

to the Eastern Railway Company of £13,000,000 for the railways brought under the control of Germany. The following table shows the state of the imperial funds at 1st March 1878:—

| | |
|---------------------------------------|-------------|
| Invalid fund | £27,870,700 |
| Fund for armament of fortresses | 6,515,800 |
| War reserve fund | 6,000,000 |
| Parliament House building fund | 1,456,400 |

Imperial Debts.—The loans contracted by the North German Confederation for the war with France have long since been paid off. The extraordinary expenditure of the empire was for several years paid out of the French indemnity, but that resource is now exhausted. Accordingly, for defraying the expenses of the army and navy, the extension of the subterranean telegraphs, &c., two new loans had to be raised in 1877 and 1878, amounting to £8,760,800. There exists, besides, an unfunded debt. The law allows the imperial chancellor to effect an issue of bills of exchange for short terms to the extent of £7,500,000, and these are destined partly for the expenses of administration, and partly for the completion of the monetary reform. Since 1874 also a debt bearing no interest has been created in imperial treasury bills (Reichsschatzscheine), which are to be substituted for the paper currency issued by the separate states. At that date only four states—Lippe, Lübeck, Hamburg, and Bremen—had no paper currency. Prussia had in 1872 only £3,000,000 of paper currency, or 2s. 6d. a head, but in the minor states the proportion was higher,—reaching in Saxe-Coburg-Gotha 10-3s. a head, in Anhalt 14s., in Mecklenburg-Strelitz 24-7s., and in Schaumburg-Lippe the very high figure of 34-8s. This inconvenience was remedied by an imperial law, ordering the states to call in their paper currency, and replacing it by the issue of imperial treasury bills, amounting to £6,000,000. For many of the smaller states this sudden withdrawal of their paper currency was too severe an ordeal. Accordingly, to these a further sum was advanced for a term of years in treasury bills; £8,338,000 was thus in circulation on the 30th September 1878.

Reform of the Currency.—The German empire adopted a gold currency by the law of the 4th December 1871. Subsequently the old local coinages (*Landesmünzen*) began to be called in and replaced by new gold and silver coins. The old gold coins, amounting to £4,550,000, had been called in as early as 1873; and the old silver coins have also been successively put out of circulation, so that none actually now remain as legal tenders but the thaler (3s.). Silver currency to the amount of £52,000,000 had been withdrawn up to the 30th September 1878, and copper coins to £157,600. To replace these there were coined up till the 30th September 1878—gold pieces, £81,900,000; silver coins, £21,330,000; nickel and copper, £2,237,800. The currency reform was at first facilitated by the French indemnity, a great part of which was paid in gold. But later on that metal became scarcer; the London gold prices ran higher and higher, while silver declined. The average rate per ounce of standard silver in 1866-70 was 60½d., in January 1875 only 57½d., in July 1876 as low as 49d. It rose in January 1877 to 57½d., but again declined, and in September 1878 it was 50½d. While, therefore, the proportion of like weights of fine gold and fine silver in 1866-70 averaged 1 to 15-55, it was 1 to 17-79 in 1876, and 1 to 17-18 in 1877, and the difference again increased in 1878.

Banking.—A new banking law was promulgated for the whole empire on the 14th March 1875. Before that date there existed 32 banks with the privilege of issuing notes, and on the 31st December 1872 £67,100,000 in all was in circulation, £25,100,000 of that sum being uncovered. The banking law was designed to reduce this circulation of notes; £19,250,000 was fixed as an aggregate maximum of uncovered notes of the banks. The private banks were at the same time obliged to erect branch offices in Berlin or Frankfurt for the payment of their notes. In consequence of this regulation 18 banks resigned the privilege of issuing notes, so that at present there are in Germany but 19 note-issuing banks of which 5 belong to South Germany (Frankfurt included). The Imperial Bank (Reichsbank) ranks far above the others in importance. It took the place of the Prussian Bank in 1876, and is under the superintendence and management of the empire, which shares in the profits. Its head office is in Berlin, and it is entitled to erect branch offices in any part of the empire. It has a capital of £6,000,000 in shares of £150. The following table exhibits the position of the German Reichsbank as compared with the other 18 banks at the 30th September 1878:—

| Banks. | Notes in Circulation. | Bullion. | Excess of Notes. |
|------------------------|-----------------------|--------------|------------------|
| Reichsbank | £ 33,551,350 | £ 23,452,150 | £ 10,099,200 |
| 18 private banks | 9,395,850 | 7,209,450 | 2,186,400 |
| Total | 42,947,200 | 30,261,600 | 12,685,600 |

Subjoined is a comparison with the great banks of England, France, and Austria at the same date:—

| Banks. | Notes in Circulation. | Bullion. | Excess of Notes. |
|------------------------------|-----------------------|------------|------------------|
| | £ | £ | £ |
| Bank of England | 26,592,000 | 23,846,000 | 2,746,000 |
| Bank of France | 91,250,000 | 86,114,000 | 5,136,000 |
| German Reichsbank | 33,551,000 | 23,452,000 | 10,099,000 |
| Austrian National Bank | 29,698,000 | 13,836,000 | 15,862,000 |

Finances of the separate States.—The budgets of the different German states are so variously arranged that it is difficult to group them on uniform principles. We extract the following particulars from the scheme published by Prof. H. Wagner in the *Almanach de Gotha* for 1874. The expenses and receipts of the empire and those of the separate states are in the two tables taken together. The first table contains the net expenses for 1872-73, the charges of collection being deducted:—

Net Expenditure of German States, including the Empire.

| | |
|--|------------|
| 1. Civil list and annuities to the princely families | £1,750,000 |
| 2. Diets | 112,500 |
| 3. Civil service | 20,200,000 |
| 4. Interest and management of the public debts | 19,000,000 |
| 5. Army and navy | 17,860,000 |

Total

Professor Wagner's second table gives the principal items of revenue:—

| Revenue. | Gross Revenue. | Net Revenue. |
|---|----------------|--------------|
| | £ | £ |
| I. Revenue from public property and establishments managed by state: | | |
| 1. Crown land and state forests | ... | 5,300,000 |
| 2. Interest on consolidated funds, profits of issue, &c. | ... | 3,075,000 |
| 3. State lotteries | ... | 375,000 |
| 4. Produce of public mines and salt works | ... | 1,445,000 |
| 5. Various state establishments | ... | 353,000 |
| 6. Post-office, telegraph service, state railways, canals | ... | 6,285,000 |
| II. Taxes. | | |
| 1. Direct taxes | 11,175,000 | 10,680,000 |
| 2. Excise— | | |
| Spirits and malt | 4,865,000 | 8,800,000 |
| Beetroot sugar | 2,170,000 | |
| Salt | 1,965,000 | |
| Tobacco | 96,500 | |
| Other articles of consumption | 1,100,000 | |
| 3. Customs | 6,075,000 | 5,500,000 |
| 4. Stamps of all kinds, and fees | 5,700,000 | 5,385,000 |
| 5. Tolls, tonnages, &c. | ... | 460,000 |
| Total | ... | 47,638,000 |

In the absence of trustworthy statistics the local taxes have not been taken into consideration in the above table. These, however, are very considerable in many cities in Germany, in consequence of recent expenditure on schoolhouses, sewage-works, &c.

A comparison of the foregoing tables with the corresponding statistics for the United Kingdom (1874) gives the following result. The payments on account of the national debt in Great Britain formed 42-2 per cent. of the total expenditure after deducting the charges of collection; in Germany only 18-14 per cent. The army and navy in England absorb 39-3 per cent. of the expenditure (or 68-0 per cent. after deducting the charges of debt), in Germany 35-6 per cent. (or 43-7). The expenses of the national debt in England are about 17s. a head, in Germany about 5s. The expenses of the army and navy in England are about 16s. a head, in Germany 9s. The public property in domains and forests is greater in Germany than in any other state of Europe, the area of the state forests being no less than 17,600 square miles. Many of the smaller states defray more than one-half of their expenditure by the revenue from domains and forests. From this source Germany is able to meet nearly one-fifth of her expenditure (17-3 per cent.), whereas in England only 0-6 per cent. is thus obtained. On the other hand, the expenses incurred by Germany for the civil lists and for annuities to the princely families are very considerable. Germany pays 3-6 per cent. of the national income to her princes, Great Britain only 1-04 per cent. In the minor states the princely households absorb 10 to 12 per cent. of the expenditure. The proceeds of establishments managed by the state cover 17-5 per cent. of the whole expenditure in Germany, but only 2-5 in England. The proportion of direct to indirect taxes is in England as 17 to 83, in Germany as 31 to 69. But on the whole the English are taxed twice as heavily as the Germans. The gross revenue in England was, in 1874, 42s. a head, in Germany 16-2s.; of these sums 13-2s. came, in England, from customs duties, and 13-3s. from excise on spirits and malt (apart from the customs duties), while in Germany the corresponding figures were only 3s. and 2-4s.

A considerable part of the public debt of the separate states was

paid off by them after the war. In 1873 the total amount of all debts of the German states was only about £171,000,000. In this sum was included £9,500,000 of currency. The greater part of this liability has been incurred for productive purposes, particularly for the construction of railways. The railway debts (which are not directly charged on the population) were in 1873 about £96,500,000. Since then some states have gone on reducing their debts still further; Prussia, for example, has done so by more than £11,000,000. Others again, such as Bavaria, Saxony, Württemberg, and Baden have contracted new loans for constructing railways, or, as Saxony, for purchasing them. The entire debt of all the German states, including the imperial debt, at 31st December 1877, may be estimated at £220,000,000, of which sum, however, more than £140,000,000 consists of railway debt. The average sum per head will accordingly be £5, whereas in Great Britain it is £23 to £24. When the railway debts are deducted the proportion is less than £2 a head in Germany.

ARMY AND NAVY.

By the constitution of 16th April 1871 every German is liable to service (wehrpflichtig), and no substitution is allowed (art. 57). Every German capable of bearing arms (wehrfähig) has to serve in the standing army for seven years—as a rule from the end of the twentieth till the commencement of the twenty-eighth year of his age. Three of these seven years he must spend in active service, and the remainder in the reserve; after quitting the latter he forms part of the landwehr for five years more—the full time of military service thus being twelve years. The strength of the army on a peace footing (friedensfuss) was fixed in the army bill of 1874 at 401,659 (or say 1 per cent. of the population at the census of 1871) for a term of seven years ending the 31st December 1881. The number of recruits levied annually is 145,000 men. All young men who reach a certain fixed standard of higher school training, however, are obliged to serve only for one year in the active army, and these are not included in the effective strength of the army on a peace footing. Collaterally with the army there has existed since 1875 the landsturm, to which all men liable to service and capable of bearing arms, between the ages of seventeen and forty-two, belong, if they are neither in the line, the reserve, the landwehr, nor the marine. The landsturm is only called to arms in the event of a hostile invasion of the imperial territory being threatened or effected.

By the articles of the constitution the whole of the land forces of the empire form a united army in war and peace under the orders of the emperor. The sovereigns of the chief states are entitled to nominate the lower grades of officers, and the king of Bavaria has reserved to himself the special privilege of superintending the general administration of the two Bavarian corps d'armée; but all appointments are made subject to the emperor's approval. The 64th article of the constitution enacts that all German troops are bound to obey unconditionally the orders of the emperor, and to take the oath of allegiance accordingly. The emperor is empowered to erect fortresses in any part of the empire.

Organization of the Army.—The imperial army consists of 18 army corps, viz., the Prussian garde-du-corps, 13 Prussian corps (including the troops of the minor states in military convention with Prussia—Nos. 1 to 11 being Prussian, while Nos. 14 and 15 are the Baden and Alsace-Lorraine corps respectively), the Saxon corps (No. 12), the Württemberg corps (No. 13), and the 2 Bavarian corps. One army "inspection" comprises from 3 to 4 corps. Generally 1 army corps consists of 2 divisions, each of which includes 1 horse and 2 foot brigades. As a rule the infantry brigade consists of 2 infantry regiments and 2 landwehr regiments, the cavalry brigade of from 2 to 3 cavalry regiments. An infantry regiment consists of 3 battalions of 4 companies each; a cavalry regiment has 5 squadrons. There are many exceptions, however, to these rules, e.g., the garde-du-corps and the Saxon corps d'armée consist each of 1 cavalry and 2 infantry divisions, the 11th contains 3 divisions, &c. Some divisions also are stronger than others. Altogether the German army numbers 40 divisions, of which 6 are infantry, 3 cavalry,

and 31 both combined. There are in all 74 infantry and 38 cavalry brigades, and 148 infantry and 93 cavalry regiments.

Besides the troops above named, each army corps generally includes (a) 1 jäger or light battalion (the Bavarian army has, however, 10 of them); (b) 1 field artillery brigade; (c) 1 foot artillery regiment; (d) 1 engineer battalion; (e) 1 train battalion. The garde-du-corps has, in addition, two railway battalions, 1 instruction infantry battalion (Lehrbataillon), &c. The several field artillery brigades are not uniformly constituted, but in 12 of the 18 army corps the brigade consists of 2 artillery regiments. One of these with 8 batteries is attached to the division, while the other remains under the orders of the corps commander. This latter consists of 2 sections (Abtheilungen) of 3 batteries each, and a mounted division of 3 batteries. Each battery has as a rule 4 guns. A foot artillery regiment has 2 battalions of 4 companies each. There are in all 36 field artillery regiments with 301 batteries and 1206 guns, and 13 foot artillery regiments. In war time several corps are combined as "armies," the entire military force consisting then of the field or battle army, the reserve or supplementary troops (Ersatztruppen), and the garrison troops (Besatzungstruppen).

The following tables exhibit the strength of the German army on a peace footing and on a war footing respectively.

There are other 25,975 men who are not included in the latter sum-total but whose cost is defrayed by army grants. They include 4653 physicians, 838 veterinary surgeons, 1600 paymasters, &c. Nor does the table take account of the troops of the field reserve and of the landsturm, regarding the organization of which no details have been published; the former, which is drawn from the landwehr, is estimated at 250,000 men. It is calculated that Germany may put in arms at any given time two millions and a half of armed men without having recourse to the last reserves. The maximum strength of the army in the war with France was 1,350,787 men and 263,753 horses.

Strength of the Imperial Army.

| Peace-Footing. | Officers. | Rank and File. | Horses. |
|---|---------------|----------------|---------------|
| 1. Staff | 1,387 | 4 | ... |
| 2. Infantry, 763 battalions— | | | |
| Infantry, 148 regiments or 444 battalions | 8,740 | 255,679 | ... |
| Jäger (light infantry), 26 battalions | 534 | 14,454 | ... |
| Depôts of landwehr, 293 battalions | 348 | 4,633 | ... |
| 3. Cavalry, 33 regiments, 465 squadrons | 2,357 | 64,709 | 62,591 |
| 4. Artillery— | | | |
| Field artillery, 301 batteries | 1,629 | 30,733 | 14,845 |
| Fort artillery, 29 battalions | 653 | 15,167 | ... |
| 5. Engineers, 20 battalions | 394 | 10,234 | ... |
| 6. Train, 18 battalions | 200 | 4,998 | 2,457 |
| 7. Special troops | 311 | 958 | ... |
| Total | 17,183 | 401,659 | 79,893 |

| War-Footing. | Officers. | Rank and File. | Horses. |
|---|---------------|------------------|----------------|
| a. Field Army. | | | |
| Staff | 863 | 5,170 | 5,070 |
| Infantry, 443 battalions | 10,190 | 455,630 | 17,008 |
| Jäger, 26 battalions | 572 | 28,676 | 1,046 |
| Cavalry, 372 squadrons | 2,144 | 59,814 | 65,608 |
| Artillery, 300 batteries, 1800 guns | 2,286 | 78,120 | 79,432 |
| Engineers, 54 companies | 555 | 20,917 | 9,647 |
| Train, 250 columns | 484 | 38,451 | 46,017 |
| Administration department | 216 | 2,556 | 10,564 |
| Total field army | 17,310 | 687,594 | 233,592 |
| b. Reserve. | | | |
| Staff | 375 | 1,836 | 322 |
| Infantry, 148 battalions | 2,812 | 179,524 | 1,036 |
| Jäger, 26 companies | 104 | 8,008 | 26 |
| Cavalry, 93 squadrons | 465 | 23,394 | 19,716 |
| Artillery, 71 batteries, 426 guns | 340 | 13,261 | 5,507 |
| Engineers, 20 companies | 90 | 4,950 | 20 |
| Train, 37 companies | 240 | 11,522 | 8,903 |
| Total reserve | 4,426 | 243,095 | 30,530 |
| c. Garrison Troops. | | | |
| Administration | 850 | 10,000 | 1,850 |
| Infantry, 293 landwehr battalions | 6,424 | 250,244 | 2,044 |
| Jäger, 26 landwehr companies | 104 | 6,000 | 26 |
| Cavalry, 144 squadrons | 828 | 22,768 | 25,380 |
| Artillery, 64 batteries, 324 guns | 1,370 | 54,852 | 6,114 |
| Engineers, 48 companies | 631 | 6,538 | ... |
| Total garrison troops | 10,107 | 353,102 | 37,414 |
| Grand total | 31,843 | 1,283,791 | 301,536 |

Fortresses.—Since the Franco-German war the fortress system has been entirely remodelled. A number of old and useless fortresses have been dismantled; several new ones have been erected along the sea-coast; and most of those flanking the land frontiers have been enlarged. The

empire is divided into nine fortress districts, each including a certain number of fortified places. The Baltic coast fortresses are Memel, Pillau, Dantzic (first-class fortress), Colberg, Swinemünde, Stralsund, Travemünde, Kiel, Friedrichsort, Sonderburg-Düppel. On the North Sea are Wilhelmshaven and the fortresses by which the mouths of the Elbe, Weser, and Ems are guarded. The eastern frontier is protected by the first-class fortresses of Königsberg, Dantzic, Thorn, and Posen; and by the secondary ones of Marienburg and Dirschau on the Vistula, and of Glogau on the Oder, which are especially intended for the protection of the railways. For the southern frontier there exist only the fortresses of Neisse, Glatz, and Königstein on the Elbe. The old inland fortresses have been abolished, except the first-class ones of Küstrin, Magdeburg, Spandau, and (for railway protection) Torgau on the Elbe. Ulm and Ingolstadt on the Danube, both first-class fortresses, are also maintained. On the western frontier Strasburg and Metz have been fortified by a wide range of outer fortifications, and there is besides an outer line of smaller fortified places, consisting of New Breisach, Bitsch, Saarlouis, and Thionville. A second line runs along the Rhine, where there are large fortresses serving as encampments at Rastadt, Mainz, Coblenz, and Cologne, and smaller ones for the protection of the Rhine bridges at Germersheim, Ehrenbreitstein opposite Coblenz, Düsseldorf, and Wesel. The empire thus possesses 16 fortified places of the first class serving as camps, and 27 other fortresses.

Navy.—The German navy is but of recent origin. In 1848 the German people urged the construction of a fleet. Money was collected, and a few men-of-war were fitted out; but these were subsequently sold, the German bundestag (federal council) not being in sympathy with the aspirations of the nation. Prussia, however, began laying the foundations of a small navy. To meet the difficulty arising from the want of good harbours in the Baltic, a small extent of territory near Jahde Bay was bought from Oldenburg in 1854, for the purpose of establishing a war-port there. Its construction is now practically completed, although at enormous expense, and it was opened for ships by the emperor in June 1869 under the name of Wilhelmshaven. In 1864 Prussia, by annexing Holstein, obtained possession of the excellent port of Kiel, which has since been strongly fortified. From the time of the formation of the North German confederation the navy has belonged to the common federal interest. Since 1st October 1867 all its ships have carried the same flag,—black, white, red, with the Prussian eagle and the iron cross.

From 1848 to 1868 the increase of the navy was slow. In 1851 it consisted of 51 ships with 188 guns (among which there were, however, 36 small gunboats of 2 guns each), and with 1180 hands in all. In 1868 it consisted of 89 vessels of 563 guns, among which number there were 2 ironclads, and 43 other steamers. Since then a definite plan for the development of the navy has been set on foot, and great activity has been displayed in fitting out ships and in augmenting the personnel.

The following table shows the increase that has occurred in the navy budget since 1868:—

| | Ordinary. | Extra-ordinary. | | Ordinary. | Extra-ordinary. |
|------|-----------|-----------------|---------|-----------|-----------------|
| 1868 | £ 251,000 | £ 394,000 | 1874 | £ 692,000 | £ 1,976,000 |
| 1869 | 285,000 | 897,000 | 1875 | 962,000 | 454,000 |
| 1870 | 470,000 | 630,000 | 1876 | 1,053,000 | 238,000 |
| 1871 | 539,000 | 620,000 | 1877 | 1,083,000 | 1,428,000 |
| 1872 | 666,000 | 683,000 | 1878-79 | 1,205,000 | 1,729,000 |
| 1873 | 688,000 | 730,000 | | | |

The personnel of the navy consisted in 1878 of 965 officers and 9265 men. There are 2 sailors divisions (Matrosendivisionen) of 79 officers and 6029 seamen and boys, a ship-boys department

(Abtheilung) of 400 hands, 2 dockyard divisions (Werftdivisionen) with 148 officers and 1718 men, and 1 battalion of marines with 1035 men. The sailors and marines are levied by conscription from among the seafaring population, which is on this account exempt from service in the army. The total sea-going population of Germany is estimated at 80,000, 48,000 of whom serve in the merchant marine at home, and about 6000 in foreign service. Great inducements to enter the navy are held out to able seamen. The following table gives the state of the navy in August 1878:—

| Ships. | Number. | Guns. | Tonnage. | Horse-Power. |
|--------------------------|---------|-------|----------------|----------------|
| Armour-clad ships— | | | | |
| Frigates | 7 | 85 | 3,400 to 5,900 | 3,500 to 8,000 |
| Corvettes | 3 | 20 | 2,400 to 3,000 | 3,000 to 5,600 |
| Floating batteries | 7 | 12 | 780 to 1,200 | 700 to 1,200 |
| Non-armour-clad ships— | | | | |
| Floating battery | 1 | 23 | 3,300 | 8,000 |
| Decked corvettes | 11 | 166 | 1,700 to 2,800 | 1,500 to 4,800 |
| Corvettes | 7 | 62 | 1,000 to 1,600 | 800 to 2,400 |
| Despatch vessels | 5 | 6 | 330 to 1,500 | 350 to 3,000 |
| Gunboats | 12 | 30 | 600 to 1,200 | 600 to 1,100 |
| Torpedo ships | 11 | ... | 24 to 900 | 80 to 2,300 |
| Transport steamer | 1 | ... | 425 | 320 |
| Sailing vessels | 4 | 28 | 2,800 | ... |
| Total | 70 | 399 | 91,500 | 110,000 |

RELIGION.

In the official census it has been usual to return the religious creed of the inhabitants, though a few states, such as Prussia and Hamburg, omitted this particular in 1875. Official estimates indeed have been made of the religious profession of the people in these states for 1875 also, but only the census of 1867 and that of 1871 can be accurately compared. The number of persons styling themselves of no religion, or refusing to state their religion, is very small. The following table gives the results of the three last enumerations:—

| Creeds. | 1867 Census. | 1871 Census. | 1875. Partly estimated. |
|---------------------------|--------------|--------------|-------------------------|
| Protestants | 24,921,000 | 25,581,623 | 26,718,823 |
| Roman Catholics | 14,564,000 | 14,867,600 | 15,371,227 |
| Dissenters | 117,000 | 82,156 | 100,608 |
| Jews | 499,000 | 512,160 | 520,575 |
| Other creeds | 6,000 | 178 | 16,127 |
| Religion not stated | ... | 16,980 | ... |
| Total | 40,107,000 | 41,058,722 | 42,727,860 |

Almost two-thirds of the population belong to the Evangelical Church, and rather more than a third to the Church of Rome. The dissenters are very inferior in numbers, amounting to only about 100,000 souls, but the Jewish element, represented by half a million ($1\frac{1}{2}$ per cent.), is more considerable than in any other state of West, North, or South Europe. The following table gives the proportion of Protestants, Catholics, and Jews in every 1000 inhabitants:—

| | Rate to 1000 Inhabitants. | | |
|------|---------------------------|------------|-------|
| | Protestants. | Catholics. | Jews. |
| 1867 | 621 | 363 | 12.4 |
| 1871 | 623 | 362 | 12.5 |
| 1875 | 625 | 360 | 12.2 |

The Protestants have increased in number by 0.4 per cent. of the population since 1867. This increase, however, must not be attributed to conversions, but rather to the greater increase of population in the Protestant provinces of Germany as compared with the Catholic ones; though at the same time the official returns of Prussia prove that conversion to the rival communion is much more frequent with Catholics than with Protestants. Three states in Germany have a decidedly predominant Catholic population, viz.,

Alsace-Lorraine, Bavaria, and Baden; and in four states the Protestant element prevails, but with 23 to 33 per cent. of Catholics, viz., Prussia, Würtemberg, Hesse, and Oldenburg. In Saxony and eighteen minor states the Catholics number only from 1 to 3.3 per cent. of the population. The following table gives the respective numbers of Protestants and Catholics according to the census of 1871:—

| States. | Protestants. | Roman Catholics. | Rate per 1000 of Population. | |
|-------------------------------|--------------|------------------|------------------------------|-------|
| | | | Prot. | Cath. |
| Alsace-Lorraine | 270,699 | 1,235,097 | 175 | 797 |
| Bavaria | 1,342,592 | 3,464,364 | 276 | 712 |
| Baden | 491,008 | 942,560 | 336 | 645 |
| Prussia | 16,041,215 | 8,268,309 | 650 | 335 |
| Würtemberg | 1,248,860 | 553,542 | 687 | 304 |
| Hesse | 585,399 | 238,080 | 686 | 279 |
| Oldenburg | 240,962 | 71,027 | 766 | 226 |
| Saxony and minor states | 5,360,808 | 94,621 | 978 | 17 |
| Total | 25,581,623 | 14,867,600 | 623 | 362 |

From the above figures little can be inferred as to the geographical distribution of the two confessions. On this point it must be borne in mind that the population of the larger towns, on account of the greater mobility of the population since the introduction of railways and the abolition of restrictions upon free settlement, has become more mixed,—Berlin, Leipzig, Hamburg, &c., showing proportionally more Catholics, and Cologne, Frankfurt, Munich, &c., more Protestants than formerly. Otherwise the geographical limits of the confessions have been but little altered since the Thirty Years' War. In the mixed territories those places which formerly belonged to Catholic princes are Catholic still, and *vice versa*. Hence a religious map of South Germany looks like an historical map of the 17th century. The number of localities where the two confessions exist side by side is small. Generally speaking, South Germany is predominantly Catholic. Some districts along the Danube (province of Bavaria, Upper Palatinate, Swabia), in southern Würtemberg and Baden, and in Alsace-Lorraine are entirely so. These territories are bordered by a broad stretch of country on the north, where Protestantism has maintained its hold since the time of the Reformation, including Baireuth or eastern Upper Franconia, Middle Franconia, the northern half of Würtemberg and Baden, with Hesse and the Palatinate. Here the average proportion of Protestants to Catholics is two to one. The basin of the Main is again Catholic from Bamberg to Aschaffenburg (western Upper Franconia and Lower Franconia). In Prussia the western and south-eastern provinces are mostly Catholic, especially the Rhine province, together with the government districts of Münster and Arnsberg. The territories of the former principality of Cleves and of the countship of Mark (comprising very nearly the basin of the Ruhr), which went to Brandenburg in 1609, must, however, be excepted. North of Münster, Catholicism is still prevalent in the territory of the former bishopric of Osnabrück. In the east, East Prussia (Ermland excepted) is purely Protestant. Catholicism was predominant a hundred years ago in all the frontier provinces acquired by Prussia in the days of Frederick the Great, but since then the German immigrants have widely propagated the Protestant faith in these districts. A preponderant Catholic population is still found in the district of Oppeln (89 per cent.) and the countship of Glatz, in the province of Posen (64 per cent.), in the Polish-speaking "circles" of West Prussia, and in Ermland (East Prussia). In all the remaining territory the Catholic creed is professed only in the Eichsfeld on the southern border of the province of Hanover, and around Hildesheim.

Protestant Church.—The adherents of Protestantism are divided by their confessions into Reformed and Lutheran. To unite these the "church union" has been introduced in several Protestant states, as for example in Prussia and Nassau in 1817, in the Palatinate in 1818, and in Baden in 1822. Since 1817 the distinction has accordingly been ignored in Prussia, and Christians are there enumerated only as Evangelical or Catholic. The union, however, has not remained wholly unopposed,—a section of the more rigid Lutherans who separated themselves from the state church being now known as Old Lutherans. In 1866 Prussia annexed Hanover and Schleswig-Holstein, where the Protestants were Lutherans, and Hesse, where the Reformed Church had the preponderance. The inhabitants of these countries opposed the introduction of the union, but could not prevent their being subordinated to the Prussian oberkirchenrath (high church-council), the supreme court of the state church. Subsequently the official returns have been thus classified:—

| | |
|---|------------|
| (a) Members of the Evangelical State Church | 1875. |
| United | 16,636,990 |
| Lutherans | 13,266,620 |
| Reformed | 2,905,250 |
| (b) Separatist Lutherans (Old L.) | 465,120 |
| (c) Separatist Reformed | 40,630 |
| | 35,080 |

The separatists are thus not numbered among dissenters. A synodal constitution for the Evangelical State Church was introduced in Prussia in 1875. The oberkirchenrath retains the right of supreme management. The ecclesiastical affairs of the separate provinces are directed by consistorial boards. The parishes (*pfarreien*) are grouped into dioceses (*sprengel*), presided over by superintendents, who are subordinate to the superintendent-general of the province. Prussia has sixteen superintendents-general. The ecclesiastical administration is similarly regulated in the other countries of the Protestant creed. Regarding the number of churches and chapels Germany has no exact statistics, but in 1867 it was estimated that there were 12,959 places of worship in Prussia.

Roman Catholic Church.—There are six archbishoprics within the German empire:—Breslau (where the archbishop has the title of prince-bishop), Gnesen-Posen, Cologne, Freiburg (Baden), Munich-Freising, and Bamberg. The eighteen bishoprics are—Ermland (see at Frauenburg, East Prussia), Kulm (see at Pelplin, West Prussia), Fulda, Hildesheim, Osnabrück, Paderborn, Münster, Limburg, Treves, Metz, Strasburg, Spire, Würzburg, Ratisbon, Passau, Eichstätt, Augsburg, Rottenburg (Würtemberg). An apostolic vicariate exists in Dresden. In recent years numerous convents, especially in Prussia, have been suppressed. The order of the Jesuits is interdicted in Germany.

Old Catholics.—After the infallibility of the pope had been proclaimed as a dogma by the Vatican council in 1871, several communities as well as individuals declared their secession from the Roman Church. They are called Old Catholics, and they have selected a bishop who has been acknowledged by most of the states. At the 1st of January 1877 the denomination had 121 congregations with 56 clergymen and 16,557 adult male adherents, so that we may fairly estimate the total number of Old Catholics at a little more than 50,000.

The number of Greek Catholics was 2660 in 1871.

Dissenters.—There is no uniformity in the state returns of the several denominations, and detailed statements are wanting for Würtemberg, Alsace-Lorraine, and eight of the lesser states. In the sixteen remaining states there were in 1875 21,000 Mennonites (particularly in East and West Prussia and the Palatinate), 10,451 Baptists, 3000 Irvingites, 4000 Herrnhuter (Moravian brethren), and 1600 members of the Church of England. The Mennonites had

increased from 14,000 in 1871. Besides these there were about 6800 German Catholics, 3600 Freethinkers, and more than twenty-five sects represented by from 100 to 500 members.

Jews.—It is in the towns that the Jewish element is chiefly to be found. They belong principally to the mercantile class, and are to a very large extent dealers in money. Within the last thirty years their wealth has grown to an extraordinary degree. They are increasingly numerous in Hamburg, Berlin, Frankfort, Breslau, Königsberg, and Fürth. Though still, in fact at least, if not also by law, excluded from many public offices, especially from commands in the army, they nevertheless are very powerful in Germany, the press being for the most part in their hands. Some towns of the Marienwerder and Posen districts contain from 20 to 30 per cent. of Jews. By far the greater number are found among the Slavs in the east; in the west they appear chiefly in Hesse, Baden, and Alsace.

LANGUAGES.

The German-speaking nations in their various branches and dialects are found to extend in a compact mass along the shores of the Baltic and of the North Sea, from Memel in the east to a point between Gravelines and Calais near the Straits of Dover. On this northern line the Germans come in contact with the Danes who inhabit the northern parts of Schleswig within the limits of the German empire. A line from opposite Sonderburg in the isle of Alsens to Tondern in the west will nearly form the boundary between the two idioms. The German-French frontier traverses Belgium from west to east, touching the towns of St Omer, Courtrai, and Maastricht. Near Eupen, south of Aix-la-Chapelle, it turns southward, and near Arlon south-east as far as the crest of the Vosges mountains, which it follows up to Belfort, traversing there the watershed of the Rhine and the Doubs. In the Swiss territory the line of demarcation passes through Biel, Freiburg, Saanen, Leuk, and Monte Rosa. In the south the Germans come into contact with Rhaeto-Romans and Italians, the former inhabiting the valley of the Vorder-Rhein and the Engadine, while the latter have settled on the southern slopes of the Alps, and are continually advancing up the valley of the Adige. Carinthia and Styria are inhabited by German people, except the valley of the Drave towards Klagenfurt. Their eastern neighbours there are first the Magyars, then the northern Slavs and the Poles. The whole eastern frontier is very much broken, and cannot be described in a few words. Besides detached German colonies in Hungary, the western parts of that country are held by Germans. The river March is the frontier north of the Danube from Presburg as far as Brünn, to the north of which the German regions begin near Olmütz,—the interior of Bohemia and Moravia being occupied by Czechs and Moravians. In the Prussian provinces of Silesia and Posen the eastern parts are mixed territories, the German language progressing slowly among the Poles. In Bromberg and Thorn, in the valley of the Vistula, German is prevalent. In West Prussia some parts of the interior, and in East Prussia a small region along the Russian frontier, are occupied by Poles (Kassubians in West Prussia, Masurians in East Prussia). The German tongue is also fast invading the Lithuanian territory, and in a short time no people speaking that idiom will be found to the left of the river Memel. The total number of German-speaking people, within the boundaries wherein they constitute the compact mass of the population, may be estimated, if the Dutch and the Flemings be included, at 56 millions.

The geographical limits of the German language thus do not quite coincide with the German frontiers. The empire

contains about 3½ millions of persons who do not make use of German in everyday life, not counting the 290,000 resident foreigners. The non-German languages have their representatives only in Prussia, Saxony, and Alsace-Lorraine. No census since 1861 has given the statistics of the different languages spoken in the first-mentioned country; and, in regard to Alsace-Lorraine also, the figures are based upon estimates only. The following table gives the results of semi-official estimates for 1875:—

| Languages. | Persons. | Proportion to 1000 Persons. |
|---------------------|------------|-----------------------------|
| German | 39,100,000 | 921 |
| Polish | 2,600,000 | 66 |
| Wendic | 140,000 | |
| Czech | 50,000 | |
| Lithuanian | 150,000 | |
| Danish | 150,000 | |
| French | 250,000 | 6 |
| Total—Natives | 42,440,000 | |
| Foreigners | 290,000 | |

From this it will be observed that the Poles form a considerable part of the population,—about 60·1 per cent. in the district of Oppeln, 59·3 in Posen, 49·6 in Bromberg, 37·8 in Marienwerder, 27·3 in Dantzig, 21·9 in Gumbinnen, 17·1 in Königsberg, and 4·3 in Breslau. The Wends, who inhabit Lusatia, are decreasing in number,—in the Saxon district there were 52,097 in 1871, and in 1875 only 50,737. The Lithuanians are likewise diminishing on the eastern border of East Prussia. Czechs are found only in Silesia on the confines of Bohemia. The French are represented in Lorraine and Upper Alsace, and on the Belgian frontier.

EDUCATION.

In point of intellectual culture Germany ranks high. Much is done by the Government for the promotion both of primary and of secondary education; there are no exact statistics, however, of the educational establishments, or of the expenditure incurred in connexion with them. In regard to the latter the sums which figure in the Government budgets are not the only contributions which must be considered; for in most of the states the several local communities provide from their own resources for primary instruction and for many of the higher schools, while many of the superior institutes have funds of their own not included in the budget. School instruction is obligatory on the whole people, but in many districts there is still a scarcity of teachers and some want of efficient control. The total number of primary schools is estimated at 60,000, and that of pupils at 6,500,000, or 150 pupils to every 1000 inhabitants. Some provinces exhibit a larger proportion; in Saxony, Thuringia, Brunswick, Rhineland, and Westphalia there are from 165 to 175 pupils to every 1000 inhabitants. In Bavaria, Posen, East and West Prussia, Brandenburg, on the other hand, there are only from 120 to 130. A good criterion of the school instruction is to be found in the statistics of the annual levies of recruits. The following table shows the number of recruits during the years 1876–78 who were unable to read and write:—

| | Number of levied Recruits unable to write and read. | | Number of levied Recruits unable to write and read. | |
|---------|---|--------------------------|---|--------------------------|
| | In German Language. | In other Languages only. | Number. | Rate to 10,000 Recruits. |
| 1875–76 | 130,176 | 6,368 | 3,311 | 237 |
| 1876–77 | 130,939 | 6,233 | 2,975 | 212 |
| 1877–78 | 134,189 | 6,292 | 2,476 | 173 |

It will be seen from the above that the number of illiterate recruits has considerably decreased during the last three years. The figures given compare very favourably with those of other European countries. In 1872 the number

of illiterates was 4·6 per cent. in the army, and 2·3 in the navy the corresponding numbers in France being 23 and 14 per cent. In England 23 per cent. of the marines could neither read nor write in 1865, 4 per cent. could only read, and 37 per cent. could write but imperfectly. In Austria only 28 per cent. of the recruits could write, and in Russia scarcely 10 per cent. had any school education. But the provinces of Germany differ much from one another in this respect. Education is very inferior in the eastern Polish districts. During the three years from 1875–78 in the districts of Posen, Bromberg, and Oppeln there were in all 10·7, 9·24, 8·02 per cent. of illiterates among the recruits, in the provinces of West and East Prussia 8·77, 8·66, 7·80. After these the rate takes a long leap to 3·18, 3·17, 1·94 in Alsace-Lorraine and the Palatinate. In 1877–78 there was no considerable district in Germany which sent so many as 1 per cent. of illiterates. The most satisfactory state of matters is to be found in Saxony, Thuringia, Baden, and Württemberg, and especially in the last two. Württemberg had only one recruit among 6000 that was unable to read.

The census in Prussia in 1871 proves primary school instruction to be much better among the Protestants than among the Catholics, as will be seen in the following table:—

| Illiterates of 10 Years and under. | Males. | Females. | Percentage of corresponding Population. | | |
|------------------------------------|---------|-----------|---|------|--------|
| | | | Males. | Fem. | Total. |
| Protestants | 390,117 | 693,400 | 4·9 | 8·3 | 6·7 |
| Catholics | 464,755 | 685,535 | 11·3 | 16·4 | 13·2 |
| Jews | 7,976 | 15,648 | 4·9 | 9·4 | 7·2 |
| Others | 995 | 2,846 | 3·7 | 9·4 | 5·2 |
| Total | 863,843 | 1,396,434 | 7·1 | 11·1 | 9·2 |

Unremitting attention is being paid to the improvement of primary schools (*volksschulen*), although many of the eastern districts are still destitute of these in the rural localities. Not long ago the position of teachers of primary schools was very unsatisfactory; and the supply of masters was unequal to the demand. In recent years much has been done in all the states to effect a reform on this state of matters. In 1875 there were 170 seminaries in Germany for the training of schoolmasters. But this number is insufficient, for it may be estimated that 5000 to 6000 new appointments are required annually, if one master is not to have charge of more than 60 children. Saxony has the greatest number of institutions of this kind (15). Within the last few years many municipalities have begun to found schools of a somewhat higher rank for the lower classes of the town population, called middle schools.

There are four different kinds of schools for the higher branches of education. The gymnasias supply preparatory training for the universities, the foremost place in the course of instruction being assigned to the classical languages; but French, English, and mathematics are also taught, and some attention is given to natural science, history, and geography. Their constitution dates back to very remote times, and but few and slight alterations have been made in their schemes of study since the beginning of the present century. Officials, judges, clergymen, teachers, and physicians for the most part receive their early education at the gymnasias. In 1878 there were 360 gymnasias in Germany, or 1 for every 600 square miles and every 117,000 inhabitants. Central Germany has the largest proportion, 1 for every 75,000 inhabitants. To these must be added the progymnasias, about 20 in number. The same studies are prosecuted in these, but the highest classes of a gymnasium are wanting. Of more recent growth is the system of *realschulen*, where Latin is the only ancient language

taught, the other branches being modern languages, especially French and English, mathematics and natural philosophy, geography, and modern history. These schools have long enjoyed great popularity. They are classified as of the first and of the second order. In the former a pupil remains generally for nine or ten years, as in the gymnasias; and those who pass the highest examination are allowed to enter the universities, but only to study the modern languages, mathematics, and natural sciences. In 1878 there were 129 realschulen of the first order, mainly in Saxony, Rhineland, Berlin, and Hanover. The realschulen of the second order prepare pupils for those professions which do not require a university course. On the average a pupil leaves school in the seventeenth year of his age. Besides these institutions, which are increasing every year, there is a considerable number of technical schools (*gewerbeschulen*). Their purpose is purely industrial; drawing, mechanics, mathematics, physics, and chemistry are among the subjects of instruction, languages being excluded. There are, moreover, schools of commerce, navigation, and agriculture in different towns. The military law relating to the one year's volunteers has had an important influence on the attendance at all these institutions. In 1879 there were 878 schools with the privilege of furnishing pass certificates to such volunteers; of these 360 were gymnasias, 129 were realschulen, and about 40 were private schools. Exact and uniform statistics of the higher schools do not as yet exist. Many of the last-mentioned institutions are maintained partly or entirely at the expense of the municipalities, and by far the greater number are denominational, Protestant ones prevailing. The following table shows the number of Prussian schools in 1875 maintained severally by the Government, by the municipalities, and by other funds:—

| Denomination. | Number of Middle Schools in Prussia maintained by | | |
|------------------|---|-----------------|----------------|
| | Government. | Municipalities. | Private Funds. |
| Protestant | 100 | 199 | 16 |
| Mixed | 18 | 88 | 2 |
| Catholic | 43 | 51 | 2 |
| Jewish | ... | ... | ... |
| Total | 161 | 268 | 20 |

Universities and Higher Technical Schools.—Germany owes its large number of universities, and its widely diffused higher education to its former subdivision into many separate states. Only a few of the universities date their existence from the present century; the majority of them are very much older. Each of the larger provinces, except Posen, has at least one university, the entire number at present being 21. All have four faculties except Münster, which has no faculties of law and medicine. As regards theology, Bonn, Breslau, and Tübingen have both a Protestant and a Catholic faculty; Freiburg, Munich, Münster, and Würzburg are exclusively Catholic; and all the rest are Protestant. The following table gives the names of the 21 universities, the dates of their respective foundations, the number of their professors and other teachers, and of the students attending their lectures during the summer session 1878, arranged according to the numbers in attendance:—

¹ The teaching staff was classified as follows: ordinary professors 957, extraordinary professors 403, honorary professors 41, private teachers (*privat-docenten*) 438, language and exercise masters 39. The following table gives the number of the students in the different faculties for 1878:—

| | |
|--|-------|
| 1. Students of Protestant theology | 1,738 |
| 2. " Roman Catholic theology | 689 |
| 3. " Law, politics, and forestry | 5,154 |
| 4. " Medicine, surgery, and pharmacy | 5,727 |
| 5. " Philosophy, philology, history, geography, mathematics, and natural science | 7,237 |
| 6. Unmatriculated students (chiefly at Berlin) | 2,285 |

| Universities. | Dates of Foundation. | Number of Professors and Teachers. | Number of Students. |
|-------------------------------------|----------------------|------------------------------------|---------------------|
| 1. Berlin, Prussia..... | 1810 | 215 | 4,331 |
| 2. Leipsic, Saxony..... | 1409 | 160 | 2,948 |
| 3. Munich, Bavaria..... | 1826 | 136 | 1,396 |
| 4. Breslau, Prussia (1702)..... | 1811 | 106 | 1,250 |
| 5. Tübingen, Württemberg..... | 1477 | 88 | 1,144 |
| 6. Bonn, Prussia..... | 1818 | 100 | 1,075 |
| 7. Göttingen, Prussia..... | 1737 | 120 | 1,009 |
| 8. Würzburg, Bavaria..... | 1402 | 66 | 960 |
| 9. Halle, Prussia..... | 1697 | 107 | 944 |
| 10. Heidelberg, Baden..... | 1386 | 110 | 868 |
| 11. Strasburg, Alsace-Lorraine..... | 1872 | 90 | 736 |
| 12. Königsberg, Prussia..... | 1544 | 89 | 671 |
| 13. Jena, Thuringian states..... | 1558 | 78 | 570 |
| 14. Greifswald, Prussia..... | 1456 | 61 | 534 |
| 15. Marburg, Prussia..... | 1527 | 71 | 458 |
| 16. Freiburg, Baden..... | 1457 | 57 | 454 |
| 17. Erlangen, Bavaria..... | 1743 | 64 | 415 |
| 18. Giessen, Hesse..... | 1607 | 55 | 347 |
| 19. Münster, Prussia..... | 1780 | 30 | 332 |
| 20. Kiel, Prussia..... | 1665 | 69 | 264 |
| 21. Rostock, Mecklenburg..... | 1419 | 41 | 157 |
| Total..... | | 1,913 | 20,826 |

A number of technical high schools rank along with the universities; they all took their rise in the course of the present century, and usually bear the name of Polytechnicum. To the number of these belong the academies of industry (founded 1821) and of architecture (1798) in Berlin, and the polytechnica at Hanover, Brunswick, Aix-la-Chapelle, Darmstadt, Karlsruhe, Stuttgart, Munich, and Dresden.

Among the remaining higher technical schools may be mentioned the mining academies of Freiberg in Saxony, of Berlin, and of Clausthal in the Harz, and the academies of forestry at Neustadt-Eberswalde, Münden on the Weser, Tharand near Dresden, and Hohenheim near Stuttgart, and at Brunswick, Eisenach, Gießen, and Karlsruhe. Schools of agriculture have also been attached to several universities, the most important being at Berlin, Halle, Göttingen, Königsberg, Jena, Poppelsdorf near Bonn, Munich, and Leipsic.

Libraries.—Mental culture and a general diffusion of knowledge are extensively promoted by means of numerous public libraries established in the capitals, the university towns, and other places. The most celebrated public libraries are those of Berlin (800,000 volumes), Munich (800,000 volumes and 22,000 manuscripts), Göttingen, Dresden, Stuttgart, Hamburg, Strasburg, Frankfort-on-the-Main, Breslau, Gotha, and Wolfenbüttel.

Societies.—There are also numerous societies and unions, some being of an exclusively scientific character, and others being designed for the popular diffusion of useful knowledge. The academies of science in Berlin, Munich, Göttingen, and Leipsic are Government institutions. Ample provision is made for scientific collections of all kinds in almost all places of any importance, either at the public expense or through private munificence.

Observatories.—These have in recent years been considerably augmented. There are 22 observatories in the empire, viz., at Altona, Berlin, Bonn, Bothkamp in Schleswig, Breslau, Dantzic, Düsseldorf, Gotha, Göttingen, Hamburg, Kiel, Königsberg, Leipsic, Lübeck, Mannheim, Marburg, Munich, Potsdam, Schwerin, Spire, Strasburg, and Wilhelmshaven.

Book Trade.—This branch of industry, from the important position it has gradually acquired since the time of the Reformation, is to be regarded as at once a cause and a result of the mental culture of Germany. Leipsic is the centre of the trade. The number of booksellers in Germany was not less than 5196 in 1878, among whom were 1546

publishers. The following table will show the recent progress of German literary production, and its proportion to that of other European states:—

| | Number of Published Works. | | | |
|------|----------------------------|---------|--------------|--------|
| | Germany. | France. | Gt. Britain. | Italy. |
| 1868 | 10,563 | 11,267 | 4,439 | 4,084 |
| 1870 | 10,058 | 8,831 | 5,082 | 4,318 |
| 1872 | 11,127 | 10,559 | 4,812 | 6,429 |
| 1877 | 13,925 | | | |
| 1878 | 13,912 | | | |

Newspapers.—While in England a few important newspapers have an immense circulation, the newspapers of Germany are much more numerous, but individually command a far more limited sale. Leaving out of account insignificant local papers, Germany in 1878 possessed 600 newspapers published daily, or two to three times a week; of these only 90 were published in South Germany. Berlin alone produces 44 newspapers. Most readers receive their newspapers through the post-office or at their clubs, which may help to explain the smaller number of copies sold. Only 50 of the 600 daily newspapers print more than 10,000 copies, and only 20 more than 20,000.

Fine Arts.—There are many academies which have for their object the promotion of a taste for painting, sculpture, architecture, and music, and the improvement of the technique of art. The largest academy is now that of Berlin. The three schools of painting (*malerschulen*) are represented by the academies of Berlin, Munich, and Düsseldorf. Other academies for painting are to be found in Dresden, Karlsruhe, Weimar, and Königsberg. The chief musical academy is at Leipsic. Numerous museums of art and collections of pictures exist in the country, but there is no concentration of these as in London or Paris. Although the collections in Berlin have of late years been considerably enriched, they do not equal in their number of celebrated originals the galleries of Dresden, Munich, and Cassel. An archaeological institute is maintained by the imperial Government at Rome and at Athens, and recently Germany has done much for the advancement of archaeology by the part she has taken in the excavations at Olympia.

Bibliography.

Maps.—The topographical maps of Prussia and of some North German states (scale 1:100,000) are not yet quite completed. The South German states have for the greater part finished their topographical maps, scale 1:50,000. Other good special maps, though not quite completed, are—the maps of Central Europe by Reymann (1:200,000) and by Liebenow (1:300,000), and of Germany by Stieler (1:750,000) and by Ravenstein (1:800,000).

Physical Geography.—There is still wanting a sufficiently detailed work on the physical geography of Germany as a whole, although there are some excellent descriptions of the separate provinces. For general information we may mention—Cotta, *Deutschlands Boden*, 2 vols., 1853; Daniel, *Deutschland*, 1878; Kutzner, *Das deutsche Land*; Von Klöden, *Geographisches Handbuch*, vol. ii., 1875; Neumann, *Das deutsche Reich*, 2 vols., 1874; Peschel and Andree, *Atlas der deutschen Reiches*, 2 parts, 1876-78.

Statistics.—Since the year 1871 there has been established in Berlin an imperial office for statistics which does excellent work. Most of the figures in the foregoing article have been derived from these official returns. From 1871 to 1878 the same office has published 30 volumes in 4to, under the title of *Statistik des deutschen Reiches und Monatshefte der Statistik des deutschen Reiches*. But the returns do not give statistics under all the heads in which the separate states collect them. Much valuable geographical, statistical, and topographical information is given in Neumann's *Das deutsche Reich*. The most recent summaries are to be found year by year in the *Almanach de Gotha*.

Topography.—Rudolph's *Vollständiges Ortslexicon von Deutschland*, 2 vols., 1870, is exact and very ample. The separate states have published lists of all places (towns, villages, hamlets, farms), according to the census of 1871. *Das Reichs-Postgebiet*, issued by the General Post-Office, 1878, containing about 7000 places, exclusive of Württemberg and Bavaria, forms an excellent topographical and statistical handbook. (H. W.A.)

PART II.—HISTORY OF GERMANY.

Authentic history carries us no farther back toward the origin of the Germans than to a period but a short time before the beginning of the Christian era. It is true Herodotus, in the Fifth century B.C., mentions a tribe of Persian Germanii, but the traveled Greek merely refers to them as an aggregation of barbarians and leaves them. The terrible hordes of Cimbri and Teutones who, toward the close of the second century B.C., burst out of their northern forests and precipitated themselves upon Roman territory, left behind them no other record than the ravaged fields of Italy and Gaul, and the decaying heaps of their own slain in the vast slaughters of Aquæ Sextiæ and Vercellæ.

Until the time of Julius Cæsar—a marvelously acute observer in the interest of his own ambition—Germany to the then civilized European world remained a terra-incognita and the fierce blue-eyed Germans a dreaded but unstoried race.

Modern linguistic research, however, has in some slight degree drawn aside the curtain of obscurity and revealed a few details of their primitive life at a time far antedating all purely historical statement. By the philologists and ethnologists of the present day the Germans are classed with that branch of the Aryan stock designated *Tavans*, or "Young Ones." They are thus distinguished from their kinsmen who, retaining the title *Aryan*, subsequently conquered India.

Perhaps not less than three thousand years B.C. the Aryan or Indo-European division of the human family were concentrated not far from the district in Central Asia to which the traditions of the white race point as the source from whence issued its various tribes. The *Tavans*, by whom Europe was subsequently peopled, occupied the western part of Bactria. To the southwest were the Pelagic tribes, the ancestors of the Greeks and Latins, whose advanced guard, the Celts, are supposed to have first moved westward, taking the route south of the Caspian and thence through the defiles of the Caucasus into Europe.

The tribes from whom are descended the Germans inhabited the country south of the Oxus. At an early period these two great races crossed the Oxus and spread themselves over the plains of Scythia to the north. Here they probably remained for many centuries before receiving the impulse which carried them into Europe.

In this remote age their life was chiefly pastoral, although they had some knowledge of agriculture. They possessed horses, oxen, sheep, pigs, goats, dogs, and other domestic animals. Oxen and horses were placed in the yoke, and were also harnessed to wheeled vehicles, but there is no evidence that these nomads were acquainted with the art of riding on the backs of horses. Gold, silver and bronze were known to them, but the race had not yet become iron-workers, and their knowledge of working the precious metals extended no farther than the manufacture of rude jewelry in the form of necklaces and rings. Their weapons were lances, javelins and arrows, and for defense the buckler or shield was generally in use. Of the sword they seem to have been ignorant. Unlike the Scythians, who lived in wagons, and both the ancient and modern Arabs of the desert, with whom the tent has always been a favorite abode, they knew how to build fixed habitations, which enclosed the family hearth and were provided with doors and roofs. Their food consisted mainly of grain ground into flour and the flesh of animals, and they employed salt as a condiment. They had also learned to construct small vessels for service on the water. These boats were propelled by paddles or oars, for they had not yet reached a knowledge of the use of masts and sails. The periodical revolutions

of the moon furnished them with an imperfect standard of time measurement, and they were acquainted with the decimal scheme of numeration.

The basis of all social organization was the family. Marriage was a consecration and was preceded by betrothal. After the marriage, which was celebrated by the joining of hands and the pronouncing of a certain formula, the father of the bride presented a cow to his son-in-law, and the wife was conducted to the abode of her husband, where she was received with a present of fire and water. In her new home, while subject to the authority of her husband, which was supreme, she was treated with affection and respect. The birth of a male child was welcomed as the coming of one who gives joy, and the tenderness lavished on the son was extended to the daughter.

Naturally the union of families descended from the same stock produced the tribe, at whose head was the patriarch, or chief. From collision with hostile aliens and strife among themselves the art of war sprang up, and the foreign prisoner became a slave. It is probable that the Liti, or freedmen, who appear in the political organization of the Germanic race in Europe in later days, were the descendants of prisoners of their own race taken in the wars among themselves. The head of the tribe administered justice, but in doubtful cases the decision was referred to the judgment of God. This was the origin of the ordeal, which was in use among the Germans down to the beginning of the middle ages. There were two forms of the ordeal by fire. In one the accused was made to pass through a trench filled with live coals, and if not burned he was declared innocent. In the other, he was compelled to carry a red-hot lance-head or ball of metal a certain distance, and without injury to himself, or suffer the penalty of guilt. In the judgment by water, a ring was thrown into boiling water and the accused was required to take it out without being scalded; or he was thrown into a pond of cold water, and if he floated without effort he was decided to be guilty. Both forms of the ordeal by water were practiced by the Germans in the time of the Merovingian kings.

The primitive religion of the Germans, as well as that of the other Indo-European peoples, was founded on a belief that everything proceeded from one God. By contact with other races this purity of religious faith was tainted with the polytheism which appears in their mythology on their introduction to the Roman power. It is probable also that they were led to personify the forces of nature as presented in the sun, the moon, the winds, the clouds, lightning, thunder and rain, the unexplainable growth of vegetation, the apparent conflict between day and night, and other natural phenomena. And as they saw these forces seemingly engaged in strife, they easily fell into a belief in the existence of the two principles of good and evil forever warring the one with the other.

Various external forms of worship existed, chief among which was sacrifice. On ordinary occasions the oblation offered consisted of pastoral products, such as curdled milk or butter, with grains of barley, and when in solemn ceremonies blood was required, victims were taken from the flocks, but the highest offering was that of the horse, the noblest of all the domestic animals. It does not appear that in this early age human beings were offered in sacrifice.

Such, in brief, is the imperfect presentation made by modern research of the condition of the Germanic and kindred tribes prior to their final dispersion. Through what lapses of time they remained on the Asiatic side of the Ural, whether they migrated to the