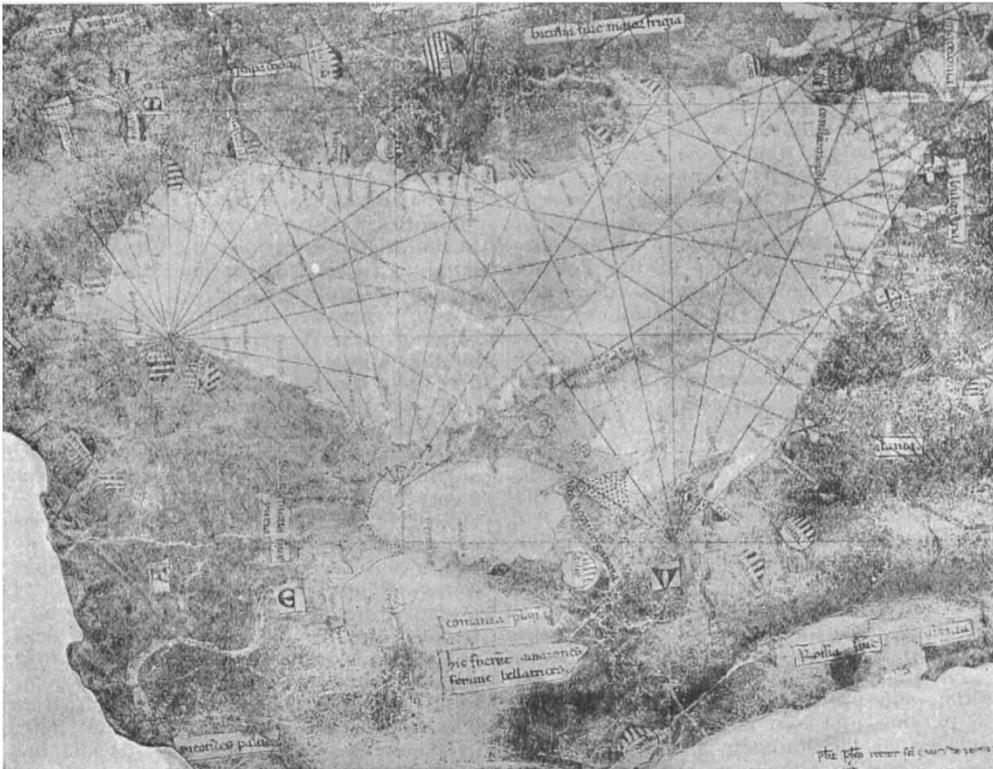


THE DAWN OF MODERN GEOGRAPHY.¹

MR. C. R. BEAZLEY has now published the third and concluding volume of his important work, "The Dawn of Modern Geography." The third volume is "A History of Exploration and Geographical Science from the Middle of the Thirteenth to the Early Years of the Fifteenth Century (c. A.D. 1260-1420)." A summary of the further progress of geographical knowledge through the time of Prince Henry the Navigator until the rounding of the Cape of Good Hope by Bartholomeu Dias and the voyage of Vasco da Gama at the end of the fifteenth century is appended.

Mr. Beazley's work stops short, therefore, with the voyages of Prince Henry's seamen, with which the dawn of modern geography may well be said to have ripened into full morning. He begins this volume

Next in importance is the contribution of the Roman Church. Mr. Beazley well emphasises the great importance of the Roman attempt to proselytise the East during the period of Moslem eclipse by the pagan Tartar power. Already, in the preceding period, of which Mr. Beazley's second volume treated, the tendency towards an alliance of Christendom with Heathenese against the Saracens had come into prominence. The idea of crushing the followers of the False Prophet between the hammer of the Hun and the Frankish anvil had seemed by no means an impossible one. Nor had it seemed unlikely that, with the help of the hordes of Gog and Magog which God had sent forth to do His will, the defeat of the Horns of Hattin might be avenged and the Holy Places restored to Christendom; and why should not the Tartars themselves enter the Christian fold? So



Genoese Map of the Black Sea: A.D. 1300-5. From "The Dawn of Modern Geography."

with the Polos, and they and Friar Odoric are the central figures of the book. Naturally the narrative tends to group itself around persons, and to become a mere summarised account of their doings; there is little scope for hypothesis or argument except in respect to disputed names and sites. The central facts of the period described are the sea voyages of the Italian sailors, Venetians and Genoese, and the land-journeys of the merchants of the two great republics. Mr. Beazley shows how the sea-enterprise of the Spaniards and Portuguese was started and at first directed by Genoese shipmen, and how knowledge of the Further East was increased by the competition of the *mercatori* of the Ligurian Commonwealth and the City of the Lagoons (which, by the way, he insists on spelling "Lagunes").

¹ "The Dawn of Modern Geography." Vol. iii. By C. Raymond Beazley, M.A., F.R.G.S. Pp. xvi+638. (Oxford: Clarendon Press, 1906.) Price 20s. net.

Rome sent forth missionaries to the lands of the Ilkhan, and Western bishoprics arose where hitherto only the heretical Armenians, Jacobites, and Nestorians had maintained a faith of doubtful authenticity amid Moslems and Heathen, and the Greek had not been seen for centuries.

Yet of all this endeavour only one tangible result remained: the increased knowledge of the East which the missionaries transmitted to the West. Mutual doubt born of ignorance, mutual incompatibility, prevented Hun and Frank from understanding one another; the precariousness of the way from West to East made communication difficult, and the divisions of the Papacy led the Tartars to place little faith in the power of Christendom to strike anew from the West. Also, a new spirit had arisen in the world; the merchant had come to power side by side with king, knight, and priest. The ideals of the twelfth

century were out of date to the men of the thirteenth, especially in the Mediterranean lands, where a republic of merchants had deposed an Emperor and parcelled out his lands, using the cry of the Faith as a cloak for their own ambition. And now neither the merchants of Venice nor those of Genoa would give up their *fondaci* of Alexandria or Cairo, and their lucrative trade with the land of the Soldan, the head-centre of Islâm, at the bidding of a Sanuto in order to restore Jerusalem to the temporal dominion of their faith. The days of the Crusaders were over; the Viking spirit from the North that had impelled the warriors of the Cross to set out to battle with the Paynim followers of Mahound was exhausted, and the men of the later day seemed to love the bezant as much as they venerated the Rood. So the Western Tartars turned to Mohammedanism; the light of the Roman missions in the lands of the Ilkhanate flickered and died out, and the only result of this second phase in the intercourse between the Frankish West and the East was the increased geographical knowledge which, in conjunction with the commercial ventures of the time, it brought about. Many ran to and fro, and knowledge was increased.

Many ran far in those days. A journey to Cathay in the thirteenth century must have seemed almost as tremendous as a voyage to the moon would now, and the stories which the travellers brought back of the Chinese must have seemed almost as incredible to their stay-at-home friends as stories of Selenites. Mr. Beazley describes the journeys of the Polos at length, and gives a most interesting epitome of Messer Marco's description of the land of the Great Cham, Kublai. The civilised power, in comparison with which Europe was a den of savages, the posts, the banknotes, the great seaport of Zayton (Arabic *Zêtân*, the modern Amoy); the enormous city of Hang-chau; the mighty Khanbalik or Peking, Coleridge's *Xanadu*, the city of Kubla Khan himself; the distant isles of Zipangu or Japan; all must have sounded incredibly wonderful to the Western ear. Yet that the *Milioni* were not liars was proved by many a witness, contemporary and following shortly after; Monte Corvino the first Roman Archbishop of Peking, Odoric the Friar, Marignolli the Bishop of Bisignano, and many a simple Genoese trader besides. Of all these Odoric is the most interesting, and seems to have gone furthest. For if Marco Polo visited Szechuen, Yunnan, and Burma in his official capacity as a Chinese *Futai*, and was the first to acquaint Europe with these regions, the humble missionary brought back knowledge of the Philippines and of the isles beyond Borneo, and was the first European to visit Lhasa. His description, too, of Cathay is second in interest to that of Polo only. And few things in this description are more interesting than his account of how he, with the Bishop and other missionaries, met the Great Khan (a successor of Kublai) upon the high road and went forth to meet him, the Bishop in cope and mitre, with cross upraised on high, all singing the *Veni Creator*; and how the Emperor raised himself in his palanquin reverently to kiss the sign of salvation; and how Brother Odoric, mindful of the injunction *Non apparebis in conspectu meo vacuus*, tendered to Majesty his humble trencher of apples, whereof the Emperor took one and deigned to eat it.

The Tartar Emperors of the Yuen always treated the Frank Christians with courtesy and showed interest in their religion; it was not until the national Chinese uprising and their replacement by the Ming that Christianity was oppressed, and, very shortly, China was shut to them as completely as two hundred years later Japan was shut to Christian endeavour by the policy of the Tokugawa Shoguns. Just as the

Nearer East was barred by the conversion of the Persian Tartars to Islâm, so was the Further East barred by the accession of a national dynasty to the throne of China. No more Franks visited China until the coming of the ships of Portugal and Holland in the sixteenth century. Here also the progress of geographical knowledge was brought to a halt and the promise of the dawn, temporarily at least, belied.

In the opposite field of operations, however, progress, though slower, was never stayed. As was natural, on account of the then superior state of their civilisation to that of the Franks, the Maghrabi Mohammedans were the first to explore the coasts beyond the Pillars of Hercules, and even discovered Madeira and the Canaries. This we know from the voyage of the Eight *Maghrûrin*, or "Deceived Ones," of Lisbon, then (before 1147 A.D.; on p. 411 Mr. Beazley says 1154 A.D.) a Moslem city. These worthies set forth in a manner strongly reminiscent of the Wise Men of Gotham, who went to Sea in a Bowl, and found Madeira, which they called, not "Al Ghanam" (as Mr. Beazley has it in his note on p. 532: this would mean "the Sheep"), but *Gezîret al-Ghanam*, "The Isle of Sheep." Afterwards they found the Canaries and eventually got back to Lisbon, where the stay-at-home Gothamites mocked at them for "Maghrûrin," and probably for *Majnûnin*, "lunatics," also. However, their isles existed, and in the thirteenth century the Canaries were discovered by the Genoese Lancelot Malocello, from whom Lanzarote took its name.

Mr. Beazley describes the gradual progress of knowledge of these Western isles, the discovery of Madeira by Portuguese under Genoese admiralty, the voyages of Portuguese, Catalans, and French beyond Cape Nun to Bojador, and the French expeditions of Béthencourt and Gadifer de la Salle to the Canaries at the end of the fourteenth century, which, perhaps, are the origin of the unsubstantiated French claim to have discovered Guinea long before the sailors of Prince Henry the Navigator. Mr. Beazley is not indistinctly of opinion that the claim of the seventeenth-century writer de Bellefond that Dieppois sailors (we object to Mr. Beazley's "Dieppèse") traded with the Guinea coast as early as 1364 is unfounded, to say the least of it. He does not enter much into the question of the MS. of "Mr. William Carter," describing these voyages, which, according to M. Margry, in his "Navigations françaises . . . d'après les documents inédits" (Paris, 1867), was lent to M. de Rosny in 1852 or 1853, and has not since been traced. "Mr. William Carter" is a Frenchman's name for a typical Englishman; it savours of "Miss Mary Smith," or the British "M. Jules Dupont" for a Frenchman. But it should not be difficult to ascertain whether there existed sixty years ago a gentleman bearing this name who would have been likely to have possessed such a manuscript. In any case, however, even if found, it would probably turn out to be of seventeenth-century date, and as worthless for history as de Bellefond's own testimony or the ridiculous rubbish of the Zeni (pp. 456-60) about their "voyages" to the North, in which these heroes confuse Friesland with Iceland, and bestow upon "Frisland" a king called "Zichmni," and so on.

Mr. Beazley gives an interesting sketch of Genoese maritime activity, and shows that the Genoese were the founders of map-making with their wonderfully accurate *portolani*, of which he gives several illustrations, all of them extremely good with the one exception of that of the "Veschonte" map of 1311 (p. 513), which is marred by an ugly band stretched

across it; one would have thought that this could have been avoided.

Of English contributors to earth-knowledge at this time there were very few. The wonderful Oxford philosopher, Roger Bacon (to whom Alma Mater ought to put up a statue) certainly knew more about the world than most of us are accustomed to think was known in his time, and was remarkably up to date in his information (pp. 500-507), but there were no others like him, nor were any of our sailors or chapmen discoverers like the men of Genoa or Venice. They were pirates who could gain victories over "Espagnols-sur-mer," but no more. Maundeville, alas, is now well known to be a fraud. - He never existed but in the perverse brain of a Liégeois clerk, John à-Beard, who concocted his tales of "Anthropophagi, and men with heads beneath their shoulders," from the true stories of contemporary travellers and many an antick tale drest up anew. The supposed English "discovery" of Madeira about 1370 by Machin is probably a myth (p. 441). Edward I.'s embassy to the Ilkhan Arghun of Persia in 1291-3 under Geoffrey of Langley (Galfridus de Langele) is interesting, but the ambassador went under Genoese guidance, and the English were out of their element in those parts. A century later an English constable of Guisnes and his secretary took a jaunt to Egypt and the Holy Places, and were no doubt grievously fleeced by the "magnus" and the "alius druge-mannus," and the usual crowd of guides, donkey-boys, and camel-drivers and other demanders of *bakhshish*, much as their descendants might now be. But they saw a giraffe, and no doubt that was worth the money. The trip cost each pilgrim about 250l. in modern value. Such tours were not uncommon at the time: Mr. Beazley mentions some Germans; an active knight who ran out to Jerusalem and back in less than the space of one year, and another, William of Boldensel, who travelled in great state, and was so mighty and great that none dared trouble him for impost or dues of any kind wherever he went. There was also that amusing pedant the Rector of Sudheim, who consorted with none but kings and nobles the whole time he was away, and when he got back no doubt bored the good folk of his Westphalian village to death with them for the rest of his life.

Another German, Schiltberger, was no Boldensel or Ludolf; he consorted with kings, it is true, but as their slave. Captured at Nicopolis, he was the bondman of Bajazet the Turk, and was by the fortune of battle transferred to the servitude of Timur the Tartar. Only after many years of slavery did he escape to his native Germany again. His account of the lands in which he lived so many years, from Egypt to Siberia, is naturally of the greatest value; we wish only that he had told us more. He was but an unlettered warrior.

Of the rule of the second Tartar Empire we have further knowledge from an unexpected source. Of Catalan mercantile activity we have already spoken. The Castillian rivals of Aragon were no traders, and their first contribution to geographical knowledge was due to an embassy to the East like that of the Englishman Langley, but more than a century after his time. In 1403 King Henry of Castille dispatched the noble hidalgo Don Ruy Gonzalez de Clavijo as his envoy to Timur the Tartar, Tamerlane the Great himself, and Mr. Beazley tells us of the terrible journey of the Spanish envoys, across the uninhabited wastes which the terrible tyrant had made, to his court at Samarkand, of what they saw when at last they got there, and how they left on their return shortly before the conqueror set out on his endeavour to rival

Genghis and conquer China, only to die a few stages out of his capital (1405).

In Spain at this time the Moslem kingdom of Granada still existed, shorn of its ancient glory both in war and in science. But Moslems still contributed to the increase of geographical knowledge, and one, from the neighbouring Morocco, was second to none as a traveller and recorder of his travels. This was the wonderful Shêkh Ibn Batûta of Fez, who in the fourteenth century traversed the greater part of the known world, from Peking to Timbuktû, and wrote an account of his travels which, as might indeed have been expected, shows far greater intelligence than most Frankish records of his time. We wish that Mr. Beazley had written more about the Moslem geographers. Yakut is dismissed in three lines (p. 534); Edrisi, in spite of his relations with the Franks of Sicily, has but two pages. It is not enough.

Space forbids further account of the interesting things in Mr. Beazley's last volume. In it there are singularly few misprints, and the author has evidently submitted his Oriental names to the scrutiny of someone familiar with Arabic and Syriac. We have no more "Jesus Jabuses" or "Mar Jabalabas" in this volume, though "Nujmuddin" for the name of an Egyptian sultan is hardly pretty; let us give this "Star of the Faith" his hard Egyptian *gim*, and call him Nigm-ud-din.

The long-needed index has appeared in the last volume, and with its completion let us cordially congratulate Mr. Beazley on the achievement of his work, which is a credit both to him and to his University.

SIR MICHAEL FOSTER, K.C.B., F.R.S.

FIFTY years ago the science of physiology, as now understood, was scarcely recognised. It began in England when the early anatomists added an account of the uses or actions of the several muscles, glands, and viscera to the account of their form and structure. So in the sixteenth and seventeenth centuries each anatomical description was followed by the word *Usus*. True, experiments were practised from the time of Vesalius downward, by Harvey himself, by Redi, and by the Rev. Stephen Hales, and often with brilliant success. The problems of the circulation, of spontaneous generation, and of blood-pressure in the arteries were solved by these admirable experimenters; but their efforts were isolated. Fifty years ago we had in England excellent observers with the microscope, particularly Sharpey and Bowman; but there was no systematic study of the working of the human machine by masters like Johannes Müller, Ludwig and Claude Bernard, and "practical physiology" consisted in little more than examining the tissues under the microscope and exhibiting a few chemical reactions of animal fluids.

The first attempt to teach the new physiology in England is due to Dr. Gamgee, who translated the fifth edition of Hermann's famous text-book. About the same time a scientific physician in London gave up practice for the sake of investigating healthy and morbid functions of plants and animals, as well as man; and a few years later a young country surgeon who had already given hostages to fortune by a wife and two children persuaded his father to let him leave Huntingdon and adopt the fortunes of a teacher of physiology. Dr. Burdon-Sanderson from Edinburgh, and Dr. Michael Foster from Huntingdon, taught, the one pathology (human, animal and vegetable), the other histology and "the use of the microscope." Both were tall in stature and striking