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CONKEY DIVISION



BULGARIA, officially known as the People's Republic of Bulgaria is situated on the Balkan Peninsula (q.v.) in south-eastern Europe. It is bounded on the north by the Danube River and Rumania (Romania), on the east by the Black Sea, on the southeast by Turkey, on the south by Greece, and on the west by Yugoslavia. The national flag has three horizontal stripes—white, red, and green with the coat of arms of the republic in the center. At this writing the national anthem has not been agreed upon; a competition is under way to select it.

The Land.—There are four well-defined physical zones: the Danube plateau; the Balkan Mountains; the southern plains or Maritsa Valley; the Rhodope Mountains. The climate in the north is that of Continental Europe on the average, but sometimes intensely cold with a temperature of 20° below zero; the Black Sea moderates the eastern section, and, in the south, a Mediterranean climate prevails. The precipitation is from 20 to 30 inches.

The Balkan Mountains traverse the country from east to west, and, in the south, the Rhodope chain has Musala, a peak 9,595 feet in height. The rivers include the Danube, Maritsa, Tundzha, Yantra, Isker, Kamchia, and Osma. Coniferous trees abound above 4,500 feet, beech and oak are the mountain varieties, and wild apple, pear, and plum trees are found in the valleys. Some sections have grass vegetation similar to that of the Russian steppes. There are chamois, lynx, wild boar, jackal, and bear in the forests and on the slopes.

Area and Population.—At the time of its liberation from Turkey in 1878, the area of the country was 23,365 square miles and the population 2,007,919 (1880 census). In 1885, it annexed the Turkish province of Eastern Rumelia with 942,680 inhabitants (1884 census) and 12,585 square miles, thus increasing its population to 3,154,375 (1887 census) and its area to 35,950 square miles. In 1951, after numerous territorial changes in the intervening years, the nation's area was 39,825 square miles, as determined by the Allied powers in the peace treaty of 1947.

According to official censuses, Bulgaria's population was 3,744,283 (1900); 4,337,513 (1910); 4,846,971 (1920); 5,478,741 (1926); 6,077,939 (1934); and, 6,665,476 (1946), not including southern Dobrudja (356,730) which Bulgaria received in 1940 and retained after World War II. Together with Dobrudja the population according to the 1946 census was 7,022,206.

By the Treaty of London (May 30, 1913),

Bulgaria won a large accession of territory from Turkey; but as a result of the Second Balkan War in which she was defeated by Serbia, Greece, Rumania, and Turkey (see BALKAN WARS), Bulgaria was compelled by the Treaty of Bucharest (Aug. 10, 1913) to cede 2,971 square miles of territory in southern Dobrudja (q.v.) to Rumania. However, Bulgaria retained a portion of the 8,950 square miles of the territory conquered from Turkey during the previous year. In 1915, Turkey ceded to Bulgaria a small strip of territory (998.8 square miles) in the vicinity of Adrianople. By the Treaty of Neuilly (Nov. 27, 1919) Bulgaria was required to cede 991 square miles of territory along its western frontier to the new Yugoslav state, and 3,363 square miles in western Thrace to Greece. Bulgaria thus gained a total of some 2,625 square miles of territory as a result of the Balkan and First World wars, and its area during the years following the peace settlement of 1919 stood at 39,814 square miles. On Sept. 8, 1940, Rumania retroceded southern Dobrudja to Bulgaria and, in 1941, after joining the Axis on March 1, Bulgaria made considerable territorial gains at the expense of Yugoslavia and Greece. In Greek eastern Macedonia and western Thrace it annexed some 5,462 square miles of territory with a population of about 645,000, while in southern Yugoslavia it took an area of 10,930 square miles with 1,255,000 inhabitants. As a result of these annexations, Bulgaria had an area of 59,177 square miles in 1942 with a population officially estimated at 8,718,000, at the time of its greatest territorial expansion.

The principal Bulgarian cities in 1946 were Sofia (434,888), the capital city, Plovdiv (125,440), Varna (renamed Stalin in 1949, 77,792), Ruse (53,420) and Burgas (43,684). The rural population in 1946 was 5,291,988 (76 per cent) and urban 1,730,218 (24 per cent).

Economic Life.—Bulgaria is essentially an agrarian country with 80 per cent of its people engaged in farming, although the present Communist regime is making strenuous efforts toward development of industry and industrialization of agriculture. In 1938, 11,000,000 acres, or 40 per cent of the country's total area, was arable and 25 per cent was covered by forest. Thereafter, the area under cultivation expanded under the pressure of wartime demands. However, Bulgaria still suffers from rural overpopulation, with a rural density of close to 200 per square mile of land under cultivation. Land holdings are small and farm ownership is widespread among the peasants who are of the more progressive type.

On the whole, hand methods and the use of simple tools prevail in agriculture.

The area under grain crops is about 70 per cent of the total area under cultivation; wheat is the most important grain, the average annual production for the years 1938 and 1939 amounting to 2,000,000 metric tons—more than sufficient for the country's needs. Corn is the second largest grain crop, followed by rye. Other food products are rice, dried white beans, vegetables, and fruits, particularly table grapes. According to the Five-Year Plan, 1949–1953, the share of agriculture in national production will fall from 70 per cent to 55 per cent, and that of industry will rise from 30 per cent to 45 per cent. The cooperative farms are expected to produce 60 per cent of the output of agriculture. The following figures indicate the quantities of certain principal commodities produced in 1948 (in metric tons): wheat 1,470,000; maize 890,000; barley 689,022; and oats 172,583.

The drop in grain prices during the depression years in the early 1930's stimulated diversification and the production of industrial crops, especially tobacco, sugar beets, cotton, hemp, flax, soya, and sunflower seeds. This trend was accelerated after 1940. The production of tobacco, which is the leading industrial crop, amounted to 31,323 metric tons in 1939 (and 68,000 metric tons in 1948). During World War II, the production of tobacco increased considerably as a result of Bulgaria's occupation of Greek and Yugoslav tobacco-producing regions. Sunflower seed cultivation yielded 319,667,000 pounds in 1939. The production of roses for attar of roses has declined. About one third of the country's farm income results from the raising of livestock. The poultry industry is especially widespread and eggs are second only to tobacco on the export list. The following figures indicate the quantity of livestock and poultry produced:

In 1948		In 1946	
Horses	449,257	Horses	548,954
Cattle	1,918,421	Buffalo	311,860
Sheep and Goats	8,994,853	Donkeys	172,876
Pigs	956,607	Goats	1,004,675
Poultry	10,329,409	Chickens	10,292,166

Prior to the establishment of the Communist government, Bulgaria boasted a fine system of co-operatives coordinated under the general supervision of the Bulgarian Agricultural Bank. Credit co-operatives were the most common—among the older cooperative institutions in Bulgaria. In 1939, membership in all co-operatives numbered close to a million, representing more than one half of all families. Since the end of the War, Bulgaria has introduced a series of drastic reforms affecting the land and peasantry. Collectivization modeled on Soviet principles has had the top priority. Rapid progress is being made in the industrialization of agriculture. There are about 70 machine tractor stations (1949) and eight machine tractor schools. According to official figures of May 1950, the number of co-operative farms rose to 1,713 with 212,366 members and 1,873,935 acres of land. On March 6, 1950, the model cooperative farm statute was approved which stipulates how co-operatives must be organized, describes their juridical status, and specifies obligations of the co-operatives.

All subsoil resources in Bulgaria are the property of the state although some are privately exploited. After 1940, the production of all

minerals was intensified owing to heavy Axis demands during the war and the subsequent "socialist construction" and planning. In 1947, the production of lignite amounted to 4,044,000 metric tons, while copper, lead, manganese, and chrome mining yielded much smaller quantities.

The Five-Year Plan calls for increased industrial and agricultural production and raising of the material and cultural standard of the people. In industry considerable progress has been achieved and it, like the whole Bulgarian economic life, is being transformed into an economy complementing that of the Soviet Union. Apparent progress has been made in public works, electrification and industrialization of the country. Electricity has been brought to 500 villages, and the power networks of Rumania and Bulgaria have been merged, and several new power plants have either been completed or are nearing completion (Koprinka, Nadezhda, Vucha system, Vidima, and Petrovo). The industrial production is said to have increased in 1949 by 2.5 times over that of 1939, showing greatest progress in metallurgy and machine-building. In 1949, the state and cooperative industry—socialist sector of the economy—supplied 99.8 per cent of the total industrial production. The various government measures have been aimed toward undermining small privately owned industries. Textile, tobacco, and food-processing industries continue to be the objects of basic emphasis.

Commerce and Trade.—Most of the trade is carried on with the countries of the Communist orbit. It was estimated in 1951 that about 80 per cent of the trade was with the Soviet Union. On February 18, 1950, a new Soviet-Bulgarian Trade Treaty was signed, which provided for a 20 per cent increase in the volume of trade between the two countries. The Soviet Union agreed to supply Bulgaria, as theretofore, with petroleum products, machinery, rubber, cotton, motor vehicles, medicine, fertilizers and various types of industrial goods; while Bulgaria would export to the Soviet Union tobacco, minerals, rose oil, and certain other types of agrarian produce. Similar trade exchange is carried on between Bulgaria and other Communist countries.

The State Planning Corporation, in charge of commerce, having been accused of inefficiency and mismanagement, on June 3, 1950, a decree was issued by which the state and cooperative sector took over all wholesale trade and 86 per cent of retail trade. The decree provides for the creation of a state enterprise under the Council of Ministers to manage and develop the trade. Private retail trade was reduced from 57 per cent in 1947 to 14 per cent in 1949.

Transportation and Communication.—Bulgarian railways in 1946 consisted of 2,072 miles. In the same year they carried 34 million passengers and (in 1948) 10 million tons of traffic in goods. In 1945 Bulgaria had a system of roads consisting of 13,870 miles. In 1940, the country had 493 miles of telegraph lines, 13,102 miles of telephone lines, and 723 post offices. All these communication facilities have been markedly extended in recent years. In 1948 Bulgaria had 54,300 telephones. Not including military vehicles, there were in 1948 approximately 10,000 automobiles of various kinds. The government has reported considerable progress in the development of transportation. However, since October 7, 1949, the Ministry of Railways has been purged

of inefficient officials, which may be interpreted as an indication of failure. The principal Bulgarian transport is carried by two railways crossing the state from west and east and two lines crossing the country from north and south. One of these is the *Orient Express* which links Sofia, the capital of Bulgaria, with central and western Europe and Turkey. The Danube is a very important artery of communication between Bulgaria and central Europe, especially in view of the dominant position of eastern European states on the commission controlling the Danube navigation. The most important ports on the Danube are Ruse (Ruschuk), Svistov, and Vidin. There is a joint Soviet-Bulgarian navigation company for purposes of closer cooperation. On the Black Sea there are two small ports—Varna and Burgas. Since the end of World War II, two small railway lines have been built—Gorna Orekhovitsa-Zlatitsa and Sopot-Klissura—and there are others still in process of construction. In the spring of 1950, the completion of a motor workshop, first of its kind, to handle 1,000 cars annually, was announced.

Finance.—On Feb. 17, 1950, the parliament approved the national budget amounting to 211 billion leva, a figure far in excess of the 1949 budget. The largest portion of the budget was earmarked for the nationalization program (13 per cent). The next largest share went to military and police, civil servants, and public works respectively. The official rate of exchange is about 290 leva for one dollar. In May 1950, the General Income Tax law was adopted, patterned on the Soviet system, and the so-called "class principle of a just distribution of taxes." In 1939, the domestic debt stood at 8,815,495,000 leva and foreign at 12,945,525,685 leva; in 1946 the domestic debt was 112,235,683,310, and the foreign debt 11,888,409,450 leva.

Bulgaria is currently in the second year of the first Five-Year Plan, that of 1949–1953. The plan has been drastically revised since Premier Georgi Dimitrov's death. Work on the building of heavy industry has been virtually stopped and industrialization is restricted to mere repairs of old installations. The Soviet Union has apparently failed to deliver the machines and tools agreed upon in trade pacts. At the same time Bulgarian raw materials, particularly ores (including uranium from a mine near Sofia), have been flowing to the Soviet Union uninterrupted. Evidence suggests that Bulgaria's role in the Soviet constellation is to be that of a predominantly agricultural state. Several power plants, begun in 1947 and 1948, already have been transformed into drainage pumps for field irrigation. Bulgaria's famous rose oil (as well as grape pulp and tobacco) has been placed under strict government control and earmarked for the exclusive use of the Soviet Union.

Since 1949 the government has been purging leading economic experts for "inefficiency" and "sabotage" and Vice Premier Traicho Kostov was one of such victims. He was hanged Dec. 16, 1949. The government has admitted failures in agricultural production and attributed this to "consecutive crop failures" and difficulties in gathering "the deliveries to the state." The *kulaks*—well-to-do peasants—were accused of sabotage, because they not only refused to cooperate in the collection of the harvests, but even ventured to attack government agents entrusted with that task. In order to assure the collection of the

state's share of the harvest, a decree has been passed by which the Ministry of Agriculture, through local agents, can force every farm producer to deliver to the state a specified amount of produce at established prices. Likewise in a resolution of June 21, 1949, the Communist Party listed a ten-point program to ensure that sufficient quantities of grain would be left to the small peasants as an incentive to increased production. Despite the many problems and reversals, the government announced that the first year of the Five-Year Plan (1949) was "overfulfilled by twenty-eight per cent." In 1950, the government announced construction of the "Stalin" dam, three hydroelectric power plants (Passarel, Kokalyane, Sofia), and irrigation systems in the Sofia and Brushlian plains. It further announced that the construction of the Nitrogen Fertilizer Plant and the "Maritsa 3" thermoelectric power stations is well under way, and that the section producing sulphuric acid was completed in December 1950.

Government.—Bulgaria is a "people's republic" described by the Communists as a "new type democracy" and a "people's democratic state." Until 1948, the government was ostensibly in the hands of a coalition Fatherland Front, representing all democratic parties, but in fact it was directly controlled by the Communist Party. After 1948 whatever power the non-Communist parties did enjoy was gradually curtailed so that in early 1950 they became completely submerged into the Fatherland Front which was transformed into a single political bloc with bylaws and a political program. People's Democracy was officially defined as a system representing the overwhelming majority of the people under the leadership of the working class. It is a state in the transitional period of the development to socialism, and is built on cooperation and friendship with the Soviet Union. A new constitution was adopted on Dec. 4, 1947. The parliament (*Sobranie*) is elected by adults of 18 years of age or above, which in turn elects a Presidium of 18 members and the Ministerial Council. The monarchy was abolished and a republican form of government proclaimed. King Simeon II and his mother, Queen Joanna, were allowed to emigrate from the country.

Religion.—The national religion of Bulgaria is the Bulgarian Orthodox Church, identical with, but independent of, the Greek Orthodox Church. Approximately 85 per cent of the population belong to the Eastern or Greek Orthodox Church. The remaining 15 per cent comprises about 500,000 Moslems (Turks and Pomaks/Moslem Bulgarians), approximately 45,000 Jews (mostly Sephardic), about 40,000 Roman Catholics, and about 15,000 Protestants. The Constitution guarantees religious freedom, but this is more nominal than real. The secular policy of the government has restricted the free function of religious institutions. Catholic missions were forbidden after Feb. 23, 1949. In September 1948, Exarch Stefan I, the head of the Orthodox Church, was replaced by a more amenable church leader. In early 1949, Metropolitan Paisy of Plovdiv, President of the Holy Synod, was replaced by Metropolitan Kiril of Plovdiv. In February 1949, a new church law was introduced which provides for legal actions against clergy who work against "public order and morality" and against "the democratic institutions." From February 25 to March 6, 1949, fifteen Protestant

pastors were tried and convicted for subversive activities, espionage and black market dealings. In the summer of 1950, the Turks accused Bulgaria of alleged mass expulsion of her Turkish (Moslem) citizens. Thousands of such refugees found their way to Turkey after being stripped of their belongings. The Turks brought charges against Bulgaria before the United Nations. According to the February law all religious institutions and officials are placed under full state control. It prohibits religious organizations from maintaining relations with any group abroad, gives the state full authority to alter or suppress church statutes, regulations, and rules, makes the governing boards of churches fully subservient to the state, and stipulates penalties for members of the clergy who in any way work against the existing order.

Military Service.—The Bulgarian Army was created immediately after the liberation in 1878, and for the first seven years was trained and officered largely by Russians. Suddenly deprived of its Russian officers, it gave a good account of itself in the brief Serb-Bulgarian War of November 1885. Trained later along German and Austrian lines, the army did not see action again until the First Balkan War when it won notable victories over the Turks at Kirk-Kilissa and Lüleburgaz in October 1912. It was, however, overwhelmed by its enemies in the Second Balkan War. In 1915 Bulgaria joined the Central Powers and helped in final defeat of Serbia in that year, and in holding the Allied forces on the Salonika front. In World War II it served as a base of German operations against Yugoslavia and Greece, part of whose territories it occupied in the wake of German armies. During the war the armies were engaged in periodic skirmishes with native resistance movements and engaged the Yugoslav partisans of Marshal Tito (Josip Broz) in several important engagements. Although it reached the size of almost 400,000 during World War I, the Bulgarian conscript army was reduced by the Treaty of Neuilly (1919) to 20,000 men. In 1933-1934, it had 17,667 soldiers, 2,200 non-commissioned officers, and 1,650 officers. The navy and air force were negligible. Bulgaria also had a frontier guard of some 9,000 men. As a substitute for military conscription, obligatory labor service was introduced in 1920. This measure, which provided a large body of laborers for use on public works, was widely greeted as a progressive reform at the time of its introduction. By the Treaty of Salonika (July 1938), Bulgaria's right to rearm was recognized by its neighbors, and since that date its military establishment has been considerably expanded. The Bulgarian officer class, which is well provided for, constitutes an important element in Bulgarian society and politics and, through the Officers' League and the Reserve Officers' League, played an important part in coups d'état of 1923 and 1934.

The Treaty of Peace, February 10, 1947, terminating World War II, once again limited Bulgaria's armed forces, which in the later phase of the war against Nazi Germany (1944-1945) actively participated on the side of the Soviet Union and its allies. According to the Peace Treaty, the Bulgarian Army was limited to 55,000 troops and Navy and Air Force personnel to 5,500 and 5,200 respectively. Since Tito's defection all phases of government have been subjected to more direct Soviet control. In late 1949 Gen.

Ivan Kinov, chief of staff, was removed. On May 27, 1950, national defense minister Gen. Georgi Damianov was replaced by Gen. Peter Panchevski. On March 16, 1949, Bulgaria was accused by the United States and Great Britain for violation of military clauses of the peace treaty of which there was ample evidence. Soviet technicians and instructors are attached to the Bulgarian Army which is expected to serve as a complementary force of the Soviet Army. The so-called workers' brigades are considered a semi-military force. The militia has been enlarged and supplied with heavy equipment which makes them tantamount to an army. The present (1951) armed strength of Bulgaria is estimated at about 100,000. In case of war the country can mobilize several hundred thousand troops. The new military uniforms are styled along those of the Soviet Union. The equipment and military organization are Soviet. Political commissars accompany each military unit for reasons of appropriate political indoctrination and surveillance of any dangerous tendencies.

Education.—The educational system has been reorganized to conform to the socialist needs. The paramount educational aim is to train "socialist intelligentsia" and skilled personnel for the needs of the "socialist construction." Two new universities have been founded since the close of World War II (Plovdiv and Varna) and several technical schools opened. In 1947-1948 there were 9,238 elementary schools with 889,854 pupils and 28,957 teachers; 258 secondary schools with 152,661 pupils and 5,229 teachers; 207 technical schools with 32,968 pupils and 1,051 teachers; and 9 universities and colleges with 49,800 students and 1,283 instructors. In 1950 several hundred young workers were entered in universities after having completed special preparatory courses, and are expected to join the ranks of "people's intelligentsia." Various vocational schools have been established in factories and other government establishments. Many short-term courses are offered for those wishing to raise their "professional qualifications." Since 1878 when modern Bulgaria came into existence much progress has been made in the field of education and learning. Sofia University (St. Clement of Ohrid) maintains high scholastic standards. In technical fields, and in others as well, many Bulgarian students pursued specialization in foreign universities, especially in Germany, France, and Yugoslavia. Since 1944, however, students have been sent to the Soviet Union for higher study. The Russian language and Marxian studies are officially sponsored.

History.—The Slavic peoples who were eventually to comprise the bulk of the Bulgarian population arrived in the Balkan Peninsula in the 6th century, and before long they had absorbed the original inhabitants as far south as Thessaly. A simple agricultural people, the Slavs brought with them their communal social structure and their anthropomorphic religion. They had no well defined political organization, however, until the Bulgars crossed the Danube under Asperukh (Asparukh) in the latter part of the 7th century. Coming from the northern shores of the Black Sea, the Bulgars were organized for war and conquest and, once south of the Danube, they soon laid the foundations of a new state despite the attacks of the Byzantine armies. The small state established between the Danube and the Black Sea by Asperukh and

Tervel, his successor, which was governed by the Bulgar khan and his nobility but had a substantial Slavic population, of necessity devoted the greater part of its energies to the struggle against Byzantium. It was not until 811, under Khan Krum, that the Bulgars were able to gain a decisive victory over a Byzantine army, killing the Emperor Nicephorus I in the process. Four years later, under Omortag, this victory was consolidated in a peace treaty which defined a frontier favorable to the Bulgars and established peace between the two states for over a generation. The two great problems which the Bulgar state faced at this time were the curbing of the aristocracy and conversion to Christianity by Saints Cyril and Methodius. From the start, the khans had had great difficulty in maintaining their authority over their nobility, and Krum had found it useful to grant favors to his Slavic inhabitants as a means of counterbalancing the influence of the relatively small Bulgar aristocracy. By his successors this method was used increasingly, until the two groups eventually became inextricably intermingled. The Bulgarian conversion to Christianity was a parallel process. The preponderant position which the Christian Slavs had assumed in Bulgaria by the end of the 9th century, and the vigorous efforts of both the Eastern and the Western churches to win over King Boris I (reigned 852-889) to Christianity, finally determined the issue. Taking advantage of his bargaining position in relation to the two churches, Boris accepted Christianity from the patriarch in Constantinople in 865 and within a few years gained sufficient ecclesiastical independence to establish his own archbishopric. Boris' reign in many ways marked the height of the Bulgarian Empire, for while his son Simeon (reigned 893-927) greatly extended its frontiers, the cost in manpower and wealth was so great that it never recovered its resilience. Under Simeon's successors the empire declined rapidly until in 972, after undergoing invasions by Pechenegs, Magyars and Varangians, Bulgaria was reduced to the position of a province in the Byzantine Empire. The small eastern Bulgarian kingdom which survived under Samuel was conquered in 1014 and the second Bulgarian Empire of 1185-1330 was but a pale replica of its predecessor, its existence being made possible only by the disorganized state of the Byzantine Empire. The defeat of Mikhail Shishman by the Turks in 1330 is usually taken as the end of Bulgarian independence, but resistance continued for a considerable time thereafter. Sofia was not captured until 1382, and Bulgars fought with the Serbs against the Turks at Kosovo in 1389. Not until the Christian crusades were defeated at Nikopol (Nicopolis) in 1396 and at Varna in 1444 was the Turkish rule over the Bulgarian people definitely established.

While Bulgaria enjoyed no political independence under Turkish rule except in the conduct of local affairs, general conditions were relatively favorable during the first centuries after the conquest. A Turkish feudal aristocracy replaced the Bulgarian, and under an efficient government in Constantinople, order was maintained, and the Bulgarian subjects prospered in supplying food and services to the nearby Ottoman capital. The janizary system offered opportunities on a nondiscriminatory basis for the entry into the public service of intelligent boys;

and for several centuries many of the highest posts in Constantinople were filled by sons of Slavic subjects. The movement of international trade away from the eastern Mediterranean which occurred in the 16th and 17th centuries undermined the prosperity of the Ottoman Empire, however, and the rise of nationalism in the West completed the task which the economic decline had initiated. The decline of Ottoman power, which was evidenced in the weakening of the authority of the Sultan and the central government and in the inability of its armies further to expand its frontiers, was reflected in the increasing misgovernment of its many provinces. In Bulgaria local chieftains, such as Pazvanoglu at Vidin, defied the central authorities and imposed their will on the local population without regard to law or customs. Under such conditions popular unrest was inevitable, and it took two forms: a growth in national sentiment, and the development of a movement for political independence.

Modern Bulgarian nationalism was founded in 1762 with the publication by Father Paissy at Mt. Athos of a *History of the Slavic-Bulgarian People, Czars and Saints*, which appealed to all Bulgarians to look to their own history for inspiration. This national movement was later taken up by Bishop Stoyko Sophroni, and was given a great impetus by the rapid growth of the school system after 1835. After the middle of the century the Bulgarian-language press gave full support to the new nationalism, although only a minority of the intellectual leaders were prepared to advocate complete independence from the Ottoman Empire. The greatest achievement of the nationalists was the establishment of an independent Bulgarian church in 1870, thus freeing the Bulgarian ecclesiastical institutions from Greek domination. Meanwhile, a revolutionary movement aiming at political independence was in progress. Committees were organized in Odessa and Bucharest in an effort to arouse the Bulgarians to revolt, and numerous raids and uprisings were staged by such leaders as George Rakovski, Vasil Levski, Khristo Botyov, and Petko Karavelov. The native revolutionary movement never progressed very far, however, and it was only after the intervention of the Great Powers in 1876 and military intervention by Russia in 1877-1878 that Bulgarian independence was accomplished (see RUSSO-TURKISH WARS). Russia crowned her successful military campaign with the Treaty of San Stefano (1878 q.v.) creating a large Bulgaria which she expected to dominate. Fearing the undue extension of Russian influence in the Balkans, Great Britain and Austria-Hungary objected to this treaty and in a conference at Berlin saw to it that independent Bulgaria was greatly reduced in size (see BERLIN CONGRESS). As a result, Bulgarian nationalists have ever since had as their goal the extension of Bulgaria's frontiers to the limits set at San Stefano. In drawing up the constitution of their new state an assembly of Bulgarian notables met at Trnovo (Tirnov) in the winter and spring of 1879 and discussed a draft organic statute prepared by Russian experts and based primarily on the Serbian Constitution. The new constitution was adopted on April 28, 1879, and was a very liberal charter in so far as it provided for a National Assembly elected by universal manhood suffrage. It also gave the prince extensive and undefined powers,

the 18th century there has been an even more extensive influence from the French, German, and Russian languages. Within Bulgaria, the easternmost of the two main dialects has been accepted as the standard, and it is taught throughout the country by the national school system. Writings in the Bulgarian language began to appear not long after the adoption of the Cyrillic alphabet (q.v.) and throughout the Middle Ages they dealt almost exclusively with religious subjects. Before the liberation, the greater part of the political and literary writing appeared in the form of journalism. The question as to the best means of obtaining ecclesiastical and political independence provided the material for the chief issues of the pre-liberation era.

Ivan Vazov (1850–1921) was the first major writer whose work was more literary than political. An ardent nationalist, as were all the writers of his generation, Vazov portrayed Bulgarian history and legend in numerous poems, novels, and plays. Of these the most popular is his novel *Under the Yoke*, which was published in English translation in 1912. Petko U. Todorov (1879–1914), Konstantin Velitchkov (1855–1907) and Stoyan Mihailovsky (1856–1927) were contemporaries of Vazov, who likewise followed the customary nationalist pattern of the time, although the latter exhibited considerable interest in current problems. In the same category, but of a somewhat younger generation, were Ivan Vlaikov, Anton Strashimirov (b. 1872), Georgi P. Stamatov (b. 1869) and Kiril Christov (Hristov) (b. 1875), of whom the last-named is generally regarded as the most distinguished modern poet. A unique figure in Bulgarian literature is the humorist and satirist Aleko Konstantinov (1863–97). Through the personality of Bai Ganyu, or Uncle John, Konstantinov portrayed in an inimitable way the characteristics of the Bulgarian peasant who is just emerging into the lower middle class. In these stories, which have made Bai Ganyu the best-known and best-loved character in Bulgarian literature, the impact of Western civilization on the naïve but canny peasant is described in many amusing episodes. Konstantinov's visit to the Chicago World's Fair is described in his *To Chicago and Back* (1893). Freed somewhat from the reins of nationalism and well acquainted with European literature, Pentcho Slaveikov (1866–1912) and P. K. Yavorov (1877–1914) introduced a new note of sophistication into Bulgarian lyrical and symbolic poetry. More recent poets are Dimcho Debelyanov (1887–1916), Lyudmil Stoyanov, Dora Gabe, Elizabeth Bagryana and Nikola Rakitin. In the field of prose, Stiliyan Chilingirov (b. 1881) and Elin-Pelin (b. 1878) have established a pattern of story-telling in which he description of peasant life is most prominent. Elin-Pelin (pseudonym for Dimitri Ivanoff) is also one of Bulgaria's most popular writers of children's literature. Yordan Yovkov (b. 1884) is best known for his short stories and plays. Dobri Vemirov (b. 1882), Georgi Raichev (b. 1882) and Dimitar Shishmanov (b. 1889) have also contributed to the field of fiction which interests itself primarily in the life of the peasant. Of the younger generation, K. Konstantinov (b. 1890), Anna Kamenova (b. 1894), Svetoslav Minkov (b. 1902) and Angel Karalichev (b. 1902) are the most popular. In the field of literary history and criticism, the names of Ivan Shishmanov, Boyan Yenev, Alexander Balabanov, Mihail Arnaudov,

Georgi Konstantinov, and Petr Hristoforov are the best known. Among the historians, M. S. Drinov, S. S. Bobchev (b. 1853), Vasil Zlatarsky, Simeon Radev (b. 1879), Petr Nikov, P. Mutalchiev, Petr Durvingov, Andrei Toshev, Alexandr Girginov, and G. P. Genov have all made significant contributions based on solid research.

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BULGARIS, bool-gä'rës, Demetrius, Greek statesman: b. Hydra 1803; d. Athens, 11 Jan. 1878. While a young man he held office in his native city and took a prominent part in the Grecian war for independence. In 1831, after the downfall of Capo d'Istria, he had charge of the administration of the Department of Marine, but on the accession of King Otho he retired from office. After the revolution of 1843 he was a member of the Senate, and from 1848 to 1849 was Minister of Finance in the Cabinet of Canaris. During the Crimean War he was at the head of the Cabinet and as Minister of the Interior put an end to internal disorder and conciliated the Powers. In 1857 he resigned and entered the Senate as a leader of the opposition. At the outbreak of the revolution of 1862 he was made regent and chose Canaris and Rufos as his colleagues, but was deposed by the former. In 1865, 1872 and 1874–75 he was again at the head of the Cabinet.

BULGARUS, Italian jurist: b. Bologna in the 11th century; d. 1166. He lived to a great age and was one of the trusted advisers of Emperor Frederick I. He was one of the famous group of writers known as the «Four Doctors» of Bologna, and his most noted work is a legal commentary, *De Regulis Juris*. It was edited at Bonn (1856) by F. G. C. Bechhaus.

BULIMUS, a genus of land-snails of the family *Helicidae*, the species of which are mainly restricted to South America, especially Peru, Ecuador and Bolivia. Some of the species are very large, as are also their eggs, those of *B. oblongus* being about the size of a sparrow's. There is an egg of another species in the British Museum which measures exactly one and three-fourths inches in length.

BULKELEY, Morgan Gardner, American politician: b. East Haddam, Conn., 26 Dec. 1838; d. 6 Nov. 1922. At the age of 15 he

left the Hartford Public High School to work as messenger in his uncle's store in Brooklyn, N. Y., where he subsequently became confidential clerk and partner. At the outbreak of the Civil War he enlisted in the 13th New York Regiment and served during Gen. George McClellan's Peninsula Campaign under Gen. Joseph Mansfield. Later, he became commander of the Grand Army of the Republic in Connecticut. Returning to Hartford, he helped to found, and became first president of, the United States Bank in that city. In 1879 he was elected third president of the Aetna Life Insurance Company, a position he held until his death. In Hartford he also became president of the court of common council.

For 30 years he was a prominent figure in local and state politics. He was four times elected mayor of Hartford (1880-1888), and in 1889 was elected governor. At the state election in November, 1890, the first gubernatorial election under the new secret ballot law, the Democratic ticket received a considerable plurality over the Republican, but a majority being necessary to elect, there was some doubt whether there had been a choice by the people for governor or treasurer. Accordingly the matter went before the general assembly, which met in January 1891, and in which the Republicans had a majority of four on joint ballot, the senate being Democratic. A long contest ensued between the two houses, the senate claiming the election of the recent Democratic candidates and refusing to recognize in any manner Governor Bulkeley and the other hold-over Republican officials. The matter was finally settled on Jan. 5, 1892, when the State Supreme Court, in the *quo warranto* suit brought against Governor Bulkeley by the Democratic candidate for governor, found "Morgan G. Bulkeley to be governor, both *de facto* and *de jure*," and his right to hold over till both houses of the general assembly should unite in declaring the election of his successor was affirmed. As the two houses could not agree, the governor remained in office for another full term. In November 1892 the Democratic ticket swept the state.

During 1905-1911 Bulkeley was United States senator. He was often in disagreement with President Roosevelt. His objection to placing the tobacco growers of Connecticut in competition with the labor standards of the Philippines brought him into sharp personal conflict with the president. He differed with him also on his "New Nationalism" and federal supervision of insurance.

Governor Bulkeley was greatly interested in sports, particularly baseball, and was president of the National League when it was founded in 1876. He was a delegate to the Republican National Conventions of 1888 and 1896.

BULKELEY, Peter, American colonist and clergyman: b. Odell, Bedfordshire, England, Jan. 31, 1583; d. Concord, Mass., March 9, 1659. He was educated at Cambridge University. In 1620 he succeeded to his father's fortune and position as rector of Odell. On the accession of Archbishop Laud, finding himself at variance with the ecclesiastical authorities of the time, he resolved in 1636 to emigrate to America. He became the first minister at Concord, Massachusetts, of which town he was the chief founder. His zeal for Puritanism and his disapproval of ritualism won for him the approval of Cotton Mather. He was the

author of some Latin poems, which are contained in Cotton Mather's *History of New England*; also of some English verse and of a theological treatise, *The Gospel Covenant Opened*, published in London in 1646.

BULKHEAD, the name given to a variety of forms of partition: (1) In its nautical sense, a partition extending across a ship separating it into compartments, generally watertight. In large vessels longitudinal bulkheads are employed, as well as those running athwartships. Communication between such compartments is maintained by doors which can be immediately closed in case of accident. The farthest forward bulkhead is strongly built to withstand the shock of collision, thus confining the damage to a small portion of the vessel. (2) A strong framework in tunnels to resist rock pressure or to prevent the irruption of water or quicksand. (3) A facing (generally of timber) to protect or support the wall of a harbor. See also SHIPBUILDING INDUSTRY.

BULKLEY, Lucius Duncan, American physician and author: b. New York, N. Y., Jan. 12, 1845; d. Englewood, N. J., July 20, 1928. He graduated in arts at Yale, and in medicine at the College of Physicians and Surgeons; also studied dermatology in Vienna and Paris. In addition to his large dermatological practice in New York he engaged in literary work. He contributed liberally to medical literature and edited the *Archives of Dermatology*. He was professor of dermatology in the Post-Graduate Medical School and Hospital, and in 1897 was president of the American Academy of Medicine. Retiring from dermatological activity, he became interested in the nonsurgical treatment of cancer. His best-known publications are *Eczema* (3rd ed. 1901); *Acne* (1885); *Manual of Diseases of the Skin* (6th ed. 1912); *Syphilis in the Innocent* (1894); *Cancer and Its Non-Surgical Treatment* (1921) and *Cancer of the Breast* (1924).

BULL, Charles Stedman, American physician: b. New York, N. Y., 1846; d. there, April 17, 1911. He was graduated from Columbia College in 1864, and at the College of Physicians and Surgeons in 1868. He was house physician and surgeon at Bellevue Hospital, New York, and later studied in Vienna, Heidelberg, Berlin, Utrecht, Paris, and London. He was surgeon to the New York Eye and Ear Infirmary, and consulting ophthalmic surgeon to other hospitals. He ranked among the greatest oculists of his time, and was professor of ophthalmology in Cornell University. He was president of the American Ophthalmological Society, 1903-1907, and was author of a number of works on ophthalmology.

BULL, Ephraim Wales, American horticulturist: b. Boston, Mass., Mar. 4, 1806; d. Sept. 26, 1895. From childhood up he was interested in grape raising. Until he became known as a horticulturist his profession was that of a gold-beater. In result of much experimentation, original in nature, he developed, in 1853, a new grape, the famous Concord, and numerous other new strains of grapes.

BULL, George Joseph, Canadian ophthalmic surgeon: b. Hamilton, Ontario, Canada, Feb. 16, 1848; d. 1911. He was graduated at McGill University in 1869, studied in Paris, and began the

practice of medicine in Montreal, devoting himself especially to diseases of the eye. In 1886 he returned to Paris and there became a recognized expert in ophthalmology. Among his writings was *Ophthalmia and Optometry*.

BULL, John, English composer and organist: b. Somersetshire, 1563?; d. Antwerp, Belgium, March 12, 1628. He was organist of Hereford Cathedral prior to 1591, when he was appointed to a like post in the Chapel Royal. In 1596 he became professor of music at Gresham College, London; since the rules of the institution demanded lectures in Latin and he was unable to speak in that tongue, a special dispensation was made allowing him to lecture in English. He moved to Belgium in 1613, and from 1617 until his death he served as organist of Antwerp Cathedral. A number of his compositions have been preserved, among them an early form of the melody of *God Save the King* (q.v.).

BULL, John, the popular personification of the English nation. See **JOHN BULL**.

BULL, Ole Bornemann, Norwegian violinist: b. Bergen, Feb. 5, 1810; d. near there, Aug. 17, 1880. During 1829 he studied briefly in Kassel (Cassel), Germany, under Louis Spohr, and after his return to Norway he gave several public performances. He went to Paris in 1831, but at first met with little success. There, however, he made the acquaintance of Nicolò Paganini, whose method he subsequently studied closely and turned to good account. In due course he became recognized in the world of music as a virtuoso of extraordinary talent and a master of the violin. For several years he toured through Europe; and in the United States, which he visited five times between 1843 and 1879, he won immense popularity by his brilliant technique. In 1850 he founded a national theatre in Bergen, but soon became involved in quarrels with the authorities. He lost a great part of his fortune as the result of an attempt in 1852 to found a colony of his countrymen in Potter County, Pa., to be named, for him, Oleanna. Subsequently he married in the United States, settling at Cambridge, Mass., and retaining a summer residence in Norway. Besides fantasias on national themes, his compositions included solos and concertos. Consult Bull, Sara C., *Old Bull: A Memoir* (Boston 1886).

BULL, William Tillinghast, American surgeon: b. Newport, R. I., May 18, 1849; d. New York City, Feb. 22, 1909. After graduating at Harvard University in 1869 he studied at the College of Physicians and Surgeons, New York City, where he was awarded his medical degree in 1872. He pursued postgraduate studies in Vienna, Berlin, Paris, and London, and from 1875 practiced in New York City. From 1889 until 1904 he was professor of surgery at the College of Physicians and Surgeons. Besides gaining recognition as an authority on the treatment of cancer and hernia, he had an international reputation for his skill in operating for abdominal gunshot wounds. He was one of the first surgeons in the United States to adopt antiseptics.

BULL (Lat. *bulia*, a knob, boss), a seal, usually of lead, appended to state documents to prove their authenticity. Such seals were used

by the Roman emperors, and by various monarchs during the Middle Ages. They finally went out of use in the northern countries, but were retained in southern Europe where wax seals did not keep well. In form, the bull resembled a coin, being round with an inscription on each face. The best known seal of this type is the papal bull. See **BULL, PAPAL**.

BULL, a ludicrous speech in which the ideas combined are totally incongruous or contradictory. A good example is Artemus Ward's saying of Jefferson Davis that "It would have been money in Jefferson Davis's pocket if he had never been born."

BULL, Golden. See **GOLDEN BULL**.

BULL, Papal, an authoritative letter issued by the Roman pontiff acting in his official capacity as head of the church. A papal brief is also an official letter of the pontiff of a less formal and weighty character, and differs in sundry particulars from the bull, especially in its seal. The seal of the bull, from which comes the name of the instrument, is a *bulia* or globular mass of lead on which is impressed the name of the reigning pope, also those of Saints Peter and Paul, abbreviated, S. Pe, S. Pa. The material of the bull is parchment, but of the brief, white paper; and the seal of the brief is of red wax, stamped with the Fisherman's Ring, which gives the impress of Saint Peter in a boat, fishing. There are other peculiarities in matter and manner distinguishing the bull from the brief, but it suffices to note the foregoing. Of papal bulls that have played a signal part in history, ecclesiastical or civil, especially worthy of mention are the Bull *Clericis laicos* (1296) of Boniface VIII, by which the French clergy were forbidden to pay taxes to Philip IV unless these were approved by the pope; the Bull *Exsurge Domine* of Leo X against Martin Luther (1520); the Bull *In Coena Domini* against heretics and supporters of heresy, dating from the 15th century, but reinforced by Pius V in 1571 and ordered to be publicly read in all parish churches yearly on Holy Thursday; the Bull *Unigenitus* (1713) of Clement XI against quietism and Jansenism; the Bull *Dominus ac Redemptor* of Clement XIV, abolishing the Jesuit Order (1773); and the Bull *Aeterni Patris* (1870) of Pius IX which defined papal infallibility. The most complete collections of papal bulls are those edited over a number of years, first by Laertius Cherubini, then Girolamo Mainardi, Charles Cocquelines, and Andrew Barberi, amounting in 1857 to 51 folio volumes.

BULL AND COW, the names given by English speaking races from time immemorial to the male and female, respectively, of bovine cattle. The words are probably imitative, the root idea of "bull" being a suggestion of its bellowing; while "cow"—which in early English, as still in Scottish and some provincial dialects, is pronounced *coo*—is imitative of the lowing call to the calf. Since these animals have become domesticated, and most of the males have been castrated, the term has come to mean more particularly an unmutated ox. On the other hand, the large size and robust qualities of the bull have led to a transference of the term to the males of various other animals having no zoological resemblance, or very little, to the cattle.

BULL FIGHT, a contest between men and bulls, conducted as a public spectacle. Once popular in Greece and Rome, this form of entertainment was probably introduced by the Moors into Spain. It soon became the favorite sport of the Spanish gentry, and several Spanish kings are reported actually to have killed bulls in the arena. The chief weapon used to kill the bull in the early days was the spear, and the fighting was done on horseback.

When the aristocracy began to neglect the sport and professional bull fighters stepped in, the method of fighting, too, changed. Around 1700 one fighter abandoned spear and horse, and faced the bull on foot, armed with a sword, the *estoque*, and a red flag, the *muleta*. Since then, bull fighting has gradually developed into the spectacle of today. A mounted fighter is known as a *toreador*, one on foot as a *torero*.

The bull fight takes place in the *plaza de toros*, an arena of greater or less magnificence, and begins with a grand entry of all the bull fighters, led by the city officials. Usually three *matadors* are employed for one day, each of whom has his own *cuadrilla*, a team of helpers, consisting of several *banderilleros*, *picadors*, and *chulos*, whom he pays out of his own pocket. All of them are clad in magnificent and colorful costumes, and each attacks the bull in a different way. After a ceremony of great pomp the arena is cleared except for the *picadors* and *chulos* of the first team, and a bull is turned out into the open space.

He is first assailed by the *picadors*, who, on horseback, are armed with the lance. They aim to hit the bull's neck, while the bull very often wounds or kills the horse and endangers the man. In this case the *chulos* take over, trying to draw the attention of the bull, thus securing the rescue of the man.

After the *picadors* have shown their skill, the *banderilleros* step in, on foot and armed with sharp-barbed darts with fireworks and flags attached to them. They worry the bull until he is festooned with shafts, bleeding and tormented, his glossy hide scorched by the explosions of the fireworks.

Finally the *matador* takes his turn with the bull. He uses the *muleta* continuously to trick the bull, waiting until the bull attacks, then with a quick step avoids a collision. The closer he lets the bull pass his body, the more applause he will receive from the spectators. After exercising this trick several times, he gives the bull the *coup de grâce*, killing the animal with one sure thrust of his sword through the juncture of neck and spine.

The arena is then cleared by teams of mules, which drag out the dead bull and horses; the ground is covered with fresh sawdust, and the next bull is introduced. Usually six bulls are killed in a single day, while up to a dozen or more horses may be gored. It has been estimated that about 1,300 bulls and 6,000 horses are killed in Spain's bull fights in one year.

Spanish settlers of Mexico and South America introduced bull fighting to the New World, where it is still a popular sport, especially in Mexico. Bull fighting did not gain much popularity in Europe, although there are occasional bull fights in southern France. Portugal has bull fights, but in an unbloody form. There the horns of the bull are padded, and the fighter makes his encounter unarmed and on horseback.

By skill and stamina the *toreador* succeeds in exhausting the furious animal in a thrilling exhibition.

Consult Campbell, R., *Taurine Provence, the Philosophy, Technique, and Religion of the Bullfighter* (London 1932).

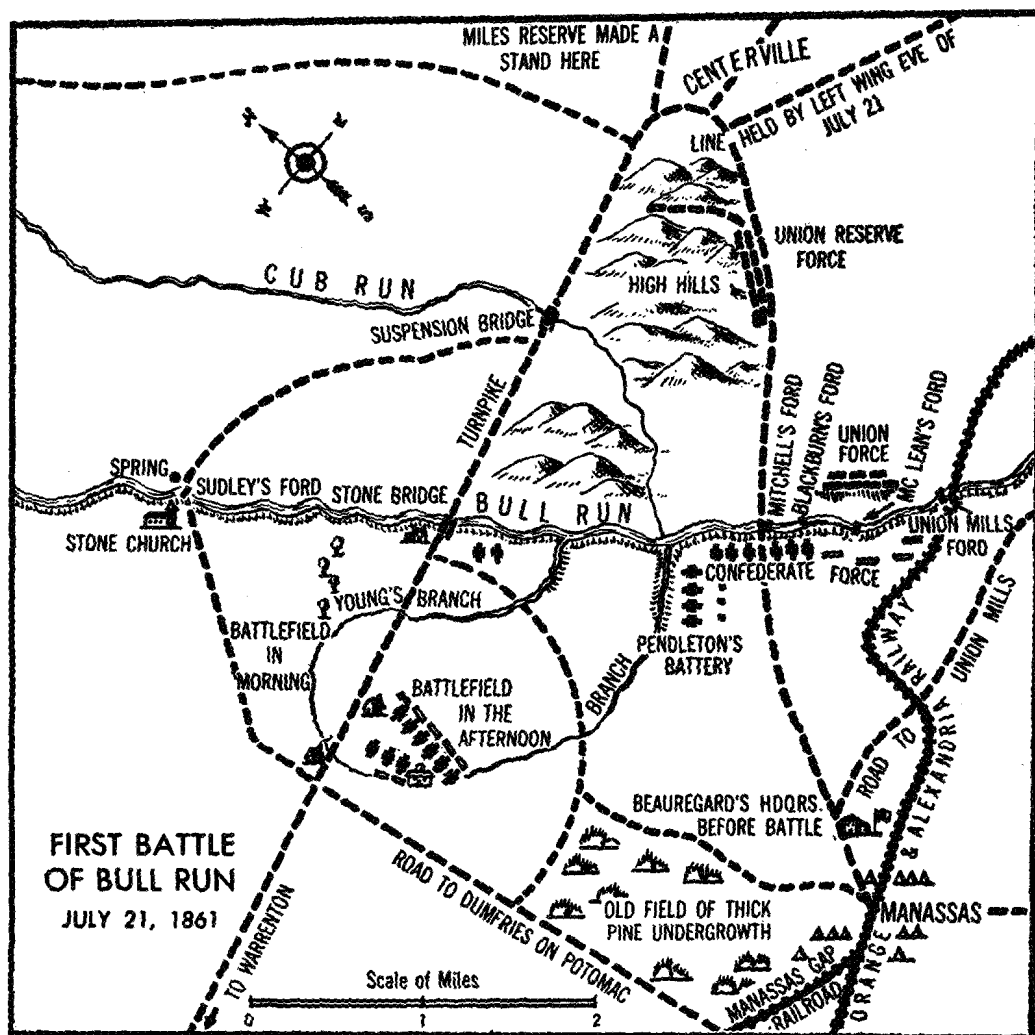
BULL MOOSE, a nickname applied to Theodore Roosevelt in 1912 and arising from his remark, "I feel as fit as a bull moose," made after the turbulent Republican National Convention that led to the split of the party. Roosevelt's followers then created the Progressive Party (q.v.), called the "Bull Moose Party" through the constant use the cartoonists made of this animal's figure in connection with Roosevelt's presidential campaign.

BULL RUN, First Battle of. The battle of Bull Run in the American Civil War, fought in Virginia on July 21, 1861, along the banks of the winding Bull Run, became immediately after the event a symbol of disastrous defeat.

The events that led up to the rout of the Union forces reveal the state of mind of a people suddenly plunged into war who were abysmally ignorant of the necessities of war and of the extent of the effort required by either side if it were to be won. After the fall of Fort Sumter in April 1861, President Abraham Lincoln had called out militia regiments from the loyal states for three months' service. Most of these regiments were concentrated around Washington, D.C., with some at the northern end of the Shenandoah Valley near Harper's Ferry. Their mission was the defense of the federal capital while a larger army of volunteers was being recruited. Many citizens and a considerable number of newspapers in the North fondly hoped, however, that this militia force, though without experience and possessed of only the most rudimentary training, could be used as the instrument to crush the Confederacy with a single blow.

July came without offensive action on the part of the Federal forces. After the fall of Sumter, Virginia had seceded from the Union, and Richmond had become the capital of the Confederacy. July was the third month of the period for which the militia had been called to duty. As the month opened, the Northern press, reflecting the restiveness of a people anxious for quick results and bemused by the belief that the Southern adversary could be quickly overthrown, raised the cry, "On to Richmond!"

The Federal high command began to move in July. The aged Winfield Scott, hero of the War of 1812 and of the Mexican War, now general in chief of the Union armies, called upon the field commander, Gen. Irvin McDowell, to formulate a plan. McDowell, trained at West Point, saw clearly the strategic necessities of the situation. In northern Virginia Gen. P. G. T. Beauregard, also a West Pointer, commanded Confederate volunteer forces somewhat smaller in number than the Northern armies about Washington and Harper's Ferry. The Confederates had reached about the same level of training as the Federals. McDowell founded his plan on his numerical superiority. In the final form which Scott approved, the plan called for Gen. Robert Patterson, commanding some 14,000 troops a little south of Harper's Ferry, to hold a Confederate force of somewhat smaller size under Gen. Joseph E. Johnston west of the Blue Ridge



Theater of First Bull Run Battle.

Mountains. McDowell would strike the main blow against Beauregard's smaller force some miles southwest of Washington and defeat him. It might well have happened as McDowell planned.

A turnpike led westward from Arlington through Centerville to Warrenton near the Blue Ridge. A little more than four miles west of Centerville it crossed Bull Run on a stone bridge. Beauregard had placed his force of about 18,000 near Manassas, some miles south of the Warrenton Turnpike and west of the stream soon to be known throughout the nation. Beauregard had chosen to defend Bull Run and had fortified the bridge and one of the seven fords which crossed the stream. McDowell, after leading his army in Washington in review before President Lincoln amid scenes of great enthusiasm, advanced along the pike to Centerville, reaching the town on July 18. Here he bivouacked almost within range of the Confederate advanced artillery. Congressmen and representatives of the press drove in carriages to the Federal camp to admire what some newspapers had called "the greatest army in the world."

Beauregard, learning of McDowell's threatening advance, informed the Confederate high com-

mand at Richmond. Immediately the government of Jefferson Davis ordered Johnston to quit the valley and join Beauregard at Manassas. Patterson failed to prevent the movement. The Confederates completed their concentration near Bull Run on July 21, the day the battle was joined. When the last brigade arrived, Beauregard had more than 31,000 men to oppose McDowell's force of something less than 28,000.

On July 21, McDowell attacked the Confederate army, whose front was protected by Bull Run. The Federal commander made a feint along the pike at the stone bridge. His main blow was a wide sweep to the north of the pike. McDowell crossed Bull Run at Sudley's Spring and turned Beauregard's left flank. The battle took place on ground north of the turnpike occupied by Beauregard's left. The Federal assault at first succeeded. The Confederates gave ground and even showed signs of incipient demoralization. But the brigade commanded by Gen. Thomas Jonathan Jackson stood fast and won for its commander the nickname "Stonewall," by which he has ever since been known. In the afternoon the tide turned when Beauregard was able to bring into the battle sufficient reinforcements to turn McDowell's right flank

and to force him back across Bull Run by the route through Sudley's Spring along which he had advanced. The retreat, protected by stubborn Federal rear guards, was at first orderly. As it progressed, however, disorganization developed. When the Federals were again on the turnpike, a minor Confederate success at Cub Run near Centerville turned disorder into panic. The rout was aggravated by the confusion caused by the carriages of fleeing congressmen and reporters. The affair did not end until the military, the reporters, and the legislators were safely behind the defenses of Washington.

Lack of training and inadequate organization on the Confederate side robbed Beauregard of the fruits of his victory which conceivably might have been Confederate entry into Washington itself. Two days passed before the Confederate commander learned the full extent of the Federal panic after the Battle of Bull Run. When he did finally understand what had happened, the opportunity which the fortunes of war had given him had passed.

The losses on the Union side were 460 killed, 1,124 wounded, 1,312 missing, and 29 guns abandoned or captured by the Confederates. The Confederate loss was 387 killed, 1,582 wounded, and 13 missing.

Consult Freeman, D. S., *Lee's Lieutenants, a Study in Command*, 3 vols. (New York 1942-44).

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BULL RUN, Second Battle of, fought on Aug. 30, 1862. The battle climaxed Robert E. Lee's most brilliant campaign, a military achievement that in itself would have placed his name among those of the world's great generals. In a very real sense, however, the success was the result of perfect teamwork between Lee and his brilliant subordinate, Stonewall Jackson. The Federal commander, John Pope, proved unequal to the responsibilities placed upon him. The campaign made evident a weakness that plagued both armies. Neither the Federal nor the Confederate Army had developed a proper staff for the gathering of information and the maintenance of communications. This deficiency added to Lee's difficulties and proved fatal to the Federals.

The story of the campaign that produced the Second Battle of Bull Run began on July 9, 1862, when President Lincoln talked with Gen. George B. McClellan at his base at Harrison's Landing and decided to replace the commander whose Peninsular Campaign had failed. Two days later Lincoln summoned Gen. Henry W. Halleck from the western theater to Washington to assume the post of general in chief. Shortly before this Lincoln had brought Pope from successful operations in the West to command a new army being assembled in northern Virginia. Manassas, developed into a major depot for military supplies, became the base for his force. Pope labored under the disadvantages of taking command of an army he did not know and operating in a terrain with which he was unfamiliar.

Halleck formulated an eminently sound plan. It included the movement of McClellan's Army of the Potomac by water up Chesapeake Bay to Aquia Landing, some distance north of Fredericksburg, the merger of that force with the new army under Pope, and the advance from the north with an overwhelmingly superior force against Lee and Richmond. In July and August

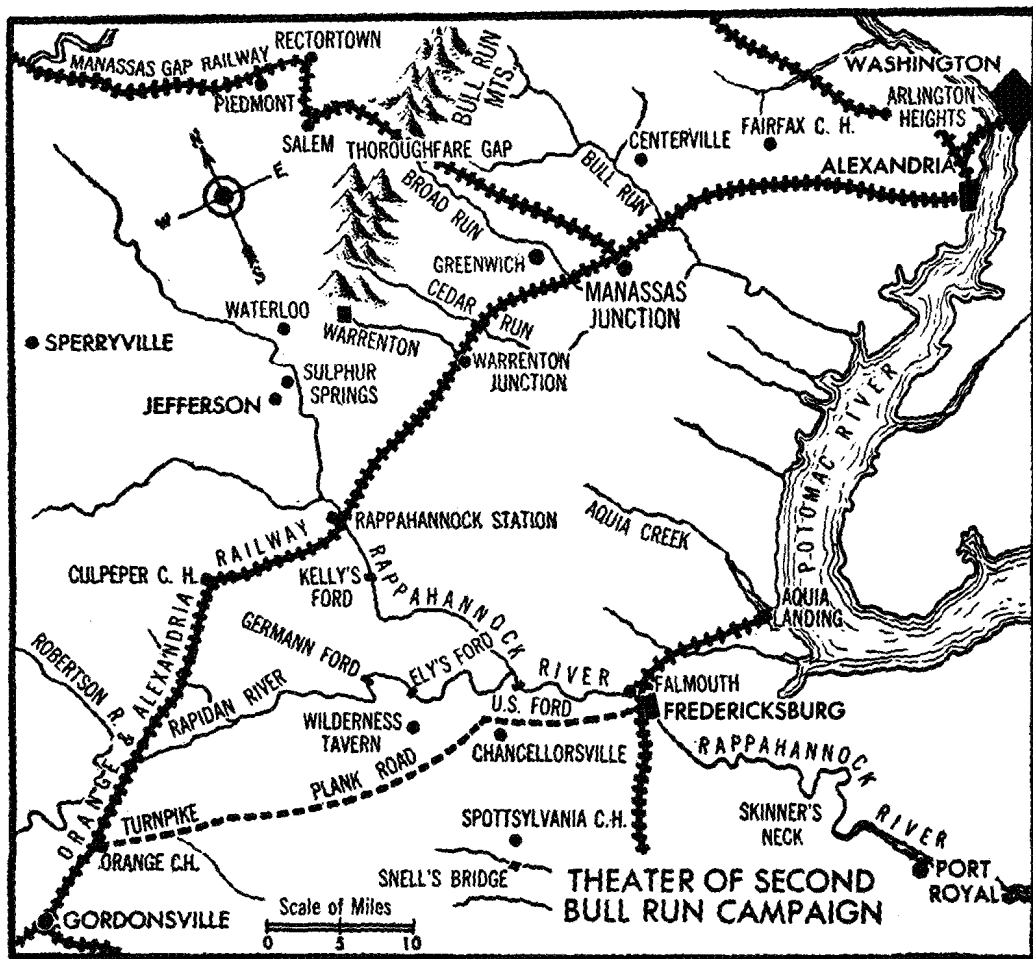
1862, the Federals had the use of approximately 200,000 men; the Confederates numbered about 85,000. Lee's estimate of the situation led him to the conclusion that only by swift offensive thrusts before the two Federal armies were united could he save his cause.

As the transfer of the Army of the Potomac got under way, Pope began to operate with his cavalry about Gordonsville, northwest of Richmond, with the purpose of causing Lee to relax his pressure on the Army of the Potomac, and advanced boldly south of the Rappahannock, a first-class military obstacle, to a position at Culpeper. Lee, freed of the need to defend Richmond from an attack by way of the Peninsula, turned to deal with Pope. Sensing that Pope had put himself in a dangerous position with a major river behind him, Lee planned a swift thrust at Pope's left (eastern) flank with the object of putting the Confederate Army between the Federal force and Washington. A series of staff errors by subordinates disclosed Lee's full plan to Pope, who immediately withdrew to the north bank of the Rappahannock. Lee, disappointed, planned a second surprise maneuver. Assuming that Pope would expect him to attempt to pass the Federal left flank, Lee ordered Jackson to attempt to turn the right flank of his adversary. A sudden freshet spoiled the plan. At this point information brought in by a cavalry raid by James E. B. (Jeb) Stuart disclosed to Lee that his time had almost run out, for within three days the Army of the Potomac, moving by way of Aquia Landing, would unite with Pope's army.

Lee, having been foiled in his efforts to turn his adversary's flank, decided to attack his force at the rear, an undertaking that would draw Pope northward and delay the joining of the two Federal armies. Lee's plan was to send Jackson with a considerable portion of the Confederate forces by a circuitous route around the Federal right flank, but so far from it as to avoid becoming engaged. Lee, with the rest of the army, would keep Pope's attention on that force until Jackson had struck, when Lee would follow Jackson's route and join him for the battle which Lee planned to the rear of Pope's forces. Jackson marched, keeping the Bull Run mountains between his force and Pope. Pope was informed of the movement, but Federal intelligence failed to keep Jackson's force under surveillance. This staff failure on the Federal side enabled Jackson to turn unnoticed east through Thoroughfare Gap in the Bull Run mountains and effect a surprise on the great Federal base at Manassas (Aug. 27, 1862).

The surprise forced Pope to wheel and attack Jackson. Jackson, unable to face Pope's army, delayed an engagement until Lee could bring up the rest of his army. After destroying the Manassas depot, Jackson maneuvered on August 28 and the morning of the following day to confuse the Federals, who, after the initial surprise, were trying desperately to find him. Late on August 29, Pope found Jackson in position on the battlefield of the First Battle of Bull Run. By this time Lee's army was about to be reunited. On August 30, Lee fought and won the Second Battle of Bull Run. He defeated an army confused by the Confederate maneuvers and disheartened by Pope's all too apparent ineptitude.

Pope moved east to Centerville for much needed supplies to replace those destroyed at Manassas. At Centerville the Federals were re-



Theater of Second Bull Run Battle.

inforced by strong units from the Army of the Potomac, beginning at last to join Pope's army. But Lee had the offensive. Getting in motion almost as soon as the Second Battle of Bull Run had ended, he sent Jackson on a sweep that would threaten the highway leading from Centerville to Washington. He followed Jackson by a different route. On Sept. 1, 1862 a strong Federal force stopped Jackson, but Lee came up at the end of the day. On September 2, Halleck ordered the Federal armies behind the Washington defense. The Federal armies in the eastern theater of war were back where they had started when Gen. Irvin McDowell moved out to the First Battle of Bull Run in July 1861. Lee, after driving his adversary out of Virginia, had the offensive. The Federal government had entered the darkest hour of the war.

The Union loss during the campaign from August 16 to September 2 amounted to 10,199 killed or wounded and 4,263 captured or missing. The Confederate losses were not fully reported, but the best estimates placed them at approximately 8,500.

Consult Freeman, D. S., *Lee's Lieutenants, a Study in Command*, 3 vols. (New York 1942-44).

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BULL SNAKE. See PINE SNAKE.

BULL TERRIER. See TERRIER.

BULLA, bööl'a (Lat. *bull*, a bubble), in zoology, a genus of marine gastropod mollusks frequently called *Bullaria*. The common name is bubble shell or snail. The thin shell is ovoid and partly covered by the animal. The bubble snails are carnivorous and some are said to ingest their prey alive and whole. Most of the species live in warm seas; a few are found in great depths. Over 50 living and 70 fossil species are known, the latter from the Jurassic period onward.

BULLACE, bööl'is (*Prunus institia*), a small tree or shrub of the plum family, related to the more popular damson. Although rare in America, it grows wild in Europe where it has also been semidomesticated. It is common in England where the fruit, though of inferior quality, is frequently utilized in the preparation of jam.

BULLARD, bööl'ärd, Arthur (pseudonym ALBERT EDWARDS), American journalist and author: b. St. Joseph, Mo., Dec. 8, 1879; d. Geneva, Switzerland, Sept. 10, 1929. He was educated at Blair Presbyterian Academy in New Jersey and at Hamilton College, Clinton, N. Y. In 1905, Bullard became foreign correspondent for *Harp-*

er's Weekly, *Colliers' Weekly*, and *The Outlook*, and traveled in Russia, French North Africa, and Central America. He covered the Balkan War for *The Outlook*, 1912-1913; during World War I he wrote for *The Outlook*, *Century*, and *Atlantic Monthly*.

In April 1917 he became a member of the committee on public information at Washington, D.C., and subsequently directed the Russian division at Moscow and later the Siberian division at Vladivostok. In 1919 he was called by the Department of State as special assistant in Russian affairs.

Two years later he returned to journalism, and took over the editorship of *Our World*. In 1925 Bullard became the European representative of the League of Nations Nonpartisan Committee, and in the following year was made member of the secretariat of the League. In 1927 he was attached to the American delegation to the International Economic Conference in Geneva.

Bullard wrote, among other works, *Panama* (1911); *A Man's World* (1912); *Comrade Yetta* (1913); *The Diplomacy of the Great War* (1915); *Mobilizing America* (1917); *The Russian Pendulum* (1919); *The Stranger* (1920); and *A B C's of Disarmament and Pacific Problems* (1921). For some of these books he used the pen name Albert Edwards.

BULLARD, Robert Lee, American army officer: b. Youngsboro, Ala., Jan. 15, 1861; d. Fort Jay, on Governors Island, New York City, Sept. 11, 1947. He was graduated from the United States Military Academy in 1885, and advanced through the ranks to colonel (1911). He served in the Philippines during the insurrection from 1902 to 1904. In 1907 he was special investigator for the United States provisional government in Cuba, and in 1915-1916 saw action at the Mexican border. He was made brigadier general of the United States Army in June 1917 and commanded the 2d Brigade of the 1st Division of the American Expeditionary Forces in France. In August 1917 he was promoted to major general in the National Army, and in October 1918 became lieutenant general. From December 1917 to July 1918 he was in command of the 1st division of the AEF, and subsequently of the 2d Army. At the turning point of the war, the opening of the Second Battle of the Marne, Bullard issued a message which ended with the famous words, "We are going to counterattack." He was promoted to the rank of major general in the Regular Army in November 1918, and retired with the rank of lieutenant general in 1925. From 1925 until his death he was president of the National Security League. Bullard was the author of numerous articles in magazines and military journals, and held decorations from Belgium, France, and Italy.

BULLBAITING, the sport of setting dogs on a bull, which was tied to a stake and torn to death for the amusement of the spectators. In this case the dogs, which were set on the bull singly, were trained to seize the bull by the muzzle, or "to pin the bull," as it was called; but they were frequently tossed on the horns of the animals. Sometimes the bull was turned loose in the arena and several dogs were set on him at once. Bullbaiting was a favorite sport in England until about the time of George IV. who became king in 1820.

BULLBAT. See **NIGHTHAWK**.

BULLDOG, a dog of moderate size, derived prior to the 13th century from a cross between the old British mastiff and the large pug of extreme southeast Asia. Both its ancestors still exist as separate breeds. An average mature specimen will weigh 40 to 50 pounds. The bulldog is squat and muscular, with short legs, rather higher behind than in the front, especially if the front legs are very much bowed. Its chest and head are abnormally broad for its size. The lower jaw overlaps the upper and is of extraordinary strength. The teeth are large, especially the two canines, and very strongly fixed in the jawbone, giving the dog a holding power beyond that of any other breed; hence the phrase, "the tenacity of a bulldog." The coat is close and short. The most variable feature is the color, which ranges from all black to all white among dogs bred for show purposes, but a brindle is more natural. For many centuries this dog was used for baiting, or biting at, the bull as a popular recreation, and up to more recent times it was used for public dogfights. It was through these exhibitions that the bulldog got his bad name for temper, but now he is mainly kept as a watchdog, in which capacity he is invaluable. His disposition is so gentle that he is the safest canine companion for children.

About the year 1900 a small variety of the bulldog was evolved in the neighborhood of Brussels, but since it was first shown in Paris, it has always been known as the French bulldog. It is, in the main, a miniature of the English bulldog, the most notable difference, other than that of size, being that the ears are shaped like those of a bat, and are carried erect, or "pricked," giving the animal a very alert, sharp look. See also **DOG—Non-Sporting Group**.

BULLDOZER, bööl'dōz-ēr, a curved metal blade of rugged construction, mounted at the front of a tractor. The blade is usually only slightly wider than the tractor and is pushed by two long beams, one on each side of the tractor unit. The blade may be raised or lowered with power from the tractor engine, either hydraulically or by a winch and cable system. Although the bulldozer as defined does not include the tractor, in popular usage the word has been enlarged to include both the blade and the crawler tractor as a unit.

The first bulldozers were crudely built blades of wood pushed by mules or horses. It was not until after the development of the crawler or track-laying type of tractor that the bulldozer was factory built for use on such a unit. During World War I the crawler type tractor proved itself, and the bulldozer followed soon after. The Caterpillar Tractor Company claims that its predecessors built bulldozers as early as 1921; and the La Plant-Choate Manufacturing Company, Incorporated, of Cedar Rapids, Iowa, turned out its first bulldozer in 1923. The first blades were raised and lowered by hand. This proved to be a time-consuming operation and the need for a power-operated blade was realized. In 1925 the La Plant-Choate Company pioneered the first hydraulic operated bulldozer by using the tractor's power to pump oil into a jack that actuated the blade.

Robert G. Le Tourneau took up the manufacturing of bulldozers at his Stockton, Calif., plant

in 1928. He claims to have been the first to introduce the cable and winch control for the bulldozer. Another pioneer in building bulldozers was the Baker Manufacturing Company of Springfield, Ill.

The bulldozer has gained a reputation as the number one tool for earth moving. Over terrain that seems impossible for any mechanical vehicle to maneuver, the crawler tractor with its bulldozer blade sweeps the way clear of sand, boulders, trees, and brush so that heavier equipment can move in. The unit, economical in earth moving on short hauls, is powered by a tractor of 110 to 130 drawbar horsepower. It is particularly adapted to stripping, end-casting in fills, and in initial stages of through cuts. To increase efficiency, the bulldozer should move material downhill wherever possible. Another method is to use a pair of bulldozers operating side by side where the haul is between 50 and 300 feet and conditions are suitable for joint operation. Generally, to permit easier digging and movement of earth, a rooter should be used ahead of the bulldozer to loosen and break the ground if it is dry and hard, or frozen.

The bulldozer blade has several modifications and these have been given names by the various manufacturers, such as "bullgrader," "angle-dozzer," and "tiltdozer." In essence they are blades angled horizontally for side casting, blades that can be tilted from the vertical and those that can be angled from the horizontal, allowing a corner of the blade to dig into the ground. Many of these features may be combined in a single blade. Although most bulldozers are mounted on crawler tractors, they are also used on the large four-wheel-drive units, and on smaller-wheel tractors.

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BULLEN, bööl'ën, Arthur Henry, English scholar: b. London, England, Feb. 9, 1857; d. Stratford-on-Avon, Feb. 29, 1920. He received his education at the City of London School and at Worcester College, Oxford, where he was early noted for his knowledge of the Elizabethan and 19th century writers. After leaving Oxford he taught school for a while, but abandoned it soon for literary work, writing a good many articles for the *Dictionary of National Biography*. The main portion of his work as editor was produced in the years 1881-1890, when he published four dozen volumes, including dramatic works of Robert Davenport, John Day, Christopher Marlowe, John Marston, Thomas Middleton, Thomas Nabbes, and George Peele; and the poems of Thomas Campion, which Bullen had rediscovered. In 1891 he set up as a publisher, and in 1904 founded the Shakespeare Head Press at Stratford-on-Avon, which he carried on until his death. A collection of short poems by him appeared in 1921 under the title *Weeping-Cross*.

BULLEN, Frank Thomas, English writer: b. London, England, April 5, 1857; d. Madeira Island, in the Atlantic off the coast of Morocco, Feb. 26, 1915. He received but scanty schooling, and after a few years as errand boy and street Arab, he went to sea as cabin boy and seaman (1869). At the age of 18, Bullen signed on the *Cachalot*, a New England whaler. His best-

known book, *The Cruise of the Cachalot*, which received high praise from Rudyard Kipling, resulted from his experience on that voyage. The book was published in 1898.

After a short time as a junior clerk in the Meteorological Office in London, a post he disliked, he did some journalistic work, and finally settled down at Millfield, about 50 miles from London. There he wrote most of his books and also prepared the series of lectures he gave throughout the British Isles.

Among his principal works are *Idylls of the Sea* (1899); *The Log of a Sea Waif* (1899); *The Men of the Merchant Service* (1900); *With Christ at Sea* (1900); *The Apostles of the South East* (1901); *Deep Sea Plunderings* (1901); *Sea Wrack* (1903); *Our Heritage the Sea* (1906); *The Call of the Deep* (1907); *Fighting the Icebergs* (1910); *Told in the Dog Watches* (1910); *A Beauty Boy* (1912); and *From Wheel and Outlook* (1913).

BULLER, SIR Redvers Henry, British general: b. Crediton, Devonshire, England, Dec. 7, 1839; d. near Crediton, June 2, 1908. Buller joined the 60th Rifles as ensign in 1858; in 1862 he was promoted lieutenant, and eight years later captain. He was major in 1874, lieutenant colonel in 1878, colonel in 1879, and major general in 1884. Buller served with his regiment in the Chinese campaign of 1860, and in the Red River expedition in Canada in 1870. During the war in the kingdom of Ashanti, African Gold Coast, he acted as quartermaster general and head of the intelligence department, and gained special mention for his behavior in several engagements. He also served with distinction during the Kaffir War of 1878, and won the Victoria Cross in 1879 for his gallant conduct in saving the lives of two officers and a trooper of the Frontier Light Horse during the retreat at Inhlobana in the Zulu campaign.

He was chief of staff to Sir Evelyn Wood in the war against the Boers in 1881, and in Egypt in the following year, gaining special distinction for his services at Kassassin, Tel-el-Kebir, and elsewhere. In the Sudan campaign of 1884-1885 he was chief of staff to Gen. Garnet Joseph Wolseley, and was in command at the battle of Abu Klea after Sir Herbert Stewart had been wounded. From 1887 until 1890 he held the post of quartermaster general of the army, and from 1890 to 1897 acted as adjutant general to the forces. In 1886-1887 he was made under-secretary for Ireland. Buller's promotion to lieutenant general came in 1891, and in 1894 he was made general. He was created K.C.M.G. in 1882; K.C.B. in 1885; G.C.B. in 1894; and G.C.M.B. in 1901. In the latter year he received the Queen's Medal with six clasps.

In 1899, Buller went to Natal as commander in the war with the Boer republics, and succeeded in relieving Ladysmith after it had been besieged for 118 days. His conflicting decisions and orders prior to that event caused him to be superseded by Gen. Frederick Sleigh Roberts. On Buller's return to England he made an unwise speech with the result that he was placed on the retired list. The publication of official documents a little later practically destroyed his reputation as a commander, since it was shown that he had advised Gen. George Stuart White, the defender of Ladysmith, to surrender to the Boers.

BULLERS OF BUCHAN (bōōl'ēr; bŭk'ān), a large oval cavity in the rocks on the east coast of Aberdeenshire, Scotland, on the North Sea, about 6 miles south of Peterhead. It forms a sort of pot or cauldron about 200 feet deep and 50 feet in diameter, open to the sky above and communicating with the sea below by a natural arch or horizontal passage, into which at high tide the waves rush with a tremendous noise.

BULLET, a projectile fired from a shoulder rifle, pistol, machine gun, or similar weapon. The word is derived from the French *boulet*, meaning a small ball.

History.—Bullets used in early types of smooth-bored muskets and pistols were generally spheres between .60 and .80 inch in diameter. They were cast from soft lead in metal molds. Bullets were loaded from the muzzle and wads separated them from the powder charge, contained them in the barrel, and also assisted in preventing the escape of powder gas past the bullet. Paper cartridges, a measured powder charge, and a bullet were used by the armies of Gustavus Adolphus in 1625. In many instances part of the paper envelope or a wisp of dry grass was used to prevent the loose ball from falling out.

The principle of rifling was known in the 15th century and the breech-loaded metallic cartridge reached its present form about 1880. A tremendous number of variations in the sizes and shapes of bullets appeared in the intervening years. Ovals, ovoids, spheres supported in wooden sabots, and many geometrical combinations in elongated shapes have been used in arriving at the present standard forms.

The greatest difficulty was encountered in getting the bullet to take the rifling. It must be remembered that the diameter of a barrel is the diameter of the tube before rifling while the bullet must be large enough to engage the grooves. Relatively deep grooves were required to give spin to soft lead bullets. A bullet large enough to fill the rifling requires great force to load it from the muzzle, and, when deformed by the powder pressure, may develop enough friction to cause it to stick in the barrel. There was great difference of opinion concerning the proper size of bullets long after the manufacturers had standardized barrel sizes. The individual frequently selected his own size by pushing bullets through the barrel and by trial and error on the range. Molded bullets were passed through sizing dies of the proper diameter. The selected size was usually slightly smaller than the groove diameter and a patch of leather, cloth, or paper, covering the base and sides of the bullet, served to seal the bore during ignition. The same purpose may be accomplished with a larger bullet provided with annular grooves.

Delvigne secured contact with the rifling by deforming his bullet with the ramrod after loading. Greener devised an oval shape with a plug of harder metal driven into a tapered hole to expand it against the barrel. The Minié ball of 1848 had a soft iron cup in the base which was expanded by powder pressure during firing. Later the cup was replaced by a plug similar to Greener's. The Minié ball was widely used in the American Civil War. When the United States adopted the Minié bullet, Benton developed the feathered cavity in the bullet which expanded

upon firing. Robins designed an egg-shaped bullet to be fired large end foremost. It was well suited to reduce air resistance, but ovals are not as well supported in the bore as more elongated shapes.

Requirements.—A good modern bullet should completely seal the bore before ignition of the powder, and its frictional resistance should be uniformly low. It should not deform excessively in the bore and bullet metal should not be deposited in the grooves. It should leave the muzzle with uniform velocity and spin. A good ballistic shape, uniform weight, and symmetry are essential for true flight. An unsymmetrical bullet will wobble as it leaves the muzzle and yaw from its intended path. Yaw adversely affects both deflection and range. The bullet must function at the target through wide temperature ranges and must withstand storage under all conditions. See BALLISTICS.

Types of Bullets.—The modern small arms bullet is an accurately made projectile, designed for a specific purpose such as penetration of armor, incendiary, or anti-personnel effect. It has no fuse, rotating band, or *bouvrelet*, but otherwise the same design principles apply to both artillery and small arms projectiles. There are two types of bullets in use in military small arms cartridges: the lead bullet, and the jacketed bullet. Lead bullets are made of lead alloyed with antimony for hardness and are shaped cold in dies from extruded wire of the proper size. Lead bullets are not satisfactory for use where high velocities are involved, because their softness causes deformation by setback, thus adversely affecting exterior ballistic performance. In addition, lead bullets may be damaged by loading mechanisms of automatic weapons, and may cause jamming of such weapons. Today lead bullets are only used in caliber .22 ammunition and in some revolver cartridges.

Accordingly, the great proportion of military bullets are metal-jacketed. The bullet consists of a core covered by a gilding-metal (90 per cent copper, 10 per cent zinc) jacket, a gilding-metal-clad jacket, or a copper-plated steel jacket. The jackets are stamped from sheet stock and drawn in dies to the proper shape and thickness, the core is inserted, and the whole is assembled in a press. A cannellure is cut or rolled in the jacket to provide a recess into which the mouth of the case may be crimped during the assembly. The diameter of a jacketed bullet is usually about .001" greater than the rifling diameter between grooves. This is to provide a tight gas seal and to allow the jacket to be gripped properly as the bullet is rotated in the barrel.

A bullet is designed to expend its kinetic energy on the target or to perforate and pass through with considerable remaining energy. Increasing the velocity offers a means of increasing the available kinetic energy. However, the permissible pressure in the barrel is limited, and substantial increases in velocity can best be obtained by reducing the weight of the bullet, which reduces its capacity to maintain flight against air resistance. Hence high-velocity bullets are more effective at the shorter ranges while heavier, slower bullets have a greater range based upon effectiveness.

Expansive bullets, often called "dumdum" after the British arsenal in India where the first metal jacketed bullet open at both ends was designed and manufactured, tend to deform