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along the Coast of North America,
from Carolina to Newfoundland,
A.D. 1524

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II.

THE
VOYAGE
OF
JOHN DE VERRAZANO,
ALONG THE COAST OF
NORTH AMERICA,
FROM CAROLINA TO NEWFOUNDLAND,
A.D. 1524.

Translated from the original Italian,
BY JOSEPH G. COGSWELL, ESQ.,
Member of the N. Y. Historical Society, &c.

PRELIMINARY NOTICE,

BY THE TRANSLATOR.

THE following paper is a new translation of the letter written by Verazzano, on his return from his first voyage to the Western Continent, giving an account of his discoveries to Francis I. of France, by whose orders he had undertaken it. It is made from a copy of the original manuscript, in the Magliabecchian Library at Florence, which was presented to the New-York Historical Society, by G. W. Greene, Esq., now Consul of the United States at Rome. A translation of part of the same letter is printed in the first volume of the Society's Collections, which was taken from Hakluyt, who followed the original as given by Ramusio; but as that varies in substance in some few instances from the Magliabecchian, and as Hakluyt's translation is throughout obscure and antiquated in language, it seems requisite to publish the one which has been made from the Society's copy. This letter is in itself highly interesting and important, and is rendered still more so from the fact of its being the earliest original account in existence of the Atlantic coast of the United States, nearly the whole extent of which was visited by Verazzano during the voyage described in it. It is worthy of remark, that the name by which the western continent is now known, is not used by Verazzano in the account of his visit to it, owing, probably, to the recent and not universal adoption of it; it is possible even that he was ignorant of its having been applied.

With respect to the comparative authenticity of the manuscript used by Ramusio, and that from which our copy is taken, we have nothing conclusive to offer; we can only say, that the internal evidence is greatly in favour of the latter. Mr. Greene, who took up the whole subject, in an article in the *North American Review*, for October, 1837, remarks, that there are

in Ramusio such variations from the Magliabecchian manuscript, as can only be accounted for by supposing that the editor must have worked the whole piece over anew, correcting the errors of language upon his own authority. Something of the kind was evidently done; the language of the two is very different, and that used in the manuscript from which the present translation is made, has strong marks of being in the very form in which it was moulded by Verazzano. It is throughout just as sailors of little education commonly write; little or no regard is paid to grammar; the sentences run into each other; the subjects are thrown together confusedly; parenthetical clauses constantly break the thread of the narrative, and there are no points from beginning to end. From such a labyrinth of words, it is not easy to affirm that the precise meaning has always been unravelled, but all possible pains have been taken to render the Italian original as exactly and as clearly as the barbarous style in which that is written would admit. The cosmographical description at the close is not found in Hakluyt, and it was not published in the volume of Collections before cited; it is now added, rather on account of the curious evidence it furnishes of the state of nautical science at that time, than of any valuable knowledge to be drawn from it.

J. G. C.

NEW-YORK, JAN. 9th, 1841.

VOYAGE, &c.

CAPTAIN JOHN DE VERAZZANO to His Most Serene Majesty
the KING OF FRANCE, writes :

Since the tempests which we encountered on the northern coasts, I have not written to your most Serene and Christian Majesty concerning the four ships sent out by your orders on the ocean to discover new lands, because I thought you must have been before apprized of all that had happened to us—that we had been compelled by the impetuous violence of the winds to put into Britany in distress with only the two ships Normandy and Dolphin ; and that after having repaired these ships, we made a cruise in them, well armed, along the coast of Spain, as your Majesty must have heard, and also of our new plan of continuing our begun voyage with the Dolphin alone ; from this voyage being now returned, I proceed to give your Majesty an account of our discoveries.

On the 17th of last January we set sail from a desolate rock near the island of Madeira, belonging to his most Serene Majesty the King of Portugal, with fifty men, having provisions sufficient for eight months, arms and other warlike munition and naval stores. Sailing westward with a light and pleasant easterly breeze, in twenty-five days we ran eight hundred leagues. On the 24th of February we encountered as violent a hurricane as any ship ever weathered, from which we escaped unhurt by the divine assistance and goodness, to the praise of the glorious and fortunate name of our good ship, that had been able to support the violent tossing of the waves. Pursuing our voyage towards the west, a little northwardly, in twenty-four days more, having run four hundred leagues, we reached a new country, which had never before been seen by any one, either in ancient or modern times. At first it appeared to be very low, but on approaching it to within a quarter of a league from the shore we perceived, by the great fires near the coast, that it was inhabited. We perceived that it stretched to the south, and coasted along in that direction in search of some port, in which we might come to anchor, and examine into the nature of the country, but for fifty leagues we could find none in which we could lie securely. Seeing the coast still stretched to the south,

we resolved to change our course and stand to the northward, and as we still had the same difficulty, we drew in with the land and sent a boat on shore. Many people who were seen coming to the sea-side fled at our approach, but occasionally stopping, they looked back upon us with astonishment, and some were at length induced, by various friendly signs, to come to us. These showed the greatest delight on beholding us, wondering at our dress, countenances and complexion. They then showed us by signs where we could more conveniently secure our boat, and offered us some of their provisions. That your Majesty may know all that we learned, while on shore, of their manners and customs of life, I will relate what we saw as briefly as possible. They go entirely naked, except that about the loins they wear skins of small animals like martens fastened by a girdle of plaited grass, to which they tie, all round the body, the tails of other animals hanging down to the knees; all other parts of the body and the head are naked. Some wear garlands similar to birds' feathers.

The complexion of these people is black, not much different from that of the Ethiopians; their hair is black and thick, and not very long, it is worn tied back upon the head in the form of a little tail. In person they are of good proportions, of middle stature, a little above our own, broad across the breast, strong in the arms, and well formed in the legs and other parts of the body; the only exception to their good looks is that they have broad faces, but not all, however, as we saw many that had sharp ones, with large black eyes and a fixed expression. They are not very strong in body, but acute in mind, active and swift of foot, as far as we could judge by observation. In these last two particulars they resemble the people of the east, especially those the most remote. We could not learn a great many particulars of their usages on account of our short stay among them and the distance of our ship from the shore.

We found not far from this people another whose mode of life we judged to be similar. The whole shore is covered with fine sand, about fifteen feet thick, rising in the form of little hills about fifty paces broad. Ascending farther, we found several arms of the sea which make in through inlets, washing the shores on both sides as the coast runs. An outstretched country appears at a little distance rising somewhat above the sandy shore in beautiful fields and broad plains, covered with immense forests of trees, more or less dense, too various in colours, and too delightful and charming in appearance to be described. I do not believe that they are like the Hercynian forest or the rough wilds of Scythia, and the northern regions full of vines and common trees, but adorned with palms, laurels, cypresses, and other varieties unknown in Europe, that send forth the sweet-

est fragrance to a great distance, but which we could not examine more closely for the reasons before given, and not on account of any difficulty in traversing the woods, which, on the contrary, are easily penetrated.

As the "East" stretches around this country, I think it cannot be devoid of the same medicinal and aromatic drugs, and various riches of gold and the like, as is denoted by the colour of the ground. It abounds also in animals, as deer, stags, hares, and many other similar, and with a great variety of birds for every kind of pleasant and delightful sport. It is plentifully supplied with lakes and ponds of running water, and being in the latitude of 34. the air is salubrious, pure and temperate, and free from the extremes of both heat and cold. There are no violent winds in these regions, the most prevalent are the north-west and west. In summer, the season in which we were there, the sky is clear, with but little rain: if fogs and mists are at any time driven in by the south wind, they are instantaneously dissipated, and at once it becomes serene and bright again. The sea is calm, not boisterous, and its waves are gentle. Although the whole coast is low and without harbours, it is not dangerous for navigation, being free from rocks and bold, so that within four or five fathoms from the shore there is twenty-four feet of water at all times of tide, and this depth constantly increases in a uniform proportion. The holding ground is so good that no ship can part her cable, however violent the wind, as we proved by experience; for while riding at anchor on the coast, we were overtaken by a gale in the beginning of March, when the winds are high, as is usual in all countries, we found our anchor broken before it started from its hold or moved at all.

We set sail from this place, continuing to coast along the shore, which we found stretching out to the west (east?); the inhabitants being numerous, we saw everywhere a multitude of fires. While at anchor on this coast, there being no harbour to enter, we sent the boat on shore with twenty-five men to obtain water, but it was not possible to land without endangering the boat, on account of the immense high surf thrown up by the sea, as it was an open roadstead. Many of the natives came to the beach, indicating by various friendly signs that we might trust ourselves on shore. One of their noble deeds of friendship deserves to be made known to your Majesty. A young sailor was attempting to swim ashore through the surf to carry them some knick-knacks, as little bells, looking-glasses, and other like trifles; when he came near three or four of them he tossed the things to them, and turned about to get back to the boat, but he was thrown over by the waves, and so dashed by them that he lay as it were dead upon the beach. When these people saw

him in this situation, they ran and took him up by the head, legs and arms, and carried him to a distance from the surf; the young man, finding himself borne off in this way, uttered very loud shrieks in fear and dismay, while they answered as they could in their language, showing him that he had no cause for fear. Afterwards they laid him down at the foot of a little hill, when they took off his shirt and trowsers, and examined him, expressing the greatest astonishment at the whiteness of his skin. Our sailors in the boat seeing a great fire made up, and their companion placed very near it, full of fear, as is usual in all cases of novelty, imagined that the natives were about to roast him for food. But as soon as he had recovered his strength after a short stay with them, showing by signs that he wished to return aboard, they hugged him with great affection, and accompanied him to the shore, then leaving him, that he might feel more secure, they withdrew to a little hill, from which they watched him until he was safe in the boat. This young man remarked that these people were black like the others, that they had shining skins, middle stature, and sharper faces, and very delicate bodies and limbs, and that they were inferior in strength, but quick in their minds; this is all that he observed of them.

Departing hence, and always following the shore, which stretched to the north, we came, in the space of fifty leagues, to another land, which appeared very beautiful and full of the largest forests. We approached it, and going ashore with twenty men, we went back from the coast about two leagues, and found that the people had fled and hid themselves in the woods for fear. By searching around we discovered in the grass a very old woman and a young girl of about eighteen or twenty, who had concealed themselves for the same reason; the old woman carried two infants on her shoulders, and behind her neck a little boy eight years of age; when we came up to them they began to shriek and make signs to the men who had fled to the woods. We gave them a part of our provisions, which they accepted with delight, but the girl would not touch any; every thing we offered to her being thrown down in great anger. We took the little boy from the old woman to carry with us to France, and would have taken the girl also, who was very beautiful and very tall, but it was impossible because of the loud shrieks she uttered as we attempted to lead her away; having to pass some woods, and being far from the ship, we determined to leave her and take the boy only. We found them fairer than the others, and wearing a covering made of certain plants, which hung down from the branches of the trees, tying them together with threads of wild hemp; their heads are without covering and of the same shape as the others. Their food is a kind of pulse which there abounds, different in colour and

size from ours, and of a very delicious flavour. Besides they take birds and fish for food, using snares and bows made of hard wood, with reeds for arrows, in the ends of which they put the bones of fish and other animals. The animals in these regions are wilder than in Europe from being continually molested by the hunters. We saw many of their boats made of one tree twenty feet long and four feet broad, without the aid of stone or iron or other kind of metal. In the whole country, for the space of two hundred leagues, which we visited, we saw no stone of any sort. To hollow out their boats they burn out as much of a log as is requisite, and also from the prow and stern to make them float well on the sea. The land, in situation, fertility and beauty, is like the other, abounding also in forests filled with various kinds of trees, but not of such fragrance, as it is more northern and colder.

We saw in this country many vines growing naturally, which entwine about the trees, and run up upon them as they do in the plains of Lombardy. These vines would doubtless produce excellent wine if they were properly cultivated and attended to, as we have often seen the grapes which they produce very sweet and pleasant, and not unlike our own. They must be held in estimation by them, as they carefully remove the shrubbery from around them, wherever they grow, to allow the fruit to ripen better. We found also wild roses, violets, lilies, and many sorts of plants and fragrant flowers different from our own. We cannot describe their habitations, as they are in the interior of the country, but from various indications we conclude they must be formed of trees and shrubs. We saw also many grounds for conjecturing that they often sleep in the open air, without any covering but the sky. Of their other usages we know nothing; we believe, however, that all the people we were among live in the same way.

After having remained here three days, riding at anchor on the coast, as we could find no harbour, we determined to depart, and coast along the shore to the north-east, keeping sail on the vessel only by day, and coming to anchor by night. After proceeding one hundred leagues, we found a very pleasant situation among some steep hills, through which a very large river, deep at its mouth, forced its way to the sea; from the sea to the estuary of the river, any ship heavily laden might pass, with the help of the tide, which rises eight feet. But as we were riding at anchor in a good berth, we would not venture up in our vessel, without a knowledge of the mouth; therefore we took the boat, and entering the river, we found the country on its banks well peopled, the inhabitants not differing much from the others, being dressed out with the feathers of birds of various colours. They came towards us with

evident delight, raising loud shouts of admiration, and showing us where we could most securely land with our boat. We passed up this river, about half a league, when we found it formed a most beautiful lake three leagues in circuit, upon which they were rowing thirty or more of their small boats, from one shore to the other, filled with multitudes who came to see us. All of a sudden, as is wont to happen to navigators, a violent contrary wind blew in from the sea, and forced us to return to our ship, greatly regretting to leave this region which seemed so commodious and delightful, and which we supposed must also contain great riches, as the hills showed many indications of minerals. Weighing anchor, we sailed fifty leagues towards the east, as the coast stretched in that direction, and always in sight of it; at length we discovered an island of a triangular form, about ten leagues from the mainland, in size about equal to the island of Rhodes, having many hills covered with trees, and well peopled, judging from the great number of fires which we saw all around its shores; we gave it the name of your Majesty's illustrious mother.

We did not land there, as the weather was unfavourable, but proceeded to another place, fifteen leagues distant from the island, where we found a very excellent harbour. Before entering it, we saw about twenty small boats full of people, who came about our ship, uttering many cries of astonishment, but they would not approach nearer than within fifty paces; stopping, they looked at the structure of our ship, our persons and dress, afterwards they all raised a loud shout together, signifying that they were pleased. By imitating their signs, we inspired them in some measure with confidence, so that they came near enough for us to toss to them some little bells and glasses, and many toys, which they took and looked at, laughing, and then came on board without fear. Among them were two kings more beautiful in form and stature than can possibly be described; one was about forty years old, the other about twenty-four, and they were dressed in the following manner: The oldest had a deer's skin around his body, artificially wrought in damask figures, his head was without covering, his hair was tied back in various knots; around his neck he wore a large chain ornamented with many stones of different colours. The young man was similar in his general appearance. This is the finest looking tribe, and the handsomest in their costumes, that we have found in our voyage. They exceed us in size, and they are of a very fair complexion (?); some of them incline more to a white (bronze?), and others to a tawny colour; their faces are sharp, their hair long and black, upon the adorning of which they bestow great pains; their eyes are black and sharp,

their expression mild and pleasant, greatly resembling the antique. I say nothing to your Majesty of the other parts of the body, which are all in good proportion, and such as belong to well-formed men. Their women are of the same form and beauty, very graceful, of fine countenances and pleasing appearance in manners and modesty; they wear no clothing except a deer skin, ornamented like those worn by the men; some wear very rich lynx skins upon their arms, and various ornaments upon their heads, composed of braids of hair, which also hang down upon their breasts on each side. Others wear different ornaments, such as the women of Egypt and Syria use. The older and the married people, both men and women, wear many ornaments in their ears, hanging down in the oriental manner. We saw upon them several pieces of wrought copper, which is more esteemed by them than gold, as this is not valued on account of its colour, but is considered by them as the most ordinary of the metals—yellow being the colour especially disliked by them; azure and red are those in highest estimation with them. Of those things which we gave them, they prized most highly the bells, azure crystals, and other toys to hang in their ears and about their necks; they do not value or care to have silk or gold stuffs, or other kinds of cloth, nor implements of steel or iron. When we showed them our arms, they expressed no admiration, and only asked how they were made; the same was the case with the looking-glasses, which they returned to us, smiling, as soon as they had looked at them. They are very generous, giving away whatever they have. We formed a great friendship with them, and one day we entered into the port with our ship, having before rode at the distance of a league from the shore, as the weather was adverse. They came off to the ship with a number of their little boats, with their faces painted in divers colours, showing us real signs of joy, bringing us of their provisions, and signifying to us where we could best ride in safety with our ship, and keeping with us until we had cast anchor. We remained among them fifteen days, to provide ourselves with many things of which we were in want, during which time they came every day to see our ship, bringing with them their wives, of whom they were very careful; for, although they came on board themselves, and remained a long while, they made their wives stay in the boats, nor could we ever get them on board by any entreaties or any presents we could make them. One of the two kings often came with his queen and many attendants, to see us for his amusement; but he always stopped at the distance of about two hundred paces, and sent a boat to inform us of his intended visit, saying they would come and see our ship—this was done for safety, and as soon as they had an an-

swer from us they came off, and remained awhile to look around; but on hearing the annoying cries of the sailors, the king sent the queen, with her attendants, in a very light boat, to wait, near an island a quarter of a league distant from us, while he remained a long time on board, talking with us by signs, and expressing his fanciful notions about every thing in the ship, and asking the use of all. After imitating our modes of salutation, and tasting our food, he courteously took leave of us. Sometimes, when our men staid two or three days on a small island, near the ship, for their various necessities, as sailors are wont to do, he came with seven or eight of his attendants, to inquire about our movements, often asking us if we intended to remain there long, and offering us every thing at his command, and then he would shoot with his bow, and run up and down with his people, making great sport for us. We often went five or six leagues into the interior, and found the country as pleasant as is possible to conceive, adapted to cultivation of every kind, whether of corn, wine or oil; there are open plains twenty-five or thirty leagues in extent, entirely free from trees or other hinderances, and of so great fertility, that whatever is sown there will yield an excellent crop. On entering the woods, we observed that they might all be traversed by an army ever so numerous; the trees of which they were composed, were oaks, cypresses, and others, unknown in Europe. We found, also, apples, plumbs, filberts, and many other fruits, but all of a different kind from ours. The animals, which are in great numbers, as stags, deer, lynxes, and many other species, are taken by snares, and by bows, the latter being their chief implement; their arrows are wrought with great beauty, and for the heads of them, they use emery, jasper, hard marble, and other sharp stones, in the place of iron. They also use the same kind of sharp stones in cutting down trees, and with them they construct their boats of single logs, hollowed out with admirable skill, and sufficiently commodious to contain ten or twelve persons; their oars are short, and broad at the end, and are managed in rowing by force of the arms alone, with perfect security, and as nimbly as they choose. We saw their dwellings, which are of a circular form, of about ten or twelve paces in circumference, made of logs split in halves, without any regularity of architecture, and covered with roofs of straw, nicely put on, which protect them from wind and rain. There is no doubt that they would build stately edifices if they had workmen as skilful as ours, for the whole sea-coast abounds in shining stones, crystals, and alabaster, and for the same reason it has ports and retreats for animals. They change their habitations from place to place as circumstances of situation and season may require; this is easily

done, as they have only to take with them their mats, and they have other houses prepared at once. The father and the whole family dwell together in one house in great numbers; in some we saw twenty-five or thirty persons. Their food is pulse, as with the other tribes, which is here better than elsewhere, and more carefully cultivated; in the time of sowing they are governed by the moon, the sprouting of grain, and many other ancient usages. They live by hunting and fishing, and they are long-lived. If they fall sick, they cure themselves without medicine, by the heat of the fire, and their death at last comes from extreme old age. We judge them to be very affectionate and charitable towards their relatives—making loud lamentations in their adversity, and in their misery calling to mind all their good fortune. At their departure out of life, their relations mutually join in weeping, mingled with singing, for a long while. This is all that we could learn of them. This region is situated in the parallel of Rome, being $41^{\circ} 40'$ of north latitude, but much colder from accidental circumstances, and not by nature, as I shall hereafter explain to your Majesty, and confine myself at present to the description of its local situation. It looks towards the south, on which side the harbour is half a league broad; afterwards, upon entering it, the extent between the coast and north is twelve leagues, and then enlarging itself it forms a very large bay, twenty leagues in circumference, in which are five small islands, of great fertility and beauty, covered with large and lofty trees. Among these islands any fleet, however large, might ride safely, without fear of tempests or other dangers. Turning towards the south, at the entrance of the harbour, on both sides, there are very pleasant hills, and many streams of clear water, which flow down to the sea. In the midst of the entrance, there is a rock of freestone, formed by nature, and suitable for the construction of any kind of machine or bulwark for the defence of the harbour.*

Having supplied ourselves with every thing necessary, on the fifth of May we departed from the port, and sailed one hundred and fifty leagues, keeping so close to the coast as never to lose it from our sight; the nature of the country appeared much the same as before, but the mountains were a little higher,

* The above description applies to Narraganset bay and the harbour of Newport in Rhode Island, although mistaken by Dr. Miller, in his Discourse before this Society, as published in the first volume of the former series of Collections, for the bay and harbour of New-York. The latter are briefly described in a preceding paragraph of this translation, p. 45, with sufficient clearness to admit of their being easily recognized. The island "of a triangular form, resembling the island of Rhodes," which Verrazzano mentions as fifty leagues to the east of New-York, p. 46, is doubtless Block Island.—Ed.

and all in appearance rich in minerals. We did not stop to land as the weather was very favourable for pursuing our voyage, and the country presented no variety. The shore stretched to the east, and fifty leagues beyond more to the north, where we found a more elevated country, full of very thick woods of fir trees, cypresses and the like, indicative of a cold climate. The people were entirely different from the others we had seen, whom we had found kind and gentle, but these were so rude and barbarous that we were unable by any signs we could make, to hold communication with them. They clothe themselves in the skins of bears, lynxes, seals and other animals. Their food, as far as we could judge by several visits to their dwellings, is obtained by hunting and fishing, and certain fruits, which are a sort of root of spontaneous growth. They have no pulse, and we saw no signs of cultivation; the land appears sterile and unfit for growing of fruit or grain of any kind. If we wished at any time to traffick with them, they came to the sea shore and stood upon the rocks, from which they lowered down by a cord to our boats beneath whatever they had to barter, continually crying out to us, not to come nearer, and instantly demanding from us that which was to be given in exchange; they took from us only knives, fish hooks and sharpened steel. No regard was paid to our courtesies; when we had nothing left to exchange with them, the men at our departure made the most brutal signs of disdain and contempt possible. Against their will we penetrated two or three leagues into the interior with twenty-five men; when we came to the shore, they shot at us with their arrows, raising the most horrible cries and afterwards fleeing to the woods. In this region we found nothing extraordinary except vast forests and some metalliferous hills, as we infer from seeing that many of the people wore copper ear-rings. Departing from thence, we kept along the coast, steering north-east, and found the country more pleasant and open, free from woods, and distant in the interior we saw lofty mountains, but none which extended to the shore. Within fifty leagues we discovered thirty-two islands, all near the main land, small and of pleasant appearance, but high and so disposed as to afford excellent harbours and channels, as we see in the Adriatic gulph, near Illyria and Dalmatia. We had no intercourse with the people, but we judge that they were similar in nature and usages to those we were last among. After sailing between east and north the distance of one hundred and fifty leagues more, and finding our provisions and naval stores nearly exhausted, we took in wood and water and determined to return to France, having discovered 502, that is 700 (sic) leagues of unknown lands.

As to the religious faith of all these tribes, not understanding their language, we could not discover either by sign or gestures

any thing certain. It seemed to us that they had no religion nor laws, nor any knowledge of a First Cause or Mover, that they worshipped neither the heavens, stars, sun, moon nor other planets ; nor could we learn if they were given to any kind of idolatry, or offered any sacrifices or supplications, or if they have temples or houses of prayer in their villages ;—our conclusion was, that they have no religious belief whatever, but live in this respect entirely free. All which proceeds from ignorance, as they are very easy to be persuaded, and imitated us with earnestness and fervour in all which they saw us do as Christians in our acts of worship.

It remains for me to lay before your Majesty a Cosmographical exposition of our voyage.* Taking our departure, as I before observed, from the above mentioned desert rocks, which lie on the extreme verge of the west, as known to the ancients, in the meridian of the Fortunate Islands, and in the latitude of 32 degrees north from the equator, and steering a westward

* In the remainder of this letter, which is chiefly cosmographical, Verrazano shows how many degrees farther westward he had sailed, than the knowledge of the ancients extended, and how erroneous were their notions about the relative proportions of land and water on the earth's surface. As to the first point, the whole calculation it will be observed is based upon an error in estimating his meridional distance, which is too large by nearly one half, and of course his difference of longitude in the same proportion ; but this is no disparagement to his nautical skill, for navigation was in its infancy at the time of his voyage, and he had not the aid of a lunar observation or a chronometer to correct his dead reckoning. Nor does it appear from the letter precisely in what way he determined his ship's progress ; he says only that he took observations of the sun, (probably with an astrolabe as the quadrant had not then been invented,) and that he kept notes of his daily run ; but the whole account, and particularly his deductions respecting the relative proportion of land and water, prove how very imperfect all such knowledge then was. This part of the letter is now we believe, for the first time, translated into English ; in giving it this new dress, we have endeavoured to keep as close as possible to the original, but such is its obscurity and confusedness of expression, that we do not venture to assert we have derived the exact meaning of every passage, still we are confident that no essential idea has been omitted or mistranslated. In the numerical computations the fractional parts are neglected, as they were found to be often wrong, owing most likely to the copyist's carelessness, and as they are not important to the right understanding of the statements.

course, we had run, when we first made land, a distance of 1200 leagues or 4800 miles, reckoning, according to nautical usage, four miles to a league. This distance calculated geometrically, upon the usual ratio of the diameter to the circumference of the circle, gives 92 degrees; for if we take 114 degrees as the chord of an arc of a great circle, we have by the same ratio 95 deg., as the chord of an arc on the parallel of 34 degrees, being that on which we first made land, and 300 degrees as the circumference of the whole circle, passing through this plane. Allowing then, as actual observations show, that $62\frac{1}{2}$ terrestrial miles correspond to a celestial degree, we find the whole circumference of 300 deg., as just given, to be 18,759 miles, which divided by 360, makes the length of a degree of longitude in the parallel of 34 degrees to be 52 miles, and that is the true measure. Upon this basis, 1200 leagues, or 4800 miles meridional distance, on the parallel of 34, give 92 degrees, and so many therefore have we sailed farther to the west than was known to the ancients. During our voyage we had no lunar eclipses or like celestial phenomenas, we therefore determined our progress from the difference of longitude, which we ascertained by various instruments, by taking the sun's altitude from day to day, and by calculating geometrically the distance run by the ship from one horizon to another; all these observations, as also the ebb and flow of the sea in all places, were noted in a little book, which may prove serviceable to navigators; they are communicated to your Majesty in the hope of promoting science.

My intention in this voyage was to reach Cathay, on the extreme coast of Asia, expecting however, to find in the newly discovered land some such an obstacle, as they have proved to be, yet I did not doubt that I should penetrate by some passage to the eastern ocean. It was the opinion of the ancients, that our oriental Indian ocean is one and without any interposing land; Aristotle supports it by arguments founded on various probabilities; but it is contrary to that of the moderns and shown to be erroneous by experience; the country which has been discovered, and which was unknown to the ancients, is another world compared with that before known, being manifestly larger than our Europe, together with Africa and perhaps Asia, if we rightly estimate its extent, as shall now be briefly explained to your Majesty. The Spaniards have sailed south beyond the equator on a meridian 20 degrees west of the Fortunate Islands to the latitude of 54, and there still found land; turning about they steered northward on the same meridian and along the coast to the eighth degree of latitude near the equator, and thence along the coast more to the west and north-west, to the latitude of 21° , without finding a termination to the continent; they estimated the distance run as 89 degrees, which, added to the 20 first run

west of the Canaries, make 109 degrees and so far west ; they sailed from the meridian of these islands, but this may vary somewhat from truth ; we did not make this voyage and therefore cannot speak from experience ; we calculated it geometrically from the observations furnished by many navigators, who have made the voyage and affirm the distance to be 1600 leagues, due allowance being made for the deviations of the ship from a straight course, by reason of contrary winds. I hope that we shall now obtain certain information on these points, by new voyages to be made on the same coasts. But to return to ourselves ; in the voyage which we have made by order of your Majesty, in addition to the 92 degrees we run towards the west from our point of departure, before we reached land in the latitude of 34, we have to count 300 leagues which we ran north-east-wardly, and 400 nearly east along the coast before we reached the 50th parallel of north latitude, the point where we turned our course from the shore towards home. Beyond this point the Portuguese had already sailed as far north as the Arctic circle, without coming to the termination of the land. Thus adding the degrees of south latitude explored, which are 54, to those of the north, which are 66, the sum is 120, and therefore more than are embraced in the latitude of Africa and Europe, for the north point of Norway, which is the extremity of Europe, is in 71 north, and the Cape of Good Hope, which is the southern extremity of Africa, is in 35 south, and their sum is only 106, and if the breadth of this newly discovered country corresponds to its extent of sea coast, it doubtless exceeds Asia in size. In this way we find that the land forms a much larger portion of our globe than the ancients supposed, who maintained, contrary to mathematical reasoning, that it was less than the water, whereas actual experience proves the reverse, so that we judge in respect to extent of surface the land covers as much space as the water ; and I hope more clearly and more satisfactorily to point out and explain to your Majesty the great extent of that new land, or new world, of which I have been speaking. The continent of Asia and Africa, we know for certain is joined to Europe at the north in Norway and Russia, which disproves the idea of the ancients that all this part had been navigated from the Cimbric Chersonesus, eastward as far as the Caspian Sea. They also maintained that the whole continent was surrounded by two seas situate to the east and west of it, which seas in fact do not surround either of the two continents, for as we have seen above, the land of the southern hemisphere at the latitude of 54 extends eastwardly an unknown distance, and that of the northern passing the 66th parallel turns to the east, and has no termination as high as the 70th. In a short time, I hope, we shall have more certain knowledge of these things, by the aid

of your Majesty, whom I pray Almighty God to prosper in lasting glory, that we may see the most important results of this our cosmography in the fulfilment of the holy words of the Gospel.

On board the ship Dolphin, in the port of Dieppe in Normandy, the 8th of July, 1524.

Your humble servitor,

JANUS VERRAZZANUS.