

Since that date the mainland portion of the city has never been rebuilt. Syracuse is the seat of an archbishop, and since 1865 has been the capital of a province, which takes its name from the town. The inhabitants manufacture drugs and other chemical articles, earthenware, &c., and carry on a considerable trade, principally in wine. In 1835 785 vessels of 21,818 tons entered the port and 778 vessels of 21,480 tons cleared. At Syracuse Admiral de Ruyter died in 1676 after his defeat by the French at Agosta. The population in 1881 was 21,157.

See Hare, *Cities of Southern Italy and Sicily* (London, 1883).

SYRACUSE, a city of the United States, the county seat of Onondaga county, New York, 148 miles west of Albany, midway between that city and Buffalo. Syracuse is situated near the southern end of Onondaga Lake (5 miles long by 1 broad), whose waters flow northwards through Seneca and Oswego rivers into Lake Ontario at Oswego. The Erie Canal, flowing east and west, joins the Oswego Canal within the city. Syracuse contains several handsome public buildings,—the county courthouse, the United States Government building, the city-hall, the State asylum for idiots, the Onondaga penitentiary, the county orphan asylum, the asylum of St Vincent de Paul, the high school (containing the central library of 15,000 volumes), a State armoury, &c. Syracuse is the seat of a (Methodist) university, founded in 1870 and consisting of a college of the liberal arts, a college of the fine arts, and a college of physicians and surgeons. The salt industry, to which Syracuse owed much of its early prosperity, is still the staple; the springs situated near the southern end of Lake Onondaga, which appears to be the remains of a once very extensive basin, have been under State control since 1797. Previous to the opening of the Michigan springs they were the largest in the United States, and they still yield on an average from 7,000,000 to 8,000,000 bushels of salt per annum. Rolling-mills, furnaces, steel-works, glass-works, breweries, and manufactories of barrels, agricultural machinery, and clothing are among the secondary industrial establishments. At the completion of the Erie Canal in 1825 Syracuse had only 300 inhabitants; by 1855 they were 25,107, and in 1860, 1870, and 1880 respectively they numbered 28,119, 43,051, and 51,792; in 1886 the number had risen to 81,000, including some adjacent villages recently annexed.

By some investigators it is believed that Lake Onondaga was De Soto's "silver-bottomed" lake. The great tribal fortress of the Onondagas on the east side of the lake near the spot now occupied by Liverpool was attacked without success by Champlain in 1615. The first house on the site of Syracuse was built in 1805. The village, to which the name of Syracuse had been given in 1824, was incorporated in 1825, and the city in 1847.

SYR-DARIA (Gr. and Lat. *Jaxartes*; Arab. *Shash* or *Sihun*), a river flowing into the Sea of Aral, and having a length of 1500 miles and a drainage area of about 320,000 square miles. Incertitude as to its source prevailed until the recent occupation of Turkestan by the Russians. It has now been traced to the Naryn, which has its sources in the heart of the Tian-Shan complex, some 30 miles south of Lake Issik-kul, in the elevated valleys or *syrts* (12,000 feet) on the southern slope of the Terskei Ala-tau. Here under the name of Jaak-tash the river takes its rise amid mountain scenery of the wildest description, partly from the marshy mountain plateaus by which the "Warm Lake" is also fed, and partly from the immense glaciers of the dark and barren Ak-shiriyak Mountains (Petroff and Sir-tash glaciers). After its union with another mountain stream, the Barskaun, it is called the Taragai, and flows west-south-west at from 11,000 to 10,000 feet above the sea, in a barren longitudinal valley between the Terskei Ala-tau and the foothills of the lofty Kokshat-tau. On entering a wild narrow gorge driven from west to east through the south-west continuation of the Terskei Mountains (Samatyn-tau) it receives the name of Naryn. Through this gorge it descends by a series of rapids from

the heights of the mountain massif to a deep valley of the alpine region, its level at its issue from the gorge being reduced by fully 4000 feet: Fort Narynsk, 20 miles below the junction of the Great and the Little Naryn, is only



Map 1 of Syr-Daria.

6800 feet above the sea. Here the river enters a broad valley—formerly the bottom of an alpine lake—and flows past the ruins of Fort Kurtka, for 90 miles westward, as a stream some 50 yards wide and from 3 to 11 feet deep. Its waters are utilized for irrigating Kirghiz corn-fields, which contrast strangely with the barren aspect of the lofty treeless mountains. The Atpasha—a large mountain stream—joins the Naryn at the head of this valley and the Alabuga at its lower end, both from the left. Before reaching the lowlands, the Naryn crosses three ridges separating the valley of Kurtka from that of Ferghana, by a series of wild gorges and broad valleys (170 miles), representing the bottoms of old lakes; the Tonus-torgau, 2000 feet lower than Kurtka, and the Ketmen-tube are both covered with Kirghiz corn-fields. Taking a wide sweep towards the north, the river enters Ferghana—also the bottom of an immense lake—where, after joining the Kara-Daria (Black river) near Namangan, it receives the name of Syr-Daria.² The Kara-Daria is a mighty stream rising in the north-eastern spurs of the Alai Mountains. As it descends the Naryn towards the west again, the natives consider it the chief branch of the Syr-Daria, but its volume is much smaller. At the confluence the Syr is 1440 feet above sea-level.

The waters of the Syr-Daria and its tributaries are in this part of its course largely absorbed by numberless canals for irrigation. It is to the Syr that Ferghana is indebted for its high, if somewhat exaggerated, repute in Central Asia as a rich garden and granary; cities like Khokand, Marghilan, and Namangan, and more than 800,000 inhabitants of the former khanate of Khokand, live by its waters. Notwithstanding this drain upon it, the Syr could be easily navigated, were it not for the Bigovat rapids at Irdjar, at the lower end of the valley, where the river finds its way to the Aral-Caspian deserts by piercing a depression of the Mogol-tau.

On issuing from this gorge the Syr enters the Aral depression, and flows for 850 miles in a north-westerly and northerly direction before reaching the Sea of Aral. On this section it is navigated by stamers. Between the Irdjar rapids and Baidyr-turgai (where it bends north) the Syr flows along the base of the mountain ridges which girdle the Tchothkat Mountains (see below) on the north-west, and receives from the longitudinal valleys of these alpine tracts a series of tributaries (the Angren, the Tchirtchik, the Keles), which in their lower courses fertilize the wide plains of loess extending from the right bank of the Syr. These plains and their rich supply of water have been the

¹ Reduced from Muskhietoff's "Geological Map of the Turkestan Basin," in his *Turkestan* (Russian), 1886, vol. i.

² *Syr* and *daria* both signify "river," in two different dialects.

cause of an oasis of Moslem civilization developing between the barren sands of the Aral depression and the mountain tracts of the Tian-Shan. The Angren rises beneath the highest parts of the Tchothkat range, and its valley is the granary of the region. The Tchirtchik has its origin in the Boroiday Mountains at the junction of the Tchothkat and the Pskem rivers, and at the point where it issues from the mountains it sends off the famous canal Zakharyk; it flows past Tashkend along a valley 20 miles wide, and joins the Syr a few miles below its confluence with the Angren. The Keles comes from the Jity-su Mountains and also brings a large volume of water for irrigation. But owing to wars and continual insecurity cities formerly important have now been abandoned; and near Tchinzat, at the mouth of the Tchirtchik, are the ruins of a large town formerly fortified with high walls, and of *aryks* with manifold ramifications.

Some 50 miles below Tchinzat (770 feet above sea-level) the Syr bends northwards, but resumes its north-westerly course 150 miles farther down, following with remarkable persistency the borders of the loess which fringes the mountains. Its low banks, covered with rushes and rendered uninhabitable in summer by clouds of mosquitoes, are inundated for 20 miles on both sides when the snows begin to melt. These inundations prevent the moving sands of the Kizil-kum desert from approaching the Syr; below Perovsk, however, the "steppe" gains the upper hand. Down to Perovsk the river rolls its muddy yellow waters, at the rate of 3 to 5 miles an hour, in a channel 300 to 600 yards wide and 3 to 5 fathoms deep; at Perovsk its vertical section is 8220 square feet, and 312,500 cubic feet of water are discharged per second. The Arys and the Buguñ are the only tributaries worthy of notice on this part of its course; the other streams which descend from the Kara-tau fail to reach the river. The Kungrad Kirghiz rear numerous herds of cattle and sheep in the valley of the Arys, while lower down, as far as Julek, the Igintchis carry on agriculture. All this applies, of course, only to the right bank; on the left the moistness is absorbed by the hot winds which cross the Kizil-kum sands towards the river. The dryness of the atmosphere makes its influence markedly felt on the Syr when it enters, below Julek, a region where the Kara-kum sands extend on its right. Ten miles below Perovsk the river traverses a marshy depression—the bottom of a lake not yet fully dried up—where it divides into two branches,—the Jandardaria and the Kara-uzyak. The latter spreads out in marshes and ponds, from which it again issues to join the former at Karmaktchi, after a course of 80 miles. The main branch also, owing to its shallowness and sinuosity, is very difficult to navigate, and this is increased by the rapidity of the current and the want of fuel. Between Kazalinsk and the Sea of Aral (158 feet) the navigation becomes somewhat easier, except for the last 10 miles, where the river divides into three shallow branches before entering the "Blue Sea." All three have at their mouths sandy bars with only 3 feet of water, which are often forded by the Kirghiz.

Two former right-hand tributaries of the Syr—the Tchu and the Sary-su—which now disappear in the sands some 60 miles before reaching it, must be mentioned. The Tchu, which is 600 miles in length, rises in the Tian-Shan to the south-west of Lake Issik-kul, and is made up of many streams, of which the Kyz-art, the Juvan-aryk, and the Koshkar are the more important. On their union these form the Koshkar, which flows towards Lake Issik-kul, but a few miles before reaching that lake turns suddenly to the north-west, enters under the name of Tchu the narrow gorge of Buam, and, piercing the snow-clad Kunghei Ala-tau, emerges on its northern slope, having descended from 5500 feet to less than 2000 in a course of not more than 50 miles. In this part of its course it receives from the right the Keles, whose high valley equals in size that of the upper Rhone. It then flows north-west-

wards through the valley of Pishpek, and, avoiding the Muyun-kum sands, describes a wide curve to the north before finally taking a western direction. Numberless streams flow towards it from the snow-clad Alexandrovsk Mountains, but they are for the most part lost in the sands before reaching it. The Tatas, 170 miles long, formerly an affluent of the Tchu, which rises in the highest parts of that range, pierces the Tcha-archa Mountains, and, flowing past Aulie-ata on the south border of the Muyun-kum, enters the salt lake Kara-kul 60 miles from the Tchu. The Tchu reaches the Saumal-kul group of lakes, 60 miles from the Syr, in the form of marshes with undefined channels. Another elongated group of lakes—the Uzun-kul—near the above and 50 miles from Perovsk, receives the Sary-su, which has a length of nearly 570 miles, and flows rapidly in a narrow channel along the west borders of the northern Famine Steppe (Bekpak-dala).

The delta of the Syr at present begins at Perovsk, whence it sends a branch to the south-west, the Yany-daria (Jany-daria or New river), which formerly reached the south-eastern corner of the Sea of Aral, very near the mouth of the Amu-daria. The Kirghiz affirm that a canal dug for irrigation by the Karakalpaks gave origin to this river. It had, however, but a temporary existence. A dam erected by the Khokandese at Ak-metchet (Perovsk) caused its disappearance, and the Russians found but a dry bed in 1820. When the dam was removed the Yany-daria again reappeared, but it failed to reach the Sea of Aral; in 1853 it lost itself in Lake Kutcha-denghiz, after a course of 250 miles; all traces of its bed were then lost in the sand. The Kirghiz legend can only be accepted, however, with very great caution; the present writer is inclined to think that the canal of the Karakalpaks was merely intended to redirect the waters of the Syr into a channel which existed of old, but had been dried up. Certain it is that five centuries ago, in the time of Timur, the Yany-daria brought the waters of the Syr to the Dau-kara Lakes, close by the present mouth of the Amu. The series of old beds in the Kizil-kum, which are still seen above Perovsk, shows that the Syr had a constant tendency to seek a channel to the south-west and that its present delta is but a vestige of what it was in past times. At a still more remote period this delta probably comprised all the space between the Kara-tau and the Nura-tau; and in the series of elongated lakes at the base of the Nura-tau—the Tuz-kane and Bogdan-ata Lakes—we see an old branch of the delta of the Syr which probably joined the Zerafshan before reaching the Amu. The causes of this immense change are to be sought for simply in the rapid desiccation of the whole northern and central parts of Asia, due to the fact that we are now living in the later phase of the Lacustrine period, which has followed the Glacial period. The extremely rapid desiccation of the Sea of Aral is proved even by surveys a few decades old, and this process is but a trifle in comparison with the change which have taken place during the last five centuries: the extension of the Caspian Sea as far as the Sarakamysk lakes during the Post-Pliocene period and the extension of the Sea of Aral at least 100 miles to the east of its present banks are both proved by the presence of Post-Pliocene marine deposits. (P. A. K.)

SYR-DARIA, or SYR-DARIENSK, a province of Russian Turkestan, in Asia, comprising wide tracts of land on both sides of the Syr-Daria river, from its entrance into the Sea of Aral up to Khojend, where it issues from the mountain region of the Tian-Shan. It is bounded on the N. by the Russian provinces of Turgai and Akmolinsk, on the E. by Semirychensk and Ferghana (ex-khanate of Khokand), on the S. by the district of Zerafshan, Bokhara, and the Russian province of Amu-daria, and on the W. by the Sea of Aral. Its area (166,000 square miles), its population (more than one million inhabitants), and its cities (Tashkend, Khojend, Jizak, &c.) make it the most important province of Russian Turkestan; and from its position between the mountain region of Central Asia and the great lake of the west Asian depression it is a region of deep interest for the geographer and geologist.

The south-eastern border of the province runs along the lofty Tchothkat Mountains. This chain, which separates the river Tchothkat from the Naryn, and runs for more than 200 miles from south-west to north-east, joining Alexandrovsk Mountains on the east, raises its snow-clad peaks to an altitude of 14,000 feet. It diminishes in height towards the south, not exceeding 7000 feet in the barren Mogol-tau Mountains, but seems to be continued to the south-west by the Baisun-tau. A series of shorter chains—

¹ For the old beds of the Syr and the Amu, see Kaulbars's "Lower Parts of the Amu," in *Mem. Russ. Geogr. Soc., Phys. Geogr.*, ix. (1881).

the Tatas Ala-tau, the Bishelik, the Badam Mountains, the Kazyk-urt, and the Atym-tau—fringe the above on the north-west, and occupy the south-east corner of Syr-Darinsk. The snowclad summits of the Tatas Ala-tau range from 14,000 to 15,000 feet, and immense glaciers occur about Manas Mountain. So far as our maps show, the range seems to run from west-south-west to east-north-east. The other chains just mentioned have a decidedly south-westerly direction, and are much lower, the outlying ranges having rather the character of broad plateaus, above 2000 feet in height, where the Kirghiz find excellent pasture grounds. Some of them, such as the Kazyk-urt, rise as isolated mountains from the steppe, and have therefore been called Ararats. The Kara-tau is quite separate from the preceding and runs at right angles to them—that is, from north-west to south-east. It belongs therefore to another series of upheavals which prevails in western Asia and to which Richthofen has given the name of the "Kara-tau series." Its length is about 270 miles, and its average height about 5000 feet, rising at some points to 6000 and 7000 feet. It separates the Syr-Daria from the Tchu, and its gentle south-western slope contains the sources of a multitude of streams, which water the oasis around the town of Turkestan. Another range, having the same direction, from north-west to south-east, touches the southern border of Syr-Daria, namely, the Nura-tau (or Nuratyn-tau), also called Turkestan Mountains, which lifts its icy peaks (15,000 to 16,000 feet in height) abruptly from the steppe. It separates Syr-Daria from Zerfashan, and the passes by which it is crossed reach an altitude of from 10,000 to 13,000 feet. Finally, a few islands of metamorphic or granitic rock, called Ararats by the natives, stand isolated in the steppes.

The mountainous tracts occupy, however, only a small part of Syr-Daria; the rest of its wide surface is steppe. Three different areas must be distinguished,—the Kizil-kum, the Muyun-kum or Ak-kum, and the Kara-kum ("black sands," so called more from their desert character than from their colour). The Kizil-kum (red sands) is the most interesting.¹ These sands occupy the wide stretch between the Amu and the Syr, and have a gradual ascent from 160 feet at the Sea of Aral to 1500 and 2000 feet in the south-east. They are covered with numerous folds or elongated dunes (barkhans), partly shifting partly stationary, 30 to 60 feet high, and mostly parallel to each other, amidst which are immense spaces covered with clay, and saline clays appear here and there on the surface. The Kizil-kum varies much in its characteristics. Close by the Sea of Aral it is covered with shifting sands, the result of the disintegration of cretaceous sandstones; and every storm raises clouds of hot sand which render communication exceedingly difficult. But even there a rich verdure covers the undulations in spring. Farther east the sands lose their shifting character, and the barkhans are covered with a kind of *Carex*, which serves as excellent food for sheep. The *Holozylon Anemodendron* grows extensively on the elevated ridges, and yields fuel and charcoal, which last is exported to Bokhara. In the west the surface is covered with remains of Aral-Caspian deposits. As the Tian-Shan is approached the steppe takes another character: a thick covering of loess girdles the foothills and forms the fertile soil to which Turkestan is indebted for its rich fields and gardens.

The Kara-kum sands, situated to the north-east of the Sea of Aral, are manifestly a former bottom of the lake. They are covered with debris of *Cardium edule*, *Mytilus*, *Dreissena polymorpha*, *Neritina littorata*, *Adacna vitrea*, *Hydrobia stagnalis*, with remains of marine *Algae* (*Zostera*), and with fragments of *Scirpus* and *Phragmites*. The Kizil-kum is characterized by the presence of *Lithoglyphus caspius*, *H. stagnalis*, *Anodonta poderosa*, and the sponge *Metchnikowia tuberculata*. The evil reputation of the Kara-kum has been exaggerated to some extent; the harsh things said of it apply only to the neighbourhood of the Sea of Aral. In the east the steppe has some vegetation and is readily visited by the Kirghiz. The barkhans do not shift, being covered with *Calligonum*, *Tamarix*, *Holozylon Anemodendron*, and some rushes; shifting dunes 40 to 50 feet high occur, especially towards the Sea of Aral. The Muyun-kum or Ak-kum Steppe, between the Kara-tau Mountains and the Tchu, is quite uninhabited, except in the loess region at the northern base of the mountains.

Granites, granulites, syenites, porphyries, and various meta-

¹ Comp. J. Mushketoff's *Turkestan*, vol. i.

morphic slates constitute the bulk of the western Tian-Shan Mountains. They appear also in the Kara-tau and Nura-tau, and sometimes in the form of isolated islands in the steppe. Silver and lead ores, as well as malachite and copper ore, are found in them, especially in the Mogol-tau, and turquoises about Khojend. The crystalline rocks, much metamorphosed, especially in the west, are overlain by thick Devonian and Carboniferous deposits. Jurassic rocks (Rhaetic) cover small areas on the slopes of the mountains. These last are all of fresh-water origin; hence it would seem that throughout the Jurassic and Triassic periods Turkestan was a continent intersected only by lagoons of the Jurassic sea. The Jurassic deposits are most important on account of their coal-beds, which occur in the basins of the Badam and Sairam and in Ferghana. Chalk and Tertiary marine deposits are superimposed upon the above to the thickness of 2000 to 5000 feet, and are widely spread, although they have suffered greatly from denudation. The former belong to the Upper (Ferghana deposits, much resembling Senonian) and Middle Chalk, and contain phosphorite, gypsum, and naphtha (in the Amu-Daria basin). The Tertiary deposits, which contain gypsum and lignite, are represented by nummulitic sands around the Sea of Aral, and by Oligocene and Miocene (Sarmatic) deposits. In the Tian-Shan the red Tertiary conglomerates (Pliocene?) attain a great development. Throughout the Chalk and earlier Tertiary periods the lowlands of Syr-Daria were under the sea. The character of the region during the Post-Pliocene period remains unsettled. To what extent the mountains of the western Tian-Shan were under ice during the Glacial period remains a subject of controversy among geologists; many deposits, however, have been described, even in the outer parts of mountain tracts, which have a decidedly glacial character. A girdle of loess, varying in width from 30 to 50 miles, encircles all the mountain tracts, increasing in extent in Bokhara and at the lower end of the valley of Ferghana. It seems certain that during the Lacustrine period the Caspian was connected by a narrow gulf with the Aral basin, which was then much larger, while another inland sea of great dimensions covered the present Balkash basin, and at an earlier period may have been connected with the Aral basin. Recent traces of these basins are found in the steppes.

The chief river of the province is the SYR-DARIA (see above), with its tributaries. The frontier touches the eastern shore of the Sea of Aral, and numerous small lakes, mostly salt, are scattered over the sandy plains. A few lakes of alpine character occur in the valleys of the hilly tracts.

The climate of Syr-Daria varies greatly in its different parts. It is most severe in the high treeless *syrtis* of the mountain region; and in the lowlands it is very hot and dry. As a whole, the western parts of the Tian-Shan receive but little precipitation, and are therefore very poor in forests. In the lowlands the heat of the dry summer is almost insupportable, the thermometer rising to 111° Fahr. in the shade; the winter is severe in the lower parts of the province, where the Syr remains frozen for three months. The average yearly temperature at Tashkend and Kazalinsk respectively is 54° and 44° (January, 28° and 2°; July, 80° and 76°).

The flora and fauna belong to two distinct regions,—to Turkestan and to the Aral-Caspian depression (see *TURKESTAN*). The terraces of loess mentioned above are alone available for culture, and accordingly less than 1 per cent. (0·8) of the total area of the province is under crops, the remainder being either quite barren (57 per cent. of the surface) or pasture land (42 per cent.). Although cultivation is possible only in a few oases, it is there carried to great perfection owing to a highly developed system of irrigation,—two crops being gathered every year. Wheat and barley come first, then pease, millet, and lentils, which are grown in the autumn. Rye and oats are grown only about Kazalinsk. Cotton is cultivated in the districts of Khojend, Kurama, and Turkestan. Gardening is greatly developed. Sericulture is also an important source of income, nearly 85 tons of silk being produced every year. Cattle-breeding is largely pursued, not only by the nomads but also by the settled population, and in 1881 it was estimated that Syr-Daria had 242,000 camels, 396,000 horses, 294,000 horned cattle, and 3,200,000 sheep. Fishing is pursued to some extent on the lower Syr. Timber and firewood are exceedingly dear; timber is floated down from the mountains, but in small quantities; trees raised in gardens, dung, and some coal (the last in very limited quantity) are used for fuel.

The population of the province amounted to 1,109,500 in 1881, of whom 146,300 lived in towns, 326,600 were settled, and 621,600 were nomadic. It is comparatively dense in certain parts, reaching 15 to 31 inhabitants per square mile in Kurama and Khojend, and still more in the valley of the Tchirchik. Its ethnographical composition is very mixed. The Russians barely number 8500, if the military be left out of account; they live principally in towns and about Kazalinsk. Kirghiz (709,400 with the Kara-Kirghiz) and Sarts (211,000) are the main elements of the population; 50,000 Tadjiks, 26,000 Uzbeks, 4500 Tatars, about 77,000 Kuramints (settled Kirghiz mixed with other elements), and a few Jews, Persians, and Hindus must be added. The chief occupations of the Sarts, Uzbeks, Tadjiks, and Kuramints are agriculture and

gardening, while the Kirghiz chiefly lead a nomadic pastoral life. Manufactures are represented by a few distilleries; but a great variety of petty industries are practised in the towns and villages. Trade is carried on very largely.

Syr-Daria is divided into eight districts, the chief towns of which, with their populations in 1881, were—TASHKEND (*q.v.*) (100,000), Aulie-ata (4450), Jizak (8700), Kazalinsk (2950), Khojend (28,000), Perovsk (3400), Tchekment (8050), and Tchinasz (300). Turkestan or Agret (6700) and Ura-tube (11,000) also deserve mention. (P. A. K.)

SYRIA. Etymologically, "Syria" is merely an abbreviation of "Assyria," a name which covered the subject-lands of the Assyrian empire, the subject-peoples being also called "Syrians." Afterwards, in the Græco-Roman period, the shorter word came to be restricted to the territory west of the Euphrates,—the designation "Syrians," however, being given to the great mass of the Semitic populations dwelling between the Tigris and the Mediterranean, who are more accurately called Arameans (*Gen. x. 22*; comp. *SEMITIC LANGUAGES*, vol. xxi. p. 645 *sq.*). The present article deals with Syria only in its geographical significance. For a map, see vol. xvi. pl. VIII.

Syria is the designation of the country which extends for about 380 miles (between 36° 5' and 31° N. lat.) along the eastern shore of the Mediterranean; its eastern limit, properly speaking, is formed by the middle portion of the course of the Euphrates, but in point of fact it insensibly merges into the steppe country which naturally belongs more or less to Arabia. It is only the oases lying nearest the western border of the steppe (*e.g.*, Aleppo, Palmyra) that can be reckoned as belonging to Syria.¹ From time immemorial the land between Egypt and the Euphrates has been the battlefield for the empires of western Asia on the one hand and those of Egypt and Africa on the other. It has also been the territory which the trading caravans of these empires have had to traverse; and by its position on the Mediterranean it has been the medium for transmitting the civilizing influences of the East to the West and again of the West to the East. Hence it is easy to understand how the peoples of Syria should only in exceptional cases have played an independent part either in politics or in art and science; none the less on that account is their place in history one of the highest interest and importance.

The surface configuration of the country is a uniform one; the mountains for the most part stretch from north to south in parallel ridges, connecting the Cilician Taurus with the Red Sea range. The continuity is broken for short intervals at one or two points. Immediately connected with the Cilician Taurus in the north, and forming part of it, is the Alma Dagh (ancient Amanus). At its highest it does not rise much above 6000 feet, but it has an abrupt descent towards the sea, and terminates at its southern extremity in a bold headland, the Râs el-Khanzir. Here the Orontes reaches the sea through a depression in the chain, and the same outlet forms an important pass into the interior of the country. Frequently in ancient times it was only the territory to the south of the lower Orontes valley that was reckoned as constituting Syria. Farther south is the isolated Jebel Akra, about 6000 feet high (the Mons Casius of the ancients), which was held sacred by the Phœnicians; still farther to the south are the low Ansairi Hills, which derive their name from the people inhabiting them. Beyond these the Nahr el-Kebir (Eleu-

therus) falls into the sea, and here north Syria may be held to terminate. To the south of this begins the Lebanon district (see *LEBANON*, vol. xiv. p. 393); an imaginary line drawn eastwards from a point a little to the south of Tyre will represent the southern boundary of what may be designated as middle Syria. Occasionally Syria is spoken of in a narrow sense, as distinguished from Palestine; but there is no scientific ground for such a practice, for the mountains of PALESTINE (*q.v.*), the southern third of Syria, can be described as a southward continuation of the mountain masses already referred to, and cis-Jordanic as well as trans-Jordanic Palestine is simply a portion of Syria. Indeed the district as far as Sinai can be spoken of as a fourth division of the same country. A glance at a geological map reveals this very clearly. Cretaceous limestone constitutes the bulk of the hills and plateaus of Syria, and extends towards Sinai, where the zone of primitive rocks is reached. In the south of Palestine, nummulitic limestone and Nubian sandstone make their appearance from Sinai and northern Arabia. In addition to these, alluvial soils are principally met with. In middle Syria especially, eastwards from the upper course of the Jordan, great basaltic masses occur; in the Hauran (*comp. BASHAN*, vol. iii. p. 410) there are basalt peaks nearly 6000 feet in height. The basalt mountains are often much broken up so as to be quite inaccessible (Harra); but the basalt when decomposed forms the best of arable soils. It is only in isolated cases that the igneous formation extends into western Syria. The tableland to the east of the principal mountain chains consists partly of good clay soil; the steppe (*bâdiyyet esh-sham*, also called *hamâd*), which has an average elevation of about 1800 feet, extends towards the Euphrates with a gradual slope.

The direction of the principal valleys is determined by that of Rivers, the mountains. The chief river of Syria in the narrower sense is the Orontes (Arabic *EL-Âsî*), which rises in the Bekâ', the mountain valley between Libanus and Antilibanus, and follows a northerly course. At Antioch, where it is augmented by the stream which flows from the great lake of Ak Deniz, it turns westwards, falling into the sea near the ancient Seleucia. Not far from the source of the Orontes is that of the Litâni (formerly Lîta), which runs southwards through the Bekâ', and afterwards westwards through a deep gorge of its own excavation, having its mouth a little to the north of Tyre; in its lower course it bears the name of EL-Kâsimîye. The principal river of south Syria is the JORDAN (*q.v.*). Like it, most of the other streams of Syria rising on the eastern side of the watershed terminate in inland lakes. Of these may be named the EL-A'waj and the Barada (Pharpar and Abana) of Damascus, which lose themselves in the lakes and marshes to the east of the city. In like manner the river of Aleppo falls into the lake El-Math. The Afrina (Ufrenus of the ancients) falls into the Ak Deniz lake, and so into the Orontes; the Sâdjûr is a tributary of the Euphrates. Other lakes are the great salt lake to the south-east of Aleppo and the remarkable lake near Homs, in the neighbourhood of which the ruins of the old Hittite city of Kadesh have recently been discovered. The coastal streams have been enumerated under *LEBANON* and *PALESTINE* (*q.v.*).

Two distinct floral regions meet in Syria (*comp. LEBANON*). That of the coast is Mediterranean, and is characterized by a number of evergreen shrubs, with small leathery leaves, and of quickly flowering spring plants. On the coast of Phœnicia (*comp. vol. xviii. p. 801*) and southwards towards Egypt more southern forms of the same vegetation occur, as, for example, *Ficus Sycomorus*, and especially date-palms. This region is separated from the easterly one, that of the steppe flora, by the ridge of Lebanon and the mountains of Palestine. It is distinguished by the variety of its species, by the dry and thorny character of its shrubs, and by its marked poverty in trees. The Jordan valley has on account of its low level a sub-tropical character. As regards cultivated species, Syria is the home of the olive tree, which, like the vine, is found in all parts;—but the white mulberry for silk is limited to a small district. Syria is throughout far from unfertile; the district of the Hauran is one magnificent corn-field, while the orchard land about Damascus is renowned far and wide. In former times, however, cultivation was carried on with much greater zeal, and the arrangements for irrigation—a necessity everywhere, especially on the side bordering on the steppe—were much more considerable and more carefully seen to. The numerous ruins on the lands at

¹ In the cuneiform inscriptions Syria is called *Mât Hatti*, "the land of the Cheta," a designation transferred from the north Syrian people of that name (see below) to the region as a whole; *Mât Aharrî*, the "hinder" or "western" land, denotes more properly the southern portion, but is also used for the whole. By the Arabs it is called *Esh-Shâm* (more properly *Esh-Sha'm*), "the land on the left hand," as distinguished from *Yemen*, "the land on the right"; but the designation originally implied a wider region than the Syria defined above, including as it did a portion of Arabia.

present under cultivation and still more on those to the east of them indicate that the limits of agriculture were once more extensive and the population much denser than at present. During the Roman period frontier fortresses on the edge of the steppe served to check the rapacity and barbarizing influence of the Bedouin hordes.

Syria presents great diversities of climate. The mountains, though sometimes not absolutely very high, arrest the west winds blowing from the Mediterranean, so that the atmospheric precipitation is much greater on the western than on the eastern slopes. Hence the springs on the eastern versant are fewer, and cultivation is therefore confined to isolated areas resembling oases. The rainfall drains off with great rapidity, the beds of the streams soon drying up again. Within historic times the climate, and with it the productivity of the country, cannot have greatly changed; at most the precipitation may have been greater, the area under wood having been more extensive. Except for Jerusalem, we have hardly any accurate meteorological observations; there the mean annual temperature is about 63° Fahr.; in Beyrout it is about 68°. The rainfall in Jerusalem is 36.22 inches, in Beyrout 21.66. The heat at Damascus and Aleppo is great, the cooling winds being kept off by the mountains. Frost and snow are occasionally experienced among the mountains and on the inland plateaus, but never along the coast. Even the steppe exhibits great contrasts of temperature; there the rainfall is slight and the air exceedingly exhilarating and healthy. The sky is continuously cloudless from the beginning of May till about the end of October; during the summer months the nights as a rule are dewy, except in the desert. Rain is brought by the west wind; the north-west wind, which blows often, moderates the heat. On the other hand, an ozoneless east wind (sirocco) is occasionally experienced—especially during the second half of May and before the beginning of the rainy season—which parches up everything and has a prejudicial influence on both animal and vegetable life. On the whole the climate of Syria—if the Jordan valley and the moister districts are excepted—is not unhealthy, though intermittent fevers are not uncommon in some places.

Ancient Syrians.

Of the political relations of Syria in ancient times we know but little. Each town with its surrounding district seems to have constituted a small separate state; the conduct of affairs naturally devolved upon the noble families. At a very early period—as early probably as the 15th century B.C.—Syria became the meeting-place of Egyptian and Babylonian elements, resulting in a type of western Asiatic culture peculiar to itself, which through the commerce of the Phœnicians was carried to the western lands of the Mediterranean basin. Industry especially attained a high state of development; rich garments were embroidered and glass and the like were manufactured. The extant inventories of spoil carried off by the ancient conquerors include a variety of utensils and stuffs. The influence exercised at all times on Syrian art by the powerful neighbouring states is abundantly confirmed by all the recent finds. The Syrians were more original in what related to religion; every place, every tribe, had its “lord” (Ba’al) and its “lady” (Ba’alat); the latter is generally called ‘Ashtar or ‘Ashtaret. Besides the local Baal there were “the god of heaven” (El) and other deities; human sacrifices as a means of propitiating the divine wrath were not uncommon. But in the Syrian mythology foreign influences frequently betray themselves. Over against its want of originality must be set the fact, not merely that Syrian culture spread extensively towards the west, but that the Syrians (as is shown by recently discovered inscriptions) long before the Christian era exercised over the northern Arabs a perceptible influence, which afterwards, about the beginning of the 1st century, became much stronger through the kingdom of the Nabateans. The art of writing was derived by the Arabs from the Syrians.

Something about the ancient political and geographical relations of Syria can be gleaned from Egyptian sources, especially in connexion with the campaigns of Thothmes III. in western Asia. The Egyptians designated their Eastern neighbours collectively as ‘Amu. Syria up to and beyond the Euphrates is called more precisely Sahi (or Zahi), and is regarded as consisting of the following parts:—(1) Rutenu, practically the same as Palestine (occasionally Palestine with Coelestria is called Upper Rutenu, as distinguished from Lower Rutenu extending to the Euphrates); (2) the land of the Cheta (sometimes reckoned as belonging to Rutenu), with Kadesh on the Orontes as its capital; (3) Naharina, the land on both sides of the Euphrates (extending, strictly speaking, beyond the Syrian limits); (4) Kafnu, the coast land of the Phœnicians (Fenchu), along with Cyprus. The Canaanites in general are called Charu. From these lands the Egyptian kings often derived rich booty, so that in those days Syria must have been civilized and prosperous. Moreover, we possess enumerations of towns in the geographical lists of the temple of Karnak and in a hieratic papyrus dating about 200 years after Thothmes III. Some of these names can be readily identified, such as Aleppo, Kadesh, Sidon, and the like, as well as many in Palestine. These materials, however, do not enable us to form even a moderately clear conception of the

condition of the country at that time. It is certain that most of the cities are of very great antiquity. It appears that the Cheta very probably were a non-Semitic people and that their power for a time extended far beyond the Syrian limits. Their inscriptions have not yet been deciphered with certainty. Within Syria their kingdom extended westwards from the middle course of the Euphrates to the neighbourhood of Hamath; their capital appears to have been Carchemish. The most prevalent opinion identifies Carchemish with Jerabis on the Euphrates; an identification which is favoured by the recent discovery of important “Hittite” monuments at the place. Before then the so-called “Hamath stones” were the most important inscriptions of the Cheta we possessed, but numerous others, as well as various other remains, are now at our command, and show that the influence of the powerful Cheta kingdom extended far into Asia Minor (compare HITTITES). The kingdom disappeared at an early date, but some of the minor Cheta states continued to subsist down to the 12th century B.C.

Next to the Cheta the Arameans were the people who held the most important towns of Syria, gradually advancing until at last they occupied the whole country. Of the Aramean stocks named in Gen. x. 23, xxiii. 21 *sq.*, very little is known, but it is certain that Arameans at an early period had their abode close on the northern border of Palestine (in Maachah). A great part was played in the history of Israel by the state of Aram Dammesek, *i.e.*, the territory of the ancient city of Damascus (see vol. vi. p. 790); it was brought into subjection for a short time under David. The main object of the century-long dispute between the two kingdoms was the possession of the land to the east of the Jordan (Hauran, and especially Gilead). Another Aramean state often mentioned in the Bible is that of Aram Zobah. That Zobah was situated within Syria is certain, though how far to the west or north of Damascus is not known; in any case it was not far from Hamath. Hamath in the valley of the Orontes, at the mouth of the Beká valley, was from an early period one of the most important places in Syria; according to the Bible, its original inhabitants were Canaanites. The district belonging to it, including amongst other places Riblah (of importance on account of its situation), was not very extensive. In 733 B.C. Tiglath-Pileser II. compassed the overthrow of the kingdom of Damascus; he also took Arrápá (Tell Arrápá), an important place three hours to the north of Aleppo. Hamath was taken by Sargon in 720. Henceforward the petty states of Syria were at all times subject to one or other of the great world-empires, even if in some cases a certain degree of independence was preserved.

The foundation of numerous Greek cities shortly after Alexander’s Greek time was of great importance for Syria; ANTIOCH (*q.v.*), founded about 300 B.C. by Seleucus, became the capital of the Syrian kingdom of the Seleucidae. Among other influential Greek towns were Apamea on the Orontes and Laodicea. The Seleucidae had severe struggles with the Ptolemies for the possession of the southern part of Syria (comp. ISRAEL, vol. xiii. p. 420).

After having been reckoned for a short time (from 83 to 69 B.C.) under among the dominions of Tigranes, king of Armenia, the country Roman was conquered for the Romans by Pompey (64–63 B.C.). It is impossible here to follow in detail the numerous changes in the distribution of the territory and the gradual disappearance of particular dynasties which maintained a footing for some time longer in Chalcis, Abila, Emesa, and Palestine; but it is of special interest to note that the kingdom of the Arab Nabateans (comp. vol. xvii. p. 160) was able to subsist for a considerable period towards the north as far as Damascus. In the year 40 B.C. Syria had to endure a sudden but brief invasion by the Parthians. The country soon became one of the most important provinces of the Roman empire; its proconsulship was from the first regarded as the most desirable, and this eminence became still more marked afterwards. Antioch, adorned with many sumptuous buildings, as the chief town of the provinces of Asia, became in point of size the third city of the empire; its port was Seleucia, surnamed Pieria. The high degree of civilization then prevailing in the country is proved by its architectural remains dating from the early Christian centuries; the investigations of De Vogüé have shown that from the 1st to the 7th century there prevailed in north Syria and the Hauran a special style of architecture,—partly no doubt following Græco-Roman models, but also showing a great deal of originality in details.

The administrative divisions of Syria during the Roman period varied greatly at different times; subjoined is an enumeration of them as they existed at the beginning of the 5th century. (1) Syria Euphratensis, which had for its capital Hierapolis (Syrr. *Mabôg*; Arab. *Mambidj*; Gr. *Βαμβόκη*). The kingdom of Commagene, beyond the limits of Syria, belonged to Syria Euphratensis; its capital was Samosata, at the point where the Euphrates leaves the mountains, and it had other important towns on that river, such as Europus (the modern Barbalissus). (2) Syria I., or Coelestria, having Antioch as its capital. The name Coelestria (*ἡ κοιλὴ Συρία*) originally, no doubt, was applied to the valley between Libanus and Antilibanus, but was afterwards extended

Turkish supremacy.

Lang-uages.

to the district stretching eastwards from the latter range. (3) Syria II., or Syria Salutaria, with Apamea (Arab. *Famâyâ*, the modern Kal’at el-Mudîk) on the Orontes as capital. (4) Phœnice Maritima; capital, Tyre. (5) Phœnice ad Libanum; capital, Emesa (Hims). To this division Damascus and Palmyra belonged; occasionally they were reckoned to Coelestria, the middle strip of coast being designated Syrophœnicia. (6, 7, 8) Palestina I., II., and III. For these, which from the time of Vespasian had governors of their own, see vol. xviii. p. 177. (9) Arabia (capital, Bostra), which embraced all the region from the Hauran to the Arnon, and skirted the Jordan valley, stretching southwards to Petra. Through the kingdom of the Nabateans Roman influence penetrated from Syria far into northern Arabia.

In 616 Syria was subjugated for a brief period by the Persian Chosroes II.; from 622 till 628 it was again Byzantine; 636 and the immediately following years saw its conquest by the Mohammedans (see MOHAMMEDANISM, vol. xviii. p. 562). Mo’awija, the first Ommyayd caliph, chose Damascus for his residence; but in 750 the capital of the empire was removed by the ‘Abbásids to Baghdád. Under the early caliphs the Arabs divided Syria into the following military districts (*yonds*). (1) Filistin (Palestine), consisting of Judea, Samaria, and a portion of the territory east of Jordan; its capital was Ramleh, Jerusalem ranking next. (2) Urdun (Jordan), of which the capital was Tabariye (Tiberias); roughly speaking, it consisted of the rest of Palestine as far as Tyre. (3) Damascus, a district which included Baalbec, Tripoli, and Beyrout, and also the Hauran. (4) Hims, including Hamath. (5) Kinnastrin, corresponding to northern Syria; the capital at first was Kinnastrin to the south of Haleb (Aleppo), by which it was afterwards superseded. (6) The sixth district was the military frontier (*awastim*) bordering upon the Byzantine dominions in Asia Minor. The struggles of the Mohammedan dynasties for the possession of Syria cannot be gone into here; suffice it to say that throughout their course the country still enjoyed a considerable degree of prosperity.

In the crusading period the kingdom of Jerusalem, whose rulers were never able to establish a foothold to the east of the Jordan, extended northwards to Beyrout; next it was the countship of Tripoli on the coast; and beyond that in north Syria was the principality of Antioch. Syria suffered severely from the Mongol invasions (1260), and it never recovered its former prosperity. In 1516 the Ottomans took it from the Egyptian Mamelukes. Under the Turks its administrative divisions again varied at different times; out of the five pashalicks of Aleppo, Tripoli, Damascus, Sidon (later ‘Akka), and Jerusalem two vilayets were subsequently formed, having their capitals at Aleppo and Damascus. Quite recently south Palestine has been made a separate vilayet from that of Damascus.

Rude stone monuments (circles and dolmens) and other prehistoric remains show that Syria must have been inhabited from a very early period. Within historic times a great number of different nationalities have fought and settled within its borders, the majority belonging to the Semitic stock. This last circumstance has rendered possible a considerable degree of fidelity in the tradition of the oldest local names. After the Arameans had absorbed what remained of the earlier population, they themselves were very powerfully influenced by Græco-Roman civilization, but as a people they still retained their Aramean speech. At present an Aramaic dialect largely mixed with Arabic is spoken in three villages on the eastern slope of Antilibanus (in Ma’ûla, Bak’h’a, and Jub’adin), but this small survival is on the point of disappearing. Throughout the whole country elsewhere the language spoken is Arabic, but with Aramaic elements, especially in the language of the peasants. Ethnographically the Aramaic element of the population admits of being distinguished from the Arabic type; it is especially strong in the mountain districts. The majority of the Christians dwelling in Syria may be regarded as representatives of the Aramean race. No traces of the earlier races, such as the Canaanites or Phœnicians, can any longer be distinguished; and every trace of the presence of Greeks, Romans, and Franks has completely disappeared.

In the Arab immigration, two principal types are to be distinguished,—the pure Arab type of the nomad tribes (Bedouins) and the type of the sedentary town Arabs and peasants, which shows an intermixture of foreign and older elements. The two confront each other in sharp contrasts. Bedouin tribes are scattered throughout the whole country; despising agriculture and the settled life, they are found with their camels, sheep, and goats on the borders of the territories appropriated by the peasants. Being more or less independent of the Government, especially in the district bordering on the steppe, they are able to exact black mail from their sedentary brethren. Taxed thus on both hands, the life of the peasant is economically far from an easy one; hence it should be the duty of Government to restrain the influence of the nomads and to force them as far as possible to form fixed settlements. In this respect the policy of the Turks during the 19th century to ensure the safety of the peasants and of travellers has been the wisest

successful. In the districts bordering on the coast there are no large nomadic tribes, and on the higher plateaus of the cultivated land the power of the Bedouins is much reduced; but south of Palestine and everywhere on the edge of the steppe they continue much as before. The most powerful tribe of the Syrian desert is that of the ‘Aneze, falling into numerous subdivisions, of which the Ruwala, Wuld ‘Alf, Hesenê, and Bischer may be mentioned. The tribe, estimated to number 300,000 in all, extends far into Arabia and reaches the Euphrates. The other Bedouin tribes of Syria have for the most part tolerably definite and circumscribed territories. East of the Jordan the best known are the ‘Adwin on the Balqa and the Bani Sakhr in Moab. The Bedouins to the south of the Dead Sea are called Ahl el-Kibli (“the people of the south”) in contradistinction to those of the north (Ahl esh-Shemâl). Finally, there occur sporadically in central and northern Syria nomadic Turkish tribes. Gipsy hordes are also met with in considerable numbers.

The religious as well as the ethnographical types are strongly divergent. The bulk of the population are Mohammedan; the Bedouins have not much religion of any kind, but they profess Islam. Besides orthodox Moslems there are also Shi’ite sects, such as that of the Metawile (especially in northern Palestine), as well as a number of religious communities whose doctrine, combining philosophical and Christian with Mohammedan elements, is the outcome of the process of fermentation that characterized the first centuries of Islam. To this last class belong the Ishmaelites, Nosairians, and especially the Druses (*q.v.*). In many cases it is obvious that the political antipathy of natives against the Arabs has found expression in the formation of such sects. The Nosairians, for instance, and no doubt the Druses also, were originally survivals of the Syrian population. The Jews are found exclusively in the larger centres of population; in every case they have immigrated back from Europe. The Christians are an important element, constituting probably as much as a fifth of the whole population; the majority of them belong to the Orthodox Greek Church, which has two patriarchs in Syria, at Antioch and Jerusalem. Catholics—United Greeks, United Syrians, and Maronites—are numerous. The mission of the American Presbyterian Church, which has had its centre in Beyrout for the last sixty years, has done much for Syria, especially in the spread of popular education; numerous publications issue from its press, and its medical school has been extremely beneficial. The Catholic mission has done very good work in what relates to schools, institutes, and the diffusion of literature. The Christians constitute the educated portion of the Syrian people; but the spirit of rivalry is producing stimulative effects on the Mohammedans, who have greatly fallen away from that zeal for knowledge which characterized the earlier centuries of their faith.

Accurate statistics of any kind for Syria cannot be had; even the area of the land under cultivation is unknown. The returns population of population are, according to the Turkish official documents, only approximations. The total population may safely be put at less than 2,000,000; an official estimate in 1872–73 gave 1,365,680, of whom 976,322 were Mohammedans. Probably, however, this was an under-estimate. Reclus (*Nouv. Geogr. Univ.*, Paris, 1884) gives the area of Syria as 183,000 square kilometres (70,638 square miles) and the population as 1,450,000.

From the Egyptian and Assyrio-Babylonian monuments we learn that in ancient times one of the principal exports of Syria was mercer-timber; this has now entirely ceased. But it continues to export and in wheat, and with good roads the amount could be very largely increased. Other articles of export are silk cocoons, wool, hides, sponges, and fruits (almonds, raisins, and the like); the amounts of cotton, tobacco, and wine sent out of the country are small. The only good harbours are those of Beyrout and Alexandretta (Scaenderoon). The caravan trade with the East has almost entirely ceased, and the great trade routes from Damascus northwards to Aleppo and eastwards through the wilderness are quite abandoned. The traffic with Arabia has ceased to be important, being limited to the time of the going and returning of the great pilgrim caravan to Mecca, which continues to have its mustering-place at Damascus. The native industries in silk, cotton, and wool have been almost entirely destroyed by the import trade from Europe. The land is poor in minerals, including coal; water-power also is deficient, so that the introduction of European industries is attended with difficulties even apart from the insecurity of affairs, which forbids such experiments as the improvement of agriculture by means of European capital. As regards the cultivation of the soil Syria remains stable; but the soil is becoming relatively poorer, the value of the imports constantly gaining upon that of the exports. Literature.—Ritter, *Erkenntnis von Asien*, vol. xvii., parts 1 and 2, Berlin, 1854–55; Barckhant, *Travels in Syria and the Holy Land*, London, 1822; Lortet, *La Syrie d’aujourd’hui*, Paris, 1884; Baeleker, *Palestine and Syria*; Murray’s *Syria and Palestine*; Porter, *Five Years in Damascus*, 2 vols., London, 1865; Burton and Drake, *Unexplored Syria*, 2 vols., London, 1872; A. v. Kremer, *Mittelsyrien u. Damascus*, Vienna, 1858. For the art history of Syria De Vogüé’s *Syria Centrale: architecture civile et religieuse du Ier au 7me siècle* (Paris, 1868–77) may be consulted, and on its trade Zwiedinck v. Sudenhorst, *Syrien u. seine Bedeutung für den H-Handel*, Vienna, 1873. (A. SO.)