At the invitation of the Italian Government a Conference was held in Rome in November 1932, which was attended by delegates of all the countries above mentioned. A unanimous agreement was arrived at as to the lines on which the work should proceed.

PIRI RE'IS' WORLD MAP AND COLUMBUS' CHART OF 1498

by

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In September 1931, at the 18th International Congress of Orientalists held at Leiden, the well-known orientalist Prof. P. KAHLE of the University of Bonn brought to the notice of his learned audience a singular cartographic document of considerable interest with regard to the discovery of America; to wit, a chart found in the library of the Old Seraglio at Istambul, drawn in 1513 by the celebrated Turkish navigator PIRI RE'IS. This chart shows almost in their entirety the coasts of the New Continent known at that time. The discovery, announced for the first time in an Italian periodical (1) and particularly interesting to us because, according to KAHLE, the outline of the West Indies and the coasts of Paria (South America) is of Columbian cartographic origin, immediately attracted the attention of scholars; but it did not seem possible to broach a discussion worthy of the great importance of the document until a good photographic reproduction of it had been published (2). Such a reproduction, accompanied by numerous illustrations, has only quite recently been put at the disposal of scholars by KAHLE (3) himself; it shows above all, according to the author, that the representation of the West Indies must be considered not only as borrowed from a drawing by COLUMBUS but directly as a faithful and integral copy of the chart made by COLUMBUS on his third voyage and sent to Spain in 1498.

PIRI RE'IS' chart is on a parchment measuring about 85×60 cm. (33 ½×23 ½ in.) and bears a legend giving the author and the date (March 1513). The author is well known for his *Bahrîye* containing a valuable description of the coasts and islands of the Mediterranean, published some time ago (4); he is a navigator and geographer of the first order. The parchment is only the western sheet of a large world map of the nautical type (as is shown by the first glance at the interlacing of the roses), and must probably be identified with that which, as PIRI RE'IS himself states in the *Bahrîye*, he presented to the Sultan SELIM at Cairo in 1517. The other sheets of the world map have not hitherto been traced (5). A long legend on the sheet which remains to us explains that the world map was designed by culling information from a score of charts and world maps compared and reduced to a uniform scale; among the latter, eight are of Ptolemaic origin, one Arab, four Portuguese, and "one chart which COLUMBUS

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(1) P. KAHLE: Impronte colombiane in una carta turca del 1513: *La Cultura Milano-Roma*, 1931, *pp.* 774-85.

(2) *The* Illustrated London News *published a rather mediocre reproduction of it in its issue of* 27th *February* 1932.

(3) P. KAHLE: Die verschollene KOLUMBUS-Karte von 1498 in einer türkischen Weltkarte von 1513. *Berlin-Leipsig* 1933, *with* 9 *plates. Cf.* (*also by Kahle*) A Lost Map of COLUMBUS *in the* Geographical Review, *New York*, 1933, *pp.* 621-38. *For the discussion*, cf. *among others K. Kretschmer*, Die verschollene KOLUMBUS-Karte von 1498 in einer türkischen Weltkarte von 1513 *in Petermanns Mitteilungen*, 1934, *pp.* 48-50.

(4) Cf. *P. Kahle*, PIRI RE'IS Bahrîye, 2 *Vol., Berlin* 1926; *and* PIRI RE'IS und seine Bahrîye *in "Beitr. zur hist. geogr. Kulturgeogr. Ethnogr. etc." published by M. v. Mzik, Vienna*, 1929, *pp.* 60-75.

(5) *Further information now exists about the chart and other jewels of the library of the Seraglio, published by A. Deissmann*, Forschungen und Funde im Serai, *Berlin*, 1933. *It was Deissmann who brought the chart to Kahle's notice.*

drew in western waters" (1). Further on, the legend states with reference to the West Indies and adjacent coasts that "those coasts and islands which appear on the above-quoted chart, as far as they appear, have been copied from COLUMBUS' chart".

How did PIRI RE'IS obtain possession of COLUMBUS' chart ? He explains this himself when, after briefly relating how COLUMBUS managed to obtain from the King of Spain a few ships to search for land in the west, he adds that his uncle, KEMAL RE'IS, also a navigator, had a Spanish slave who had assured him that he had been "three times in those parts with COLUMBUS". KAHLE adds that KEMAL RE'IS, in the latter half of 1501, when sweeping the western Mediterranean, had captured seven Spanish vessels in the offing of Valencia (2) ; among the prisoners must have been the companion of COLUMBUS, returned from the third voyage in December 1500 and the proud possessor of a chart drawn by the great Genoese. The legend on PIRI RE'IS' chart contains also a brief account of these voyages with COLUMBUS, by the "Spanish slave" — i. e. by an eyewitness ; this statement also is thus of considerable importance.

Before proceeding further, it is well to mention that Christopher COLUMBUS, who in his first voyages had very jealously guarded the most accurate descriptions and particularly the charted outline of the lands he discovered, definitely sent to the Spanish monarchs during the third voyage a chart which, while it was probably intended by the Admiral to remain a secret document, was on the contrary divulged in maritime circles by persons hostile to COLUMBUS. It is definitely known that the Genoese navigator, after calling at Trinidad and the coasts of South America near the mouth of the Orinoco (Paria), followed them for a while then set course directly for Santo Domingo, the city founded in his absence by his brother BARTHOLOMEW, whence on 18th October 1498 he despatched a convoy of five ships carrying malcontents and rebels ; he took this opportunity to send a narrative of his voyage and a chart of the new lands discovered. We know nothing of the nature of this chart, but it must have contained fairly accurate information if, as has been affirmed from a source which cannot be doubted, it was capable of use by other navigators who followed the tracks of COLUMBUS and once more crossed the Iberic Peninsula on the coasts of Paria ; among these, even as early as 1499, was Alonso DE OJEDA, in an expedition which almost certainly included VESPUCCI (3). This chart, then, sent by COLUMBUS to Spain in 1498 must according to KAHLE have been precisely that which PIRI RE'IS substantially reproduced in the corresponding part of his world map ; the latter consequently is, in substance, a copy of an authentic cartographic document of enormous importance, and for this reason is of exceptional value in connection with the history of COLUMBUS' exploits.

But let us see whether this conclusion is really justified.

In the first place we may ask ourselves who it can have been that, having accompanied COLUMBUS during his three first voyages, fell a prisoner to the Turks in 1501 and was able for this reason to transmit to the uncle of our cartographer such a precious cartographic document ? Certainly not a common sailor, because it would be very hard to believe that he would be in possession of the chart. We have an almost complete list of those who were COLUMBUS' shipmates during the first voyage ; if there are a few names missing, they are those of persons fulfilling the humblest duties. Among his companions on the first crossing, there were few who had the good fortune to make the second voyage also ; no person of any consequence made the third voyage as well, to the best of my knowledge (4). Besides, the account written by this presumed companion of COLUMBUS of the voyage which led to the discovery of the new lands, which account as we have stated appears in the legend of PIRI RE'IS' chart, contains a few

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(1) *The words between quotation marks here and further on are the translation of the Turkish text taken from the articles quoted in* (1) *and* (3) *above.*

(2) *This is told by Piri Re'is in his* Bahrîye. *He was probably present on the occasion with his uncle. Among the booty from the captured ships there must have been other things of American origin.*

(3) *Ojeda states himself that he had this chart, and Francesco Morales says that the region of Paria was represented on it. The documents dealing with the existence of this chart have been collected by H. Vignaud in his* Histoire critique de la grande entreprise de Christophe COLOMB, *Paris,* 1911, *Vol. 2, pp.* 541-3.

(4) *On this subject, see the detailed but too incomplete book by Alicia Gould y Quincy,* Nueva Lista documentada de los tripulantes de COLÓN en 1492, *in the* Bol. R. Acad. de Historia, *Madrid, tomes LXXXV* (1924) *to XCII* (1928).

inaccuracies; it is said that COLUMBUS (called KOLON-BO and expressly described as a Genoese), having read in a book that there existed, in the far west, lands and islands rich in metals and precious stones, first offered at Genoa to make a voyage of discovery, then applied to Spain, obtaining two ships from the latter country; that the voyage took place in 1491 (896 of the Hegira) with Gibraltar as point of departure, etc. There seems to be no sign of two successive voyages on which the prisoner with the chart could have accompanied COLUMBUS.

To judge whether the contents of the chart are of direct Columbian origin, we must consider the names and the representation of the land discovered. But in connection with these names it must not be forgotten that owing to the imperfect state of preservation of the chart many of them are hardly legible; their correct restitution on the basis of two or three consonants and vocalic signs, often enough indistinct, is a well-nigh hopeless task. Thus, for example, the names given to the various islands forming the group of the Azores are so travestied that not a single one can be identified. Whether PIRI RE'IS misread them on account of his lack of familiarity with the Latin script or through bad preservation of his original or whether he had the latter transcribed by others and afterwards transcribed it badly into Turkish, the fact is that a good number of names are irremediably travestied (1). This circumstance also encourages us to be prudent; at the same time, as we shall see, a few names of certain Columbian origin can unquestionably be read on the chart.

But let us proceed without further delay to the investigation which interests us the most, i. e. into the shape of the lands discovered by COLUMBUS. If we suppose that our chart was copied from that sent in 1498 with the object of showing the lands discovered during the third voyage, thus chiefly the island of Trinidad and the coast of Paria, these are the lands which will first hold our attention. It has been well established that COLUMBUS made his first landfall on 31st July 1498 at Trinidad, which he recognised as an island, coasting along its east coast and making a landing there; then he gained the neighbouring coast near the mouth of the Orinoco, of which the great masses of fresh water showed our navigator that he was at a country of great extent. The little peninsula of Paria was first of all taken for an island, which he thought of rounding to the southward, but having afterwards found that the south coast ended in a blind alley he altered course to the northward; the expedition made its way with difficulty out of the Serpent's Mouth, sailed for two days along the north coast of Paria, and made Marguerite Island on 15th August.

Now, if COLUMBUS had surveyed, or had had surveyed, these coasts, we should expect to find the island of Trinidad drawn quite close to the coast of the continent, and to find clearly indicated on the latter the slight peninsular bulges of Paria near the mouth of the Orinoco, and, between the coast and the island, the two straits called by COLUMBUS the Dragon's and the Serpent's. On the contrary, on PIRI RE'IS' chart the island which KAHLE identifies as Trinidad (on the basis of the name *Kalewot* which he likens to Galeota, a name given by COLUMBUS to a point of the island) is far from the continent, to the southward of Maria Galante; between the latter and the continent are shown seven or eight other nameless islands. The little peninsula of Paria does not appear in a form recognisable with certainty among the numerous openings of the South American coast, certainly drawn from other data; at the point of this, the nearest land to the island supposed to be Trinidad, opens a wide gulf full of islets which KAHLE identifies with the Macaraïbo Lagoon; the mouth of the Orinoco is at a notable distance to the southward, and opposite to the mouth, but far out to sea (though still nearer to the mouth of the Orinoco than to the presumed Trinidad), is a large island; this latter

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(1) *This is brought out particularly by Kretschmer,* loc. cit., *p.* 49, *who quotes, as a singular example, that the word* Oceano *is transcribed by Piri Re'is* Ovasano, *a term which in a marginal note on the chart (a translation of this note will be found in the above quoted* Geographical Review, *p.* 636) *is explained as a new name created by Columbus and by the Portuguese, which would literally mean* œuf sain ! (*healthy egg !*). *One would think, remarks Kretschmer, that in this case someone had wished by this explanation to hold up Piri Re'is to derision.*

(2) *The identification of Antilia is certain. The name* Kalewot *may rather be read Qalawut as is stated to me by Professor Ettore Risso, in charge of Turkish letters and literature at the University of Rome. I owe to my eminent colleague my sincere gratitude for having been kind enough to read and identify the names and some of the legends of the chart.*

is, further, a legendary island, Antilia (2). We thus have an outline entirely different from what we expected on the basis of the Columbian data and which leaves us very much in the dark.

Another item which naturally draws our attention is the representation of the island of Hispaniola or Santo Domingo. The latter is identified by KAHLE in the shape of a big island (the largest of all those shown on the chart) of nearly quadrangular shape (if a few notable indentations of the coast are neglected), with its greatest dimension in a north and south direction and a chain of mountains in the interior. The identification is based on the reading of two names, the only ones shown on the island, one low down on the left which KAHLE reads *Sandomingo*, the other high up in the middle which reads *Izle destania* (i. e. Island of Spain or Hispaniola); and also on the drawing of a fortress or inhabited place which appears on the east coast and is presumably Isabella. But with regard to the word Sandomingo, which would form a decisive argument, it is in fact illegible, at least on the photographic representation; and the other name appears to be in reality *Gesire... destan* (in place of the dots there is another small word). One cannot do otherwise than observe that around the main island there are other smaller ones the names of which are entirely unknown in the Columbian vocabulary — to the N. E. *Ileusda*, and below it *Barbura ;* to the east, three islets called *Tris matos ;* to the north *San Dani* or *San Dafai ;* and to the N. W. *Sant Marie* (1).

To the southward, at some distance, there is another island characterised by three points or promontories projecting to the N. E., in the middle of which there is an inscription *San Guan batisdo* and which KAHLE, for this reason, identifies as Puerto Rico; it further bears on the east coast the indication of a fortress or habitation near which, on the sea, is written *Islabelle*. Although this name, placed where it is, appears rather to apply to a neighbouring secondary island, one would almost be tempted to consider an exchange with the name of the first little town founded on Hispaniola, and to see, for this reason, Hispaniola in this so-called *San Guan batisdo*. It should be noted in this connection that there is another island with the name of *San Guan batisdo* further to the south, and that between the latter and the former there is another island called *Santelmu*. We are floundering in uncertainty. In every respect the identification of Hispaniola leaves us perplexed, particularly on account of its erratic shape, with its greatest dimension in a N. and S. line; on the most certain charts and sketches of Columbian origin which have come down to us the shape is completely different (2). The drawing which we find here reminds us strangely, on the contrary, of that of an island (or shoal) which appears on the celebrated chart of Juan DE LA COSA off Cuba, against which, in the sea, is found the name Habacoa (3). KAHLE also is bothered by this erratic shape of the island, which he identifies as Santo Domingo; he tries to explain it by the hypothesis that COLUMBUS, having as we have seen identified Santo Domingo with the Cipango of MARCO POLO, kept for the island the more or less conjectural configuration which Cipango had on the charts of the period (for example on BEHAIM'S world map). We shall return to this hypothesis presently.

On PIRI RE'IS' chart, Cuba is shown as an island, but according to KAHLE it must be identified with an extent of coast opposite the presumed Santo Domingo, which would correspond, as has been stated, to the opinion of COLUMBUS who thought Cuba to be a part of the (Asiatic) mainland. The stretch of coast in question shows a slight protuberance, near which again, in the interior, there is a fortress with, alongside it, a name which KAHLE reads *Kaw punta Orofay ;* also, further north, a bending back of the coast line near which is the name *Porta Gande*. Of these two names, the first would be identified with Ornofay, the second with Puerto Grande, the two having been transmitted by BERNALDEZ as localities of Cuba. But here also we meet with difficulties analogous to those in connection with Santo Domingo — the reading of the two names is not, as a matter of fact, certain (4) ; there is not a word said about the fortress in the Columbian documents; other names on the same coast, further south, are also unknown

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(1) *We are indebted for all these readings to Prof. Rossi.*

(2) *The western part of the island which bears the name San Guan batisdo, with its three peninsular protuberances, is, on the other hand, more like the corresponding part of Hispaniola, as drawn for example on the chart by Juan de la Cosa.*

(3) *See the enlargement of this part of the chart by Juan de la Cosa on Plate VII of the book by H. Harrisse,* The Discovery of North America, *London-Paris,* 1892.

(4) *The first name according to Prof. Rossi may be read Kaw Punta Aruni or Arufi or again Arufay ;* Ornofay, *to which Kahle makes it correspond, is only given us by*

in the documents (1). It is true that PIRI RE'IS might have combined the Columbian chart with other earlier cartographic documents, thanks to which he might have been able to make this stretch of coast agree with the coast of Paria.

More serious is the observation made by KRETSCHMER that the shape of the coast-line corresponding to Cuba does not agree with that which one would expect to find from the data available from Columbian annals of navigation. In his first voyage (November 1492) COLUMBUS had sailed for several days along the north coast of Cuba, and on his second voyage (summer 1494) had rounded the point of it nearest Haiti and had recognised it along a very long stretch of the south coast as far as the island he called Evangelist Island (Isle of Pines); however, Cuba must have seemed to him a long thrown-out peninsula rising from the sea and joined to the continent (for this is the impression he got) by a narrow isthmus. An idea may be obtained of this conception by looking at the configuration of CANTINO's chart and that of CANERIO, of a peninsula near the position of Florida, supposing that this peninsula exactly represents, on the charts quoted, a heritage from COLUMBUS' opinion of the continental status of Cuba, as some people, not without foundation, have thought (2). The drawing of the coast in the section which KAHLE supposes to coincide with Cuba on PIRI RE'IS' chart has, on the contrary, no analogy with those mentioned above — nothing, in short, which brings us back to COLUMBUS.

Here we come to a point where it is convenient to draw the reader's attention to another characteristic, shown by PIRI RE'IS' chart in this part, which seems to come from COLUMBUS, a characteristic at which KAHLE also lingers. It concerns those islands on which, near one end, appears a parrot: among these are Antilia, the presumed Santo Domingo, one of the Tris Matos, an island of the group called *Undizi Vergine* (Virgin Islands), etc. This design is not found on any other part of the chart; it would also therefore appear to be of Columbian origin. KAHLE supposes that when COLUMBUS sailed on his first voyage he took with him a chart on which were shown numerous islands in the Atlantic more or less near the track he was proposing to follow; they were legendary islands (one of them was Antilia) the existence of which, as we have already stated, was firmly believed in in the XV century. Thus far, we are on sure ground; that COLUMBUS had at least one chart with him is attested by LAS CASAS (according to him it was a chart based on TOSCANELLI's); we know also that on 25th September 1492 he consulted it thoroughly with Martin Alonso PINZÓN. But according to KAHLE, COLUMBUS, once the new lands were discovered, did not make a survey of these *de novo*, but confined himself to inserting them in the position on the chart which he thought correct, thus introducing additions and modifications; after discovering Hispaniola and identifying it with Cipango which he found already marked on the chart, he kept the shape of the latter on the chart itself with perhaps a few corrections in the drawing of the coasts. Only, so as not to mix up the islands which had all along been marked on the chart with those which he added on the basis of his own discoveries, he marked the first ones with a parrot.

The hypothesis is in truth very tortuous, and it may be remarked against it that this is not a question of a chart brought back from the first voyage but of a chart

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Bernaldez whose text is not certain among the best authorised sources, and is applied to a region (province) of Cuba and not to a point. Porto Grande *on the other hand is found also in Fernando Colombo. See the text of Bernaldez and a small chart of Columbus' voyage along the coast of Cuba* (1494) *with the localisation of Ornofayyet de Puerto Grande in C. Lane,* Select Documents illustrating the four voyages of COLUMBUS, *Vol. I, London, Hakluyt Soc.,* 1930, *pp.* 114 *et seq. It has escaped Kahle that on Piri Re'is' chart, on the sea, between the presumed Porto Grande and the hypothetical Santo Domingo, there are two islands, one of which bears the name* Sant Marie, *which is given us in Columbian sources for an island near the coasts of Cuba (perhaps the present Cayo Largo). But in that case Cuba should rather be recognised in the presumed Santo Domingo. South of the cape which Kahle identifies as Ornofroy, there is, on the contrary, very near it, an island called* Iletar-sumani, *a completely unknown name.*

(1) *There is, for example, to the southward of an unnamed gulf which according to Kahle is the Gulf of Batabano, another fortress bearing the name of Qal'ah-i-Unara (the reading* Unara *is doubtful). A legend referring to it explains that it is the province of Antilia (Vilayet Antilia).*

(2) *Cf.* G. E. NUNN : The Geographical Conceptions of COLUMBUS - IV. The Identity of "Florida" in the Cantino Map of 1502, *New York,* 1924.

drawn, always according to KAHLE's opinion, after the third voyage. If, then, it may perhaps be admitted that during the first voyage, COLUMBUS, instead of making new surveys of the coasts he recognised, was able to correct a chart in his possession to which he attributed great value (that of TOSCANELLI) and complete it by the results of his discoveries, yet it seems quite inadmissible that during his third voyage, wishing to send the Spanish sovereigns a chart of the countries *really discovered by himself* — which chart afterwards served to guide other navigators with complete success across the ocean — he would have left a whole series of fantastic islands, some of which (Antilia, Tris Matos, etc.) he must himself have found to be non-existent, at least at the position shown by the chart.

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The considerations put forward so far seem to me to exclude the possibility of identifying the famous Columbian chart of 1498 with the chart of PIRI RE'IS which we have examined. Nevertheless we hasten to add that the chart in question certainly bears *indications of* COLUMBUS. The most certain of these appears in the representation of the chain of the Lesser Antilles, where a few names, the reading of which is pretty certain, evidently come directly from COLUMBUS, namely Wadluk = Guadeloupe, Usiet (or perhaps better Usita) = Santa Lucia, Santa Maria Galanda = Ste. Marie Galante, and perhaps also Undizi Vergine = Virgin Islands (1).

But are we then to suppose that PIRI RE'IS invented the story of the chart which his uncle had received from a slave, the companion of the great Genoese navigator on his first three voyages ? The honesty and good reputation of PIRI RE'IS lead us to discard this solution. But it may well be admitted that the slave or prisoner exaggerated his status in COLUMBUS' enterprise to give himself importance. It may be thought, for example, that having known COLUMBUS or made a voyage with him (the first or second) and finding himself as well in possession of a chart on which were drawn some lands discovered by COLUMBUS, he spun a yarn about having taken part in all the voyages made by the Ligurian, and PIRI RE'IS, or his uncle KEMAL, assured that the chart originated directly from COLUMBUS, would have welcomed this declaration without checking it — not an easy thing to do anyway.

Coming down to solid ground, it would seem that KAHLE, who has certainly performed a highly meritorious action in drawing the attention of scholars to this chart, would perhaps have been better advised to retain for his work the prudent title given to his preliminary communication, *Impronte colombiane in una carta turca del* 1513 (Columbian touches in a Turkish chart of 1513), a title to which one can be quite agreeable, rather than the too compromising one of *La scomparsa Carta di Colombo del* 1498 *in un mappamondo turco del* 1513 (The lost chart of COLUMBUS of 1498 in a Turkish world map of 1513).

Apart from this, it must be recognised that PIRI RE'IS' chart is a document of the greatest importance because, in addition to the traces of COLUMBUS which we have discussed, the chart, having been drawn up in 1513, bears the drawing of Central America and a considerable part of South America, with elements which probably derive from the voyages of VESPUCCI, etc. The value of the chart will become fully developed when the details have been elucidated ; better still if, as may be hoped, the remaining sheets of the world map should emerge from the depths of the library of Istambul, when it would be possible to make certain and to check, among others, the sources dipped into by the cartographer for the outlines of the other regions of the world which had been newly discovered or recognised.

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(1) *Another name to the north of Samo Cresto, i. e. Qawad or Gawal, cannot be identified.*