, and for six or eight months with

laxative medicines and humoral digestants, endeavored to find a cure for the disease without any result. They all agreed finally that the sickness was due to the astrological conjunctions, or in other words it arose out of the ire of the Heavens cast upon the earth (*con el qual cada dia se hazian grandes ayuntamientos de medicos famosos entre los quales entrauan el doctor hojeda y el doctor aragones/ y el dotor infante y otros muchos y por todos fue dicho y acordado que esta enfermedad era yra del cielo se cutada enla tierra*).

Now if Ruiz de Isla was a citizen of Seville, and if he knew anything of the secrets of mercury at this time, why did he not make an effort to put the King, the Chief Justice of the city, and the protomedicos on the right track! Could it have been that he had not yet engaged in practice as a surgeon, as they long before this time had made common use of mercury. He tells us himself that before he discovered its secrets it had been used for the bubas by the Moors. If he then knew that the disease had its origin in the island of Española, why did he not undeceive the King, the Chief Justice of Seville, and these famous physicians. He continues his account showing that these physicians had no knowledge or suspicion that the disease had its origin in the island of Haiti, or that it had been imported into Barcelona by the first armada. They were working at Seville, the only port of all Spain which under the mandate of the Catholic Sovereigns, signed May 23, 1493, might communicate with the New World. They were the flower of Spanish medicine, laboring in this port of entry, without the faintest idea that they were dealing with a disease from the New World. The accepted opinion then common all over Europe was that the disease resulted from the coitus of certain planets in the sign of Scorpion, which sign controlled the genitals of mankind. And their report, continues Ruiz de Isla, was made known to the sovereigns through the Count of Cifuentes, who was Chief Justice of the city of Seville. And then, says our author, the Count of Cienfuentes turning from the physicians, made a search among other

experimentors with this disease, and found one Gonzalo Diaz, a weaver of shawls, or a humble blanket-maker, who had great success with an ointment he used. So the Count of Cienfuentes, the Chief Justice of the city, had him taken to the Hospital of San Salvador, and there had him introduce his cure for this sickness, for which he was well rewarded, and he continued to treat the sick there for a long time (folio xxxvi, col. 3 & 4). Ruiz de Isla does not tell what this ointment contained, but Morejon (Vol. II, p. 55) concludes that it was a preparation of mercury.

Ruiz de Isla seems to have seen in the case of Gonzalo Diaz, and in his own case, a contrast to those Masters of surgery, such as Pamphilius the Alexandrian, who brought into Rome the cure for Mentagra, who he points out were not trained physicians, and who were paid large fees. This guileless account is not consistent with the claim that he recognized the disease at Barcelona in 1493, when the sovereigns, as well as Oviedo, were in that city. If by this account he is inviting us to believe that these famous physicians were immersed in an ignorance as deep and abysmal as the Pacific ocean, one wonders this account was not expunged by the protomedicos. It simply makes it more impossible to believe that lads like Oviedo and Las Casas could recognize the true nature of its origin. One can conclude that it was his ignorance and not his modesty that prevented him disclosing at this time the source and the treatment of his Serpentine Disease.

Ruiz de Isla says that the virtues of mercury were unknown for the first fifteen years in the treatment of this disease, but he did not know what was going on right under his nose. At this point the indignant Morejon exclaims, "*¿ Es falta memory, o es olvido voluntario del autor?*" One cannot take him seriously if they examine the first tracts to be written on this disease. Gaspar Torrella's first tract (1497), gives five ointments containing mercury for its treatment; Wideman (1497) gives two such formulae; Corradino Gilinus (1497) describes

the use of a sublimate and quicksilver. So does Natalie Montresaurus (1498). From far-off Vienna, Bartholomeus Steber (1497) likewise recommends a mercuric ointment. Right under his nose in Spain, and in his own tongue was Francisco Villalobos (1498), also writing of such treatment. In fact mercury for the treatment of this disease, springs at one from all directions simultaneously. There is therefor no excuse except ignorance of continuing the fables attributed to Benvenuto Cellini, or Fallopius, that it was a drug first used by the brilliant Berengarius da Carp, one of those who advocated fumigation, or the unconventional Paracelsus. Fifteen added to 1493 would place his date for the discovery of the virtues of mercury, at 1508, or eleven years after the books just mentioned. Was this the year he would have us believe that Gonzalo Diaz, the blanket weaver, introduced his ointment at San Salvador! Was this the year he treated the gouty patient, one of his early cases from the island of Haiti!

Ruiz de Isla puts at rest any questions that may arise in our minds as to the nature of his discovery, for he furnishes us at the end of his work, a whole chapter devoted to his early experiences with mercury. Throughout his book he lauds its marvelous properties. In his Antidotario he informs us that mercury is the sole cure for the disease. His chapter 12, is given over entirely to uncovering these secrets of mercury, unknown to him the first fifteen years.

Chapter Twelve
The Qualities and Effects of Mercury

When this island disease began, says Ruiz de Isla, it was a disease never seen until that time and suitable remedies to apply to it were unknown, and after experience with many medicines in an immense number of people it was found that in some manner mercury had some action beyond any other medicine. Furthermore until his time there had been ignorance of the quantity to produce benefit in each complexion, and also its action

might produce great damage if given in excess of that required in the rectification of each species. And ignorance of these two things caused mercury to get a bad name.

He quotes Paulus and Plateario that it is a metal hot and moist in the fourth degree, which he thought more probable than the opinion of those who classed it as cold, "for it opens up, frees the humors, is evaporative, purgative, and provokes the sweat, which are the operations of a hot medicine." And this is why it is said to be of the fourth grade, it having the properties of similar medicines used for these purposes. They are very good, bring great relief, and benefit the health of the body, but, if given in greater quantity than necessary, they produce serious symptoms, and are swiftly followed by death. And this was also a cause for its bad name; for these hot medicines of the fourth degree, if they are administered when the body has need for them, are beneficial and restore the health, but if administered for any other disorder they are fatal.

"Mercury has an action with which nothing can compare, for I happened to anoint three or four times an arm that was merely aching, and there followed such a salivation by mouth that it lasted for thirty days. For this I found no reason.

"Mercury is also beneficial for the virtue it has against leprosy, which is of a melancholic material, and it being hot throws off the evil complexion of the humors that are cold. These are opposites, for its quality is heating, and it thins out the materials and prepares them for the faculty that ejects them from the superior places, and, as this disease is an over-filling of the members, this medicine by heating the materials, is able to correct the humors, and in this way they are repelled, carried off to the mouth, from where they are dismissed."

Here he quotes John de Vigo, from his Book V. *De Morbo Gallico.*

Continuing he says he has used mercury in the gouty, in epilepsy, and in palsies, which conditions he says,

supervene in the Serpentine Disease. Then he proceeds to an account of his alleged discoveries.

There came under his observation a man who had been made to believe that mercury would cause a numbness of the members. Who, being imprisoned, decided to use it to escape the pains of torture, "and in order not to feel the torture, drank a libra of quicksilver, which in five or six days produced a salivation simularly as if using the ointments." Ruiz de Isla was called to treat him, and as he seemed to suffer no observable ill effect, he reached the opinion that had mercury been hot or cold in the fourth degree the man should have died, because so great the quantity he drank by mouth, and because of those things hot or cold in the fourth degree, one ounce would appear to be enough to kill.

Then he began to consider how it was given for indigestion, "and I did know how the Moors of Arabia, Persia, and India took it and drank it by mouth for many sicknesses, as for fevers, such as for bubas and any bad ulcers, of which I was well informed by persons who were aware of it, they having taken it by mouth for the sickness of the bubas at the hands of these Moors, and I was told the method how they gave it, principally by a person upon whom it had made a great cure, who told me how they gave the said mercury to take two times a day, a half ounce in the morning, and a half ounce in the evening, and it produced a salivation that lasted for fifteen days. It readily healed the said disease of the bubas that he had, and considering all these things, I decided to experiment with it, and I determined to give it by mouth, and I did treat more than one hundred persons, in whom it produced a salivation, neither more nor less than with the ointments. These, after the passing of the salivation, were restored to a good appetite for food, well disposed, began to put on flesh, and did remain very healthy.

"Among those persons whom I treated, there came to my hands a man sick of the disease of the Island of Española, who had suffered this a long time, and was

then sick of the gout, and who had not stopped to consider that this sickness was the beginning of the gout. I gave him mercury by mouth in order to cure the sickness of the island that he had contracted at that time, which sickness I healed with mercury, and he received very great improvement in the disease of the gout, which probably had its beginning then, for he certainly told me many times that he had been strongly seized with the disease of the island. Since then he has recovered of his gout."

He goes on to recite another case: That of a young man who slept one night in a tight buskin, and contracted an ulcer of the leg so large and serious that he did not think that it could be cured in six months. But by applying a powder of mercury he was able to cure the ulcer in every way, and to perfection in thirty days, after which he extended its use to divers diseases, such as scrofulas, the paralyzed, bad ulcers, and the like.

Of the administration and degree of the remedy he says: "And of that which concerns this disease I chose from two facts. First, for the action attained through one ounce externally, there is needed one half libra internally, and, being able to obtain this action externally with ten maravedis I find it superfluous to expend eighty for internal administration, which according as I have said, I gave to drink. And second, though I began to concur with the people who give mercury to drink, I had fear of this being censurable. By such employment and resulting action, it is demonstrated that mercury is not poisonous nor so very cold or hot in the fourth degree, as all the doctors have written, because those medicines of the fourth are mortifying. I gave mercury to many persons, six, eight, and ten ounces to consume by mouth, and no harm I saw of it. Moreover, by the specific virtue that God has placed in it, it is easily evacuative, vaporizing, and purgative of the humidities of the body, which are cast off without producing harm to the body, because of which I believe that the doctors who classify it for hot or cold do not know the truth of its virtues, for should

it be in the fourth, one ounce would be sufficient to cause harm, and I think the reason they believed it hot or cold in the fourth was this: In all things their practice follows precedent, and they judge the qualities of quicksilver by their experiences with it upon our human health. Thus, of no disease is there written any directions for treatment with quicksilver, except in some sarnas of the genera of scabies, for which the doctors write many remedies compounded of quicksilver for these same sarnas, which appear for the most part in the bodies of the sanguine, for it is the blood of the body, in scabies, that is corrupted. Quicksilver in these hot corruptions works most sharply, and very soon there comes a medico and he makes an ointment in which he puts two drachms of quicksilver, and gives it to one sick of scabies who anoints himself with it. Then, as the quicksilver is very subtile in those of this hot temperament, this medicine works quickly in them, and heats the ways and passages of the body and makes the defluxion (reuma) come forth through the mouth, and swells the mouth about the nose, and ulcerates the tongue about the edges, according to the peculiar quality possessed by quicksilver, yet this does not happen to the physician twice in a lifetime. Consequently he thinks that it was a great poisonousness of quicksilver that was the cause of it, and this seemed a dreadful thing to those who did not understand how, and in what manner it worked, only seeing in the patient what they considered a serious condition to unexpectedly appear in the mouth. Then, says the physician, either the medicine is very strong or it is poisonous, that so little quantity placed in an ointment, has such a serious action in the body. And from this action and these experiences observed by them in the use of quicksilver, they classed it, some for cold, and some for hot in the fourth degree, and the manner they write of this quality was the reason the physicians speak evil of it. This sickness, the bubas that had newly happened, was not considered by the physicians to have newly come to the world, and who nevertheless obtained the foregoing result with two drachms."

From here the chapter continues, explaining the remarkable virtues of mercury. The best testimony that the book was well received is the fact that in three years it was produced in a second edition, and along with other evidences of applause for his bold stand on the virtues of mercury, was the Latin poem by the surgeon and bachelor in medicine, Francisco Medina, adorning the second edition. Aside from his enthusiasm for the specific properties of mercury, he gained much profit from it, for elsewhere he says that he had gained more than 2,000 ducats from its use (*E no quiere mas decir del mercurio, sino que con el he ganado mas de doce mil ducados*).

In this chapter he claims that the doctors did not consider the bubas a new disease, and he considered his late species to be due to a chronic condition, peculiar to the serpentine sickness. This he has persuaded us did not reveal itself to his comprehension until fifteen years after the date he considered that it first appeared. Could this person who suffered from gout, a sequel to the disease of the island of Española, have been the Pilot of Palos named Pinzon, one of those persons of the first armada to whom he refers. This is the first person from the island he mentions as being treated with mercury, and it is clearly evident from his treatise that his ointments of mercury found their greatest employment in the second species, which appeared usually in from 2 to 20 years after the original infection.

Chapter Thirteen, Of All the Doubts

This chapter extends through four folios and is devoted to explaining some 19 doubts which he has indicated in the text. These controveral items are marked in the margin of the text with suitable letters, and by referring to this chapter, a corresponding letter will be found indicating where the explanation of each doubt may be found. Six of these letters appear in the Prologue and Prohemio, and their explanation consumes nearly one half of the chapter. The Doubts are marked A to V, the letters J, K, and U, being omitted. Briefly they are the following:

A. This has to do with the emblem on the title page. He had intended to illuminate this page with the image of Our Lady, and a replica of an alter-piece from the Hospital of All Saints, depicting the Saints Cosmos. Both of these he had supplicated for favor in the preparation of his treatise, which from the first to the last letter was the fruit of his work at the famous hospital. He is not sure of the date Don Manuel foundered the hospital, and he leaves the year blank, and furthermore, not being able to secure the emblems for the title page (which he hopes he may secure for a future edition) he substitutes for them the arms of the Royal House of Portugal.

B. This is an apology for dedicating his work to King John III of Portugal. He being a citizen of Seville, and the work being printed in Seville, it might strike some as singular that the book might be dedicated to a king not his master. He explains this on the basis that the treatise is from first to last the fruit of his experience at the hospital of All Saints. It is here that he tells of his service at this hospital in 1524 and 1528.

C. This is devoted to a special praise of King John III, who not only maintained the benevolences foundered by his father, King Manuel, but increased them with great solicitude, as well as the salaries of the officials.

D. Here he undertakes to explain why he stated the Hospital of All Saints was the best equipped hospital of all Europe. This is a long item, describing the hospital in detail, its revenues which were obtained from two cities in Africa; the interest of the Royal House of Portugal in its benevolences: its religious staff, consisting of 12 chaplains, 1 cure, 1 theologian preacher, 2 sextons and 1 organist; its professional staff consisting of 2 physicians, 2 surgeons, and 1 master who treated the serpentine sickness, a well provided drug room, and suitable attendants. It is evident from this chapter as well as elsewhere that the work was not all written at the hospital. Although he repeatedly says that the book from the first to the last letter was written at the famous hospital, almost immediately he may tell of something that pertained or hap-

pened at the time he resided there. Four times on this folio he speaks of the time he resided at the hospital.

E. Asserting in his Prohemio that the hospital of All Saints treats more cases of his serpentine disease than any other hospital in all Europe, he seeks to impress his readers with the fact that the work is the fruit of an experience in one of the foremost institutions of Europe, and therefore he speaks with authority as well as an abundance of clinical experience. His work is not the treatise of some irresponsible rustic lacking in standing and experience.

F. He explains why he has stated that the disease is lighter in laborers than in those of noble blood, as by their toil, the former sweat at their labors, which helps to purge and purify their humors.

G. This is the much discussed doubt about which has been constructed the theory of the Haitian origin. In this explanation he produces for the discerning the evidence that the holy wood having come from Española among a very ignorant people, is proof that the disease was known among them for a long time, and had its origin in this island.

H. In this doubt he tells how the women of Spain used the words "malas bubas" in their maldictions 10 years before the disease made its appearance.

I. Having said that the first species is characterized by bubas and botors, and that there were no ulcers, as these were a characteristic of the second species, and, fearing some will deny this, pointing to ulcers beneath the prepuce and in the shameful parts of women, as well as the scrotum, thighs and other parts *where one buba rubs against another,* he explains that in this case the botors ulcerate, *the cause being extrinsic.* On the other hand in the second species there are no botors.

L. Here he explains the essential distinction between the second and third species. In the former the pecant humors accumulate in particular places, in the form of apostemata and ulcers. In the third species the peccant humors are diffused generally all over the body and cause

therefore a continued fever (*y assi est buena la diferencia que dize que secunda especie peca particularmente, y la tercera generalmente*).

M. Here he mentions a few exceptions in which the second species had delayed its appearance for more than 20 years. He mentions one case where it was delayed 30 years, another 36 years, and still another 40 years. During his own 40 years experience with the disease, the second species was seldom delayed beyond 20 years.

N. He reiterates that the disease is spread only through contact of the healthy with the "licor" or "virolencia" of a buba of the infected while in the first species. This may result from coitus; from drinking from a jug or ewer after one so infected; and, elsewhere he has said it may arise from sleeping with; wearing the same clothing; or through nursing; the contact being with individuals having the bubas of the first species. His ideas on this subject were far less muddled than his contemporaries (*y por esso digo que si discretamente lo quisieremos mirar/ que todo sale a vna cuenta: que mas me da que toque la buba del doliente enla carne del sano para que se apegue/ que tocalle vn canto de vn jarro que auia tocado en la buba del inficionado y lleuava alli qualquier licor o virolencia que todo sale a vna cuenta*).

O. On the eating of fruits by those of the good complexion while suffering the first species. He regards the first species lightly among this class, and is more liberal than most writers of his time in the matter of the diet.

P. He amplifies what he has said of coitus and its dangers in his prognostication of the second species. Men who have passionate women die of the sickness, and men who will not observe continence, cannot expect a good cure.

Q. He speaks of his changed views in the matter of the laxatives. For more than 30 years he observed the employment of the laxatives in the company of great physicians, especially at the famous hospital, a method he also had employed for more than 30 years (*lo qual segun que lo he escrito yo vse por mi y en compañia de grandes*

fisicos: *especialmente en el famoso ospital*: *el qual modo y intencion yo vse por mas de xxx anos*). But now, as a result of 40 years experience with the disease, 30 years of which he employed them in the company of great physicians, and, his experience the past 10 years during which he had omitted the custom of purging the sick, having found no benefit to result from it, so now he advises that it be omitted entirely. He points out here, that he had described the use of laxatives in the treatment of the second intention of the second species, and takes occasion to explain his reason for leaving this in his work, saying that the book portrays and is the fruit of his experience at the famous hospital, and therefore he had eliminated nothing. This accounts for the difference between what he had written in the second intention of the treatment of the second species (chapter 4), and the 4th precept of the General Rules, (chapter 9), the latter being his practice the last 10 years. In this final summing up he states plainly that his acquaintance with his serpentine disease does not antedate the year 1497. He repeatedly states, both in the final entry of his book, and in chapter 9, where he deals with the 4th precept, that he has had 40 years experience with the disease, and as the book was published in 1539, having passed the certificate of license in 1537, we can accept his statement that he began his experience at earliest in 1497. Furthermore in clearing up the doubt "B", he states that the last period of service at the Hospital of All Saints was in 1528, the inference being that from about this time, until 1537-39, the last 10 years, he had abandoned the use of the laxatives (*y digo assi que yo a XL años que curo desta enfermedad*: *assi por mi como en compañia de grandes fisicos y los XXX anos acostumbramos lo que escriuo en la secunda intencion del capitulo iiii y de X años aca he tenido por costumbre no purgar ningun enfermo segun que lo digo en el quarto precepto y regla general de lo qual me he hallado muy bien y por tanto aconsejo alos pacientes que huyan y aparten de si toda pocion y laxatiuo porque como dicho tengo ningun prouecho he*

visto dellos: y porque este libro se hizo y alcanço dende la primera letra hasta la postrera en el famoso cspital segun que es declarado en el prologo y prohemio y segun que en el fue acabado no se ha de tirar del ninguna cosa dexo estar scripta la secunda intencion del capitulo quarto y scriuo la regla quarta que es lo que yo he hallado bueno y acostumbrado de diez años a esta parte: porque como digo en el prologo en el primera dubda que en este tratado no tenga de quitar cosa ninguna).

R. Here he claims that if the antecedent material is well evacuated by the ointments, the conjunctive materials are easily thrown off by cabbage leaves, and the observance of the general rules.

S. This is a discussion of the 4th rule of the Universal regimen, and relates to the limitation of the anointments in those who are not brought to a salivation after 18 anointments, which, as has been stated is the limit in these cases.

T. This identifies argentum vivum, mercury, and azogue as the same thing wheresoever found in the text. He uses perhaps most frequently the name of arabic origin, azogue.

V. This doubt refers to a statement he made in chapter 8, wherein he says, when using the ointment, it is unnecessary to force the patient to sweat. He admits sweating brings about splendid results, but mercury is able to accomplish its work without the aid of sweating.

A DIOS GRACIAS
fue impresso en la
muy noble y muy leal ciudad de Seuilla
en casa de Dominico Robertis impressor
de libros. Acabo se a veynte y siete
de setiembre año de M. D. xxxix.

Some Comments

The oft repeated statement that Ruiz de Isla wrote his book in 1504, or 1506, or 1510, or 1520, is an interpolation of the nature of a guesstimate not supported by evidence.

The frequently reiterated statement that he dedicated

his book to King Manuel of Portugal is easily shown to be at variance with the facts.

The statement that Montejo discovered the manuscript of Ruiz de Isla (codex, p. 42) is shown to be a very crude misstatement by reference to the Third Thesis of Montejo's paper.

The oft repeated statement that the disease was seen in Vicente Yañez Pinzon, or in Martin Alonzo Pinzon, one of them being treated by Ruiz de Isla at Barcelona in 1493, is a scandalous interpolation without support in either evidence of circumstance in time, place, or person.

The oft repeated statement that Columbus sailed his two surviving caravals, or either one of them, to Barcelona upon return from the first voyage of discovery, is an interpolation without support in fact or circumstance. The attempt to substitute a traditionalism for the corroborated contemporary evidence of an overland journey, as given by his son, is unwarranted.

The myth of "the disease we call French," accredited to Roman Pane, is founded on a circumstance which occurred the *second* voyage, is therefore anachronistic with the statement of Ruiz de Isla that the disease was brought to Barcelona by Columbus the *first* voyage in 1493, and, according to the direct testimony of the physician who personally examined the Indian in question, his affliction with a disease of any kind is an interpolation without any foundation in fact.

Ruiz Diaz de Isla it at his best in describing his personal experience with the disease as he encountered it at the Hospital of All Saints, at Lisbon, Portugal. His experience is carried right down to at least the date of the license to print (1537). The long time he had the book in preparation brought about many seeming contradictions of fact and opinion.

Montejo has made much of his statements that the work was written from the first to the last letter at the Hospital of All Saints, Lisbon. Ruiz makes this statement five times in his chapter Of All the Doubts, and in this same chapter he refers six times to the time when he

resided at this hospital. In his doubts "B" and "Q," and in chapter 9, the 4th and 7th precepts, he shows plainly that his text covers essentially his experience to 1537-9.

In at least two parts of his work he says the use of mercury was known and employed from the beginning. In other places he says its *secrets* were not known until after 15 years, the secret of its action being that it was not hot to the *fourth degree,* and its supposed power to evacuate peccant humors through the mouth. This can refer only to his personal knowledge and experience for he describes how Moors had long been using the remedy in Spain for the bubas, from which employment he took his cue. The evidence is also clear that several of the Medieval surgeons had long taught its alleged property of purging peccant humors through the mouth.

He says he had seen a writing in 1504 on the properties of guaiacum, mapuan, and tuna, and then repeatedly states that guaiacum did not come into use for the disease until after 20 years.

In the first chapter he tells how it spread from sick to clothing, to wash-water, to garden vegetables, to animals, surviving through casual or indirect means to reinfect people, and then in the second chapter he says it can only be communicated through contact with the licor or violencia of a buba of the first species, during the period of one year or less. Thus he placed a time limit upon its infectiousness.

In the chapter on origin he describes the empeyne as the same disease as mentagra, or the ancient disease of Pliny. In the next chapter he cites its infectious character, describing how the empeyne, through contact, gave rise to a first buba in the hand. Further on he describes the empeyne as that form of the Serpentine disease arising from the melancholic humor, his detailed description of the lesion identifying it with the ringworm yaws. A good illustration of the lesion, located in the neck (the same location he describes the infectious lesion of the *mozo*), will be found illustrated as figure 6, Pathology

of Yaws, by Herbert U. Williams (Archives of Pathology, Vol. 20, p. 596-630, Oct. 1935).

He describes crab yaws (see items 11 and 16 of the first species, and item 27 of the second species). He calls them *clavos, grietas* and *piedras.* They are still called *clavos* by natives in Spanish speaking regions. A good illustration as they are seen in Haiti will be found in Williams' paper, the pebbles (*piedras*), lodged in the fissures (*grietas*) of the epidermis (ibid, fig. 10). Recent illustrations of the hand lesions such as he describes, will be found in a recent paper by Ernest I. Grin, entitled, Endemic Syphilis in Bosnia and Herzegovina, a district from which the Stadiots (mercenaries supplied by Venice), were recruited in 1495, and among whom Marcellus Cumanus observed and described the primary sore and secondary eruption of syphilis, during the siege of Navarro, the summer of 1495.

Good descriptions of Gangosa will be found in his account of the second species, briefed as items 12, 13, 14, 15, 16 and 17. This condition was frequently described in the surgical texts of the Middle Ages (See author's paper, Antiquity of Syphilis, Medical Life, June 1935). Modern illustrations of all the varieties enumerated above will be found in W. M. Kerr's paper, Gangosa (at Guam), Naval Medical Bulletin, Vol. 17, p. 188, fig. 1, 2, 3, 4, 5, etc. The identity of yaws with syphilis is clearly described in Admiral Butler's book, Syphilis sive Morbus Humanus.

His conception of the disease as characterized by three stages or species is unique. The first species, which until recent times comprised the so-called primary and secondary stages of syphilis, he regarded as a disease which 98 out of 100 times, was healed within one year without treatment; meaning, of course, the treatment as administered in his day, and directed against antecedent causes. This was the infective stage or species. His second species appeared after an interval of 2 or more years, up to 20, and resulted commonly in what now is generally called the tertiary lesions of yaws and syphilis. His third species

was a continued fever. Some of it was undoubtedly a terminal stage of his second species. Some of it may have been typhus, typhoid, or scarlet fever, or even other acute communicable disease. He gives circumstantial descriptions that might fit any of the three above mentioned diseases. The distinguishing difference between his second and third species was that in the former the peccant humors were seated in some special location, whereas in the third species the peccant humors took possession of the whole body.

He ranked among the first syphilographers who sought for light at the autopsy table. He mentions but one autopsy, and that in connection with suffocating conditions (see item 19, second species). One of these may have been Ludwig's angina, diphtheria, or some other serious condition "such as quinsy" (*como esquinencia*). The other, which happened many times in the famous hospital, may have been a pneumonia, a suppurative pleurisy, or gangrene of the lung. In this latter condition where the suffocation arose from a condition below the neck, the autopsy showed the lung ulcerated and corrupted to a great fetidity. Far afield from syphilis though he might have been, such patient investigations as these have blazed the trail of pathology.

Ruiz de Isla having no experience of his own in Española, had to look elsewhere for his information. As his work was published after the two works of Oviedo, and, as he uses as a clincher the argument that gave the holy wood its name, it seems probable that these works were his source. However, the theory was so prevalent for 20 years before his book appeared, it is possible that he obtained it elsewhere. It was certainly not original with him, and seems to have found a place in his book as an afterthought, making necessary a change in its title after the granting of the license in 1537.

When one reads his description (to his opinion), of the almost trivial character of the first species in 98 out of 100 cases, it is hard to believe he treated any person of the first armada in the first species of the disease,

particularly as such treatment was in the hands of physicians. From the fact that his 40 years of experience with the disease, so frequently claimed by him, would take us back only to 1497-9, it seems clear that those of the armada he claims to have treated could not have been treated by him in 1493, the date he says the disease appeared at Barcelona, but must have been of his second species which he states made its appearance in from 2 to 20 years after the first species. As one reads of the pot-pourri of conditions he included in his second and third species, it is easy to understand how he, like others, may have thought that Martin Alonzo Pinzon died of his Serpentine sickness of the Island of Española. The insurmountable obstacle of the fact that the latter died at Palos, leaves the myth of the sea journey to Barcelona without one of its props; even though the reference to the unknown pilot of Palos, ambiguous as it was, was expunged from the manuscript.

His statement that the women of Spain used a curse of *malas bubas* in their maldictions 10 years before the discovery, is recommended to the consideration of the discerning.

The work of Ruiz Diaz de Isla is of no value in proving a Haitian or American origin for European syphilis. The interesting work of Dohi with its map predicated on de Isla's Haitian myth, throws a smoke screen over the ancient "Lee" of China, and the To-kasa (Chinese eruption), of Japan, which with their gangosa-like lesions existed long before the *mal serpentino* was conceived.

The recent reports of the treponematosis of yaws or syphilis among bushmen, the aborigines of Australia: The strong probability that the disease existed among ancient peoples of America, as set forth by Williams in his review of the evidence of diseased bones, would show that no race of man has been able to escape its ravages. Nor has any continent escaped, all furnishing evidence of an antiquity preceding the first voyage of Columbus. The time is past when we may safely settle the origin of a disease so important, so cosmopolitan, and so endemically distributed

on the basis of a traditionalism. Such traditionalism is an obstacle to the consideration of its antiquity, it has a cretinoid effect upon paleopathology, stunting as well the evolutionary perspective of the social aspects of its peculiar parasitism in man. Until we can recognize this and evaluate the ancient attempts to control this disease, we are in no position to profit by past experience. To merely give a disease a new name is no conquest of it to be pointed to in pride and conceit.

The evolutionary perspective of syphilis reaches far into remote antiquity. Much of its evolution is a result not of changes in its manifestations, but to the evolving of newer theories to explain an improved understanding. A science, the majority of whose books today are obsolete after a period of 10 years, cannot afford to laugh at the theories of its forebears. There is nothing in the recent revival of Ruiz de Isla's work, that refutes the conclusion of Morejon who carefully considered this work more than 100 years ago, and concluded that the origin of European syphilis was lost in remote antiquity. If we might forget all the things we have learned the past 400 years, and particularly the last 30 years, it would be easier to accept Ruiz's humoral theories, and his over-simplified and disoriented theory of origin. With Chinchilla we admire the original character of his work. When he wrote of his own clinical experience, he reached heights unexcelled before his time. When he found himself unable to distinguish between fact and theory he muddled things in a true modern style. It is a human heritage to follow slippery trails in the pursuit of progress, leaving behind dead theories, for Science marches on.

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C. Elkins Library, University of Pennsylvania Museum.
D. Logonian Library, Library Company of Philadelphia.
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