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SECRET

# Bulgaria

## GENERAL SURVEY

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GLOSSARY (U/OU)

ABBREVIATION	FOREIGN	ENGLISH
BAN	<i>Bulgarska Akademiya na Naukite</i>	Bulgarian Academy of Sciences
BCP	<i>Bulgarska Komunisticheska Partijaya</i>	Bulgarian Communist Party
BDZ	<i>Bulgarskite Drzavni Zeleznici</i>	Bulgarian State Railroads
BTA	<i>Bulgarska Telegrafna Agentsiya</i>	Bulgarian Telegraph Agency
BWU	<i>Suyuz na Bulgarskite Pisateli</i>	Bulgarian Writers Union
BZNS	<i>Bulgarski Zemedelski Narodni Suyuz</i>	Bulgarian National Agrarian Union (Agrarian Union)
CAC	<i>Komitet na Izkustvo i Kultura</i>	Committee on Art and Culture
CCTU	<i>Tsentralen Suzet na Profsuyuzite</i>	Central Council of Trade Unions
DKMS	<i>Dimitrovski Komunistichski Mladezhki Suyuz</i>	Dimitrov Communist Youth Union (Komsomol)
EKNTP	<i>Durzhaven Komitet za Nanki i Tekni- cheski Progres</i>	State Committee for Science and Technical Progress
DOSO	<i>Dobrovolna Organizatsiya za Sudeystvie na Otrana</i>	Volunteer Organization for Coopera- tion in Defense
DS	<i>Durzhavna Sigurnost</i>	State Security
GSNM	<i>Grupi za Sudeystvie na Narodnata Militsiya</i>	Groups for Assistance to the People's Militia
GSO	<i>Gotov za Sanitarna Otrana</i>	Ready for Medical Defense (Red Cross)
JINR	<i>Obedimennyi Institut Yadernykh Issle- dovaniy (Russian)</i>	Joint Institute of Nuclear Research
KDS	<i>Komitet na Durzhavna Sigurnost</i>	Committee of State Security
MVR	<i>Ministerstvo na Vutreshnite Raboti</i>	Ministry of Internal Affairs
NM	<i>Naroda Militsiya</i>	People's Militia
OF	<i>Otechestven Front</i>	Fatherland Front
TsNIRD	<i>Tsentrovo za nauchnoizsledovatel'ska, razvoynna i proektantska deynost</i>	Center for scientific and development activity

## *Chronology (U/OU)*

- c. 680                      Bulgarian tribes under the leadership of Asperuch defeat a Byzantine army and occupy the territory between the Danube and the Balkan Mountains. Amalgamation with the native Slavs proceeds gradually, with the military classes long remaining strictly Bulgarian.
- c. 852-927                The First Bulgarian Empire is created, including the territory of modern Albania, parts of Serbia, Macedonia, Thrace, and most of contemporary Bulgaria.
- 865                        Boris I overrides the objections of his nobility and orders the baptism of the entire population in Christianity and, after some indecision, accepts the spiritual leadership of the Eastern Church in Constantinople.
- 893-927                 Rule of Symeon, a son of Boris and the first Bulgarian ruler to assume the title Tsar. His tenure is marked by a continual warring effort against the Byzantine Empire and the infusion of Greek culture into the magnificent capital at Great Preslav.
- 1018                      After a century of internal troubles and increasing centrifugal tendencies the Byzantine leaders achieve in 1018 a complete victory over Bulgaria. For almost the next two centuries, Bulgaria remains a generally peaceful Byzantine province, and the national church is subjected to intense Hellenization pressures.
- c. 1218-41                A brief period of Bulgarian resurgence is capped by the establishment of the Second Bulgarian Empire, covering approximately the same territory as the first empire.
- 1389                      Military reverses and internal splintering of the Bulgarian lands make the country susceptible to Serbian conquest (1330) and ultimately to Turkish control. At the Battle of Kosovo on June 20, 1389, the Ottoman armies defeat a coalition of Serbs, Bulgarians, Bosnians, Wallachians, and Albanians. Five centuries of Ottoman rule—known popularly as “the dark era”—end with Bulgaria’s independence only in the late 19th century.
- 1762                      Father Paisii writes an idealized history of Bulgaria, his famous *Slaveno-Bulgarian History*, which is generally taken to mark the beginning of the Bulgarian national renaissance.
- 1824                      First published works begin to appear in the modern Bulgarian language
- 1870                      Bulgarian Orthodox Church gains greater autonomy when, largely at Russian insistence, the Ottomans allow the establishment of a Bulgarian Exarchate with jurisdiction over large parts of Macedonia and Thrace.

- 1878 March 3 Treaty of San Stefano between Russia and Turkey provides for an autonomous Bulgaria with enlarged borders to include most of Macedonia.
- July 13 Treaty of Berlin reduces Bulgaria to one-third the size projected in March and leaves Macedonia under Turkish rule.
- 1879 The independent Bulgarian state is granted a constitution, drawn from the forefront of constitutional theory of the day.
- 1893 Internal Macedonian Revolutionary Organization (IMRO) is formed to work for an autonomous Macedonia.
- 1895 External Macedonian Revolutionary Organization (EMRO) is formed, with headquarters in Sofiya. Vying with IMRO for leadership of the Macedonian independence movement for many years, this organization is a potent, radical force in contemporaneous Bulgarian political life.
- 1902-03 Insurrections in Macedonia, accompanied by raids into the area from Bulgaria, temporarily exacerbate relations between Bulgaria and Turkey.
- 1912 First Balkan War: After concluding treaties of alliance with Serbia (in March) and Greece (May), Bulgaria declares war on Turkey. The Turks suffer military reverses at the hands of the three allies and the Treaty of London in May 1913 forces Turkish concessions.
- 1913 Squabbling over the spoils of the First Balkan War leads to Bulgaria's defeat in a short-lived Second Balkan War against its former allies. Bulgaria loses all the gains from the previous war.
- 1915-19 Bulgaria joins the Central Powers in World War I, largely with the hope of reclaiming lost territories in the Balkans. Defeat is especially embarrassing, as the Treaty of Neuilly (1919) reduces the country to an area smaller than before the First Balkan War.
- 1923 The assassination of Prime Minister Stambolisky encourages the small Communist Party to attempt a coup which is nonetheless quickly suppressed.
- 1941 After several years of gradually moving toward alliance with Germany, in the belief that this was the best way to regain the territories promised at San Stefano, Bulgaria finally signs formal Tripartite Pact and German troops enter the country. After Pearl Harbor, Bulgaria declares war on the United States.
- 1944 September 9 U.S.S.R. declares war on Bulgaria. Fatherland Front coalition—composed of Communists, Agrarians, Socialists, and Radicals—seizes power after Red Army enters Bulgaria.
- October Bulgaria concludes armistice agreement with the Soviet Union, the United States, and the United Kingdom.
- 1945 February Communist "people's courts" convict three former regents, 38 former ministers, and 130 members of the National Assembly for "collaborations" with Nazi Germany.
- November Parliamentary elections, boycotted by opposition parties headed by Agrarian leader Nikola Petkov, result in victory for Communist-dominated Fatherland Front (89% of votes).

- 1946 March New government is formed without representation of opposition parties.
- April The United States and the United Kingdom refuse to recognize new government.
- September Monarchy is abolished. King Simeon leaves country, and Bulgaria is declared a "People's Republic."
- November Bulgarian Communist Party leader Georgi Dimitrov returns from Moscow, assumes premiership, and forms new Fatherland Front government.
- 1947 February Bulgaria signs peace treaty in Paris with the U.S.S.R., the United States, and the United Kingdom.
- September Opposition leader Nikola Petkov is executed for treason.
- December National Assembly approves Dimitrov Constitution.
- 1948 March Law is enacted giving state control over all organized religions.
- July Premier Dimitrov dies in Moscow.
- December Traycho Kostov, leading "nativist" Communist, is sentenced to death on charges of Titoism and treason; party initiates extensive purges of alleged Titoist elements.
- 1950 February The United States suspends diplomatic relations with Bulgaria and subsequently freezes Bulgarian assets in the United States.
- Party First Secretary Vulko Chervenkov becomes Premier.
- 1951 December All pre-Communist legislation is repealed.
- 1954 March Todor Zhivkov replaces Vulko Chervenkov as Party First Secretary.
- May Bulgaria and Greece resume diplomatic relations.
- 1955 May Warsaw Pact is ratified by National Assembly.
- December Bulgaria becomes member of United Nations.
- 1956 April Party First Secretary Todor Zhivkov exonerates the late Traycho Kostov and others from charges of Titoism and treason.
- October Relations between Bulgarian and Yugoslav Communist Parties officially resume.
- 1958 November Party First Secretary Todor Zhivkov announces economic "leap forward" program.
- 1959 January Party Central Committee approves drastic reorganization of state economic apparatus.
- March Bulgaria and the United States resume diplomatic relations at the legation level.
- May Compulsory deliveries of farm produce to the state are abolished.
- September Bulgaria completes collectivization of agriculture.
- 1961 November Vulko Chervenkov, former Party First Secretary, is expelled from Central Committee.
- 1962 January Currency reform is announced; 1 new lev is equal to 10 old ones.
- May Khrushchev heads a Soviet party-government delegation visiting Bulgaria.

- 1962 November Anton Yugov is dismissed as Premier and succeeded by Todor Zhivkov, Party First Secretary.
- 1963 February African students riot in Sofiya.
- July The United States and Bulgaria sign claims agreement.
- December Assen Georgiev, Bulgarian diplomat and alleged Western spy, is tried and sentenced to death for treason.
- Anti-U.S. demonstration is held before the U.S. Legation in Sofiya.
- 1964 July Greece and Bulgaria sign claims agreement.
- 1965 February Demonstrations again are held before U.S. Legation, denouncing U.S. bombing raids in North Vietnam.
- 1966 October Premier Todor Zhivkov visits France in first official visit to a Western European capital.
- November United States and Bulgaria raise diplomatic missions to the ambassadorial level.
- Ninth Party Congress convenes in Sofiya.
- 1967 During the year, Bulgaria renews the 20-year Treaties of Friendship, Cooperation, and Mutual Assistance with Poland (April), U.S.S.R. (May), and East Germany (September).
- May First Bulgarian Congress of Culture convenes in Sofiya.
- June Bulgaria breaks relations with Israel.
- October Turkey and Bulgaria agree to gradual repatriation of between 5,000 and 30,000 ethnic Turks to their homeland.
- November Bulgarian Ambassador to Communist China is recalled; successor does not take post in Peking.
- 1968 January Macedonian issue flares up as irritant in Bulgarian-Yugoslav relations.
- July Party session maps out long-range plan for more effective centralization of the economy.
- August Bulgaria participates in Soviet-led Warsaw Pact invasion of Czechoslovakia. Action causes cooling of relations with its independent-minded Balkan neighbors as well as with the United States.
- 1969 July Friendship treaty with Hungary is renewed.
- Party session formulates long-term reorganization of the educational system.
- November Foreign trade scandals result in several arrests and trials and eventually lead to a centralized reorganization of the foreign trade mechanism.
- December Foreign minister Bashev makes ill-conceived goodwill trip to Yugoslavia which further sours relations between the two countries.
- 1970 April Todor Zhivkov unveils scheme for nationwide reorganization of agriculture along industrial lines. Plan envisages formation of huge agricultural-industrial complexes (AIC).
- September For the first time in 3 years, Ceausescu meets with Todor Zhivkov, thereby starting to overcome the strained relations growing out of the Czechoslovak events of 1968.

- 1970 November Bulgaria and Romania renew their 20-year Treaty of Friendship, Cooperation, and Mutual Assistance.  
Bulgaria returns its Ambassador to China, an act which is reciprocated by the PRC 4 months later.
- 1971 January Formation of State Economic Trusts (DSO) in the nonagricultural sectors serves as a major step in centralization of the economy.
- March Bulgaria proposes a far-reaching program of economic cooperation to Greece.
- April Bulgarian Communist Party holds Tenth Congress.
- May A new state constitution, replacing the Dimitrov Constitution of 1947, is promulgated following a national referendum.
- July Patriarch Maxim is installed as new head of the Bulgarian Orthodox Church, replacing the deceased Kiril.
- September Soviet party leader Brezhnev stops in Sofiya after his much heralded talks with Tito.
- October Bulgaria opens its second university in the city of Veliko Turnovo.
- November Bulgaria modifies long-standing refusal to recognize the existence of a Macedonian language and signs a low-level agreement with Yugoslavia in Macedonian.

## *Bulgaria: The Most Compliant of Moscow's East European Allies (U/OU)*

The Bulgarian state, a creation and pawn of Great Power politics in the Balkans, has traditionally depended on one or another of the major European powers for guarantees of its national existence. As a result, the goal of full national independence has been elusive and illusory, yielding invariably to the more attainable aim of a greater or lesser degree of autonomy within the Balkan power balance. Although Bulgaria's history as a state has been punctuated by imaginative and opportunistic shifts of allegiance and by sporadic bouts of aggressive chauvinism, the price of national existence has more consistently been unswerving fealty to whatever power has been paramount in the Balkans at the time. Thus, Bulgaria's shift from an alliance with Nazi Germany during World War II to Communist rule since then is but the latest example of what, in Bulgarian eyes, is a lamentable but necessary compromise of national principle for the sake of national existence.

For more than a quarter of a century of Communist rule Bulgaria's international image was obliterated by the shadow of the U.S.S.R., and its diplomatic interests were confined to the near proximity of its state borders. Since the mid-1960's Bulgaria's rulers have embarked on a cautious search for new contacts with the West, especially with the developing countries of the Third World. This expansion of activity from parochial Balkan concerns to the larger world scene is, however, less an indication of self-assertive independence than a measure of Soviet confidence that Bulgaria's leaders will not transgress Moscow's ideological and policy guidelines in the pursuit of their own national interests. In 1971 Bulgaria continued to be the most willingly loyal, pro-Soviet, and the least politically and socially restive of the U.S.S.R.'s Eastern European allies.

The Communist regime was carried to power on the shoulders of the Soviet Red Army that swept into Bulgaria in 1944. The postwar consolidation of Communist rule was led by veteran Bulgarian revolutionary Georgi Dimitrov, who returned from Moscow with years of experience in the Soviet-controlled Communist International (*Comintern*) movement. The succession of Bulgarian strongmen after Dimitrov's death was determined chiefly by the intrigues of Stalin's court and the ferocity of Stalin's dispute with Yugoslavia's Tito. In the process, Bulgaria's aspirations and tangible needs were once again ignored.

Under Stalin, Soviet control of Eastern Europe was complete, and Bulgaria's vassalage was not unique. But amidst the diversity and controversy that has

characterized Eastern Europe since the death of Stalin, Bulgaria alone has remained loyal and seemingly bereft of dangerous nationalist aspirations. The country has been untouched either by major internal upheavals, with their often anti-Soviet overtones, or by the visions of independence which have at one time or another affected all the other countries of Eastern Europe. In large measure, this unique path taken by Bulgaria is rooted in its historical, cultural, and religious affinities with Russia, which after World War II were strengthened by ideological and political imperatives. Bulgaria thus serves as the prime instrument of Soviet policy with regard to the Balkans, a key element of which is the historic Russian desire for a firm foothold there.

The ascendancy of Todor Zhivkov in 1954 to the post of Party First Secretary, a position to which he has tenaciously clung, was itself a part of Moscow's need to buttress its position in the Balkans. The consolidation of Zhivkov's personal control, conducted in a context of endemic party factionalism, was heavily dependent on Soviet support. Zhivkov's position did not become reasonably secure until 1962, and even then his tenure was shaky enough to be endangered by the ouster of his Soviet patron, Nikita Khrushchev, in 1964 and by an anti-Zhivkov plot discovered in 1965. Once again, however, by convincing the new Soviet leaders of his unqualified loyalty, Zhivkov obtained the support he needed to weather these crises.

The encouragement of Bulgarian nationalism—an official policy designed to garner greater support for the regime—has been watched approvingly by Zhivkov's Soviet mentors, but always with an eye to its potential excesses. Such controlled nationalism, even though predicated on loyalty to Moscow, can easily exceed official limits, especially if it focuses on such volatile issues as Bulgaria's historic irredentist claims to Macedonia.

Bulgaria's veteran Communists had seized a fairly viable government structure in 1944 despite the disruptions of World War II. Long before that conflict, authoritarian tendencies had overtaken any incipient democratic impulses, and the political process was confined to the urban, educated Bulgarian. Although local government was strong, local politics were seldom related to national issues, and, in a country of Eastern Orthodox believers, the village clergy often exercised decisive influence. Political parties existed but had little impact on the 80% of the populace laboring on the land. Nonetheless, the Agrarian Union, claiming to represent



the interests of the peasantry, was the dominant prewar party. Organized transportation and communications were rudimentary and in some areas virtually nonexistent. Education, however, was available in almost every village, and a relatively large number of young people finished higher education courses, albeit such training being largely irrelevant in an agricultural society. Industry was only of limited significance, and the major portion of national income was produced by small, independent farmers.

Under Communist rule, the roots of local government have been torn up and supplanted by centralized political organization on the Soviet model. The power of the local priest has been broken and the importance of the family-clan in the fabric of society has declined. Religious beliefs and observances, while not formally banned, have been assaulted by regime-sponsored programs of atheist "education." Attacks on religion as an institution have been moderated, however, by the regime's wish to retain the Bulgarian Orthodox Church as a symbol of national identity. Impressive strides in education have stressed the applied polytechnical and technological side of formal learning as the regime has tried with moderate success to overcome the endemic shortage of scientific and skilled workers. Improvements in the nation's health have included a reduction in the incidence of disease, accompanied by a decline in the death rate and a significant rise in life expectancy. Bulgaria's postwar industrialization has been undertaken with heavy Soviet aid, and in full conformity with Soviet economic policies within the Council for Economic Mutual Assistance (CEMA); as a result, industrialization has increased rather than lessened Bulgaria's economic

dependence on the U.S.S.R. Although the regime proclaimed early in 1971 that industry had become the major source of national income, the majority of the populace still resided in rural areas and was occupied with agricultural pursuits. "Socialization" of production was completed in the early 1950's, and agricultural land was fully collectivized by 1959. Nevertheless, some private economic activity is permitted, and artisan production and the cultivation of small agricultural plots allotted to farmers continue to thrive. Economic planning and development are rigidly controlled by the regime, with mammoth organizational units wielding control over large sectors of production in both industry and agriculture. Transportation and communications networks have been developed.

Bulgaria's Communist leaders, generally ill-educated and aging, are nevertheless so solidly entrenched that it would probably require a major internal upheaval and loss of Soviet support to dislodge them. They have brought the country a long way into the modern world, but only by the expedient of using terror and coercion as instruments of national policy, even in the context of 1971. The Bulgarian Armed Forces, adequately armed and staffed with the aid of the U.S.S.R., are probably capable of a creditable defense of the country and, in conjunction with Bulgaria's allies, could mount offensive actions against its NATO neighbors. The country has abandoned an extreme bellicose stance, however, and recently has sought more normal relations with its neighbors. Such new sources of foreign exchange as tourism promote this pacific attitude and, in turn, help diversify an economy which still must make great strides to be fully abreast of the 20th century.

## *Land and People*

### A. Historical background (U/OU)

Bulgarian tribes first settled in the eastern Balkan area as early as the seventh century, when the pressures of war forced their migration from the southern Russian steppes into the region immediately south of the Danube River. A fierce warrior people who defeated a Byzantine army, these early Bulgarians only slowly assimilated with the native Slavic inhabitants and easily assumed a dominant upper class (boyar) position. The ethnic Bulgar aristocracy that wielded authority over the inhabitants of an area roughly coinciding with present-day Bulgaria were slow to acknowledge the prolonged primacy of one of their number. But they more often than not cooperated with each other, particularly when leading the local inhabitants in successful military campaigns against neighboring peoples.

An identifiable Bulgarian state gradually developed through the course of the ninth century, as "Bulgarized" native strongmen eroded the powers of the original boyar class and sped the melding of the Bulgarian and Slav populations. Major gains were registered during the short reign of Krum (808-814), who was first able to exercise central authority over most of the principal boyars, and during the tenure of Boris (852-889), who overrode the objections of his nobility to have the entire populace baptized in the eastern Christian faith. A central power of sufficient vigor had emerged by the late ninth century to enable Simeon (893-927) to assume the title of Tsar and, after important military victories over Byzantium, to have himself proclaimed (925) Emperor of the Romans and the Bulgars. The splendor of Simeon's capital at Preslav and the cultural achievements of his court, much influenced by Simeon's personal fascination with Greek culture, were renowned through the eastern Mediterranean.

The glories of the first Bulgarian Empire—at its pinnacle during Simeon's rule—were superseded within a century by a Byzantine domination. Presaged by a period of weak leadership, military reverses, and political splintering—the realities of subjugation to Byzantium became apparent by the first quarter of the 11th century, after which there was little further development of a peculiarly Bulgarian national life. The Bulgarian Orthodox Church, an early pillar of national identity, was submitted to Greek direction, and native Bulgarian churchmen of ability often dissipated their energies trying to escape Byzantium's control. Sporadic convulsions of Bulgarian assertiveness culminated in the brief flowering of a Second Bulgarian Empire in the 13th

century and the reemergence of the Bulgarian Church for some three decades, but the eclipse of national life then became total with the ensuing reabsorption into Byzantium.

The westward advance of the Ottoman Turks in the 14th century brought to the Balkans half a millennium of oriental domination and imposed on Bulgaria a political, cultural, and economic stagnation that endured into the 20th century. The great majority of the native feudal landowners were displaced by Ottoman bureaucrats and knights, the few remaining ones—called *Pomaks*—embracing Islam and serving as the latter's agents. These overlords extracted from the peasantry a significant share of the agricultural produce needed to sustain the farflung empire. The few Bulgarians who engaged in nonagricultural pursuits and *Pomaks* undertaking independent farming often served as intermediaries between the Turkish rulers and the peasantry, but in general the absence of a native leadership above the village level developed a certain sense of social egalitarianism.

The Bulgarian church was the only institution to keep alive national identity, providing a storehouse of the Bulgarian past, despite its being placed under the Greek patriarch of Constantinople. The few cultural developments took place largely under church tutelage, and, in the face of intense Hellenizing pressures, the Bulgarian clergy often resorted to guile in retaining intact the records of past cultural achievements. When Bulgarian national consciousness started to surface in the 18th century, it sprang from among the clergy and was closely related to its desire for an independent church, free of Greek pressures.

A benchmark of national renaissance was the publication under church auspices in 1762 of *A History of the Bulgarian People*, written in the Bulgarian language by the Orthodox monk Paisi. A subsequent translation of the Bible into the modern Bulgarian vernacular by Orthodox monks—aided by U.S. Protestant missionaries—helped confirm the church as the center of the national revival. The establishment in 1870 of the Bulgarian Exarchate, as a distinctly national branch of the Greek Orthodox Church, was quickly followed by two abortive national insurrections against Turkish rule, and finally, in 1878, by national independence under Russian protection. Since that time, much of Bulgaria's national development has been influenced by the Russians, notwithstanding the costly anomaly of hostility in two world wars. Russian influence has stemmed not only from political power and popular recognition of the deciding role played by the "big Slav brother" in freeing Bulgaria

of Turkish rule, but from linguistic, religious, and general cultural similarities as well. Bulgaria's friendship has meant for the U.S.S.R. an ally and useful salient in the often troubled Balkan Peninsula; for Bulgaria's part, many of its social institutions and programs, especially under the Communist regime, have been drawn from Soviet experience, especially in such matters as education, health, culture, and economic planning.

A touchstone of Russian-Bulgarian friendship long was the common, majority Orthodox faith, which influenced importantly the attitudes of each society and solidified at the village level a link often expressed at the diplomatic level. Eastern Orthodoxy came to Bulgaria in 865, more than a century before it reached Kiyevan Russia, and paved the way for Bulgarian linguistic and cultural achievements that contributed greatly to Orthodoxy's common fund. Old Bulgarian (more commonly known as Church Slavonic) became the language of Eastern Orthodoxy in Slavic lands, and the Bulgarians are proud that they had a written language nearly a century before the Russians. Orthodoxy in turn weighed greatly in shaping a distinct Bulgarian ethnic identity, and in maintaining it fundamentally intact during the centuries of Turkish rule. As in Russia, the church was long a center of social and political life and espoused a peasant piety that, with its strong sense of devotion, contributed to a tightly knit social fabric.

Ethnic divisions within the overwhelmingly rural, Orthodox society are few, but have in modern times affected relations with Bulgaria's neighbors. A Turkish minority (about 8.5%) is descended from colonies of settlers placed in eastern Bulgaria by the ruling Ottomans and retains its Muslim religion and attendant culture. A spirit of isolation is still evident among the Turks in Bulgaria and has hindered the Communist attempts at assimilation. Discriminatory practices and popular persecution of Turks have been fairly common in Bulgaria's modern history and undoubtedly continued into the Communist era.

The much smaller Macedonian minority in the southwestern corner of the country was closely related to the Bulgarian majority and had only minor language differences, and, indeed, the feeling of being Macedonian seems to be a fairly recent development. Consequently, this minority has never been the divisive element the Turks have been; rather, its importance has centered on the conflicting claims to the territory known as Macedonia registered by Bulgaria, Greece, and Yugoslavia. Both Greeks and Slavs live in the often disputed, ill-defined region, with the national identity of the Slav Macedonians the most violently contested aspect of the dispute. From the Bulgarian side, the most galling points are the San Stefano Treaty of 1878, by which Russia gave Bulgaria nearly all Slavic Macedonia, and the Congress of Berlin, the same year, at which the great powers took Macedonia away from Bulgaria and gave it to the Kingdom of Serbia. The temporarily inflated frontiers of 1878 have haunted Bulgarian nationalist dreams ever since—even, perhaps, the dreams of Bulgarian Communists as well.

The industrial revolution came late to Bulgaria—at the beginning of the 20th century—and then only on a small scale. Despite government-sponsored industrialization programs in the pre-World War I years, and again in the interwar period, manufacturing enterprises were slow to take hold, and towns and cities remained relatively small. The country continued to be an overwhelmingly rural, agriculturally based society right into the Communist era. Only since mid-20th century has industrial development been a significant factor, notably in the exploitation of hydroelectric power, the extraction and refining of fuels, extraction of nonferrous metals, textiles, and machine building. Indeed, some think that the traditional Communist methods of economic management have been applied more successfully in Bulgaria than in any other East European Communist country—partly because of relatively liberal Soviet credits and Moscow's willingness to provide a guaranteed market in the U.S.S.R. for goods whose quality would not permit them to compete in the markets of Western Europe.

Industrialization has brought a massive and rapid migration, mainly of younger people, to the urban areas. Rapid urban development has meant shortages of housing and sanitation facilities, as well as other amenities. Pollution has become a worsening problem in the few major industrial areas—especially Sofiya—leading to the creation of a ministerial-level environmental protection agency in 1971. Social problems that accompany the urbanization of an essentially peasant society—such as juvenile delinquency, alcoholism, and increased divorce—have been evident, and, although not yet nearly an acute proportion, have spurred strong efforts by the regime to deal with them.

Bulgaria still maintains much of its rural character, however, and agriculture continues to be the major factor in the economy. Migration to the cities has left the older generation in the villages, where health facilities and educational opportunities still need to be improved. The rural levels of living are slowly advancing, but so are urban amenities, leaving a still considerable gap between town and country. The advent of huge "agricultural-industrial" complexes, proclaimed official nationwide policy in 1970, is intended partly to bring food-processing industries and urban amenities to the countryside as part of a major effort to further mechanize and specialize large-scale farming.

Notwithstanding the relative success of economic management in the attainment of planned goals, the oppressive aspects of the regime, if not relieved, could begin to threaten even the modest material growth. Traditional values that have given the people purpose and direction still count for something. In suppressing the church, for example, the Communists have deprived the people of a historic mainstay that Marxist ritual simply has not replaced. The litany of communism has not filled the void left by the dismantling of the church's role in village life, and a resultant spiritual rootlessness is evident among sizable sections of the population.

## B. Geography (U/OU)

Bulgaria occupies the northeastern part of the turbulent Balkan Peninsula, a historical zone of contact where the cultures of the east and west have met. For centuries people and commerce have moved around and through this part of the Balkans, and in the process they profoundly influenced the area's culture, history, and politics. Even the physical landscape seems to reflect "in between" characteristics, for the arrangement of lowlands, hills, and mountains tends to channelize interregional movements—whether along the coast or within the nation's interior.

With Imperial Russia's backing, Bulgaria emerged from the dominance of the Ottoman Turkish Empire in the late 19th century. The country's proximity to the strategic Bosphorus enhanced its international significance and fostered alliances that led to confrontations between various foreign powers. As an independent nation, Bulgaria has sought to expand its territory to reach "historic frontiers," and, in particular, to extend its southern boundary to formerly held Aegean coastal lands. The desire to attain these lands, in fact, led Bulgaria to ally itself with Germany during World Wars I and II and to oppose Russia, allegedly its patron.

Generally following natural geographic features, the borders of Bulgaria are currently stabilized, although occasional references to lands formerly in the Bulgarian Empire heighten tensions in the unstable Balkans. The border with Yugoslavian Macedonia cuts through the larger historic homeland of the Macedonians and thus is involved in the broader, volatile Macedonian question. The border with Greece transects north-south corridors whose natural transportation outlets are the Aegean Sea. During World War II the northeastern land boundary with Romania was shifted northward across the dry, hilly southern Dobruja, thereby incorporating areas settled predominantly by Bulgarians. This boundary is one of the few wartime boundary adjustments that was not reversed in the postwar period.

Forested mountains and high hills dominate the landscape of approximately 55% of the country (Figure 1). Mountains in the western and southern border zones, some alpine in character, funnel international land communication routes into and through a few valleys and basins. The Balkan Mountains extend across the central part of the country to separate the two major lowlands and form the water divide between streams flowing into the Black and Aegean Seas. Many low passes cut through these mountains, however, thereby facilitating a considerable, if difficult, north-south movement of goods and people. The mountains are the major source of Bulgaria's timber and mineral resources, and they act as a rain catchment basin, from which emanate the perennial streams that water the adjacent lowlands. Valleys and basins in the mountains provide pastureland (Figure 2) and small tracts that are suitable for cultivation.

Lowlands, primarily treeless plains broken by local hills, cover approximately 45% of Bulgaria's 42,800 square miles. On the broad, loess-covered, and more extensive northern plains that border the Danube River, streams have cut deep valleys, thus making irrigation of the adjacent flat drainage divides difficult. In the eastern sector of these plains, the few streams are intermittent. The fertile lowlands are extensively cultivated and agricultural production usually exceeds domestic needs. The lowlands support a relatively dense rural population and have many medium-sized cities, located along major transportation routes and supported by agriculture-related industries (Figure 3).

The Black Sea coast has a variety of features; wooded hills, some terminating as cliffs overlooking the sea, contrast sharply with small and low embayments (Figure 4). Two embayments provide harbors for the major industrial port cities that connect Bulgaria with other maritime nations. Capitalizing on excellent sandy beaches and a favorable climate, the Bulgarians are developing this coast into a "riviera" for Eastern Europeans (Figure 5).

A continental climate with cold winters and hot summers, in which rainfall usually occurs in the form of summer thundershowers, is characteristic of a large part of the country. The mountains generally protect the central lowlands from the coldest northern winds, but they and the coastal hills also cut off the warm ameliorating influences of the Mediterranean and Black Seas. Only the south-opening valleys and south-facing slopes of the southern mountains experience the warm, dry summers and cool, moist winters that are characteristic of areas adjacent to the Mediterranean Sea. Except in the uplands, which intercept the moisture-laden winds, precipitation is only marginally adequate for agriculture, and droughts can occur at any time.

As a result of boundary adjustments, exchanges of population, and immigration, Bulgaria today is more homogeneous in character than when it gained independence, but evidence of Turkish culture still abounds. Despite exchanges through governmental agreements, Turks remain the largest minority group (8.5% of the total population). Their number belies the impact Turkish culture had on the Bulgarian people, which is evident in Turkish words in the language, dishes in the cuisine, oriental tone in the folk music, and the ubiquitous mosques and minarets of the Muslim religion. Concentrations of Turks occur in the northeast and southeast, areas densely settled by early Turkish colonizers; neither area is adjacent to the existing boundary with Turkey. Macedonians pose a potential threat to internal tranquillity, although their numbers are few. They are concentrated in the southwestern part of the country, which is part of the ephemeral Macedonian region over which Yugoslav and Bulgarian leaders have recently exchanged invectives.

The population until after World War II was primarily rural in character. Over 50% of the total lived in communities, mostly in large nucleated settlements

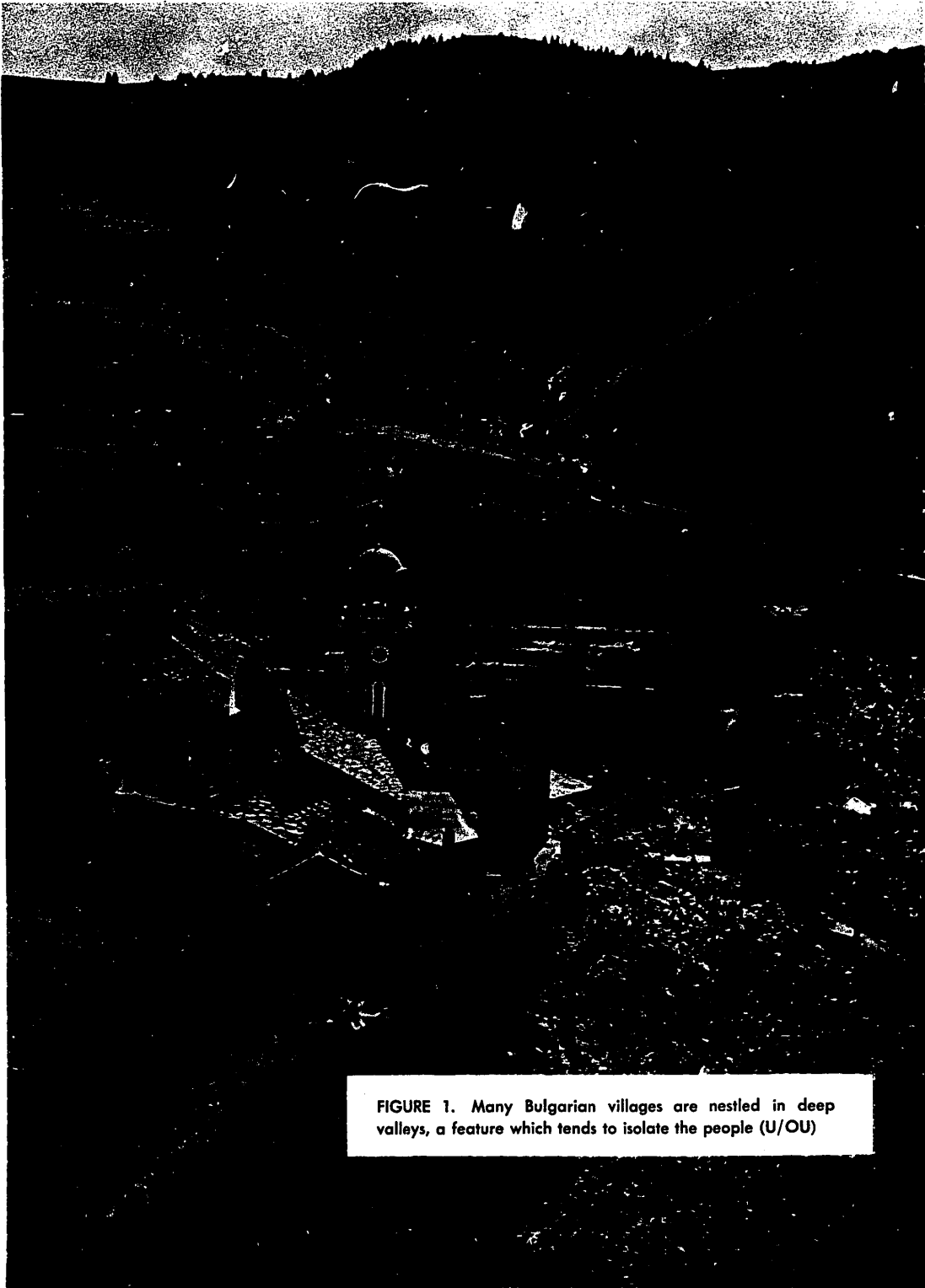


FIGURE 1. Many Bulgarian villages are nestled in deep valleys, a feature which tends to isolate the people (U/OU)

FIGURE 2. Cattle raising is important on the grasslands that cover some of the valleys and gentler slopes of the Balkan Mountains of north-central Bulgaria (U/OU)



FIGURE 3. Hothouses are a frequent part of the landscape on the lowlands. These are utilizing heat from the Maritza 3 powerplant at Dimitrovgrad (left background). Some of the fertilizer used undoubtedly comes from the Stalin Chemical Works, seen here bordering the hothouses. (U/OU)

FIGURE 4. Coastal settlements favor the pocket lowlands that lie between the cliffed stretches. The lack of port facilities limits fishing to local enterprises. (U/OU)



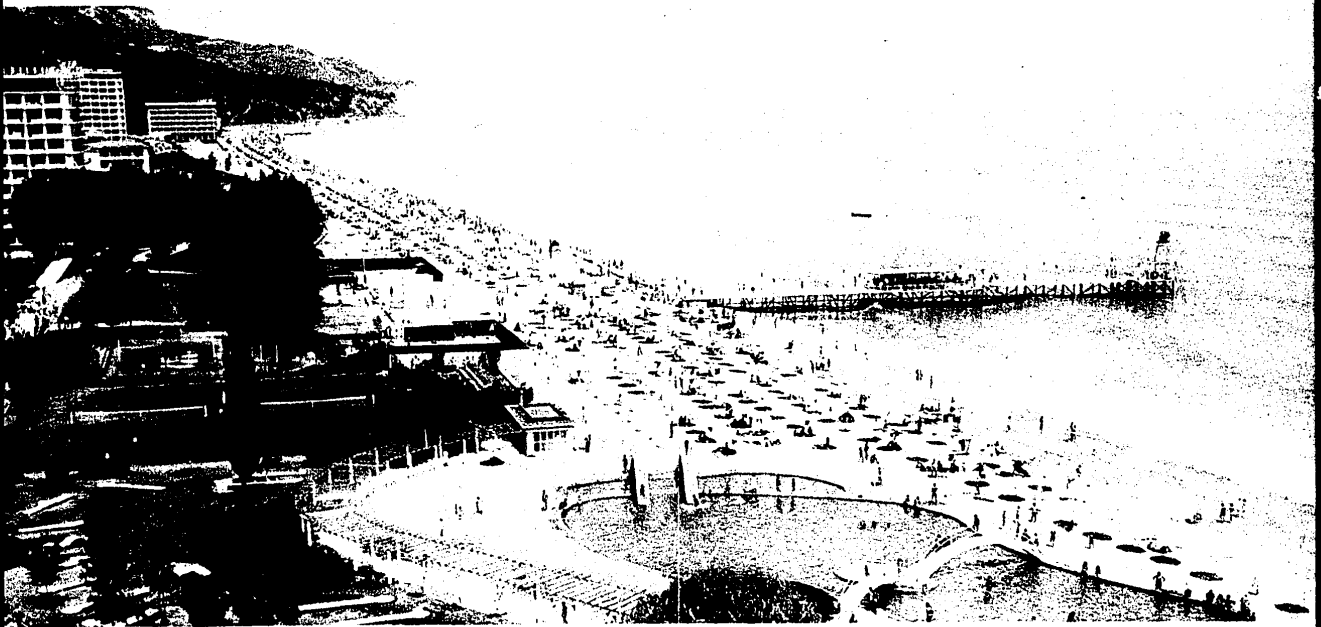
formed historically to use the land to its fullest and to provide protection against marauders. To a ground observer, the Danubian lowlands may appear sparsely settled, as many settlements are located in the incised valleys where water is available and where protection from cold winter winds can be found. The mountains tend to be sparsely populated, except for concentrations in mining areas (Figure 6). Villages are small and generally widely separated. Since World War II there has been a notable movement of people, especially the young, from the farming areas to the cities, which are generally located along the principal transportation avenues, such as the Maritsa River, and offer opportunities for employment in industry. The influx of such individuals has created problems, especially in housing. Today, over one-half of the population is urban, with Sofiya, the capital and industrial center of the nation, the largest city (approximately 825,000).

Fertile soils, tillable terrain, and a favorable climate have encouraged farming and stock raising in the area since its early occupation by the Slavs. Substantial regional differences permit agricultural diversity, which in turn enables Bulgaria to be agriculturally self-sufficient. Extensive croplands characterize the practically treeless but fertile Danubian lowland. The region is Bulgaria's major producer of winter wheat, the preferred bread crop, and corn, which provides fodder for the growing livestock industry. The principal industrial crops are sunflowers, a colorful field crop grown in the

drier eastern areas for oil, and sugar beets, cultivated primarily in the wet stream valleys. Agricultural practices on the central lowland are similar to those of the northern plains; however, irrigation is more widespread, and crops include rice and cotton. Despite the competition of synthetics in the perfume industry, attar of roses remains in demand, and roses continue to be a specialty and cash crop in the Tundzha valley, the famous "Valley of Roses" that lies between the Balkan Mountains and the Sredna Gora. Orchards generally cover the slopes of hills throughout the country, and fruit is exported fresh, canned, in juice, or in distillate form (such as "Slivovitsa," a clear plum brandy). Vineyards are common to water divides, with the grapes being used for the table and winemaking. Market gardening occurs around major cities. Fresh vegetables, fruit, grain, and flowers are grown in sufficient quantities to permit their export, and have gained for the Bulgarian peasant the appellation "gardener of Europe." The hills and mountains are generally devoted to animal husbandry. Flocks of sheep are herded to alpine pastures in the spring and returned to the lowlands in the fall. Tobacco, a major cash crop, is cultivated in the valleys of the southern mountains (Figure 7). Opium poppies, probably introduced by early Turkish settlers, are grown primarily in the lower Struma and Mesta valleys in the southwest; a poppy of poorer quality is also grown in the northwest.

Industrial development, a relatively recent phenomenon in Bulgaria, is to a large degree dependent on a

FIGURE 5. The Golden Sands, north of Varna, is one of several rapidly developing resort areas on the Black Sea (U/OU)



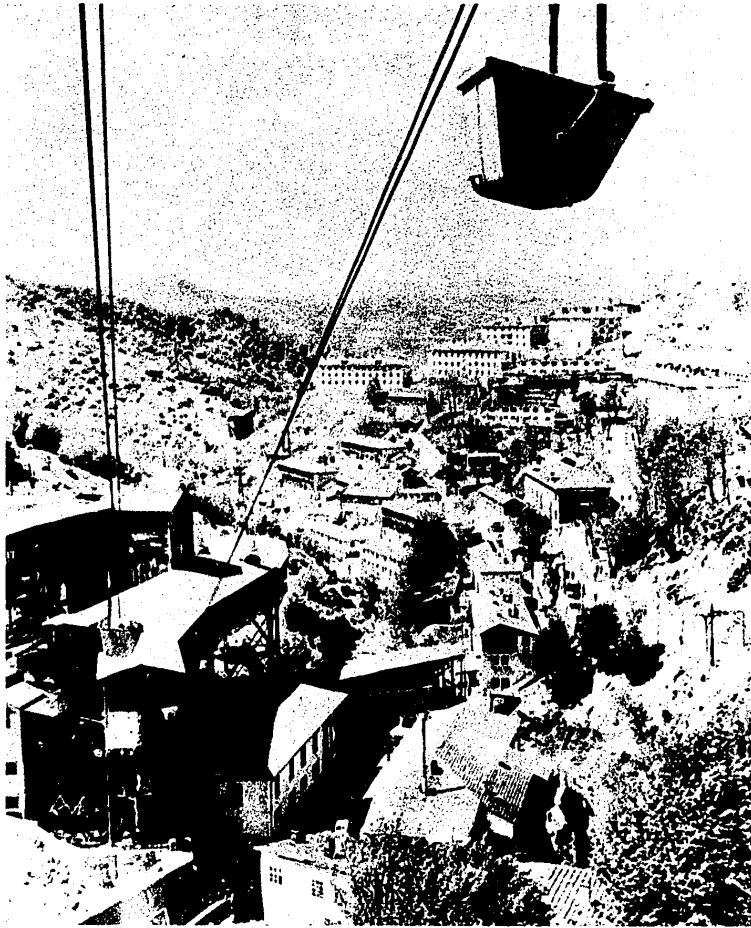


FIGURE 6. Multiple-dwelling housing units compact the workers' families in this mining area at Borinovo in the Rhodope Mountains in southern Bulgaria (U/OU)



FIGURE 7. Planting tobacco on a collective farm in the extreme southwest. Irrigation enhances the productivity of this mountain valley in Blagoevgrad. (U/OU)



limited natural resource base concentrated primarily in the western and southern mountains. Reserves of low-quality iron ore and of other mineral resources are basically inadequate to support a large metallurgical industry. Deposits of nonferrous metals—lead, zinc, and copper—in the central and southern mountains, however, are mined in quantities sufficient to meet domestic needs and permit some export. Bulgaria lacks adequate fuel resources. Extensive brown coal and lignite deposits in the central and western areas are utilized for homes and powerplants, and also as a raw material base for a young chemical industry. Oil and gas deposits are small, and imports are necessary to meet domestic requirements. The presence of fuels, minerals, and manpower in the Sofiya basin, along with the location of the city on a major transportation route, contribute to the leading role of Sofiya as the industrial center of the country. Air pollution is becoming serious in the vicinity of Sofiya because of the increased use of soft coal by industrial and private consumers in the basin. Industrial pollution of streams here and elsewhere in the country is also a growing threat associated with industrial development. Varna, Burgas, and Ruse, all important ports, are centers of shipbuilding and of chemical and petrochemical industries. Ruse and Burgas have oil refineries based on imported Soviet and Middle Eastern crude oils. Small factories processing agricultural materials or producing specialty items are scattered throughout the country. Coniferous forests, primarily in the southern and western mountains, and deciduous forests on the central and western mountains provide a base for a wood products industry. Recognizing the continued dependence of Bulgarian industry on agricultural raw materials, the Bulgarian Government recently initiated the organization of agro-industrial complexes. The government's intention is to bring all phases of production into one place by attaching food-connected industries to large groups of farms. By providing employment to the peasant and bringing workers into a few modernized villages offering social services, the program may slow the exodus of the population from the countryside to the cities.

**C. Population (U/OU)**

**1. Size, composition, and distribution**

Bulgaria's last official census, taken in December 1965, recorded the population at 8,227,869, an increase of 614,070 persons or about 8% since the 1956 census, averaging slightly less than 1% per year. According to U.S. Census estimates the Bulgarian population numbered 8,601,000 as of 1 July 1971.

The ethnic composition of the population in 1967 was approximately 85.3% Bulgarian, 8.5% Turkish, 2.6% Gypsy, 2.5% Macedonian,<sup>1</sup> 0.3% Armenian, 0.2%

<sup>1</sup>Any estimate of the Macedonian population is very tenuous and is complicated by official Bulgarian claims, espoused since 1958, that Macedonians are not a separate national group but instead are a subgroup of the Bulgarian nation. The official Bulgarian census of 1956, the last one to list separately the Macedonian population, asserted that 187,789 persons (2.5% of the total population) were Macedonian.

Russian, 0.1% Greeks, with the remaining 0.5% divided among at least eight other ethnic groups. The number of Turks is being reduced as a result of an agreement signed in October 1967 between Bulgaria and Turkey which will allow the eventual emigration of perhaps 20,000 to 50,000 of Bulgaria's approximately 700,000 ethnic Turks to Turkey.

Encompassing an area of 42,800 square miles, slightly less than the state of Pennsylvania, Bulgaria as of July 1971 had a population density of 200 persons per square mile, about average for the rugged Balkan area. Approximately half of this area is suitable for agricultural purposes; the remainder consists mainly of forests, hills and mountains, and built-on areas. Bulgaria has fewer people than most of its European neighbors. Of the four Balkan countries which border directly on Bulgaria, Greece has approximately half a million more inhabitants, Romania and Yugoslavia each have more than twice as many people, and Turkey is four times as populous. The population and population density of Bulgaria are compared with selected countries in Figure 8.

The areas of highest population density are generally found on the more fertile plains or plateaus, where most of the urban centers are also located (i.e., in the Danubian tableland, the Trakiyska Nizina, and the

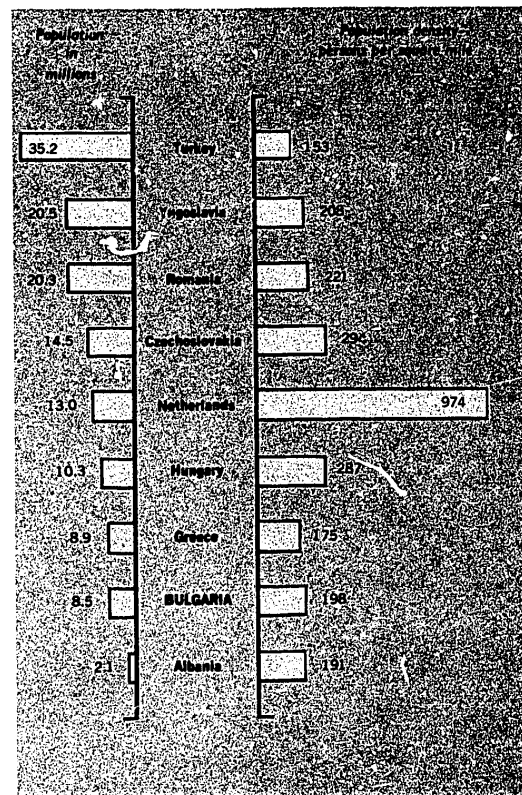


FIGURE 8. Population and population density, Bulgaria and selected countries, 1970 (U/OU)

Sofiya basin). The major population concentrations are around the two largest cities, Sofiya and Plovdiv. Estimates as of January 1968 indicate that Sofiya District and the city of Sofiya combined had nearly 15% of the population; Plovdiv District (which includes the city of Plovdiv) had nearly 8% of the total population. These two districts, along with Varna District (which includes the city of Varna) showed the highest rate of population increase between 1956 and 1965. Conversely, the areas of lowest population density are in mountainous central and southern Bulgaria—the western Rhodope and Balkan Mountains, ranging longitudinally across the center of the country, and in the Strandzha Mountains in the southeastern corner. The population distribution by administrative divisions is shown in Figure 9 and on the inset on the Summary Map, Figure 122.

Heavy rural to urban migration, partly a consequence of industrialization, has greatly increased the size of urban centers, reflecting the eagerness of the people—especially the younger generation—to leave rural areas in favor of the amenities of urban life. In 1956 the urban

population comprised slightly less than 34% of the total population, and in 1965 the urban population constituted 43.9%, with an additional 2.5% living in "settlements of an urban type." This new category, created in 1964 and including at that time 40 villages, reflected the employment of the bulk of the population in the extractive or relocated manufacturing industries.<sup>2</sup> By early 1970 about 51% of the population lived in urban areas, with an additional 1% dwelling in the recently defined urban settlements. The migration to urban centers has increased the urban population about 107,000 annually (1944-70), which is a rate more than 1.5 times that of the population increase for the country as a whole. The eight largest cities totaled almost 1.8 million persons in 1968 or 21.2% of the total population (Figure 10). Moreover, these eight cities, which increased 41.7% in population between 1956 and 1968, accounted for 42.8% of the total urban population in the latter year. In

<sup>2</sup>Bulgarian sources classify 10% of Sofiya's population as rural because the city, classified as a separate district (*okrug*), contains rural areas.

FIGURE 9. POPULATION DISTRIBUTION BY ADMINISTRATIVE DIVISION, 1 JANUARY 1970 (U/OU)

OKRUGS	LAND AREA	TOTAL POPULATION	PERSONS PER SQUARE MILE	PERCENT OF TOTAL POPULATION	URBAN POPULATION	PERCENT OF TOTAL URBAN POPULATION	RURAL POPULATION	PERCENT OF TOTAL RURAL POPULATION
	<i>Square miles</i>	<i>Thousands</i>			<i>Thousands</i>		<i>Thousands</i>	
Blagoevgrad	2,504	310.6	124.0	3.7	125.8	2.9	184.8	4.5
Burgas	2,916	404.2	138.6	4.8	223.4	5.1	180.8	4.4
Gabrovo	794	188.4	237.3	2.2	118.8	2.7	69.6	1.7
Khaskovo	1,568	289.5	185.0	3.4	155.4	3.5	134.1	3.3
Kurazhali	1,560	296.4	190.0	3.5	62.0	1.4	234.3	5.7
Kyustendil	1,174	197.5	168.2	2.3	94.9	2.2	102.6	2.5
Lovech	1,597	221.3	138.6	2.6	99.5	2.3	121.8	3.0
Mikhaylovgrad	1,387	236.9	170.8	2.8	93.3	2.1	143.6	3.5
Pazaydzjik	1,678	306.2	182.5	3.6	157.1	3.6	149.1	3.7
Pernik	921	181.4	197.0	2.1	97.4	2.2	84.0	2.1
Pleven	1,595	349.8	219.3	4.1	151.8	3.5	198.0	4.8
Plovdiv	2,139	658.3	307.8	7.8	401.1	9.2	257.2	6.3
Razgrad	1,015	200.6	197.6	2.4	57.6	1.3	143.0	3.5
Ruse	1,026	285.9	278.7	3.4	164.9	3.8	121.0	3.0
Shumen	1,285	249.2	193.9	2.9	103.3	2.4	145.9	3.6
Silistra	1,109	131.8	154.9	2.0	58.9	1.3	112.9	2.8
Sliven	1,389	233.3	168.0	2.8	116.9	2.7	116.4	2.8
Smolyan	1,372	178.0	129.0	2.1	59.2	1.3	117.8	2.9
Sofiya District	2,814	317.5	112.8	3.8	111.8	2.6	205.7	5.0
Sofiya city	434	973.5	2,243.1	11.5	873.6	20.0	99.8	2.4
Stara Zagora	1,893	373.6	197.4	4.4	208.0	4.8	165.4	4.0
Tolbukhin	1,816	239.3	131.8	2.8	100.8	2.3	138.5	3.4
Turgovishte	1,950	175.4	167.0	2.1	58.0	1.3	117.3	2.9
Varna	1,504	397.8	264.5	4.7	257.8	5.9	140.0	3.4
Veliko Turnovo	1,808	333.2	184.3	3.9	133.2	3.0	200.1	4.9
Vidin	1,197	175.6	146.7	2.1	70.9	1.6	104.7	2.6
Vratsa	1,602	302.8	189.0	3.6	121.5	2.8	181.4	4.4
Yambol	1,682	217.2	129.1	2.6	96.9	2.2	120.3	2.9
Total	42,829	8,464.2	197.6	100.0	4,374.0	100.0	4,090.0	100.0

NOTE—Figures may not add to totals because of rounding.  
 Source: Statisticheski Godishnik na Narodna Republika Bulgariya, 1970, p. 423.

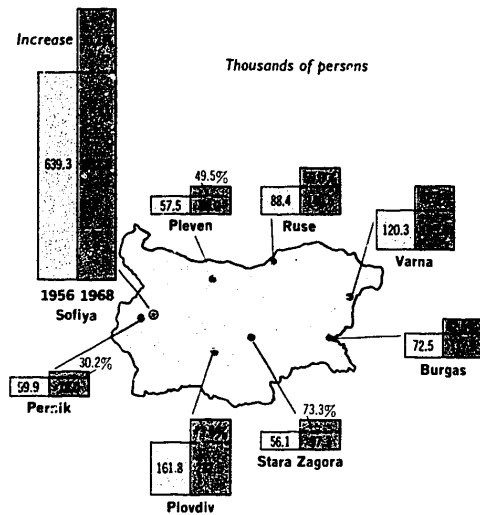


FIGURE 10. Population and population growth of the eight largest cities, 1956-68 (U/OU)

January 1970 Sofiya<sup>3</sup> alone contained almost 20% of the urban population or 11.5% of the total inhabitants. Much of Varna's increase in population can be attributed to the recent development of the tourist industry (Figure 5).

Urban growth has been so rapid that regime officials have attempted to ease congestion by dispersing industry in an effort to redistribute the national labor force. Many efforts have centered on curbing the heavy migration to Sofiya, and on accelerating the growth of small and average-size cities (under 20,000 population). In 1955 the Council of Ministers passed a decree for the "Temporary Limitation on Admitting New Residents to the Capital." Decrees in 1961 and 1962 provided for the dispersal of industrial plants, as did the more recent decree of the Council of Ministers in 1967. This measure dictated that 10 industrial enterprises as well as parts of other production units be moved from Sofiya. The measures have had a limited effect on the growth of the larger cities. Between 1965 and 1968 the percentage of the total urban population found in the eight largest cities declined 3.7%. Further industrial dispersion, already reflected statistically in the appearance of the new "settlements of an urban type" created in 1964, was placed on a continuing long-term basis by a 1-day party plenum in March 1970.

2. Vital statistics

Bulgaria's modest average population growth rate of 0.9% annually since 1956 is slightly above the Eastern European average of 0.7%; however, an overall decline in

<sup>3</sup>Inhabited places in Bulgaria are classified as rural or urban on the basis of administrative status rather than by size. The major criterion for this distinction is the occupation of the majority of the economically active population. However, according to the census of 1965, 97% of the rural population dwelled in towns of less than 5,000 population; no town over 10,000 population was classified as "rural."

these rates seems portended for the 1970's. The country historically has shown a relatively low rate of natural increase. Except for the immediate post-World War II years, the rate of natural increase has fluctuated around 10 per 1,000. The rate of natural increase in 1967 registered a low point of 6.0 per 1,000 (for the 50 years in which statistics have been compiled), and by 1969 had only slightly increased to 7.5 per 1,000, despite measures by the government to encourage a higher birth rate.

A low marriage rate has been a constant factor for over two decades in keeping population growth down. The marriage rate of 8.7 per 1,000 inhabitants in 1969 equaled the average low rate among the Eastern European countries as a whole and showed remarkable stability when compared with the average rate of 8.6 registered in Bulgaria over the last two decades. It is well below the U.S. average of 10.6. At the same time, the divorce rate has increased somewhat, from 1.01 per 1,000 inhabitants in 1962 to 1.16 in 1969.

A rapid decline in the birth rate after World War II slowed population growth. Unlike many other Eastern European countries, Bulgaria's birth rate was not greatly affected by the war. After reaching a postwar high of 25.6 per 1,000 population in 1946—up from 22.8 in 1938—the birth rate declined almost steadily until 1966, when it reached an all-time low of 14.9 per 1,000 population. A modest upturn has been evident since then. Statistical data released by the regime reveal a birth rate of 17.0 per 1,000 population in 1969 (Figure 11).

Like other Eastern European countries, Bulgaria's fertility rate—the number of births in relation to the number of women of childbearing age—is quite low. The large number of women active in the labor force, increased urbanization, and, until recently, the ease with which abortions could be obtained tended to discourage childbearing. Only in the past few years has the government begun to provide meaningful incentives to natural population growth.

Substantial decreases in the death rates—particularly in infant mortality—partially balanced the declining birth rate. Improved medical facilities and techniques, accompanied by easier access to medicine and by improved sanitation, are the principal factors in the declining death rate. A comparison of vital rates in Bulgaria and other selected countries is shown in Figure 12.

Life expectancy has increased. According to official Bulgarian estimates, a male child born in the middle 1960's will live about 69 years, while a female will live almost 73 years. By comparison, the life expectancy of a child born in the early 1920's was about 44 years for a male and 45 years for a female. The general increase in life expectancy stems in good measure from the marked decline in infant mortality. Nevertheless, the infant mortality rate of 30.5 deaths per 1,000 is still relatively high, although it is exceeded by the infant mortality rates of Hungary, Poland, and Portugal. The rate has been stable since the early 1960's and shows a marked decline from the 138.9 deaths per 1,000 registered births in 1939, then one of the highest rates in Europe. A comparison of

the infant mortality rate in Bulgaria with rates in other Eastern European countries is shown in Figure 13. Disparities between urban and rural health and sanitation facilities are vividly reflected in the difference between the urban infant mortality rate of 26.5 and the rural rate of 35.6.

As in neighboring European countries, the population of Bulgaria, which had been relatively young, is now aging. Thus, the median age has risen from 26.6 in 1947 to 29.3 in 1956, to 33 years in 1969. The working-age group, ages 15 through 64, increased from 4,789,000 in 1950 to an estimated 5,720,000 as of 1 July 1969. This growth of about 19% represents an increase of almost 2% in the proportion of the total population found in the working-age group. U.S. Census projections indicate that the number of persons in the working-age group will continue to grow proportionately, but at a reduced rate.

The age-sex distribution of the Bulgarian population shows greater regularity than do distributions of other Eastern European countries, in which war casualties and emigration have had more of an impact. In comparison with the United States, however, such influences on the Bulgarian pyramid, as well as the recent rapid declines in the birth rate, become more apparent (Figure 14). The smaller proportion of Bulgarians in the 25 through 34 age group reflects low birth rates during and just prior to World War II. Additionally, Bulgaria's present population structure reflects a long-range decline in the death rate.

The sex ratio has remained relatively unchanged since at least 1939—about 100 males to 100 females—and Bulgarian estimates for 1969 listed 99.9 males for every 100 females. Males slightly exceed females in number between ages 25-34, and have a greater, albeit still modest, advantage in the under-25 age groups.

### 3. Population policies and projections

Reversing the decline in the birth rate has become a matter of official concern. Toward this end, the regime has tightened abortion laws and has encouraged larger families. The liberal abortion laws of 1956 were superseded by an amendment of the "Instructions for Procedures for Artificial Termination of Pregnancy" in 1963. Under these new provisions abortions were to be granted only to women who claimed difficult "social" problems and received approval of their claim by a special commission in the Ministry of Public Health and Social Welfare.

Even so, the policy evidently remained one of relatively easy abortions, and they continued at a high rate. The number of abortions between 1958 and 1963 increased from approximately 55,000 to about 104,000, according to an article published in *Ikonomicheski Zhivot* (Economic Life) in January 1967. Moreover, on the basis of a questionnaire distributed by the regime in 1963, officials estimated that an additional 60,000 abortions went unrecorded annually. On the basis of these statistics, the number of abortions by the mid-1960's had become significantly greater than the number of births. New abortion regulations announced in

December 1967 are much more restrictive than those of 1963. Under the 1967 rules abortions of a first pregnancy are allowable only in cases of proved rape or other "especially serious cases." They must be approved by a three-man medical committee, one of whom is an obstetrician.

In an effort to increase the birth rate, the regime has instituted a system of financial rewards paid at the time of birth of each child to married couples. A decree issued in December 1967 set a sliding scale of one-time payments to parents for the birth of five children in the following amounts: first child, 20 leva (1.17 leva = US\$1.00 at the commercial rate); second child, 200 leva; third child, 500 leva; fourth and subsequent children, 20 leva. Monthly payments, previously based on income levels, have been increased in two stages. Beginning January 1968 all families with three children received 10 leva per month (which is more than they had received before), regardless of family income. Families with one or two children continued to receive the previous payments. Since January 1969 families have received 5 leva for the first child, 15 for the second, 35 for the third, and 5 leva for each additional child. These payments are made regardless of income and exceed the payments under the old schedule.

Other measures taken in 1967, and still in effect, included the liberalization of maternity leave benefits and greater use of nonmonetary rewards. Longer maternity leaves are now the rule—up to 6 months of paid leave and 12 months of unpaid time off for a mother bearing her third child—as are liberal absentee policies for mothers either tending sick children or nursing. Since 1967 large families have been given greater employment opportunities and priority in obtaining housing or housing construction loans. Plans for the 5 years 1971-75 call for further unspecified gains in state support allowances for the second child and increases in the capacity of state-run creches and kindergartens. The government also awards "Maternity Glory" orders to mothers of large families and imposes a special tax of 5% to 10% on the pay of single persons and childless couples.

The U.S. Census Bureau expects Bulgaria's population to reach at least 8.8 million by 1975 and 9.4 million in 1985. According to the projection, the number of persons in each broad age group will increase over the period 1965-85, but the increase will be proportionately greater in older ages (Figure 15). Because the low fertility rate is expected to continue, the number of persons under age 15 is expected to increase by only about 5.2%, from slightly over 2 million in 1965 to about 2.1 million in 1985. The projection forecasts an increase in the working-age population (15 through 64 years) from approximately 5.5 million in 1965 to over 6.2 million by 1985, with the greatest gain concentrated in the older working ages. The increase during this period in the group aged 15 through 34 is estimated to be 5.5%, while the population aged 35 through 64 will, according to the projection, increase approximately 20.3%. The number of persons 65 and over will increase approximately 38.4%, from 663,000 in 1965 to over 1 million in 1985.

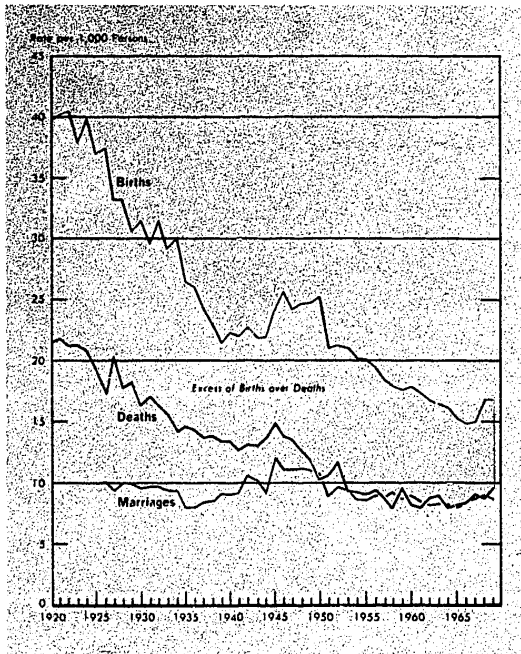


FIGURE 11. Births, deaths, marriages per 1,000 population, 1920-69 (U/OU)

### D. Structure and characteristics of the society (U/OU)

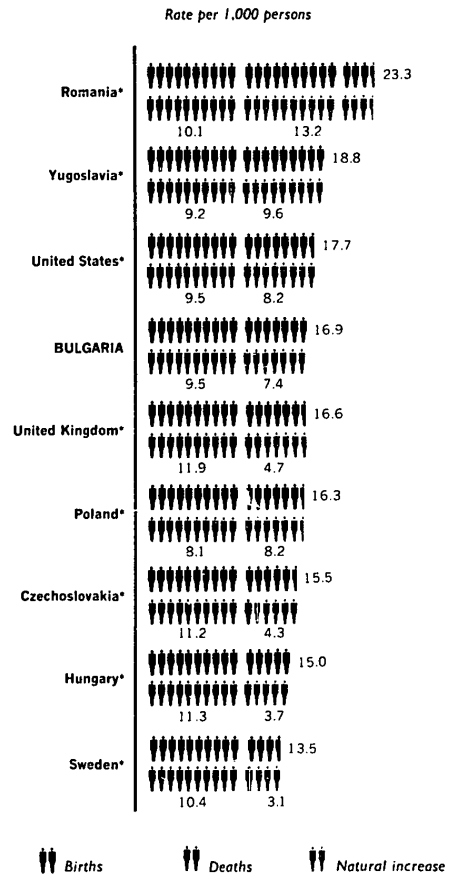
#### 1. Ethnic composition and languages

Bulgaria's population is overwhelmingly ethnic Bulgarian, with Turks, Gypsies, and Macedonians, the last named concentrated in the southwest corners of the country, the only significant minorities (Figure 16). On the whole, the minority groups are outwardly quiet and submissive to the regime. Longstanding prejudices still exist, however, especially against the Turkish minority, and create a divisive element in Bulgarian society.

Modern Bulgarians are a south-Slavic people with a strain of Asiatic assimilated long ago. They are descended from unknown Central European Slavic tribes that settled the eastern Balkan Peninsula over a 300-year period extending from the fourth to the seventh centuries. Turko-Tartar nomads known as Bulgars invaded the region in the seventh century and, although relatively few in number, soon dominated the area. By the ninth century, however, the majority Slavic population had completely assimilated the Bulgars, who left only their name as a token of their rule over the population. Modern Bulgarians speak a common language, and many facets of their cultural development are associated historically with the Eastern Orthodox Church.

Bulgarians vary widely in physical characteristics. As elsewhere in the Mediterranean area, tallness is rare. The pigmentation of Bulgarians, while lighter than that of the Greeks, is predominantly dark, and light-colored hair is rare. Figure 17 depicts a typical Bulgarian farmer and urban dweller. Turks living in Bulgaria are similar in

FIGURE 12. Vital rates, Bulgaria and selected countries (U/OU)



Births Deaths Natural increase

\* Provisional 1969 United Nations figures.

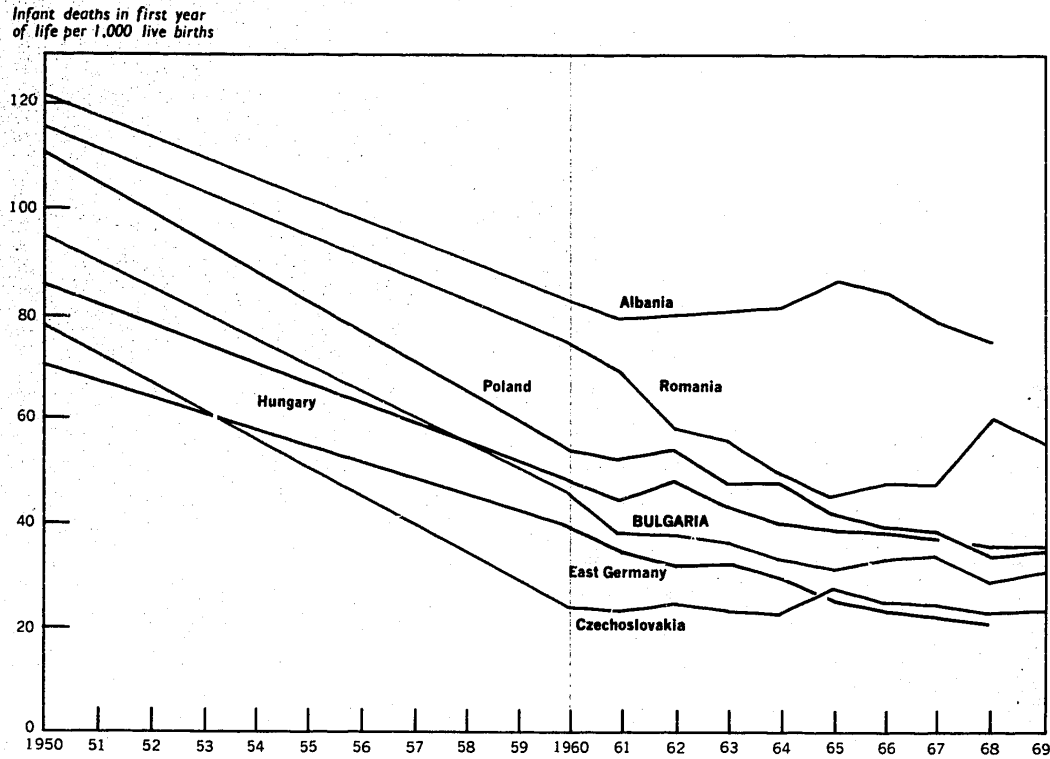
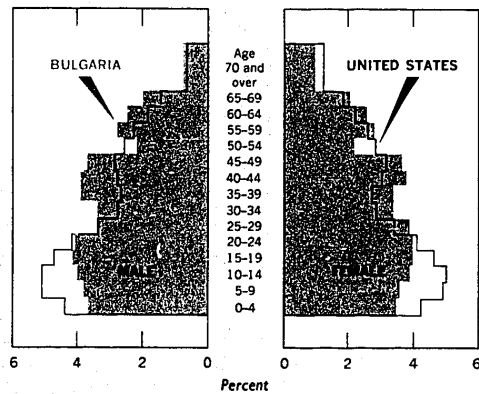


FIGURE 13. Infant mortality, Bulgaria and selected countries, 1950-69 (U/OU)

FIGURE 14. Age-sex distribution, Bulgaria and the United States, 1970 (U/OU)



physical characteristics to the bulk of the population, but Armenians and Gypsies tend to be distinguishable. Gypsies are usually darker and shorter, while Armenians may be markedly round-headed and are usually heavier than most other Bulgarians.

The Turks, the largest of the minority groups, are the descendants of settlers who migrated from Asia Minor during the 500 years of Ottoman supremacy in the Balkans. The Ottoman Empire for reasons of military security colonized the eastern portion of Bulgaria with Turks, a practice that ceased only after Bulgaria's liberation in 1878. Most of the Turks now live as farmers in the northeastern section of Bulgaria, although there are sizable numbers in the south and in the Rhodope Mountains (Figure 16). The town of Kolarovgrad (formerly Shumen) is the traditional Turkish religious (Muslim) and cultural center; several other large towns in eastern Bulgaria have Turkish quarters. The Turks have never been fully assimilated into Bulgarian society, and efforts by the current regime to encourage assimilation have not met with success. The difficulty experienced by the Turkish minority in identifying with the majority population or with the regime has been exacerbated by discriminatory practices, such as inducting Turkish youths into labor troop units, where they receive little or no military training and fulfill their military obligation

FIGURE 15. DISTRIBUTION OF THE ESTIMATED AND PROJECTED POPULATION, BY BROAD AGE GROUPS AND SEX (U/OU)  
(Population in thousands)

AGE/SEX	NUMBER			PERCENT DISTRIBUTION		
	1965	1975	1985	1965	1975	1985
<b>Both sexes:</b>						
0-14.....	2,003	2,020	2,108	24.5	22.8	22.3
15-34.....	2,510	2,608	2,649	30.7	29.4	28.1
35-64.....	3,000	3,288	3,608	36.7	37.1	38.2
65 and over.....	663	952	1,077	8.1	10.7	11.4
All ages.....	8,177	8,869	9,442	100.0	100.0	100.0
<b>Male:</b>						
0-14.....	1,024	1,037	1,083	25.1	23.4	22.9
15-34.....	1,265	1,325	1,352	31.0	29.9	28.6
35-64.....	1,501	1,637	1,792	36.7	36.9	38.0
65 and over.....	295	438	494	7.2	9.8	10.5
All ages.....	4,085	4,435	4,722	100.0	100.0	100.0
<b>Female:</b>						
0-14.....	981	983	1,025	24.0	22.2	21.7
15-34.....	1,244	1,284	1,297	30.4	29.0	27.5
35-64.....	1,501	1,654	1,815	36.7	37.3	38.4
65 and over.....	369	514	583	8.9	11.5	12.4
All ages.....	4,093	4,434	4,720	100.0	100.0	100.0

NOTE—Figures may not add to totals because of rounding.

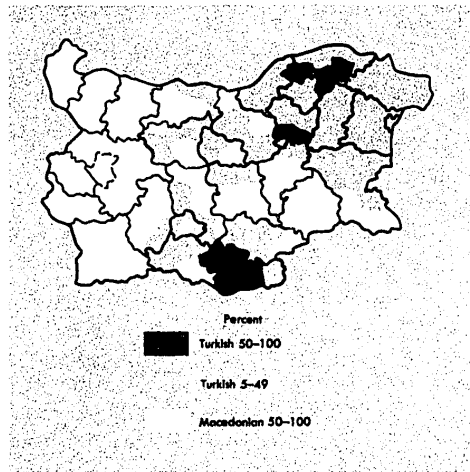


FIGURE 16. Geographic distribution of Turkish and Macedonian minorities, 1965 (C)

by working. Furthermore, popular persecution of Turks—including terror and beatings—partly negates the few positive steps in education and medical services taken by the regime toward this minority.

Lack of concern over the Turkish minority by the pre-Communist government allowed a great number of native Turkish customs and practices to survive. A substantially self-contained community within the larger community thus continued to exist well into the Communist era. Currently the few ethnic Turks who collaborate with Sofiya have little actual contact with or

influence over the other Bulgarian Turks, since the former have been ostracized from the Muslim church, and the church is one of the most influential institutions in the Turkish community.

This Turkish minority has been a source of irritation between the two countries since Bulgaria attained independence from Turkey in 1878. This irritation was lessened somewhat in March 1968, when the two nations, pursuant to a 1967 agreement, arranged for the eventual emigration of perhaps 20,000 to 50,000 Turks, the first such large-scale transfer since 1950-51, when Bulgaria permitted several thousand ethnic Turks to return to their homeland. The two governments appear content with the gradual repatriation, because Bulgaria does not want to lose a significant portion of its agricultural labor force, and Turkey does not want the problem of resettling a large number of impoverished immigrants.

The second largest minority group, the Gypsies, came to the Balkan Peninsula during the 15th century and are now scattered throughout Bulgaria. Prior to World War II they could be divided into two groups—the settled and the nomadic. The first group lived mainly in the cities, often in the slum areas, especially in Plevin. Since the Communists took power, the government has made an effort to reduce nomadism and to integrate all Gypsies more fully into national life. These attempts, however, have met with stubborn resistance, as the Gypsies balk at assimilation into the modern industrial, urban society. Reportedly given equal rights with ethnic Bulgarians, Gypsies, because of their clannish nature, are still generally reluctant to broaden contacts with the Bulgarians. While nearly all are able to make themselves



FIGURE 17. A typical farmer in fast disappearing traditional dress and a city dweller from Plovdiv (U/OU)

understood in Bulgarian, they communicate among themselves in their ancient Romany language (of Indo-European origin). During the 1950-51 exodus of Turks, the Turkish Government complained that the Bulgarian regime was trying to get rid of Gypsies by passing them off as Turks. Currently the government's policy seems aimed merely at persuading the Gypsies to settle down and take up regular work in the socialized economy. The majority of Gypsies are Muslims.

Macedonians (or, as the Bulgarian regime would have it, Bulgarians from Macedonia) are about as numerous a minority as the Gypsies, but there all analogy ends. Concentrated in the Rhodope Mountains in southwestern Bulgaria, the Macedonians adhere to the beliefs of Eastern Orthodoxy and speak a language closely related to Bulgarian. Significantly larger numbers of Macedonians live in contiguous areas of neighboring Yugoslavia and Greece, and some Macedonians still hope for a united Macedonia composed of territory from all three states. Yugoslav contentions that the Macedonians are a separate nationality have been answered by Bulgarian claims that the Macedonians are a political and geographic subgroup of the Bulgarian nation and therefore not a separate nationality. Both sides interpret the other's position as a threat to its territorial integrity because of the sizable Macedonian population on both sides of the border. Vituperative exchanges between Yugoslavia and Bulgaria over the Macedonian issue flare up periodically, often for little apparent immediate cause. The issue, although real, on occasion has become something of a red herring, exploitable from time to time by both sides for a variety of internal and external political reasons.

The Bulgarian regime forbids all political activity associated with Macedonian nationalism and suppresses cultural activity which is uniquely Macedonian, i.e., songs and folklore. Moreover, unlike the Turkish minority, the Macedonians are not permitted to have schools in their native language. The regime considers Macedonian a dialect of Bulgarian rather than a separate language. Signifying the hardening attitude against the

Yugoslav position, the 1965 Bulgarian census revealed far fewer Macedonians than had been reported in 1956.

Of the numerically less significant ethnic groups in Bulgaria, the Armenians, Russians, Greeks, Jews, Tartars, and *Pomaks* (ethnic Bulgarian Muslims) are the most important. The Armenians consist mostly of refugees and the descendants of refugees who fled Turkey after the massacres in the first quarter of this century, most having entered Bulgaria in 1922-23. Some, however, are descendants of Armenian colonies which were established in the Maritsa valley over a thousand years ago. Most Armenians are urban dwellers. The Russians in Bulgaria also are primarily refugees, survivors of General Wrangel's army who fled Russia after the Bolshevik revolution, and their descendants. The few thousand Greeks are the remnants of a much larger minority, estimated at some 67,000 in 1905. Many Greeks left Bulgaria after riots in 1905, but most emigrated to their homeland during population exchanges after World War I. There was a slight influx of Greek Communist guerrillas who sought refuge in Bulgaria in the late 1940's. These latter-day Greek immigrants live in the urban areas as foreign refugees and receive assistance from the Communist authorities. The few thousand Tartars in Bulgaria are the descendants of a group which colonized the northeastern part of the country after having emigrated from the Crimea in 1861.

The Jews are the remnants of a much larger minority of between 50,000 and 60,000 who lived in Bulgaria prior to World War II. They are mostly Sephardim, descendants of the Jews who left Spain and Portugal, and have lived in Bulgaria for several centuries. Unlike other Eastern European countries, Bulgaria has not had a tradition of anti-Semitism, and during World War II Bulgaria was the only German ally which did not allow deportation of Jews. After 1945 Bulgaria was the only Eastern European Communist nation to permit a liberal policy on Jewish emigration, allowing the bulk of its Jews to emigrate to Israel.

Many of the remaining Jews, about 7,000, hold influential government posts associated with cultural



activities, mass communications, and economics. In early 1966 the Cultural and Educational Organization of Bulgarian Jews organized a permanent exhibition of Jewish martyrdom throughout Europe during the days of Nazi German hegemony. During the June 1967 Arab-Israel war Bulgaria officially supported the Arabs, but popular sentiment, if not pro-Israeli, certainly lagged behind the official pro-Arab stance.

Bulgarian, one of the Slavonic languages of the Indo-European family, is the first language of some 85% of the population and is the official and literary language. The next most numerically significant language is Turkish, used as a first language by the Turkish minority. Other languages of distinctly secondary importance used by small segments of the population include Romany (Gypsy), Armenian, Romanian, and Sephardic (Judeo-Spanish). The Macedonian language is officially prohibited by the regime.

Bulgarian is written in the Cyrillic alphabet, invented about A.D. 900 for the first writings of the Eastern Orthodox Church. The Bulgarian language as spoken in the ninth century was soon cast in literary form and is known today as Old Church Slavonic, the first literary language of the Slavic world. The orthography of Bulgarian was reformed in 1945, when historic spelling was abandoned in favor of a more phonetic one.

The Bulgarian language has numerous dialects, which are usually subdivided into three main groups, based on the pronunciation of the vowel e. In most of western Bulgaria e is pronounced as the e in the English word "met"; in the northeast e becomes "ya" as in the English word "yard" when stressed and followed by a hard consonant or syllable; in the southwest the same vowel is pronounced "ya" in both stressed and unstressed positions. The dialects of the northeast form the basis of the literary language. Differences are minor, and speakers of the various dialects have no difficulty in understanding one another.

Russian is probably understood by a large number of Bulgarians because of similarities between the two languages and the protracted period of Russian influence in Bulgarian affairs. Russian was compulsory in the pre-Communist educational system and its study has been considerably expanded by the Communist regime. Knowledge of French, German, and English is limited but increasing. It is difficult to estimate the number of Bulgarians having a knowledge of these languages, although a number of secondary schools are devoted to intensive study of them. Such schools are presumably attended principally by young people preparing for a career in the government services.

## 2. Social organization

The autonomous principality of Bulgaria that emerged from Turkish domination in 1878 was an overwhelmingly rural and agrarian society. The peasantry, many of whom were small independent landowners, constituted over 90% of the population. Urban development was extremely limited, and occupations in the few provincial

towns were confined to local commerce and trade, provincial administration, and a few extractive and small artisan industries. The industrial revolution had not yet arrived, so an urban working class was negligible, if identifiable at all. At the other end of the social scale was an equally light and insignificant landed gentry. Five hundred years of Turkish occupation had eliminated the old boyar class; both the renegade nobles and the Greek *phanariots*, who replaced the boyars, the former, embracing Islam, owed their existence to the Turkish suzerain they served, and, lacking all rapport with the native population, either emigrated or faded into relative insignificance following the removal of Turkish power. The long restricted cultural life was marked by rural habits and outlook. The most influential national institution was the Bulgarian Orthodox Church, which indeed over the preceding century had provided much of the thrust toward a Bulgarian national identity and concept of nationhood. But the strong emotional religious ties that helped bind the backward people together had their darker aspects, particularly since Bulgarian Orthodoxy and nationalism were so intertwined. If class warfare as such was still negligible, there were the ethnic minorities, particularly the Turks and Greeks—former oppressors—to serve as lightning rods for the frustrations attending the painful emergence into nationhood. To a population still over 90% illiterate, pogroms against certain minorities provided an emotional catharsis, and, for so late a period in Europe's history, occasionally took on especially barbarous manifestations.

The gradual growth of the towns and cities did not start until the early 1900's under the impetus of a government-sponsored industrialization program. A measurable urban working class was in evidence by the 1930's, albeit one still lacking an organized sense of purpose. At this time the growing middle class included those in the liberal professions, industrial and commercial entrepreneurs, army officers, and middle-level civil servants. The small upper class embraced the royal family and its immediate entourage, the most influential industrialists and bankers, and a new landed gentry. The peasantry on the eve of World War II still accounted for some 80% of the population.

The dominant social institution of the country at the turn of the 20th century, intimately associated with its rural character, was the *zadruga* or communal multiple family. Characteristic of all rural south-Slavic societies, the *zadruga* was a household composed of two or more nuclear families, which owned, worked, and regulated their economic livelihood communally. Such households often included as many as 60 members. The *zadruga* began to disappear with the growth of cities, the adoption of written national codes of law, and the development of an exchange economy; by the time of World War II it had virtually ceased to exist.

After 1944 the Communists dispossessed the few industrialists, financiers, large landowners, and small businessmen; absorbed peasant landholdings into collective farms; compelled religious and intellectual

groups to submit to state control; outlawed political opposition; and generally restricted social and economic advancement to those who could be useful to the party or who could meet Communist political requirements. Industrial workers as a group, who with their families now comprise about one-fourth of the population, have been highly favored by the regime, and their incomes are almost on a par with the incomes of professionals. For a short time in the mid-1960's the regime allowed private artisans to operate under fewer limitations in order to improve consumer services and the supply of consumer goods.

As in neighboring Communist countries, the top echelon of the social pyramid is made up of a new ruling group of senior administrators and policymakers, nearly all of whom are party members. A middle level, somewhat analogous to the former middle class, is composed of highly trained technicians and persons with special managerial skills, middle level civil servants, and army officers. A few former middle and upper class entrepreneurs and practitioners of the liberal professions, who have made their peace with the regime, may today command incomes and other amenities that admit them to the middle level. Many, however, have been displaced to the working class. The working class is composed of members of the pre-World War II urban working class, heavily augmented by new recruits trained in the Communist schools, including large numbers of former peasants and the displaced members of the bourgeoisie and elite classes. The urban working class has become the object of glorification by the regime's propaganda. Increased material rewards, however, have been largely reserved for outstanding workers, chiefly in mining and heavy industry. Such workers, in addition to commanding relatively high wages, receive premiums and decorations for fulfilling high production norms. Most Bulgarian workers have, however, only a modest level of living, and their real income has only recently begun to show significant improvement. They have an even more modest influence in political affairs. The collectivized peasants, with their families, still accounting for close to one-half of the population, are regarded ideologically as agricultural "workers." They are somewhat less favored by the regime, which, nonetheless, has felt obliged to make concessions to their traditional peasant attachment to private property and the profit motivation.

Bulgarian society is more mobile than it was prior to the Communist takeover, principally because of the industrialization program and the attendant increased educational opportunities. Party affiliation or active participation in a front organization has been at times necessary for success. But proper technical (and ideological) training in the state schools remains fundamental. Although ability and success on the examination are necessary to gain access to the state's higher educational institutions, a certain number of students are still admitted largely on the basis of political attitudes or the status and connections of parents. The

children of World War II partisan fighters are assured preferential treatment by law, such as waiving certain examinations to enter educational institutions. Occupations requiring intellectual skills and talents continue to be symbols of high social status.

### 3. National attitudes

Bulgarian attitudes have been shaped by the influence of the Bulgarian Orthodox Church, by the traditionally peasant character of the country, by a long struggle for national independence, and by many years of rivalry with neighboring Balkan countries over conflicting territorial claims.

The Bulgarian Orthodox Church, to which the majority of the people still belong, has been a traditional symbol of independence and nationalism as well as an important factor in shaping the peasant's morals and conservative character. The historic alliance of religion and nationalism presented the regime with the dilemma of propagating atheism without creating a major popular irritant. The Orthodox Church's role in shaping the peasant's mentality is shown by his strong but formal piety, tinged with superstition, and his traditional respect for the village priest. A strong belief in the importance of land and land ownership and a marked feeling for the family as an institution, also characteristic of this outlook, have proved impediments to popular acceptance of collectivization and other initiatives by the regime. Acquiescence in the extensive retention of private plots and the selling of their produce in the free market have been necessary economic concessions to these sentiments.

It follows that many Bulgarians are either hostile or ambivalent toward the Communist regime. Large numbers of defector reports attest to such attitudes, indicating selective opposition. Most defectors approve certain accomplishments, such as the extension of medical and health services and the improvements in education. The populace, however, generally resents the many impingements on individual freedom, the attacks on traditionally honored institutions, such as the church, and, basic to nearly all other grievances, the rule by arbitrary force.

The roots of nationalism are found in the achievements of the First and Second Bulgarian Empires in early medieval times. In modern times nationalism was further stimulated by the Treaty of San Stefano in 1878, which provided for the reestablishment of a large Bulgarian state. Although this settlement was blocked by the United Kingdom and Austria-Hungary, the brief existence of "San Stefano Bulgaria" remains for many Bulgarians a glorious moment in history.

Attitudes toward foreign countries are largely conditioned by the role these countries have played in events that affected Bulgarian national aspirations. A great deal of the good will gained by the U.S.S.R. as a result of the Russian role in the liberation of Bulgaria from the Turks was dissipated when postwar Soviet control in Bulgaria became increasingly onerous. While Sofiya's ties to Moscow remain the strongest in Eastern

Europe, Bulgaria has recently embarked on a modest campaign to expand ties, both economic and political, outside the Communist world. Bulgaria sided with Germany in both world wars in the hope of territorial aggrandizement, and Bulgarians, especially the former upper classes and intellectuals, have always admired German technical proficiency and cultural achievements. Since 1965 Bulgaria has again increased its economic ties with West Germany; political relations between the two countries have improved, but Bulgaria, clearly under pressure from the U.S.S.R. and East Germany, has not yet been prepared formally to recognize the Federal Republic.

The United States is generally admired and respected because of its power and democratic ideals, its long record of friendly feelings toward Bulgaria, and the continuing favorable influence of Bulgarian emigrants to the United States on friends and relatives in Bulgaria. The official attitude of the Communist regime toward the United States has fluctuated from hostile to cool. In the relatively cordial year of 1966 Bulgaria and the United States raised their diplomatic relations to the ambassadorial level. Currently, U.S. relations with Bulgaria are more limited than with most of the other countries of Eastern Europe, but they registered a modest improvement in 1969 and 1970.

Traditional antagonisms are among the most important influences on popular attitudes toward Bulgaria's neighbors. The Turkish occupation engendered animosities which have been preserved to this day, despite the recent political contacts between Turkey and Bulgaria. The role of the Greeks during that occupation—in particular the domination of the Bulgarian church by Greek clergy and attempts to Hellenize Bulgarian culture—contributed to the enduring feeling of hostility toward Greece. Nonetheless, the Bulgarian regime has correct and frequent contacts with the new Greek regime, which achieved power in the April 1967 military coup in Athens, and the Bulgarian press has been markedly restrained in its handling of the coup and of the subsequent military leadership in Greece. The Macedonian problem has on occasion accentuated tensions between Greece and Bulgaria, but not to the extent it has between Bulgaria and Yugoslavia. There is some evidence that Yugoslavia and Romania enjoy a measure of popular support in Bulgaria for standing up to the U.S.S.R. in recent years, but this admiration has not changed the regime's longstanding opposition to the Yugoslav Macedonian policy nor the traditional suspicion of Romanian intentions in the Dobruja.

**E. Manpower and labor (C)**

**1. Size and characteristics of the labor force**

Bulgaria's labor force totaled 4,392,000 in mid-1970, according to U.S. estimates; it accounted for about 52% of the total population and about 76% of the population of working age (15-64). Although the labor force has slowly but steadily increased in size, only since 1966 has it

kept pace even with the modest growth of the population. In 1956 the labor force was 54.7% of the population; by July 1966 it had decreased to about 51.9% of the population, at which point it has leveled off. Present population trends indicate, however, that Bulgaria can expect a slowdown in the growth rate of its labor force and even might experience an absolute annual decrease in the number of available able-bodied workers. The manpower situation is already becoming critical in some areas.

Despite the rapid industrialization that has been a top priority of the Communist regime, Bulgaria remains one of the less industrialized countries in Europe; approximately 37% of the economically active population was still engaged in agricultural work as of 1 July 1970. The regime, however, has succeeded in bringing about a substantial development of industry since its accession to power, as is evident by the increase in workers engaged in the nonagricultural sectors of the economy. The proportion of all workers and employees in nonagricultural activities increased from 23% in 1946 to nearly 63% in 1970. Distribution of workers by broad category of employment during the period 1948 to 1969 is shown in Figure 18.

The largest growth in employment between 1948 and 1969 was clearly in the industrial sector, amounting to over 860,000 persons. This increment was almost one-half the total employment increase in all nonagricultural sectors of the economy. Within the industrial sector, the most rapid gains were made in heavy industry, although light industry, including food processing, had the greater proportionate increase in employment between 1953 and 1957. Growth of employment in the industrial sector has moderated slightly in recent years, and industry's share of

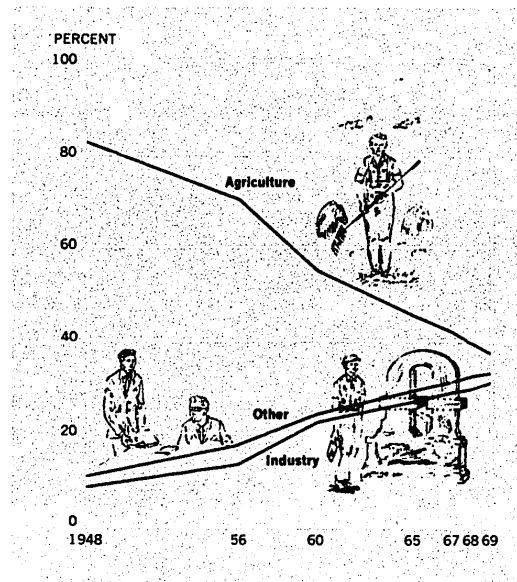


FIGURE 18. Distribution of the labor force, 1948-69 (U/OU)

the nonagricultural labor force fell by 0.2% between 1965 and 1969. The distribution of nonagricultural workers among the other economic sectors has remained relatively stable since 1948. The greatest change was registered in the public administration sectors, a decrease of 7.3%, while the proportion of industrial workers increased by about 3.5%. Slight decreases were also registered during this period in communications, education, finance, and distribution. Both the health and housing sectors experienced a 2% gain in their share of the nonagricultural labor force. Distribution of the socialized nonagricultural labor force from 1948 to 1969 is shown in Figure 19.

The number of self-employed persons continues to be small, even though greater freedom was granted to private enterprise in the mid-1960's in an attempt to improve the availability of services and small consumer goods. As a result of those measures, the ranks of the small, private entrepreneur increased from approximately 10,000 in 1965 to nearly 26,000 in early 1967. In 1966, according to one reliable source, private artisans produced goods valued at approximately 4,288,000 leva, more than doubling the value produced in 1965. Beginning in 1968, however, decrees against speculation and nonlabor income were clearly aimed at the successful artisan and eroded his position through the imposition of additional taxes and restrictions. The crackdown continued into 1970 and was inspired, in part, by the preference of the public for private artisans' services and by the exodus of qualified workers from state and cooperative enterprises in order to work privately.

The large agrarian population traditionally has been the main source of urban labor, but in recent years the demand for skilled workers has outstripped the supply. While the rural population and the natural increment of able-bodied males remain the principal reservoirs, housewives seeking employment outside the home provide a needed increment. In determining the

deployment of the labor reserve throughout the economy, special attention continues to be given to technical training to overcome shortages both of skilled workers and of agricultural specialists who have become scarce in some regions.

Approximately 45,000 to 50,000 young men have been taken annually from the labor market for induction into military service, and about the same number have been discharged from the military each year. Thus, although the armed forces continually hold some 50,000 able-bodied men from the civilian manpower pool, this does not appreciably affect the growth of the labor force, although it may have an inhibiting effect on population growth in general.

At the time of the last census in 1965—the most recent complete data available—about 95% of Bulgaria's male population in ages 25 to 54 were economically active, a proportion comparable to that in other Eastern European countries. In ages 16 through 24 years, however, employment rates were somewhat lower than in other Eastern European countries, partly because of increased educational opportunities; at age 65 and over they were higher, generally reflecting the large agricultural sector of the Bulgarian economy, where numerous older persons continue to be employed. Employment rates for women age 20 and older were generally high, reflecting the Bulgarian practice of counting part-time workers in agriculture as part of the economically active group. Employment rates for men differ little between urban and rural areas, but rates for women are much lower in cities than in villages. Two factors which tend to hold rates down are rising educational opportunities for young people and wider pension coverage for the aged.

The female participation rate in the economy has increased significantly in recent years. In 1956 women accounted for 36.7% of the labor force, and by 1965 they had increased their participation to 41.7%. Official Bulgarian statistics claim that in 1969 women comprised

FIGURE 19. DISTRIBUTION OF EMPLOYMENT IN THE SOCIALIZED NONAGRICULTURAL SECTORS FOR SELECTED YEARS, BY BRANCH OF ECONOMIC ACTIVITY, BY NUMBER AND PERCENT (U/OU)  
(Numbers in thousands)

ACTIVITY	1948		1960		1965		1969	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Industry	263.2	44.4	768.6	48.2	953.9	48.1	1,132.1	47.9
Construction	64.7	10.9	160.7	10.1	224.5	11.3	284.3	12.0
Transportation	41.4	7.0	144.3	9.1	152.6	7.7	182.8	7.7
Communications	12.2	2.1	25.4	1.6	27.9	1.4	31.3	1.4
Education, culture, arts	54.2	9.1	133.8	8.4	174.4	8.8	194.4	8.2
Public health	15.6	2.6	63.9	4.0	88.5	4.5	104.9	4.5
Finance and credits	7.6	1.3	10.3	0.6	11.2	0.6	15.2	0.6
Administration	57.8	9.7	50.2	3.1	43.7	2.2	56.5	2.4
Housing	6.9	1.2	46.7	2.9	63.5	3.2	76.3	3.2
Distribution	60.4	10.2	160.8	10.1	200.5	10.1	221.0	9.4
Science and science services	1.6	0.3	14.7	0.9	21.6	1.1	40.2	1.7
Other	7.3	1.2	16.0	1.0	20.2	1.0	23.3	1.0
Total	592.9	100.0	1,595.4	100.0	1,982.5	100.0	2,382.3	100.0

Source: Statisticheski Godishnik na Narodna Republika Bulgariya, 1970.

42.6% of the labor force; this figure undoubtedly understates the reality, however, because it is based on data that exclude the labor force of the collective farms, known to be female intensive. Women have been especially recruited for jobs in industry since 1958 and are widely employed in such sectors as machine building and metal cutting, in the chemical and rubber industries, in textiles, ready-to-wear goods, and in food processing. Long-range plans call for extensive female employment in industries connected with processing ferrous metals and for wider employment in the chemical industry. In 1969 the percentage of women employed in various branches of industry ranged from 21.3% of the total labor force in electric power and steam power production to 83.3% of the textile labor force. Employment in the socialist sector of the economy is shown in Figure 20.

The regime does not release information on unemployment, but with its rapidly declining labor reserves and authoritarian allocation of labor, it is

unlikely that the nation has a very large number of unemployed. An estimate of the number of unemployed is difficult to make, because many Bulgarians do not register as unemployed for fear they will be pressured into taking an undesirable position. According to one Bulgarian source, once an offer from the unemployment office is turned down, the worker may experience difficulty getting working papers for a job he has acquired on his own initiative. Therefore, individuals often try to locate a more suitable vacancy through private connections, after which they go to the unemployment offices for the necessary approval slip. The inefficiencies of the economy—especially in a number of agricultural sectors—suggest that the economy may be plagued by persistent underemployment.

Although the Communist regime has undertaken centralized planning for the allocation of labor since shortly after its accession to power, this authority was not utilized vigorously until the late 1950's, when shortages of trained workers became acute. The regime prefers to rely on indirect measures to encourage labor movement, however, and direct coercion is not a prominent part of the labor policy. Not surprisingly, efforts to channel population movements have not always been wholly successful, and have occasionally had unforeseen (and undesirable) side effects.

Rural-urban migration, necessary for the growth of the industrial base, was consistently encouraged during the early years of the Communist regime. Higher wages, increased welfare benefits, and the attractiveness of urban life were incentive enough for this migration. Between 1956 and 1965, according to official statistics, almost 2% of the population annually changed its permanent residence, and the majority of these moves were from village to town. In the 1948-68 period about 1.7 million persons reportedly left the agricultural sector of the economy, nearly all in the younger age brackets. The migration has been at the cost of decreased agricultural labor productivity because of the progressive aging of the rural population, a decrease only partly overcome by the increase of mechanization.

Migration to the city soon strained housing and other facilities in such major cities as Sofiya, Plovdiv, and Varna, a situation which, in turn, caused the regime to attempt the shift of the urban labor force to less populated urban areas. Measures adopted have included restrictions on settling in Sofiya and the requirement that all higher education graduates must work for 3 years in a place of the government's choosing. Since the early 1960's the government has followed a policy of placing many new industrial enterprises (and relocating some existing plants) in "underpopulated" urban areas. During the 1960's, according to press reports, about 675 industrial plants were set up in middle-sized and small towns. During the first 6 months of 1970, according to official statistics, about 21% of the labor force changed its place of employment. Movement continues especially high among workers under the age of 30. In industries where such turnover is deemed undesirable it is discouraged through setting up wage differentials and pay increases keyed to time spent in the same position.

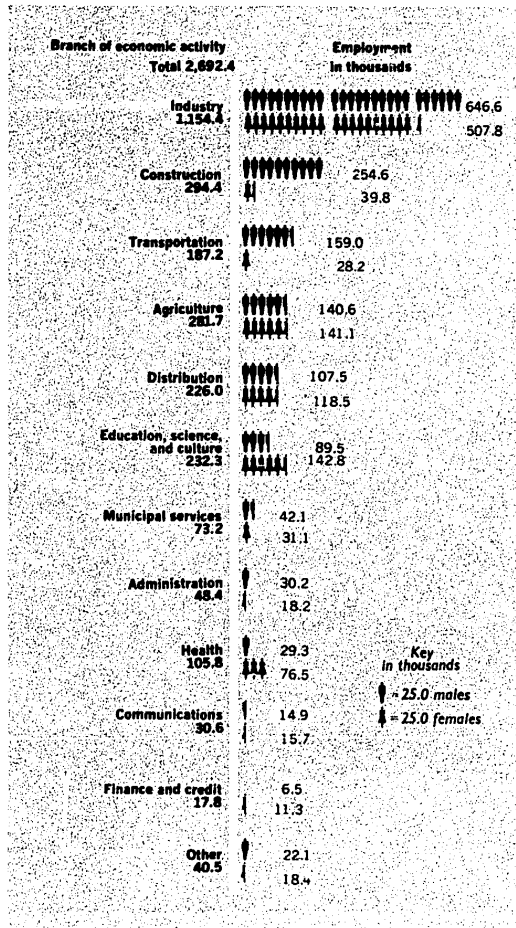


FIGURE 20. Employment in the socialist sector of the economy, by branch of economic activity and sex, 1 November 1969 (U/OU)

Until the mid-1950's raw materials, tools and machinery, and a still relatively unskilled but numerically ample labor force were the most important factors in production. Clearly by the 1960's skilled workers had become the key factor in productivity. Despite their rapid increase, the demand for skilled workers continues to exceed the supply. Growing shortages of trained manpower have interfered with the fulfillment of output and investment goals in various sectors of the economy. Data are spotty and no recent figures are available, but the problem continues to be at least of the same proportion, notwithstanding the expansion of technical educational facilities. Illustrative of the problem then were press reports which claimed a deficit of 66,000 qualified persons to fill 184,000 positions requiring specialists with higher education and a shortage of 41,000 qualified persons for 272,000 positions requiring at least a secondary education. Additionally, the government in early 1967 noted that in the machine-building and metal processing industries, 94,710 workers out of a total of 123,357 did not possess a high school education or any other kind of preliminary training. Figure 21 gives a breakdown of the educational level of employees in various branches of the economy.

During 1971-75 the regime plans to train a minimum of 250,000 qualified workers in professional schools and to upgrade the qualifications of 300,000 workers. A minimum of 175,000 specialists with higher (exclusive of university education) and specialized secondary education is to be graduated in the 5-year period. Fields to be emphasized during the plan include scientific research, draft-design, computer utilization, and automation of production.

Specialized vocational and technical training is emphasized increasingly in the school system. According to the Sixth Five Year Plan, secondary education by 1975

will be almost completely restructured on the basis of a compulsory unified secondary polytechnical school. As envisaged by its main proponent, party chief Todor Zhivkov (who overruled educational specialists advocating a differentiated secondary school system), the new secondary school, probably to the detriment of general education, will combine general and polytechnical education in order to prepare every graduate for quick entrance into the labor force. The reform in part attempts to overcome the strong bias among young people against blue-collar training. The abolition of entrance examinations for technical and professional-technical secondary schools was decreed in March 1970 to encourage more young people to become qualified semiskilled workers.

## 2. Productivity and working conditions

As in neighboring Communist countries, there has been ample airing of labor productivity shortfalls in the press and over the air. The indifferent labor force and an inefficient management appear to be the prime causes of low productivity. The regime periodically bemoans such contributing factors as high labor turnover, nonutilization of work time, and high absenteeism. Ancillary factors, such as toleration of substandard production quality, are also the subject of sporadic open criticism. The regime endeavors to improve worker performance, as evidenced in a year-long campaign in 1970, by demanding greater productivity through "social discipline" and by passing laws punishing workers for lack of "conscientiousness."

Detailed statistical data on output per man-hour are not available. Reliable estimates place the annual growth rate of industrial labor productivity at almost 8% for recent years, somewhat below official target figures. The economic plan for 1971 forecasts labor productivity

FIGURE 21. EDUCATIONAL LEVEL OF EMPLOYEES, BY BRANCH OF ECONOMIC ACTIVITY, IN PERCENT (100)

ACTIVITY	EDUCATION											
	With higher education			With secondary vocational training			With secondary education			Without secondary education		
	1959	1964	1968	1959	1964	1968	1959	1964	1968	1959	1964	1968
Industry	2.0	2.2	2.4	4.8	6.0	7.9	9.8	10.3	12.1	83.4	81.5	77.6
Construction	6.9	5.0	4.3	9.1	8.6	8.8	9.8	8.7	7.5	74.2	77.7	79.4
Agriculture	2.9	2.1	2.3	3.5	3.0	3.4	4.1	2.5	2.4	89.5	92.4	91.9
Forestry	4.0	0.3	0.1	3.9	0.3	0.2	3.2	0.3	0.3	88.9	99.1	99.4
Transportation	1.5	1.7	2.1	6.1	6.6	7.8	8.2	9.4	10.5	84.2	82.3	79.6
Communications	1.1	1.3	1.2	11.3	14.7	16.5	35.1	33.7	35.4	52.5	50.3	46.9
Distribution	4.0	4.1	4.6	7.1	7.2	8.8	17.9	19.5	19.5	71.0	69.2	67.1
Other branches of material industry	43.1	19.5	15.6	8.8	6.5	6.0	31.2	21.7	16.5	16.9	52.3	61.9
Housing and communal economy	2.6	1.7	1.9	5.8	4.9	6.7	9.0	8.2	10.9	82.6	85.2	80.5
Science and science services	30.0	36.9	34.4	12.9	17.7	22.1	15.0	17.1	15.9	42.1	28.3	27.6
Education, culture, the arts	15.9	15.7	16.9	47.8	43.4	45.0	8.2	11.7	10.0	28.1	29.2	28.1
Public health, social insurance, and sports	19.6	17.8	16.3	30.4	34.1	36.8	6.2	6.2	6.6	43.8	41.9	40.3
Finance, credits, and insurance	14.4	13.1	12.0	22.9	24.1	27.4	38.3	38.6	38.9	24.4	24.2	21.7
Administration	25.5	27.8	30.5	8.2	10.2	13.6	24.9	25.4	28.3	41.4	36.6	27.6
Other branches not contributing directly to material production	10.2	15.5	20.0	13.8	17.2	21.5	35.5	34.4	33.6	40.5	32.9	24.9

increases in different sectors, ranging from 2.4% for the transportation sector to 7.9% for the construction industry.

The Sixth Five Year Plan (1971-75) forecasts a 55% to 60% growth in industrial production, with 70% to 80% of this growth to be realized through increased labor productivity. Agricultural labor productivity is slated to increase during the same 5-year period by 40% to 45%. No estimate on the relative efficiency of the economic sectors is possible, but regime spokesmen have admitted that the gradual aging of the rural labor force has caused a leveling off of agricultural labor productivity despite mechanization.

The legal workweek for most workers ranges from 42 hours to about 48 hours. Since December 1967 Bulgaria has been in the process of replacing the 6-day workweek with a 5-day week. The transition was to have been completed by 1970, but press reports in that year indicate that implementation of the shorter week has made little headway. The experimental phase of the changeover (reduction of the workweek in Stara Zagora and Gabrovo districts), scheduled for completion by late 1968, had not yet been accomplished by early 1971.

The Inspectorate for Supervision of Labor Safety, an agency of the Council of Ministers, directly coordinates, controls, and reports on labor safety work in the national economy. Decrees of the inspectorate are theoretically binding on all sectors of the economy. Safety regulations, however, may often be compromised in an effort to attain greater output and, therefore, are not consistently implemented or enforced.

Wage scales are set by the central government in conjunction with the trade unions and are used to influence the utilization of manpower resources. Preferential wage levels are set for certain types of needed employment, for encouraging the acquisition of skills, and for promoting output and productivity increases. Prevailing average yearly wage scales are shown below in leva:

	1960	1969
Construction .....	1,154	1,689
Administration .....	950	1,649
Transportation .....	1,074	1,559
Scientific research .....	873	1,540
Industry .....	961	1,406
Finance and credit .....	810	1,340
Education .....	844	1,321
Trade .....	801	1,298
Municipal services .....	785	1,237
Public health .....	822	1,233

Welfare benefits, notably family allowances, may increase total family income by as much as 15% to 20% in households with more than three children.

### 3. Labor relations, conditions, and attitudes

As in other Communist countries, trade unions serve chiefly as instruments for carrying out the social and economic policies of the government and party. Specifically, the three main functions of the trade unions are to promote the fulfillment of national economic plans, to administer the social insurance program, and to

control the enforcement of labor laws. Labor legislation consists almost wholly of regulations and codes designed to subordinate the worker to the politicoeconomic objectives of the regime. Trade unions do not represent the interests of labor, because their leaders are actually appointed functionaries of the party. Bulgarian labor unions are members of the World Federation of Trade Unions, the Communist-dominated international labor organization.

The highest Bulgarian trade union body is the Central Trade Union Council. A trade union congress is held every 4 years (the most recent in early 1972) and is made up of delegates from each of the 11 national trade unions:

- Administrative Establishments and Communal Enterprises
- Agriculture
- Commerce
- Machine Building, Chemical and Power Plants
- Mining and Metallurgy
- Public Health
- Construction, Building, and Woodworking
- Education and Cultural Institutions
- Forests and the Lumber Industry
- Light and Food Processing Industry
- Transportation and Communications

The trade union congress acts as a forum for critical examination of union activities and labor productivity, and it theoretically elects the secretariat and central committee of the council. Actually these officials are "nominated" by the party, which is tantamount to appointment. Their "election" is then staged to provide a democratic facade. The central committee is composed of 176 full members and 56 alternate members; it meets two to four times each year to formalize policies governing trade union activities between congresses. The real leadership of the trade union movement rests with the secretariat of the council, which determines policies and provides day-to-day direction and coordination of the regional and local bodies and their activities. In a move reflecting the regime's concern over improving the trade union's role as an organization for channeling worker grievances, alternate Politburo member Kostadin Gyaurov replaced Rosa Koritarova as chairman of the Central Trade Union Council in the wake of the Polish labor troubles of December 1970.

The labor policies of the regime are often represented as emanating from the council, particularly decrees that appear in the interest of the worker. Among these was the June 1967 Decree on Labor Discipline and Against Fluctuation of Labor, requiring 3-months' notice for dismissal or resignation and providing for increased material and moral incentives for workers. The decree also stipulates that each worker must have a labor book which reflects the following:

- 1) The worker's legal position with the enterprise of his employment.
- 2) The worker's acquired skills and qualifications.
- 3) Awards achieved by the worker.
- 4) Time accrued on the job or jobs for retirement benefits.
- 5) Eligibility for additional remuneration under uninterrupted duration of service regulations.
- 6) Annual leave.
- 7) Any compensation received for temporary disability.

Punishments or circumstances derogatory to the worker are not permitted in the labor book.

Workers do not have the right to strike, but work stoppages have been reported on several occasions. During 1966 and early 1967 workers complained of inadequate wages and reportedly refused to work for short periods at the Maritsa coal mines, the State Transport Enterprise in Ruse, and at three textile plants in Gabrovo. In early 1968 there were reports of work slowdowns and work stoppages in various areas as a sign of protest against the price rises introduced on 1 January 1968. There is no information regarding the success of any of these stoppages in achieving the workers' goals. Worker dissatisfaction with norms, wages, or jobs has also been expressed in absenteeism, waste, theft, malingering, and deliberate slowdowns—all of which are punishable by law.

Collective agreements are drawn up between the shop council representing the workers and the enterprise manager, and they must be approved by the appropriate trade union and economic ministry. The agreements serve primarily as means of mobilizing labor for the attainment of economic objectives, and they differ in at least two important respects from those drawn up in non-Communist countries. In the implementation of the agreement, labor is represented by trade unions controlled by the same party which controls management, and basic points in the agreement are not subject to bargaining. Labor disputes are normally adjudicated by boards of arbitration appointed by the Central Trade Union Council. These boards hear disputes over such matters as the assignment of workers to wage classes and grades; the adjustment of hours, leave, and internal transfers; and termination of employment. Decisions of local arbitration boards may be appealed to regional boards, whose decisions are final.

## F. Health (U/OU)

### 1. Health conditions and principal diseases

The level of public health in Bulgaria has steadily improved in the past several decades, but is still one of the lowest in Eastern Europe and significantly below the high levels attained in Czechoslovakia and East Germany. The rudimentary medical infrastructure emerged relatively unscathed from World War II and provided a solid if modest base for ensuing developments. By 1971 the level of public health and sanitation met many of the needs of the population, although deficiencies were still widespread.

Despite rapid strides in preventive health measures and a more equitable distribution of medical care, congested urban living conditions and inadequate sanitary facilities in most rural and in some urban areas result a lingering high incidence of communicable diseases. The most prevalent of these include influenza, infectious hepatitis, dysentery, tuberculosis, and syphilis. Serious outbreaks of influenza occurred in 1967, and rubella flared up in 1964 and 1969. In 1970 the Asian cholera epidemic spilled over into Bulgaria.

Health conditions in rural areas are often substantially below those prevailing in urban centers. Despite the government's programs in adult health education, inattention to personal, animal, and general environmental hygiene and sanitation is still widespread among the peasantry and has been the basic reason for keeping animal health conditions and farm sanitation on a low level in comparison with more advanced Western European countries. The incidence of diseases among the large animal population—notably bovines, hogs, and horses—is relatively high, despite increasing remedial measures by the veterinary service. Among the prevalent animal diseases are brucellosis in bovines, sheep, goats, and possibly swine; foot-and-mouth disease, which has been enzootic in Bulgaria for many years; leptospirosis, hog cholera, bovine tuberculosis; salmonellosis in all classes of livestock; contagious agalactia in sheep and goats; and echinococcosis.

Notwithstanding the relative backwardness in environmental hygiene, steady progress is reflected in the gradual reduction or elimination of some of the more readily controllable hazards to human health. As indicated above, the principal killers of an earlier era—the communicable diseases—are slowly being brought under control. The regime has been able to reduce the number of active cases of tuberculosis to less than one-fourth the number reported in 1944. It also claims to have completely eliminated malaria, previously a major health problem, and to have reduced typhus, diphtheria, and typhoid fever to a few isolated cases. The leading causes of death among adults are now heart disease and cancer, just as in the more advanced West European countries. Reflecting this progress, the death rate has declined markedly in the postwar period, from 13.7 per 1,000 population in 1938 to 7.9 in 1961. It has fluctuated only slightly since then, although in 1969 it jumped to 9.5 deaths per 1,000 population. The following tabulation shows death rates per 10,000 population by the leading causes of death:

Heart disease .....	3.15
Cancer .....	1.14
Pneumonia .....	0.64
Tuberculosis .....	0.08

Infant mortality rates are a sensitive indicator of prevalent health levels and social well-being and provide a valid measure for international comparisons, because they are not affected by differences in age structure. The marked decline of the Bulgarian rate during the two decades following World War II reflects rising living and health levels. Nonetheless, the Bulgarian infant mortality rate of 30.5 per 1,000 live births in 1969 remains relatively high, particularly when compared with rates prevailing in the socially advanced Nordic area (average, 14:1,000), the rest of Northwest Europe (average, 18:1,000), or North America (average, 21:1,000).

Concomitant with the slow improvement in the infant mortality rate in Bulgaria has been a rise in life expectancy at birth—from 51.0 years for males and 52.5 years for females in 1937 to 69 years for males and 73



years for females in 1970. The following tabulation compares life expectancy at birth in several selected countries:

	MALE	FEMALE
BULGARIA (1967) .....	68.81	72.67
Austria (1968) .....	66.73	73.50
Poland (1966) .....	66.85	72.83
Hungary (1964) .....	67.0	71.83
Albania (1966) .....	64.9	67.0
Turkey (1966) .....	average 53.7	

Under the Communist regime medical care has become readily available to more people; but, despite the augmented number of physicians and facilities, distribution remains uneven. As elsewhere, physicians tend to be concentrated in urban areas. Living conditions in large sections of rural Bulgaria, however, are so primitive that not even the normally smaller proportion of doctors is willing to take up residence there. Numerous villages and provincial towns do not have sufficient medical personnel for even minimal needs. The regime has acknowledged that there are communities with as many as 6,000 inhabitants served by only one physician.

The uneven distribution of medical personnel is brought into sharp focus when account is taken of Bulgaria's relatively strong standing in terms of the total number of physicians available. The following tabulation compares physician to population ratios in selected countries:

	POPULATION PER PHYSICIAN
U.S.S.R. (1969) .....	435
Czechoslovakia (1967) .....	510
BULGARIA (1967) .....	570
United States (1967) .....	650
East Germany (1967) .....	650
Greece (1968) .....	680
Romania (1967) .....	690
Denmark (1967) .....	710
France (1966) .....	850
Yugoslavia (1966) .....	1,130
Turkey (1967) .....	2,760

The three medical schools at Sofiya, Plovdiv, and Varna together annually graduate about 1,000 new physicians. Thus, the total number of doctors in relation to population should remain high. To assure a better distribution, the regime has required since the late 1960's that all medical school graduates, following their 1-year internship, serve 3 years in the provinces. Emphasis continues to be given to rural placements. Doctors then are allowed to return to Sofiya only if there is an opening.

Shortages of professional medical care in rural areas have been mitigated to a large extent through the use of feldshers, i.e., trained medical assistants and technicians who are competent to deal with routine treatment or preventive health measures. In addition, most rural areas that are far from available medical facilities and personnel rely on the traditional system of midwives not only in cases of childbirth but also for routine medical care of all members of the family.

Shortages of nurses, medical assistants, and laboratory technicians continue to be serious in some major

hospitals, largely because of low pay scales. In mid-1971, for example, the Higher Medical Institute of Sofiya, which specializes in intensive care of very serious diseases, acknowledged a continual shortage of 70 nurses and laboratory technicians. The institute pays lower salaries than hospitals and has experienced a continual outflow of personnel.

The competence of professional physicians and their training are believed to be adequate, although assimilated medical theory is often compromised by the lack of specialized drugs and of modern diagnostic and other hospital equipment. In-depth knowledge of many recent medical advances and techniques, particularly in surgery, anesthetics, and therapeutics, is limited.

The maldistribution of medical personnel also pertains to hospitals. Although hospitals in urban areas have improved markedly in the postwar period and are probably now at least comparable to facilities in any other East European country, those in rural areas are undermaintained and understaffed. Reflecting a consolidation of resources, the number of general hospitals has decreased slightly since 1939, as the number of available beds in these general hospitals has increased more than fourfold. More than half of the total number of available beds (45,000) were located in 152 general hospitals; about 16,000 other beds were in specialized hospitals and sanitariums (Figure 22). Many newly constructed health facilities are outpatient clinics or rural first aid stations and may contain only a few beds. The following tabulation shows the availability of medical personnel and facilities in 1969:

		PER 10,000 POPULATION
Medical doctors .....	15,406	18.2
Stomatologists .....	3,114	3.7
Pharmacists .....	2,305	2.7
Feldshers .....	4,862	5.7
Midwives .....	5,603	6.6
Nurses .....	24,174	28.6
Hospital beds .....	77,787	91.9

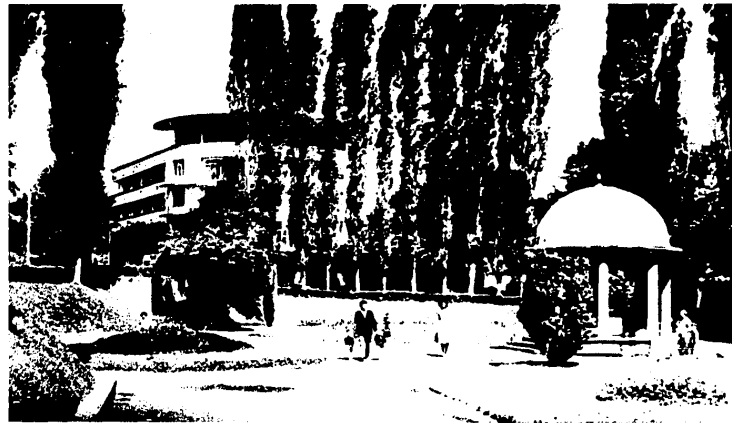
Medical practice and facilities, including ambulance and other emergency transportation, are nationalized and centrally controlled by the Ministry of Public Health, which administers the system through appropriate sections of the district and local government bodies. Health services are free. Drugs dispensed by hospitals and doctors are also free, but persons desiring them on their own pay a modest fee. The state has assumed all expenses for contracting, equipping, training, and paying medical personnel, therapy, and other services. While the system has been generally effective, it is hindered by inadequate and uneven distribution of resources. Moreover, sporadic and sudden drug shortages are common.

Physicians rarely have special social status, and their earnings from the state medical service are generally low.

Over 50% of the doctors maintain a private practice (limited to consultations) during off-duty hours in order to increase their incomes. According to one source, many Bulgarians who can manage the extra cost prefer the



FIGURE 22. Nursery for newborn infants in the city of Ruse (above left); hospital for the aged in the environs of Sofiya, 1971 (above right); and show-piece children's sanitarium in Sofiya, mid-1960's (right) (U/OU)



physician's private practice to avoid the sterile, unfriendly atmosphere of clinics, where service is often slow, and the patient is shuffled from one physician to another. Most treatments, however, are provided only in government hospitals and clinics.

The Ministry of Public Health, headquartered in Sofiya, oversees the state health apparatus through four major departments. The Medical Services and Preventive Medicine Department controls hospitals and clinics as well as the distribution of pharmaceuticals. The Sanitation Department establishes health standards, inspects public facilities, and approves new construction plans. Another department administers medical institutes and the postgraduate research center, and the fourth department has charge of all sanitariums.

Expenditures for running the system are funded from the public health and social insurance sections of the annual state budget. Projections in the 1971 budget allotted 269 million leva for the maintenance of health facilities during the year; this figure is five times the 56 million leva spent on health in 1952. Nonetheless, since the mid-1950's health expenditures have averaged about 4% to 5% of the budget.

Basic medical research in microbiology, epidemiology, immunology, and parasitology is carried out at Sofiya's Scientific Research Institute for Epidemiology and

Microbiology, formerly the Institute of Public Health. In addition to research, the institute is charged with the development, production, and quality control of biological preparations used to control infectious diseases. The Ivan Petrovic Pavlov Advanced Medical Institute in Plovdiv, the erstwhile Medical Academy, is responsible for the control of epidemics throughout Bulgaria. Despite these and other medical research institutions, research efforts have not been significant, and scientists have few opportunities to exchange ideas. At present, sophisticated devices for medical treatment, such as laser beams, are not in use.

There has been constant expansion of facilities to treat nervous and mental disorders, reflecting improved diagnostic techniques as well as an increase in such diseases. These facilities are under the jurisdiction of a special section in the Ministry of Public Health for neurology and psychiatry, which organizes and plans psychiatric services for the whole country. There is also an Institute of Neurology and Psychiatry for Scientific Research. Information on the success of handling mental illnesses in terms of patients cured is inconclusive.

The network of pharmacies, the total number of which has not been published, was scheduled to be expanded by 84 pharmacies and 118 pharmaceutical branches by 1970, according to the 5-year plan for 1966-70. Currently

they stock on the average of 700 to 800 different drugs and medicines, although serious shortages often occur. Bulgaria is able, however, to produce sufficient quantities of vaccines, antiserums, and antibiotics to treat those diseases for which public health authorities have responsibility. Health authorities carry out routine countrywide immunizations for typhoid fever, cholera, poliomyelitis, and various children's diseases. These immunizations are free, just as are medicines distributed in hospitals. Pharmacies charge for certain medicines, however. The several pharmaceutical manufacturing facilities have been combined into a single enterprise called *Pharmakhin*.

Preparations for medical needs in emergency situations appear to be fairly extensive. The Bulgarian Red Cross, with its many local branches, coordinates and organizes much of the emergency medical service, although a number of other organizations are involved in emergency planning. General hospitals are equipped to care for emergency situations involving large numbers of people, including natural disaster relief and civil defense. In preparation for emergency exigencies, hospital nursing staffs are trained to work in all departments, and hospital physicians serve both hospital and clinic patients. A few hospitals are organized to deal exclusively with emergency cases, emphasizing surgical and toxicological procedures. One such hospital, the N.I. Pirogov Institute for Emergency Medical Assistance, in Sofiya, has maintained a tissue (skin, tendons, cartilage, and arteries) bank which has served local medical facilities since 1960.

Major disaster contingency plans provide for support by the railroad system, including the prompt dispatch of hospital trains maintained by the military services and staffed by military physicians. During epidemics the military has released antibiotics and vaccines to civilian facilities. The national blood donor program is geared to both normal and emergency conditions. Organized, directed, and conducted by the Bulgarian Red Cross, the national blood collection program receives its most important contributions from the army. Resuscitation stations have been set up at Black Sea beaches, and the regime claims the number of deaths from drowning has dropped sharply because of this equipment.

A branch of the Bulgarian Red Cross, Ready for Medical Defense (GSO), works closely with civil defense organizations to plan and set up medical procedures for wartime. In Sofiya, antiepidemic disease teams have been established to identify and decontaminate bacteriological agents and persons exposed to them. In addition, local civil defense units would coordinate the following services and their respective activities in time of crisis:

- 1) Medical services responsible for the decontamination of personnel, enforcement of quarantines, and the testing of food and water.
- 2) Sanitary services which maintain supplies for decontaminating personnel and clothing.
- 3) Area-Equipment Decontamination Service, which adapts vehicles and other equipment for decontamination of streets, buildings, and equipment.
- 4) Veterinary Protection Service, which is in charge of the protection of animals, farm buildings, and equipment.

## 2. Food, water, and sanitation facilities

Along with the slowly rising levels of living, the diet of the average Bulgarian has improved markedly since mid-century. In terms of nutritional value it approximates that of the neighboring Romanian, although the Bulgarian diet probably lags in both quality and variety. Because the Bulgarian Government does not release complete statistics on dietary norms, collateral evidence must be used to approximate how the average citizen fares, in terms of diet, relative to residents of other selected countries. The daily per capita consumption of calories in the following tabulation ranges from the best-fed countries in Europe and America to those in neighboring East Europe and Asia:

	CALORIES
United States .....	3,200
Denmark .....	3,150
France .....	3,100
Hungary .....	3,140
Switzerland .....	3,170
Austria .....	2,920
Greece .....	2,900
Romania .....	3,100
BULGARIA .....	3,200
Yugoslavia .....	3,190
Turkey .....	3,100

There are seasonal shortages of fruits and vegetables, stemming partly from inadequate storage and distribution facilities. Spices are also occasionally in short supply. Meat is generally available throughout the year in urban areas, but smaller towns and villages—particularly those removed from the areas of intensive agricultural production—chronically suffer shortages of one type of meat or another. The emphasis placed by the regime on increasing the production of the food industry seems aimed principally at the fairly lucrative export market.

Sanitary regulations for food handling have often been ignored by meat stores and dairies, resulting in frequent outbreaks of food poisoning involving several bacterial agents and *Trichinella*. Food sold in open markets is usually unprotected from contamination, and some farmers use night soil to fertilize fruits and vegetables. The requirement that restaurant, hotel, and food store employees receive monthly physical examinations rarely has resulted in more than superficial inspections. Aware of the weaknesses in sanitation regulations, the Council of Ministers in 1966 ordered the establishment of 10 new hygiene and epidemiological institutes to complement the 10 existing sanitation-epidemiological stations. The goal of these institutes is to increase and improve the quality of sanitary inspections throughout the country.

Food processing, storage, refrigeration, and daily facilities have been far from adequate, except for fish refrigeration facilities. Larger cities, however, do have deepfreeze units for meats, and there are refrigeration units for fruits and vegetables at shipping centers. Current plans call for a considerable increase in the frozen food industry, particularly in the production of frozen fruit. Modern technology, which prior to 1965 was seldom applied in the food industry, is now apparently being employed in many processing plants.

The State Health Inspectorate develops compulsory hygiene regulations and standards and controls their enforcement with the right to close down all enterprises not complying with its prescribed health standards. Previously lax inspection policies were reversed in the late 1960's, and a vigorous inspection campaign reportedly resulted in the firing of 4,400 service employees and the prosecution of 22 "officials." The State Health Inspectorate closed down 1,900 establishments temporarily and 140 permanently because of poor hygienic conditions.

Water requirements, both drinking and industrial, have increased greatly over the last 30 years. Demands in Sofiya alone were 20 times greater in 1966 than in 1936. Water consumption in the Black Sea area increased at a 10% annual rate between 1955 and 1966. Despite improvements through the construction of modern pipelines and purification stations, however, Bulgaria's water supply still falls short of the demand. Furthermore, the supply of potable water has been inadequate because of uneven precipitation, industrial pollution, and poor sanitation practices in the more remote areas. Regulations and standards for hygienic protection and the expansion of water supplies, however, have generally been observed, while the quantity and quality of piped water and the extent of the piped supply increased.

In 1960 about 70% of the population was served by piped water, including all of the town population and 62% of the village population. Since World War II Sofiya's water supply has been greatly expanded and now includes a new water filtration plant constructed by the French in 1966. The Sofiya water system serves 34 villages along with the capital; water is piped from the Vitosha mountains and, to an increasing extent since the 1950's, from the Rila mountains. It is not regularly treated with chemicals. In many rural areas water supplies are obtained by means of stone or concrete lined village wells. In 1961, among the 2,890 water supply systems in 2,465 communities, only 18 (including Sofiya, Stanke Dimitrov, Kyustendil, and Dimitrovgrad) used water from rivers and reservoirs. Although the systems have been expanded since that time, no figures have been released on the number of water systems employing these sources.

During the 1971-75 5-year plan, upwards of 800 million leva will be spent on constructing and upgrading water reservoir systems. About 570 villages are slated to receive water supply systems, and construction is to be completed on such major water sources as the Kamchiya and Yasna Polyana reservoirs, which will serve Varna, Burgas, and other Black Sea resorts. By 1975 work will also be completed on four other major reservoirs (Yovkovtsi, Lobosh, Studena, and Srechenska Bara) and a major complex designed to channel water from the terrace of the Danube River to the villages of northeastern Bulgaria. Construction of a typical village water supply system is shown in Figure 23.

Regular checks are made for chemical and bacteriological content, and water sources for public supply systems are evaluated, but water inspection has



FIGURE 23. The new water pipeline to provide inside plumbing for homes in Samokov (U/OU)

often been improperly performed, or recordings have been falsified. Despite requirements for treatment by sedimentation or chlorination after storms and rapid thaws, village water supplies have often been polluted, primarily because of the low level of sanitation. In the summer, during the period of water shortage, water contamination becomes a serious health problem, and the incidence of waterborne enteric infections reaches a peak.

Facilities for the disposal of sewage have been inadequate in cities and larger towns, and there are no central systems in rural areas. In Sofiya the system permits untreated wastes to be emptied into canals or underground storm sewers. The city's streets are cleaned regularly, and garbage is collected once a week. In smaller cities, septic tanks, refuse pits, and open sewage ditches are the main methods of waste disposal. There are no known sewage farms or biological treatment plants. In 1967 sewage disposal facilities served 79 cities, 29 more than in 1960.

Sanitation practices in the villages and rural areas remain primitive, although the government has initiated health education programs to encourage the use of septic tanks and refuse pits. Usually sewage is used as fertilizer; sewage water and irrigation water are rarely separated.

## G. Welfare and social problems (U/OU)

### 1. Level of living

The Bulgarian level of living, although still low by European standards, has risen steadily since 1960. Advances have not been as great as claims by the regime would indicate, however, and continuing priority has been given to investments rather than to the needs of the consumer. The growth of per capita gross national product has far exceeded increases in per capita consumption.

Furthermore, although per capita consumption of consumer goods and services is on the increase, it remains

far behind consumption in the advanced northwest European countries. The level in Bulgaria is roughly comparable to other major Balkan countries—Romania, Yugoslavia, and Greece—and is clearly superior only to neighboring Albania and Turkey and to Spain and Portugal to the west. The prewar level of per capita consumption of consumer goods and services is presumed to have been regained about 1955. Since then, per capita consumption has increased by about 40%. Quantities of certain consumer items in use in selected countries are shown in Figure 24.

According to official statistics, per capita income in 1970 was 1,062 leva, an increase of 47.7% since 1965. During this same period, real income increased by 38.9%, largely because of wage increases and only moderate price increases. Not all incomes advanced equally in this period, however, with collective farmers experiencing a slightly better increase. The average household income for collective farmers in 1969 was 3,078 leva, compared with the 3,045 leva earned by manual and white-collar worker households. Wages accounted for only a portion of the average annual household income. Sources of income for both kinds of households are shown in Figure 25.

The increased purchasing power of the average family is illustrated by the rising consumption rate of foodstuffs, increased expenditures for "cultural needs," and stepped-up demands for household appliances. In relation to the cost of most goods, real wages were lower in 1955 than before World War II but were higher in 1960 and have steadily increased since then. Sales of consumer durables have increased significantly during the 1960's, as shown by the following tabulation comparing the sales of consumer durables per 1,000 inhabitants:

	1960	1969
Radios .....	109.9	177.3
Television sets .....	0.3	95.6
Washing machines .....	4.8	15.3
Refrigerators .....	0.4	16.0
Bicycles .....	6.3	8.4
Automobiles .....	0.3	2.4

The average family still spends 43% to 44% of its income on food products, according to official sources. In 1967 the per capita expenditures on food ranged from 49% of total expenditures for low income workers to 37% for high income recipients. Per capita expenditures according to income size for 1967 are shown in the following tabulation:

	LEVA		LEVA		LEVA		LEVA	
	351-460	PERCENT	551-650	PERCENT	751-850	PERCENT	951-1050	PERCENT
Average total income .....	407	...	600	...	795	...	997	...
Total expenditures .....	402	100	582	100	733	100	943	100
Of which:								
Food .....	197	49.0	248	42.6	292	39.8	353	37.4
Clothing .....	57	14.2	81	13.9	106	14.5	125	13.3
Housing .....	11	2.7	20	3.4	29	4.0	39	4.1
Cultural needs .....	13	3.2	25	4.3	45	6.1	77	8.2

... Not pertinent.

As the level of living has risen, basic household amenities are more in evidence, although still lagging far behind those available in Western Europe. The following tabulation lists the percentage of dwellings with such amenities in Bulgaria and in other selected European countries where there has been a recent census:

	INSIDE PLUMBING	FLUSH TOILETS	FIXED BATHING FACILITIES	ELECTRICITY
1966 — United Kingdom				
Total .....	99.0	98.2	85.1	na
1965 — Denmark				
Total .....	96.7	90.9	63.4	na
Urban .....	99.7	97.8	67.5	
Rural .....	88.9	73.1	52.8	
1968 — France				
Total .....	91.5	53.2	48.9	98.8
Urban .....	96.5	63.4	57.4	99.4
Rural .....	79.4	28.8	28.4	97.7
1963 — Hungary				
Total .....	25.9	22.5	18.5	81.3
Urban .....	55.7	50.6	37.1	93.2
Rural .....	4.2	3.0	4.9	72.7
1965 — Bulgaria				
Total .....	28.2	11.8	8.7	94.8
Urban .....	55.0	25.9	18.3	98.1
Rural .....	7.8	1.0	1.3	92.2
1966 — Romania				
Total .....	12.3	12.2	9.6	48.6

na Data not available.

In availability of even the most basic household appliances, Bulgaria still lags far behind most West European countries, and is about on a par with neighboring Romania. Thus, in 1970 about 7% of Bulgarian households possessed either a refrigerator or a washing machine, as compared with 80% of French households owning a refrigerator and 55% owning a washing machine. Vacuum cleaners, still virtually unknown in Bulgaria, were owned by 52% of French households. In Bulgaria nearly all of these appliances are available only in urban areas. Exceptions are the few model collective farms and industrial villages dispersed over the countryside.

As elsewhere in Europe, housing has been very tight since World War II. Remedial construction of new housing has progressed slowly, however, because the regime has chosen to concentrate investment in heavy industry. Such concentration not only diverts funds that would normally be channeled to housing construction, but has stimulated mass migration from rural to urban

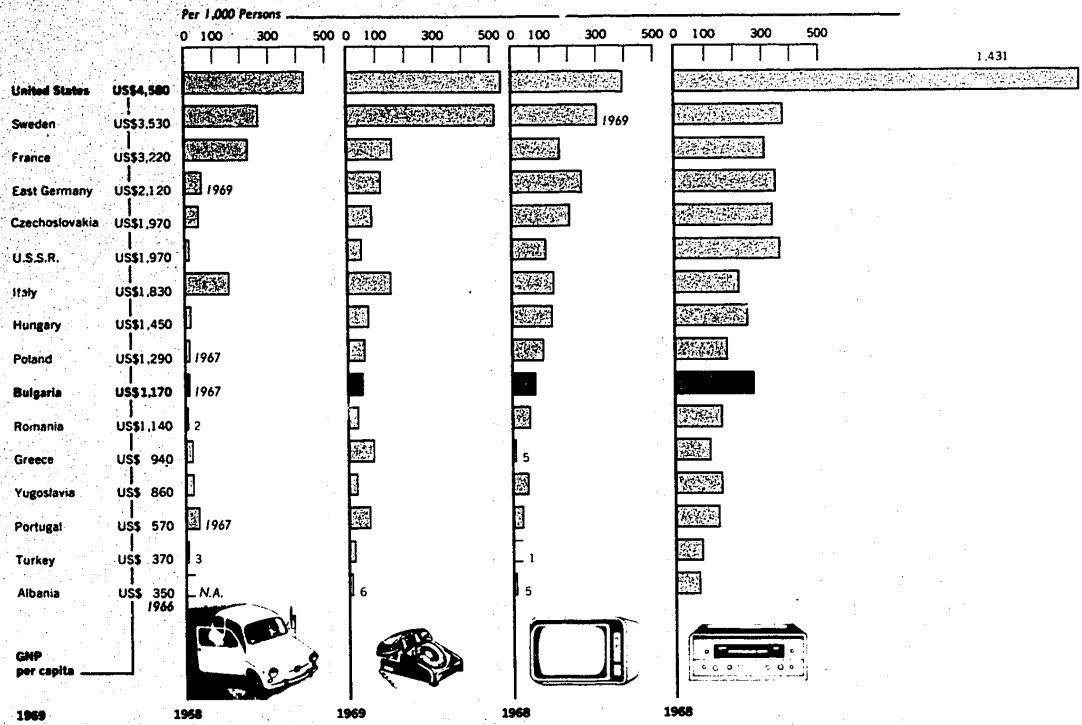


FIGURE 24. Levels of living in Bulgaria and selected countries (U/OU)

FIGURE 25. SOURCES OF INCOME, IN LEVA (1.17 LEVA = US\$1.00), FOR AVERAGE WORKER AND COLLECTIVE FARM HOUSEHOLDS (U/OU)

	WORKERS			
	1965		1969	
	Leva	Percent	Leva	Percent
Wages .....	1,434	64.4	1,860	61.1
State funds .....	233	10.5	408	13.4
Private employment (part-time) .....	177	7.9	259	8.5
Private farm .....	268	12.0	374	12.3
Other .....	155	5.2	144	4.7
<b>Total .....</b>	<b>2,227</b>	<b>100.0</b>	<b>3,045</b>	<b>100.0</b>

	COLLECTIVE FARMERS			
	1965		1969	
	Leva	Percent	Leva	Percent
Farmer remuneration .....	1,023	45.5	1,234	40.1
Private farm .....	675	30.0	873	28.4
Wages (part-time industrial employment) .....	217	9.7	369	12.0
State funds .....	173	7.7	403	13.1
Other .....	160	7.1	199	6.4
<b>Total .....</b>	<b>2,248</b>	<b>100.0</b>	<b>3,078</b>	<b>100.0</b>

NOTE—These figures do not include invisible income, such as educational and medical benefits.

areas, greatly overtaxing the already inadequate housing in the cities and towns. In recent years an average of only 5.3 dwelling units per 1,000 persons has been constructed annually, one of the lowest rates in Eastern Europe. Figure 26 compares housing among selected European countries where there has been a recent census. Although Bulgaria lags far behind prosperous northwest Europe in housing and housing amenities, its standing is about average for Eastern Europe. There is not yet any recent pertinent census data on East Germany, Czechoslovakia, and Poland; however, it is estimated that in housing

Bulgarians fare worse than the East Germans and the Czechoslovaks and somewhat better than the Poles. In 1971 plans called for the construction of 560,000 new dwellings, mainly apartments, by 1980, with 250,000 of these to be built by 1975. Emphasis is being placed on greater construction by the state, slated for an increase of 80% between 1970 and 1975. The overwhelming majority of housing starts will be in urban and industrial areas. Figure 27 provides a view of new urban housing in the capital city and also the more typical provincial urban scene.

FIGURE 26. HOUSING OCCUPANCY AND RELATIVE SIZE OF ACCOMODATIONS, BULGARIA AND SELECTED COUNTRIES (U/OU)

COUNTRY	YEAR	CATEGORY OF POPULATION	AVERAGE PERSONS PER HOUSEHOLD	PERCENT HOME-OWNERS	PERCENT RENTERS	OCCUPIED DWELLINGS	AVERAGE ROOMS PER DWELLING	AVERAGE PERSONS PER ROOM PER DWELLING
United Kingdom	1966	Total	2.9	47.8	45.1	14,976,610	5.5	0.6
Denmark	1965	Total	2.8	44.4	49.7	na	3.5	0.8
		Urban	2.6	30.6	64.3		3.2	0.9
		Rural	3.2	81.3	10.4		4.2	0.8
		Total	2.7	35.5	52.4	2,777,673	3.6	0.8
Sweden	1965	Urban	2.7	25.7	59.0		3.5	0.8
		Rural	3.0	72.5	27.5		4.0	0.7
France	1968	Total	3.1	44.7	43.0	15,189,980	3.4	0.9
		Urban	3.0	37.5	50.8	10,731,720	3.2	0.9
		Rural	3.3	62.1	24.3	4,458,260	3.6	0.9
BULGARIA	1965	Total	3.2	71.0	17.1	2,019,140	3.2	1.2
		Urban	2.9	51.9	27.9	873,672	2.4	1.4
		Rural	3.5	90.0	6.3	1,145,468	3.4	1.1
Romania	1966	Total	3.2	na	na	5,249,532	2.6	1.4
Hungary	1963	Total	2.9	64.7	35.3	2,844,000	2.3	1.5 (1960)
		Urban	2.7	37.6	62.4	1,197,800	na	na
		Rural	3.1	84.3	15.7	1,646,200	na	na

na Data not available.



FIGURE 27. In the larger cities new residential construction is following modern trends, as in Sofiya (above). Veliko Turnovo (right), an ancient capital and cultural center on the Yantra river in north-central Bulgaria, retains much of its traditional appearance. (U/OU)

centers, where there were 163 divorces per 10,000 residents in 1969. The divorce rate has been highest in the 20- to 24-year age group.

The pressures arising from the shifting social structure are exacerbated by governmental attempts to exercise broad control over daily life. The regime must enforce the many decrees issued to form and regulate the new society, and the people endlessly seek ways to circumvent controls and to hedge against the arbitrary exercise of government power.

Consumption of alcohol has increased for over a decade, as illustrated by the following tabulation, which depicts annual per capita consumption of alcoholic beverages in liters:

	1957	1968
Wine .....	5.5	5.04
Hard liquor .....	1.83	2.39
Sweet liqueurs .....	na	2.19
Beer .....	7.44	27.47

Much of the increase has occurred among young people, including youths in secondary school, and has been tied with the rise in juvenile delinquency.

The regime has tried hard to curb the increasing consumption of alcohol by limiting licensed premises in urban areas to one establishment per 1,000 inhabitants and, since 1967, by forbidding the sale of spirits in confectioners' shops. "Sobering-up" stations were set up throughout the country in the early 1960's, and in 1970 the government decreed alcoholism to be the subject of compulsory treatment. Of the persons being handled by Sofiya's "sobering-up" stations in 1969, more than 50% were "youngsters." In April 1967 there were more than 2,500 high school sobriety clubs, enrolling some 150,000 members, scattered throughout the country.

The role of the government is especially pervasive in matters related to employment. Citizens are required to carry labor books, and the government sometimes restricts freedom to seek or to change jobs. Graduates of secondary schools and universities are directed to employment on leaving school and are frequently required to work in isolated parts of the country. Moreover, workers are subjected to continuous pressure to meet production goals and other economic objectives by a combination of rewards and punishments, as well as by constant exhortations. Regimentation is imposed on peasants in collective farms.

Controls also affect leisure time. A considerable portion of free time is spent attending compulsory meetings of the party, trade unions, and other mass organizations which support the regime and which exhort the people to greater efforts for the "building of socialism." Even social and cultural activities are arranged for indoctrination purposes. Church attendance is discouraged by pamphlets and speeches, pointing out fallacies and superstitions of religious teachings, as well as by personal intimidation. These attempted controls, as well as economic changes, are contributory factors for many social ills.

## H. Religion (C)

### I. Role and importance of religion

Religion played a major role in the emergence of a peculiarly Bulgarian ethnic identity. According to legend, Christianity came to the country as early as 865, when King Boris accepted the Christian faith from the Byzantine Empire. Conforming to the more loosely federated structure of the Eastern branch of the Christian Church, Bulgarian believers soon came under the mandate of a national Bulgarian church. The status of the Bulgarian church varied over the years. Disputes within the Eastern Orthodox Church and the gradual polarization of Christendom leading to the Great Schism of 1054 directly affected the degree of autonomy enjoyed by the Bulgarian church. It attained self-governing patriarchate status in the 10th and again in the 13th centuries. Bulgaria was the center of religious and cultural activities among all the Eastern-rite Slavs, especially in the late 10th century, partly because of the creation of Church Slavonic (Old Bulgarian) by the two monks Cyril and Methodius. With the Great Schism, the Bulgarian Church identified with the patriarchate of the Eastern Roman Empire that broke with the Roman See, and, like them, was henceforward referred to as "Orthodox."

Under the Ottomans the Bulgarian Orthodox Church lost its independence and some of its Bulgarian character. The Turkish system of religious administration allowed a large measure of freedom, but all Orthodox churches were subordinated to the Greek Patriarchate. The Greek Patriarch, in turn, used the tremendous power given him by the Ottomans to increase Greek influence in the Bulgarian church. Opposition to the Greek encroachment never died out, and the struggle for an independent Bulgarian church in the later years of Turkish suzerainty provided the main rallying point for Bulgarian nationalism and also laid the seeds of the dispute over Macedonia. The creation of a semiautonomous Bulgarian Orthodox Church in 1870 (largely a result of Russian pressure on the Turks) led to competition for "souls" in Macedonia—mainly between Greeks and Bulgarians—a rivalry which has carried down to more recent times.

During Turkish rule the church was the main channel for keeping alive Bulgarian culture and history. The Orthodox priest exercised a strong influence in village life. In the overwhelmingly rural society the church was the center of social life and the organizer of the ever popular religious holidays and festivals, which frequently had nationalist overtones. It was during this period that a number of church monuments were erected, most notable of which is the Rilski Monastery (Figure 28). The monastery was partly destroyed and restored several times in the course of Bulgaria's troubled history. Most of the buildings originally date from the 16th, 17th, and 18th centuries and reflect strong Greek influence.

The impact of other religious faiths on Bulgaria has been relatively minor. The *Pomaks*, Bulgarians who





FIGURE 28. Rilski Monastery is set deep in the mountains of southwest Bulgaria. Originally a fortress, the medieval tower remains in the center of the compound. The arcade along the inner court is elaborately decorated with religious motifs. (U/OU)



adopted the Muslim faith, probably never accounted for more than one-sixth of the population at the high point of the Turkish occupation. By 1934 resident Muslims constituted only 13.5%. In the same year, which marked the last official census report on religious affiliation, 34.5% of the total population were identified as adherents of the Bulgarian Orthodox Church, 0.8% were identified as Jewish, 0.7% were Roman Catholic, 0.4% were Gregorian Armenian, and 0.1% were Protestant. Notwithstanding its infinitesimal size in Bulgaria, Protestantism has had a significant impact. First brought to Bulgaria in the 19th century by U.S. missionaries, it contributed to the development of higher education and provided publicity for Bulgaria's independence movement. By 1971 the non-Orthodox Christian communities had shrunk considerably because of harassment by the regime, while emigration to Israel markedly reduced the size of the Jewish community.

As in other Communist countries, the Communist Party, either directly or through the government, has attempted to control all religious activities. A twofold effort has been directed at restricting the activities of religious institutions and at encouraging atheism among the population. Control of churches and religious organizations is delegated to the Committee on Denominations,<sup>4</sup> subordinate to the Ministry of Foreign Affairs. This organization holds a close rein over the daily activities of all religious institutions. The committee approves church bylaws, clears personnel appointments, and screens religious publications. Additionally, the committee is the channel for any church contacts with foreign organizations (hence, its placement in the foreign affairs ministry).

Official policies toward the religious communities, aside from the general objective of neutralizing them as potential opposition, have changed with time and with different religions. In general, those religious communities with strong ties in the West (such as Roman Catholicism and the Protestant sects) have been brutally repressed. A more moderate policy has been taken vis-à-vis the Orthodox Church—the traditional symbol of Bulgarian independence and nationalism. Religious groups have been used to disseminate "peace" propaganda and to provide the illusion of religious freedom.

In fact, religious rights are vigorously circumscribed, and the regime has exerted considerable effort to discourage the observance of religious ceremonies. Intensive programs of atheist "education" have attempted to ridicule religion as an outdated superstition and "unscientific." A favorite tactic of the regime has been to foster civil rituals designed to replace religious holidays, customs, and ceremonies. Harassment of worshipers—more violent in the early days of Communist rule—has occurred on the main church holidays of Easter and Christmas. The regime appears to have abandoned the more physical aspects of harassment since 1963.

<sup>4</sup>Also called during its 25-year existence the Committee for Religious Affairs or the Committee on Questions of the Bulgarian Orthodox Church and of Religious Cults.

Estimates of religious strength in Bulgaria are difficult to make. Although it is likely that the majority of young people who have grown up under the Communist regime have little interest in religion, some young Bulgarians occupying governmental positions and even party posts attend services and have a religious orientation. However, strong religious feeling is found almost exclusively among the older generation.

Anxious to show the diminishing influence of religion among Bulgarians, the regime has issued statistics showing that during the first 18 years of Communist rule "nonreligious people" increased from 20% to 64% of the total population. However, the weakness in classifying people as "religious" and "nonreligious" is apparent when the same report indicates that even among the "nonreligious" certain religious ceremonies find adherents—thus, for at least the first two decades after the end of World War II about 26% of the civil marriages of "nonreligious" couples were followed by a religious ceremony as well.

## 2. Bulgarian Orthodox Church

The Bulgarian Orthodox Church, headed by Patriarch Maxim (Figure 29) since the death of Kiril in early 1971, is divided into 10 dioceses, each of which is headed by a metropolitan, who administers an unspecified number of church communities. Two exarchates in the United States provide spiritual leadership for Bulgarian Orthodox believers in North and South America and in Australia. Church policy is formulated by the Holy Synod, which is headed by the patriarch and is composed of the 10 metropolitans (Figure 30). The Holy Synod supervises the religious and political activity of the bishops to assure that no anti-regime speeches are made from Orthodox pulpits. The Holy Synod is nevertheless merely a formal institution designed to preserve the illusion of Orthodox autonomy, while in reality conforming to guidance from the Party Central Committee.

In the late 1940's a series of laws disestablished the Orthodox Church as the Bulgarian national church (although the regime continues to recognize it as Bulgaria's "traditional church"), confiscating much of its property, prohibiting its charitable activities, and forcing it to become self-supporting. Strict measures were adopted against those who resisted, and numerous priests and lower level church officials were arrested. All functioning priests were dragooned into a typical Communist mass organization, the Union of Bulgarian Orthodox Priests.

The strained state-church relations were punctuated by periods of open hostility until 1958, when a compromise was reached between the two. Since that time no Orthodox priests have been jailed, and the government has recognized the "right" of the Bulgarian Orthodox Church to hold services in every community with a church. The church reportedly still retains use of a small amount of property (perhaps 25,000 acres), receives a yearly state subsidy of possibly 800,000 leva (1969), and is allowed to operate a seminary and theological academy, whose curriculum and enrollment are strictly



FIGURE 29. Investiture of Patriarch Maxim, 1971 (U/OU)

FIGURE 30. Organization of the Bulgarian Orthodox Church (U/OU)

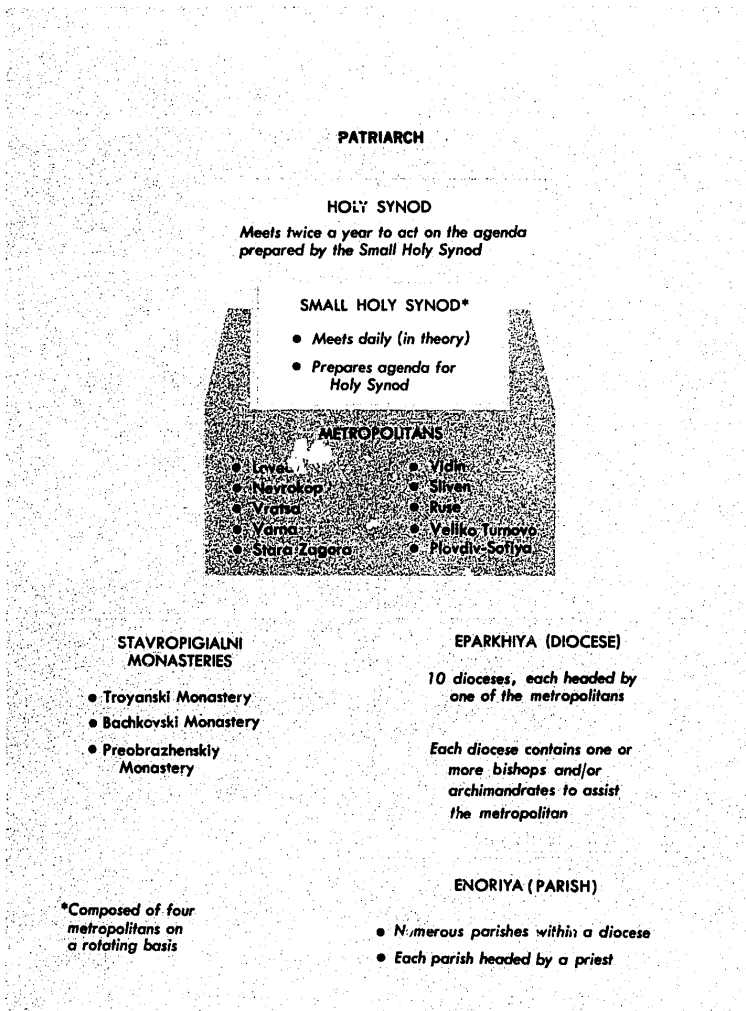


FIGURE 31. One of the most prominent Orthodox cathedrals in Bulgaria, the Alexander Nevsky Cathedral was built in the early 20th century and is named for a 13th century Russian nobleman. The cathedral is famous for its murals by well-known Russian and Bulgarian painters. Its imposing appearance is enhanced by gilt domes. (U/OU)



supervised by the government. In return, Bulgarian Orthodoxy either supports government policies or refrains from comment. Apparently the regime considers it advantageous to allow a certain amount of religious life, thereby hoping to gain increased allegiance among the populace. The regime has allowed such symbols of past national greatness as the beautiful Alexander Nevsky Cathedral to be maintained (Figure 31).

Regime policies seem to be causing an inevitable stagnation of the church. There are only 2,000 active priests among a population of more than 8 million persons, and a great majority are elderly men serving the elderly rural population. Infusion of new blood into the priesthood is slow, and in 1971 only 200 young priests were being trained in the seminary; another 200 experienced priests were in the theological academy.

### 3. Religious minority groups

In 1961 the Bulgarian Government reached an accommodation with the large Muslim minority. Up to that time the regime had vigorously persecuted Muslims, claiming they "inflicted serious damage on the Bulgarian national consciousness" (the great majority of Muslims are Turkish). The regime has since attempted to gain support from the Muslims. At public banquets, ceremonies, and receptions Muslim leaders have appeared on an equal basis with Orthodox clergy. The situation was further eased in early 1968 by the Bulgarian-Turkish agreement permitting certain ethnic Turks to leave Bulgaria for Turkey.

Persecution of Roman Catholics has been especially strong, since the regime looks upon Catholic ties with the

Pope as a channel threatening the introduction of "decadent" Western ideas into Bulgaria. Mock trials of priests were staged in the 1940's, and 40 leading Catholic clergy and laymen were tried in 1952 on charges of espionage. No new priests have been allowed to enter the country, and practicing Catholics are excluded from all civil service jobs, commissioned and noncommissioned ranks in the army, the police, and important administrative positions in industry. There are no accurate figures on the number of Catholics in Bulgaria.

Unlike the situation in other Eastern European countries, anti-Semitism has never been strong or spontaneous in Bulgaria. Although some Bulgarians thought it expedient to adhere to German anti-Jewish policies during World War II, Bulgaria remained the only Axis satellite which did not allow deportation of its Jewish population. Following the war Bulgaria was the only Eastern European Communist country with a consistently liberal policy on Jewish emigration to Israel, and the bulk of the Jewish population (then estimated at 50,000-60,000) left Bulgaria. By 1966 the number of Bulgarian Jews had shrunk to approximately 7,000. All remaining Jews are under the control of the Central Jewish Spiritual Council, which coordinates Jewish activities with government policies.

Protestant minorities numbered several thousand in 1965, including Pentecostals, Seventh-day Adventists, Baptists, Methodists, and Congregational Evangelistic Churches. Just as in the case of Catholicism, these groups are looked upon by the regime as a source of "bourgeois decadence," and severely repressive measures are used to curtail their activities.

The antireligious stance of the Communist regime has been one factor in the passive opposition of many Bulgarians to the government and has particularly offended the more religiously inclined peasant population. At the same time, however, it does not appear that popular religious sentiment alone presents any serious problem for the regime, being generally secondary to economic and political considerations.

## I. Education (U/OU)

### 1. General

Under communism, Bulgarian education has expanded significantly. Enrollments, teaching personnel, and facilities have increased at most levels of the structure. Growth has been less dramatic, however, than may have been expected in a rural Balkan country, partly because the system was fairly well developed at the lower levels. Since 1939 the total number of students has increased by 45%, while the general population has grown by 34%. The prewar (1939) illiteracy rate of 25% has been sharply reduced. By the latter 1960's the regime claimed there were no illiterates under 50 years of age. Accompanying measures to extend mass education have been increased concentration on a vocational and technical training and an infusion of significant doses of Marxist-Leninist ideology. The increasing technical orientation is considered excessive by outside observers because of the present near total neglect of liberal arts. But from the regime's viewpoint, the major deficiency of education continues to be inability to provide the skilled manpower so necessary for industrialization.

Great progress was made in education after Bulgaria's liberation from Turkish suzerainty in 1878. An illiteracy rate estimated at over 90% in 1878 was reduced to 31.4% by 1934. Basic steps in education came even before liberation. The first secondary school opened its doors in Gabrovo in 1831; numerous elementary schools were established throughout the country in the succeeding years, enabling the Turnovo Constitution of 1878, with some realism, to declare elementary education to be compulsory and free. By the end of World War I the country had an extensive system of public instruction under the Ministry of Public Education. Complete basic and secondary education consisted of 12 years of instruction divided into three segments along German standards: 1) a 4-year elementary school, 2) a 3-year *progymnasium*, and 3) a 5-year *gymnasium*. Heavy emphasis was placed on the humanities and the preservation of traditional values, with relatively little concern about the possible uses of education to solve the problems of everyday life. Many people completed the obligatory 4-year elementary school, and the few who finished all 12 years usually went on to higher education, which had become available with the founding of the University of Sofiya in 1888. As the only state-sponsored full university in Bulgaria, it grew rapidly, and by 1939 had 345 faculty members instructing 7,396 students. During the interwar years there was a chronic surplus of

university graduates, unable to apply their learning to the practical problems of the rural, underdeveloped country. The government attempted to expand vocational and technical training with little success, as Bulgarians persisted—often at considerable financial sacrifice—in giving their children as extensive a traditional education as possible.

Several foreign-sponsored private schools, where instruction normally was conducted in European languages, were founded in Bulgaria. These schools enjoyed special esteem, and the American College at Simeonovo, supported by Protestant missionaries, was among the leading institutions. Other major developments in education during the pre-Communist years included the founding of the Art Institute of Sofiya in 1896, and the Bulgarian State Conservatory in 1904. The Bulgarian Academy of Arts and Sciences, formed in 1911, incorporated a number of academic societies and provided new impetus for original research, much of it in agronomy, biology, and mineralogy.

By 1939 all medium-size villages had at least a 4-year elementary school, but some 2,000 small villages had no school at all. Thus, about 100,000 children of elementary school age were not attending any classes. Of those who did attend about half went on to the 3-year *progymnasium*, and about a third of the latter number went on to the *gymnasium*—a relatively large proportion for any European country at that time. But the quality of upper secondary education did not compare with that in the traditional German *Gymnasien* or the French *lycees*, which set the pace for Europe. As noted above, technical education was especially poorly developed, even in relation to the inadequate West European technical programs. Fewer than one-fifth of those in upper secondary school pursued any technical courses, and there was virtually no provision for university level technical (as opposed to scientific) education.

Between the Communist takeover in 1944 and 1950 a series of enactments established new schools, instituted, transformed, and integrated technical programs, and merged the courses of the elementary schools and the *progymnasium* into a basic 7-year school. The teaching of Communist ideology became mandatory at all levels. Virtually all textbooks were replaced, all teaching personnel were closely checked for political loyalties, and any "unreliable" students were barred from higher education.

The Dimitrov Constitution of 1947 proclaimed that all schools are "owned" by the state and impart a curriculum that is "secular, democratic, and progressive in spirit." Amplification of these points was provided by the Public Education Law of September 1948, wherein the goal of the educational system was given as the development of "socially useful" (as defined by the state) labor at all educational levels. The law underlined the importance of technical specialization at the secondary school level and stressed that ideology was to be the main guide in all fields, most especially in literature, music, art, and jurisprudence. A joint party-government resolution

in August 1949 dictated that education was to be conducted in the spirit of socialism, based on Marxist-Leninist teaching, and tied to "the rich experience of the Soviet Union." By 1949 all private schools, including those under religious and foreign sponsorship, had either been abolished or brought under strict state supervision. Only an Orthodox seminary and a theological academy were allowed to operate.

The main tenet of educational policy, increased vocational-technical training, has been apparent in subsequent measures, which have enhanced the role of education in economic life and the development of national resources. The reduction of the period of basic and secondary instruction from 12 to 11 years in 1949, following the Soviet model, was intended to expedite the entrance of young people into the labor force. The deleterious effects of this measure became evident over the next few years, and it was rescinded in 1957. The regime attempted to cope with an acute labor shortage in the early 1950's by establishing Schools of Labor Reserves in 1952 to upgrade the skills of older workers. This program was largely successful and was succeeded by an expanded program in the early 1960's.

Another major reform in 1959 aimed at increasing education's "link with life." Largely a copy of Khrushchev's 1958 "polytechnicalization" efforts in the U.S.S.R., the resulting restructuring attempted further to harness the school system to economic goals. The main lines of the reform, which continues in effect in 1971, included the introduction of a unified 12-year school called the "secondary polytechnical school" and the lengthening of compulsory education to 8 years. The new 12-year school replaced the existing basic school and secondary school (*gymnasium*) and attempted to give its pupils a general education plus polytechnical knowledge. Closely following the Soviet model, an alternate secondary stream was provided through the founding of the technical schools, the *tekhnikumi*, which offered a more concentrated technical program at the expense of some of the academic course work undertaken in the *gymnasia*. Other more exclusively vocational and technical schools were also founded. More "practical" work, including on-the-job training in the factories and in the fields, was inserted into the curriculums in all secondary schools.

A long-term aim of the 1959 reform was to standardize all secondary schools leading to higher education, with approximately the same division of effort among academic subjects, technical subjects, and on-the-job training; only the nature of the technical training and the supporting academic work was to vary. In this connection the new *tekhnikumi* were gradually to set the pattern. In 1971, however, secondary schools were still specializing in varying degrees, and the *gymnasium* continued to be very much a part of the system. But the program of "polytechnicalization" has had its effects in the *gymnasia* as in the *tekhnikumi*, often to the detriment of a broader university-preparatory education. Proposals by Bulgarian educators in 1967 professed concern for

practical training, but in reality pressed for the curtailment of the excessive "practical" emphasis and called for a more highly differentiated secondary school system reincorporating more humanities.

Contrary to the advice of educational experts, Premier Todor Zhivkov proposed in July 1969 to reduce again the period of school attendance. He urged that a 10-year "unified secondary polytechnical school" be created to replace all existing basic and secondary schools. As envisaged by Zhivkov, the proposal would merge general education and practical work into one standard curriculum. Zhivkov added that these 10-year schools should be made compulsory, thereby qualifying all young people to enter the labor force at about age 16.

Details of Zhivkov's reform and the progress toward its implementation are surrounded by ambiguities. The directives of the Sixth Five year Plan (1971-75) call for "gradually" reforming secondary education on the basis of the new "unified secondary polytechnical school," presumably by 1975. Plans also call for almost complete transition to compulsory secondary education by 1975 and project that 85% of basic school graduates in 1975 will be enrolled in secondary schools that prepare for some form of advanced technical or higher education. The overzealous nature of Zhivkov's proposals precludes their implementation in the near future, and hints at a slowdown in the timing were clearly evident in 1971. At that time it was revealed that the 10-year school was not to be tested until 1974, and that some thought is being given to the establishment of a supplementary grade 11, designed to prepare students for higher education entrance examinations.

Of the 1,538,000 students in 1969/70 (excluding 16,942 students in schools for the handicapped), about 95,000 persons were enrolled in evening or correspondence courses. The number of schools in 1969/70, their enrollment, and educational level were as follows:

	SCHOOLS	PUPILS
Primary course (grades I-IV) . . . . .	1,437	539,772
Progymnasium course (grades V-VII) . . . . .	97	524,428
Gymnasium (grades VIII-XI) . . . . .	137	102,795
Vocational-technical schools . . . . .	147	53,482
Secondary vocational-technical schools . . . . .	184	68,163
Tekhnikumi . . . . .	255	153,248
Postsecondary institutions . . . . .	20	10,031
Higher education . . . . .	26	85,675
Total . . . . .	2,303	1,537,594

The *gymnasia* and *tekhnikumi* prepare students for admission to institutions of higher education. Various degrees of additional vocational-technical and professional training at the secondary level are provided by the vocational-technical and secondary vocational-technical schools and *tekhnikumi*. Postsecondary institutions train teachers of the elementary course (first four grades) of the basic school, and normally require matriculation from the *gymnasium* or the *tekhnikum*.<sup>5</sup>

<sup>5</sup>Since public education in Bulgaria continues to be patterned closely after the Soviet model, attention is invited to the comprehensive U.S.S.R. General Survey, which includes a detailed discussion of education in that country.

While the quality of education has been compromised by excessive concentration on practical training as well as Communist ideology, and in any event never measured up to the quality obtaining in most of Western Europe, Bulgaria has made remarkable progress in providing schooling for the masses of people. Compulsory primary schooling, at least through the fourth grade, is now universally enforced, with 99% of young students completing the first 4 years of the basic 8-year school in 1969, and 80% completing the full 8 years. Over 60% remain in some stream of formal education until the age of 18. The following tabulation shows the percentage of students completing upper secondary (university preparatory) education in 1969 in nations that have made the most progress toward mass education through the secondary level:

United States .....	55
Canada .....	40
U.S.S.R. .... es	30
<b>BULGARIA</b> .....	<b>26</b>
Japan .....	20
Sweden .....	19
Norway .....	19
France .....	18

Among the weaknesses in the quality of education, over and above the neglect of the liberal arts and social sciences, are the inordinate attention given to political indoctrination, inadequate training and improper assignment of teachers, and the revision of textbooks to comply with Communist ideological concepts. The subordination of traditional intellectual inquiry to unquestioned acceptance of Communist dogma has led not only to open criticism of Bulgarian education, but also to the as yet unresolved dilemma of two value systems in conflict—the traditional versus the Communist. Furthermore, despite repeated reforms and reorganizations, Bulgarian education is heavily unbalanced. Not only is there now almost complete neglect of the humanities, but a whole generation is without even an elementary idea of the development of art and literature in the 20th century, as well as current intellectual trends in the West.

The task of educating minority groups is also difficult. In principle, the regime holds that minorities should have the opportunity to acquire an education in their language, and it asserts that educational opportunities for minorities (specifically, the Turks) have been steadily broadened. In practice, however, the Bulgarian press frequently stresses the efforts made by the regime to educate the Turks in the "Marxist-Leninist manner" and "to incorporate" (i.e., Bulgarize) them. In this respect, since the mid-1960's nearly 6,000 Turkish-Bulgarian women have been trained in the schools for women activists of the Fatherland Front. Such efforts to inculcate materialistic and neoscientific tenets in the predominantly Muslim Turks have met with stubborn resistance.

According to Article 43 of the Constitution, all Bulgarian citizens have a right to free education in all types and levels of educational establishments "under

conditions defined by law." In actual practice, however, children whose parents have been labeled as disloyal and students whose political loyalty is in doubt are often denied an education beyond the 8-year basic school level. Admission to higher educational institutions is governed by an elaborate set of regulations and quotas, and preference is given to loyal subjects. A tough examination system further restricts entrance into higher education; in 1970/71 fewer than one-fifth of the 67,000 applicants gained entrance on a full-time basis.

With the exception of some preschool training, education is provided free of charge. Additionally, scholarships are provided for about 30% of the students at higher educational institutions and about 15% of the students in various secondary technical-vocational schools. These stipends help pay for room, board, and other expenses.

Administration of education is completely within the jurisdiction of the government, making it ultimately subject to the direction and control of the Bulgarian Communist Party. The party, in turn, defines the goals and character of education to meet the needs of the state. With the exception of higher education, which is supervised by the ministerial-level Committee for Science, Technical Progress, and Higher Education, much of the educational system is under the specific purview of the Ministry of National Education. Exceptions to this generally include military service schools and certain secondary professional and technical schools, including some *teknikumi*, which because of their special character or the regime's economic goals, have been subordinated to other relevant ministries or enterprises. At the local level, education departments of the executive committees of people's councils (units of local government) serve as local offices of the Ministry of National Education and exercise immediate supervision over the schools in their areas which are under the jurisdiction of the ministry.

In conformity with the overall goals of the national economic plans, the educational system is financed by allotments from the state budget. Between 1952 and 1962 annual educational expenditures rose from 107 million leva to 245 million leva, with the 1971 allocation calling for an expenditure of 491 million leva. Although the money allocated to education has increased greatly since 1952, the proportion in relation to total expenditures for social and cultural measures has declined from 37% in 1952 to 35% in 1962 and to a projected 26% in 1971. This decline reflects the completion in the 1960's of much of the physical plant of the greatly expanded system and the lack of demographic growth. Since the 1965/66 academic year the student population has declined; whereas in 1965 there were 1,981 students per 10,000 population, in 1969/70 there were only 1,837 per 10,000 population. It should be noted that 26% of national expenditures is still a large proportion to allocate to education, comparing favorably with proportions so allocated in the most socially advanced countries of northwest Europe.

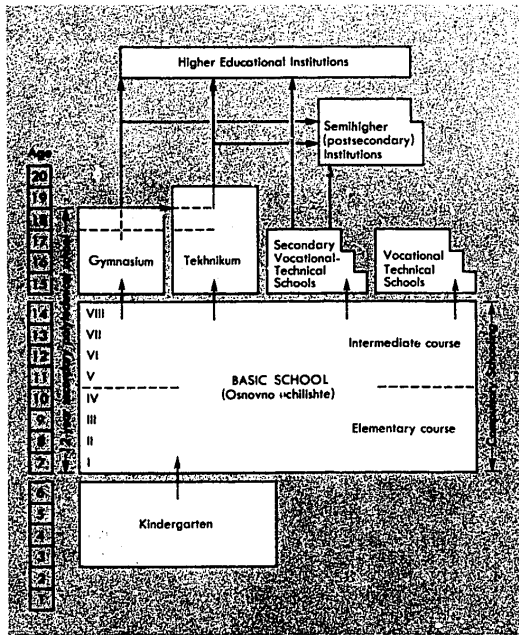


FIGURE 32. Educational system (U/OU)

**2. Educational system**

The educational system, still based in large measure on the reform of 1959, is divided into five stages: preschool, general 8-year, secondary, postsecondary, and higher education (Figure 32). Preschool education is provided in half-day, all-day, and seasonal kindergartens for children in the 3-7 years age group. Child care in the half-day schools is free, while tuition varies in the other two institutions according to the size and income of the family. Half-day kindergartens prepare 6-year-old children for admittance the following year to elementary school. About 50% of the children entering compulsory schooling have received training in the half-day kindergartens. All-day kindergartens care for children of working mothers, and some of these schools even board children whose mothers must work at night. Seasonal kindergartens exist in rural areas for children whose mothers engage in such work as harvesting. In 1969, about 67% of all preschool age children were enrolled in some type of kindergarten.

An obligatory 8 years of general education for children (ages 7-14) is conducted in separate elementary (grades 1-4) and intermediate (grades 5-8) schools, in unified 8-year schools (grades 1-8), and in the first eight grades of the secondary polytechnical schools (grades 1-11/12). These schools provide the pupils with the basic elements of academic, ideological, moral, and physical education. After completing the compulsory 8 years of basic education, normally at age 14, a student may continue at the secondary level for 4 years.

The secondary school system, which has been the object of much attention in recent years, is comprised of the secondary polytechnical schools, the technical schools

(*tekhnikumi*), the vocational-technical schools, and the secondary vocational-technical schools. General education, oriented toward preparation for higher education, is provided in the secondary polytechnical schools' final four grades—often still called by their old name, *gymnasiums*. *Tekhnikumi* offer 4- to 5-year courses for pupils with a basic 8-year education, and 1- to 2-year courses to students who have completed 12 years of education. These technical schools train supervisors and skilled workers, and graduates receive the title of "certified technician (secondary)." Some academic work is included in the curriculum and graduates are eligible for study in higher educational institutions. Vocational-technical schools offer 1- to 3-year programs of vocational training leading to the title of "skilled workmen." These schools are often attached to plants, enterprises, state farms, or *tekhnikumi*.

Vocational-technical schools that have been upgraded by increasing the academic instruction in the curriculum are called secondary vocational-technical schools. Graduates of these more diversified schools—unlike students in the other vocational-technical schools—are eligible for higher education. The so-called postsecondary educational institutions, created in 1960, offer 2- to 3-year courses beyond the secondary school, and for the most part prepare their students to teach the first four grades in the educational system. Programs for school librarians have recently been added to these institutions.

Higher education courses are from 4 to 5 years in most fields except medicine, which requires 6 years. Applicants to higher educational institutions must be secondary school graduates and compete for admission in a written entrance examination on a proposed area of specialization. All males, as of September 1970, must complete service in the armed forces or the construction troops before pursuing higher education, unless their enrollment is completed before the age of 18. Graduates of higher education usually are obligated to work for at least 3 years wherever assigned by the government.

Admission to higher educational institutions is highly competitive and is subject to a differentiated quota system. Applicants outnumber successful candidates by almost four to one. For example, in the 1970/71 academic year, about 67,000 persons applied for admission to higher educational institutions, but only 17,500 students were accepted. Of this number, only 13,000 were full-time students, the remainder attending correspondence courses. In 1970 about half the applicants failed the entrance examinations. Another fourth was eliminated through the operation of a quota system.

The quota system governing entrance into a university-level course of study is proclaimed by government decree every year prior to the nationwide examinations. The system is used by the regime to give preference to certain applicants; it is complicated and subject to yearly changes, but several examples will illustrate its thrust. In 1969 regulations prescribed that male students must comprise 30% of Sofiya University's student body, and that 20% of the available slots in all higher education



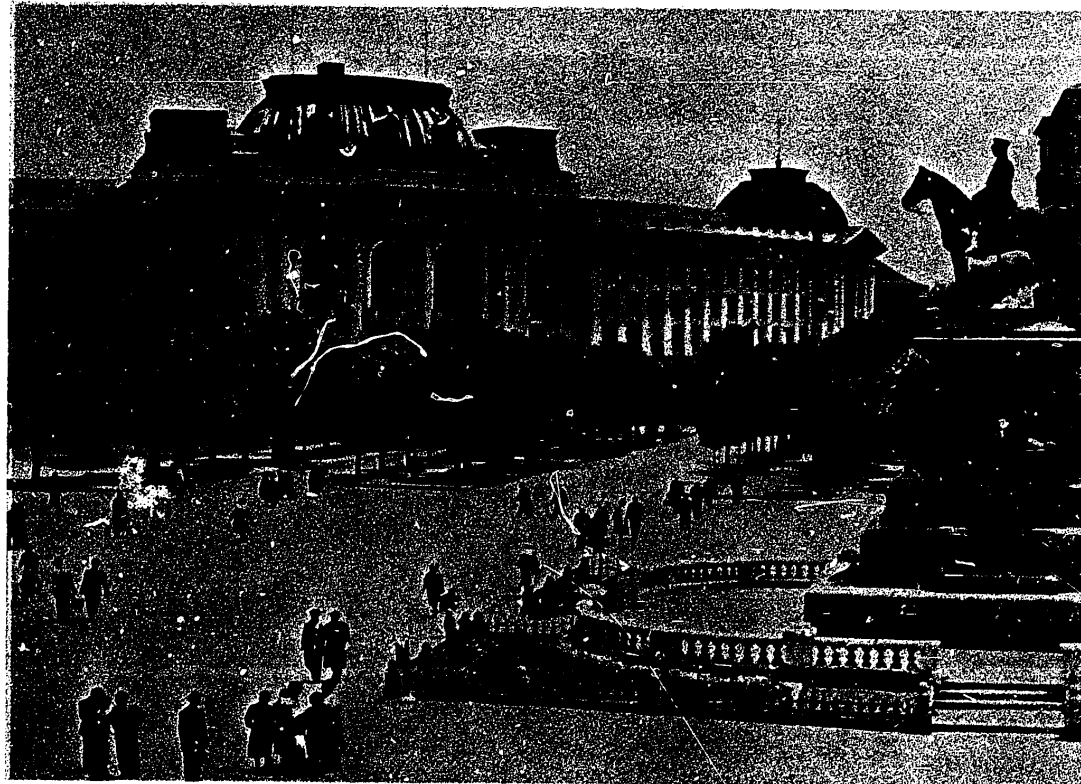


FIGURE 33. University of Sofiya "Kliment Okhrid" (U/OU)

specialties were to be reserved for males who had completed their military service. Candidates whose parents perished in the "anti-Fascist struggle" are granted admission without having to undergo examination, and the children of "active fighters against fascism" compete only among themselves for a certain number of slots.

Higher education is provided in 26 institutions throughout the country and since July 1971 has been controlled by the "public-state" Committee for Science, Technical Progress, and Higher Education. The University of Sofiya (Figure 33), the oldest of the three universities, provided education in 1967/68 for 8,000 full-time students distributed among nine faculties (Figure 34). During 1971/72 two new state universities were founded: the "Cyril and Methodius" University in Veliko Turnovo and the "Paisy Khilendarski" University in Plovdiv. Among the other institutions of higher education are the Bulgarian State Conservatory and the Institute of Art in Sofiya, two agricultural institutes, three institutes for economic study, three medical institutes, and a number of industrial-technological institutes.

Study programs are narrow and extremely specialized, with curriculums closely paralleling those of higher education in the Soviet Union. The end result is a high degree of competence in a narrow field, with consequent lack of flexibility. Courses in Communist political and

FIGURE 34. STUDENTS AT UNIVERSITY OF SOFIYA, BY ACADEMIC FACULTY, 1967/68 (U/OU)

	REGULAR	PART-TIME	TOTAL
Philosophy/history.....	604	796	1,400
Slavic philology.....	988	846	1,834
Western philology.....	1,292	390	1,682
Mathematics.....	1,017	402	1,419
Physics.....	1,129	247	1,376
Chemistry.....	1,304	698	2,002
Biology.....	647	397	1,044
Geology/geography.....	354	248	602
Law.....	665	1,012	1,677
Total.....	8,000	5,036	13,036

economic theory and practice and the history of the Bulgarian Communist Party are required of all students. At the end of his last year of college a student is required to demonstrate his competence by solving difficult problems in his narrow specialty. These tests are demanding and do not equip the student to cope with the broader spectrum of problems he will later encounter in his field.

Higher education is free, and the state, along with some economic enterprises, provides scholarships to help defray living expenses. In the 1969/70 academic year

70% of full-time students reportedly received scholarships, and since 1968 the state scholarship fund has dispensed about 2 million leva annually. State scholarships are distributed largely on the basis of need (recipients must, however, maintain a certain grade average), but all students who attain excellent grades receive stipends, regardless of their personal finances. Economic enterprises, since 1965, have been allowed to finance students, but graduates are then obligated to work in the sponsoring enterprise for 6 years. Other student benefits include low-cost housing and eating facilities, use of rest camps, and reduced travel charges during vacation periods. Shortages of housing and the quality of student cafeterias have come in for much criticism.

Bulgarian is the official language of the school system, but several other languages are widely taught. Turkish minorities have a right, enshrined in Article 43 of the Constitution, to study Turkish, but concurrently must undertake study of Bulgarian. Compulsory Russian-language training begins in the fifth grade and continues into the higher educational levels. English and French rank next to Russian in importance, and German, Italian, Spanish, and Czech are, for the most part, readily accessible to all qualified students. Concentrating on developing language fluency, Bulgaria has a number of secondary schools using foreign languages as a medium of instruction. There are seven such schools using English, three using French, at least two using German, and several using Russian.

Adult education, which initially played a major role in reducing illiteracy and then in upgrading the skills of the labor force, started in earnest in 1952, when the Communist regime established labor reserve schools. These schools, from 6 months to a year in duration, provided the older generation with new industrial skills and required only 4 years of primary schools for admission. The scope of the adult education program has expanded in recent years, and in theory higher educational work can be completed in evening schools or correspondence courses. According to the law on higher education in 1953, a university education can be completed in 7 years by correspondence courses. In the 1969/70 academic year, about 95,000 persons at all levels out of a total school enrollment of 1.5 million were enrolled in evening and correspondence courses. Enrollment in part-time education courses has declined slightly in recent years, as shown by the following tabulation giving combined evening and correspondence course enrollment by school level:

	1966/67	1968/69	1969/70
Secondary-polytechnical schools (at all levels) . . . . .	29,520	23,589	21,800
Vocational-technical schools . . . . .	367	251	174
Secondary vocational-technical schools . . . . .	...	472	1,315
Technical schools (and schools of art) . . . . .	61,604	51,716	48,194
Postsecondary institutions . . . . .	1,403	1,053	1,063
Higher education . . . . .	25,484	22,768	23,308
Total . . . . .	118,378	99,849	95,854

### 3. Foreign students

According to official figures, Bulgarian higher educational institutions in the 1970/71 academic year were attended by 3,342 foreign students from 92 countries of the world. Among these students were 700 from North Vietnam, 550 from Syria, 230 from Sudan, 170 from Iraq, and 100 from Nigeria.

While Bulgarian higher educational establishments have played an active role in providing educational facilities for students from less developed countries, particularly from Africa, foreign students have presented special problems with both racial and ideological overtones. The difficulty has centered on the reluctance of a large number of these students to accept Communist indoctrination. In addition, both Bulgarian student and popular attitudes toward Africans studying in Bulgaria have generally been hostile. The main sources of this hostility appear to be resentment by Bulgarian students of the higher stipend given the Africans, the language barrier, and racial animosity stemming in part from the attention shown Bulgarian girls by African students. Recently the regime found it necessary to establish a special school which foreign students would attend for the first year. This school is designed to help these students make the adjustment to normal university life and thus to minimize the cultural conflict between foreign (particularly African) and Bulgarian students. Numerous African students have resisted Communist indoctrination and have complained about Bulgaria's low academic standards, inadequate language instruction, and the generally poor treatment they have received. Despite these problems, the number of foreign students rose from an estimated 1,500 in 1962 to more than 3,000 in 1970.

### 4. Extracurricular student activities

The regime attempts to control and organize all extracurricular student activity. No politically independent student organizations have been allowed, and all student and youth groups are under the supervision and "coordination" of the Committee for Youth and Sport, a "state-public" organ of subministerial rank formed in early 1968. The main instrument for organizing the students' free time is the Dimitrov Communist Youth Union (DKMS), more commonly called the Komsomol. Other organizations also active include the Bulgarian Union for Physical Culture and Sports and the Tourist Unions. The Voluntary Organization for Cooperation in Defense (DOSO), formed in 1951 to direct the paramilitary training of youth, was abolished in early 1968, and its functions have been assumed largely by the Komsomol.

The Komsomol enlists young people 14 to 28 years of age in a variety of social, academic, sports, and political activities. Its two junior organizations—the Pioneer and Chavdarcheta organizations—are closely tied to the basic school system. The Dimitrov Pioneer Organization (Young Septembrists) provides school children (ages 9-13) with organized recreation and work experience to

supplement the formal academic program, while the Chavdarcheta plans activities for children in the first 2 years of basic school (ages 7 and 8).

The focus of Komsomol activities shifts with the party's different campaign programs—especially in the junior organizations, which are more closely connected with the basic educational system. Since early 1968 particular emphasis has been placed on scientific-technical training and on military and patriotic education. The Station of Young Technicians, organized by the Komsomol and patterned after a similar Soviet institution, uses a variety of methods, including pamphlets, traveling exhibits, and national competitions, to stimulate scientific-technical awareness. Its most publicized activity is the annual nationwide Mathematical Olympiad, a competition which leads to an "international Olympiad" held annually in the U.S.S.R. for all national Eastern European winners. *Studentska Tribuna* and *Narodna Mladezh*, publications of the Komsomol central committee, carry articles on current programs and campaigns for student youth.

## J. Artistic and cultural expression (U/OU)

Prior to the 500 or so years of Turkish rule, which greatly inhibited the development of an indigenous culture, the Bulgarians had produced some artistic artifacts rivaling those of their neighbors. The early influence of Byzantium stimulated indigenous trends to make Bulgaria, for brief periods, a cultural center in its own right, especially under Tsars Simeon (893-927), Samuel (976-1014), and Ivan Asen II (1218-41). Under Simeon the newly created Glagolitic alphabet (invented by the brothers Cyril and Methodius) was perfected into Church Slavonic, subsequently the literary language of most Slavic countries for centuries.

Cultural expression under the Turks was confined mainly to written literature, and significant developments were few until the 18th century. Early nationalist writings produced while Bulgaria was still under the Turkish yoke had at least spotty literary merit and were very instrumental in sparking the will to independence. Artistic and literary attainment from the liberation until the Communist takeover was again sporadic and inconsistent. Written literature remained the main field of accomplishment, although the theater and various art forms experienced some growth. Cultural developments were notable for their gradual disengagement from the church. Folk culture continued to be strong, as the country was still overwhelmingly rural.

Under the Communists, all art and culture have been subject to Communist cultural theories, foremost of which is the concept of "socialist realism." The restrictions of this concept have, of course, been felt most heavily in literature because of the easier censorship of this art form. Other forms have not been exempted from control and criticism, however.

Although the general approach to culture has been one of tight control, cultural policies have shifted, since they are closely intertwined with party politics and often

related to other domestic policies. Two liberalizing movements, in 1956 and in 1961-62, highlighted Bulgaria's otherwise rigid control of cultural activity since 1944. These shortlived moments of "liberation" were brought to an abrupt end, when the party became alarmed by the extent to which writers used their freedom to criticize the regime. In both cases controls were reinstated, giving rise to a general mood of cynicism and frustration among the intelligentsia.

Some easing of cultural restrictions in 1966 proved short lived, and the party's strict policy has presumably continued, although it only periodically becomes visible. Since 1968 high-level attacks have been made on literary satirists, playwrights and dramatists, and cinematographers. Premier Todor Zhivkov in March 1969 was strongly critical of writers who use their craft to serve bourgeois ideals and values rather than to build the new socialist man.

Final authority in cultural affairs rests with the Communist Party and its Commission on Ideological and Cultural Questions. The highest governmental body in the cultural field is the 25-year old Committee for Art and Culture, a "state-public" organ of ministerial rank. Reorganized five times in its history, the committee has branches in all Bulgarian towns and large villages. In March 1970 the committee was expanded by the addition of the Cultural Policy Department, whose task is the long-range application of party policy in all cultural spheres.

### I. Literature

The oral literary tradition, in Bulgaria as in other Balkan countries, is rich in themes and material and has been a basic source of inspiration for all branches of modern creative art. Such folk literature, entirely committed to print by the 19th century, displays characteristic lyric and epic qualities. It includes a variety of legends, heroic deeds, ballads, songs, proverbs, and riddles. While flourishing throughout Bulgaria, certain genres have been associated with specific geographic regions. Thus, epic poetry developed especially in the southwestern regions. The most famous epics concern Krali Marko, who ruled 14th century Macedonia and successfully challenged the Turkish hegemony. On the other hand, love songs appeared most frequently in the central part of Bulgaria and portray the everyday life of the countryside. Songs associated with Christian ceremonies also flourished mainly in central Bulgaria. Tales of the *haiduks*, Bulgarian Robin Hoods, who waged partisan warfare against the Turks, were widespread and have been popularized under the Communist regime as part of an official "nationalism" program.

Early written Bulgarian literature was almost exclusively religious and consisted for the most part of church chronicles, and translations or adaptations of foreign works. Activity was especially intense during the "golden age" of King Simeon I in the 10th century and during a literary revival centered on Turnovo in the late 14th century.

Much housing is financed entirely or partly by private funds. In 1969, of 47,000 dwelling units built, almost 32,000 were constructed with private funds. A large part of the funds for housing construction comes from private savings, although bank loans have increasingly become available. In rural regions the peasants themselves do most of the work during slack seasons, using local building materials. Faced with rising costs and the failure of past policies to alleviate the housing shortage, the Council of Ministers in July 1966 issued a decree providing for new specific remedial measures. New factories are to be opened for the production of construction material, state and cooperative housing is to be expanded, and bank loans for private housing are to be given priority treatment. The regime has further instituted economic incentives for young people to enter the construction business.

Bulgaria has recently followed the example set in Poland and Czechoslovakia in encouraging private home ownership through attractive financing plans. The state has substantially reduced, and in some cases eliminated, the required down payment for the purchase of "state apartments"; i.e., apartments built before 1964 by the now defunct housing councils. The price for a small apartment, which usually does not have a private bath or kitchen, is between 7,000 and 9,000 leva. A typical rural dwelling, often surrounded by a fenced-in yard containing a vegetable garden, is made of brick or plaster, has three or four large rooms, and is modestly furnished. In addition, mud cottages with thatched roofs can still be seen in the countryside.

## 2. Social programs

The regime places great emphasis on various social welfare programs as a means of raising overall levels of living and equalizing the distribution of income. The Communist leadership is further aware that the elaborate social security system enjoys wide popular support. The social security system, designated social insurance by the regime, is modeled on that of the U.S.S.R. and is one of the most inclusive systems in Eastern Europe. The system was first codified in 1951 in Part III of the Bulgarian Labor Code. The recodification which occurred in 1958 has been supplemented by several decrees that broadened the coverages of the system and increased pensions and other benefits. Welfare work by religious institutions or other private organizations is not permitted.

The social security system includes old age and disability pensions for all civilian workers and military personnel, payments for temporary disability (illness, accident, and maternity leave), and burial and maternity payments. The system also provides for the upkeep of a variety of rest homes and sanitariums for disabled, mentally ill, and mentally retarded persons, and provides, free of charge, orthopedic and prosthetic appliances and similar aids, as well as many pharmaceuticals dispensed by state physicians. Moreover, trade unions and most large enterprises run holiday and rest homes for their members and employees.

Such establishments often provide their service entirely free of charge but may levy a very nominal fee. Homes for the aged are numerous, and local government welfare authorities also give old people cash grants either in lump sums or as periodic payments.

In accordance with Communist doctrine that unemployment cannot exist in a socialist state, unemployment insurance is not provided. There are, nonetheless, provisions for pensioning persons discharged before reaching retirement age or before achieving the required length of service for retirement because of the reorganization of their enterprises.

Implementation of the social security system falls under the jurisdiction of the Ministry of Labor and Social Welfare. For administration of the system of retirement pensions, sickness benefits, and disability payments, the population is divided into three categories, based on the Pension Law of 1957: 1) workers in the state sector; 2) members of farming cooperatives; and 3) members of producer cooperatives. All pensions are administered by the State Pension Administration, which receives funds from the three agencies handling each worker category.

The General Workers Trade Union and its local unions are responsible for the program covering workers in the state sector, i.e., all industrial workers, those working on the state farms and in machine tractor stations, and most professionals, including writers and lawyers. Social security benefits in the state sector are financed in part by contributions from the employing enterprise, which amount to 12.5% of the payroll, and by the payments of individual workers. Only dues-paying union members receive the full pensions; other pensioners receive 50% of the full amount. This arrangement is a powerful incentive for union membership and is designed to facilitate the effort of the unions to strengthen labor discipline and to increase labor productivity—their two major assignments. The Farmers Cooperative Pension Insurance Fund and the Handicraft Cooperatives Mutual Insurance Council collect and pass on to the State Pension Administration revenues from the working groups (farmers and members of producer cooperatives) which they represent.

Qualifications for old-age and permanent disability pensions and the amounts disbursed vary according to sector and branch of the economy. A higher percentage of industrial workers, particularly in heavy industry, is covered than are persons in agriculture or in the private sector. An industrial worker's eligibility for old-age pension is based on length of service, age, sex, and job category, taking into account the difficulty or hazards of the job. Basic old-age pensions range from 20 to 80 leva per month. In 1969 over 1.6 million pensions were paid—more than double the number in 1957.

Responding to changing needs and conditions, the pension system was revised at a joint session of the Bulgarian Communist Party Central Committee and Council of Ministers on 28 December 1967. The number of categories of pensioners was reduced to three, the amount of small pensions was increased by an average of

15% as of 1 July 1968, and Article 9 of the pension law, which granted the right to reduce pensions to persons still capable of work, was abolished.

Old-age pensions are calculated as a percentage of the highest gross average monthly earnings during any three consecutive years of the last 10 at work. The proportion awarded as pensions decreases as average earnings increase. Pension increments of 2% of earnings are given for each year of service beyond the qualifying period. If permanently disabled by injuries sustained at work, persons in the state sector qualify for disability pensions, which vary in amount according to the extent of injuries. Full wages are awarded only to persons who are severely hurt on the job and who have gross monthly earnings below 120 leva. In addition, financial support for the families of deceased workers is provided through survivors' pensions. The amount of such pensions is based on the age, relationship to the deceased, and the working capacity of the survivors.

The social security and health care programs provide relatively comprehensive benefits. The system has expanded so rapidly, however, that antiquated facilities must still be utilized to care for all those in need. There is a notable lack of uniform modern facilities and techniques in hospitals, rest homes, and sanitariums. Nearly all hospitals are crowded, particularly in large urban centers; private hospital rooms, except for the Communist elite, are virtually unavailable; and the beds in hospital wards are packed close together.

The number of persons covered by social security has increased significantly—from less than 50% of the population in 1956 to an estimated 90% to 95% in 1964. The amount disbursed by social welfare programs increased more than threefold between 1960 and 1969. In 1969 expenditures on insurance and pension programs were about 1.3 billion leva, with 65% of these funds going to pensions. Payments for temporary disability and various single payment benefits absorbed 29% of the social welfare expenditures. Social welfare expenditures (including health care) in 1969 are given in millions of leva in the following tabulation:

Work disability payments .....	110.2
Birth payments .....	18.2
Family allowances .....	204.8
Subsidies for disabled or large families .....	10.9
Pensions .....	720.3
Health .....	240.0
<b>Total .....</b>	<b>1,304.4</b>

Funding of social welfare programs has been derived largely from the payments of individual workers and collective farmers, a source which in 1969 provided at least 39% of revenue. In the same year about 28% of revenues came from the state budget. Between 1960 and 1969 the average annual pension increased by almost two and a half times, and in the latter year stood at 430 leva a year. Sizes of yearly pension in 1969 ranged from 641 leva for work disability to 322 leva for retired farmers.

### 3. Social problems

The political and economic changes since World War II have had a profound impact on the lives of the people, both at home and at work. Social tensions have sprung from the conflict between Communist and traditional values, and from large numbers of people shifting from agricultural to industrial activities and from rural to urban areas. These tensions have been heightened by the totalitarian character of the regime.

Severe housing shortages in urban areas, with concomitant difficult living conditions, have created many social conflicts. The urban dweller has resented the influx of illiterate peasants, which frequently required sharing living quarters and household facilities. Adjustment to a new way of life has been difficult for the peasant, who has had to adapt to the competitive pace of urban life in an often hostile atmosphere. The peasant family has ceased to provide the traditional cohesive force, as the younger members have moved away to seek greater economic advantages in the cities. The state has taken over the role of providing for the older generation, a role which the sons and daughters had traditionally assumed. In the cities the state has likewise become the guardian of the youth. A large proportion of urban mothers must work, leaving their children at government-operated nurseries. Schools and other government-run institutions have not, however, fully compensated for the decline of family influence on the moral training of the youth. As a result, juvenile delinquency has become a relatively serious problem.

With communism's failure to fill the gaps left by the breakdown of many traditional Bulgarian mores and values, young people have often sought outlets for their frustrations in alcohol. As a result, drunkenness is increasingly in evidence among young people and has contributed to the rise in juvenile delinquency. Juvenile delinquency had become so widespread by 1958 that the Central Commission for Juvenile Delinquency Control was set up to study and solve the problem. It has since reported that poor parental supervision, "adventurism," and dissolute companions are the principal contributing factors to the rising crime rate among young people.

Since the founding of the commission in 1958, some 360 regional commissions have been organized throughout the country to give psychological assistance to problem children and to offer guidance to youthful offenders and their parents. The success of this work is questionable; regime statistics report a highly unrealistic 90% of the delinquents as successfully "reeducated."

The rise in juvenile crimes has been almost matched by the increase in crime across the board. The annual loss to industrial plants through theft and destruction has become so extensive that it has caused considerable concern among government officials. Such concern is reflected in press reports and radiobroadcasts.

A modest breakdown of traditionally strong family ties is illustrated by the divorce rate, which most recently increased from 10.1 per 10,000 inhabitants in 1962 to 11.6 per 10,000 in 1969. The highest rate is in urban

Bulgarian literature in the latter years of Turkish rule emphasized patriotic themes which were particularly prominent from 1850 to 1878, when authors were concerned with awakening the Bulgarian national consciousness and preparing the people for liberation. The most significant precursor of the national movement was Father Paisi. This Orthodox monk was the first Bulgarian to capture arrestingly the new spiritual force of nationalism from the West stemming from the French Revolution and Napoleonic Wars. His *History of the Bulgarian Slavs, the Tsars and Saints of Bulgaria, and All the Bulgarian Events*, an idealized picture of the background and tradition of the country, inspired feelings of Bulgarian identity and national purpose.

During the latter 19th century literary inspiration came from not only the Russian nationalists and radicals, with whom the Bulgarians had relatively easy contact, but especially from the Ukrainians, who in a similar situation of national subjugation were becoming aware of their own national individuality. Democracy and social justice became predominant literary themes due in no small measure to the influence of the Ukrainian poet, Taras Shevchenko.

Several prominent writers from the period of Bulgaria's liberation deserve special recognition. Ivan Vazov (1850-1921), perhaps the country's foremost novelist, contributed greatly to the concept of a Bulgarian fatherland. *Under the Yoke*, his most famous novel, which has been translated into several languages, immortalizes Bulgaria's struggle for independence through a depiction of an anti-Turk uprising. Pencho Slaveiko (1866-1912), a Nobel Prize nominee, noted for his epic poem, "Bloody Song," is regarded as the greatest Bulgarian poet.

Written literature under the Communists has been greatly inhibited by the restrictions on the choice of thematic material. Consequently, little of note has been produced. Glorification of achievements in "socialist construction" and of the sacrifices made by patriots to achieve the Communist takeover has been required, as has the vilification of the capitalist world. Historical novels have been encouraged, although the latitudes for subject matter have widened only in recent years. During the earlier period of Communist rule historical novels were restricted to events which directly related to or were close parallels of the "arduous" Communist struggle for power. Since the middle 1960's a strong sense of the past has been emphasized in literature, as the regime has moved to encourage again such appeals to national consciousness. Periods of history considered correct for literary settings were expanded to include the "golden ages" of Bulgaria: the First and the Second Bulgarian Empires (852-927 and 1218-41). The regime has still attempted carefully to manage the use of history and periodically issues warnings against excessive "historic idealism."

Thematic content of novels has been constricted by "socialist realism"; its precepts have greatly inhibited character and plot development. The regime's demand

for didactic "inspirational" literature has been translated into an official demand for "positive" characters and happy endings. Such an approach to literature has devolved more into an exercise in the "idealism" allegedly deplored than in the "realism" ostensibly desired by the regime. True realism seems acceptable only when it deals with the struggling peasant of pre-Communist times or the oppressions of capitalist society. Poetry, which again can do little but praise the virtues and undertakings of the regime, is for the most part declamatory and sterile. Literary criticism is oversimplified and dogmatic in tone.

Satirical works are the most sought after in Bulgaria today, as the skilled satirist, in time honored fashion, can lampoon contemporary conditions and regime foibles in clever disguise. Such works are often sold out within a few days after they appear on the stands. The works of Radoy Ralin, the leading satirist, have managed to escape suppression despite his biting criticism of current conditions.

Bulgarian author Andrey Gulyashki has had overwhelming popular success with his book *Avakum Zakhov Versus 07*, which is patterned after the books on James Bond, British Secret Service Agent 007, by the Western author Ian Lancaster Fleming. Despite the obvious deviation from the proletarian norm, Gulyashki has captured large audiences throughout Eastern Europe and in Austria, Italy, Finland, and Australia. His book may prove to be the most successful piece of Bulgarian literature financially since the turn of the century, but there has been no Bulgarian prose of recognized literary merit since the 1920's.

Part of the regime's cultural policy has been its practice of officially recognizing "great" works through the biennial Dimitrov Prizes. Named for the Bulgarian Communist Party leader active when the Communists consolidated control of the country, the prizes are awarded for cultural attainment as well as for science and engineering achievements. Since their inception in 1949, however, only seven have been awarded to literary "personalities." Recipients have been noted more for their obeisance toward the regime than for any artistic experimentation or originality.

## 2. Performing arts

The theater in Bulgaria dates back to the *kuker* (mummer) plays of the 1850's. Liberation from the Turks was followed by the establishment of professional theaters, the oldest purportedly being the Plovdiv National Theater established in 1881. By 1939, 12 theaters, five of them state-supported, had been founded; they most often staged foreign plays. Between 1939 and 1969 the number of permanent legitimate theaters increased from 12 to 46, as annual attendance in the same period rose by over 3 million to a total of 4,798,000. In the latter year, the city of Sofiya alone boasted 11 theaters, attended by almost 2 million people annually (Figure 35).

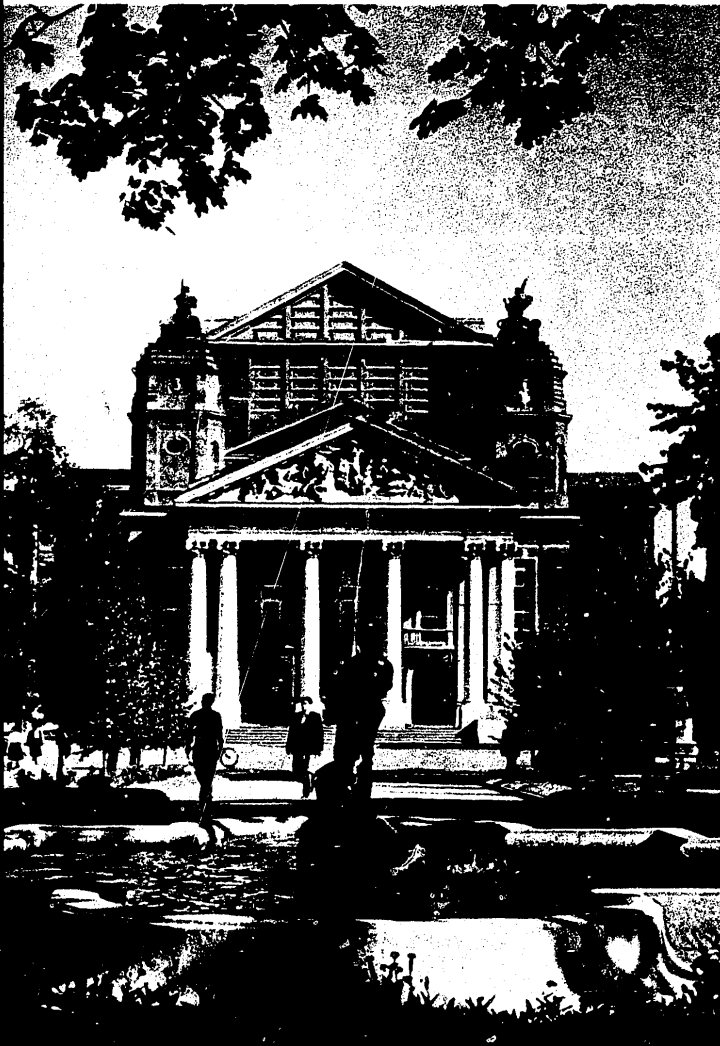


FIGURE 35. National Theater in Sofiya (U/OU)

U.S. plays have gained a great deal of popularity in Bulgaria in recent years. Such productions as *My Fair Lady*, *Kiss Me Kate*, and *Who's Afraid of Virginia Woolf* have received extended runs in Sofiya's theaters. Both the dramatic and the musical versions of *West Side Story* have been staged. The musical version of the latter, as is true of other U.S. works performed in Bulgaria, contained pointed anti-U.S. statements.

In opera the Bulgarians have gained some international renown. The basso Nikolay Gyaurov has been enthusiastically acclaimed in the United States, Italy, and numerous other European countries. The success of



FIGURE 36. Bulgarians in native costume play the *gaida* (above) and the *kawal* (below) (U/OU)

Bulgarian opera stars outside the Communist world has been so relatively extensive and financially rewarding to the individual performers that the Party Central Committee has prohibited performers from appearances in the West without prior approval. Moreover, performers' schedules must include at least 30 appearances a year in Bulgaria, the U.S.S.R., or other Communist countries.

### 3. Art and music

Distinctively Bulgarian art dates back to the medieval period, and, as with written literature, is intimately tied

to religion. Among the best examples of medieval art are the magnificent Rilski Monastery and the church frescoes in Veliko Turnovo. The influence of Byzantium was paramount, but distinctive Bulgarian schools developed in mural and icon painting. As with other forms of cultural expression, the Turkish period dampened or arrested artistic development.

Renewed artistic activity after the liberation produced no well-developed Bulgarian school, although much energy and determination were expended. The paintings of Prof. Ivan Mrkvička, a Bohemian who moved to Bulgaria, were exhibited throughout Europe. The most recent Bulgarian artist of real distinction was the internationally famous watercolorist Konstantin Shtarkelov. Born in 1891, Shtarkelov was a mature artist before the Communist takeover. His works therefore represent values and concepts other than those of Marx and Lenin and are repeatedly criticized by the regime as "sentimental."

Contemporary Bulgarian art has produced no painter of international note. There are, however, a few men of relative merit locally. Tsanko Lavrenov, a leading Bulgarian oil painter, is highly regarded by the regime. His works, more sophisticated than those of his "socialist realist" contemporaries, center on Bulgarian history and scenes of Plovdiv, the artist's native city.

Restrictions on creativity have not prevented popular interest in art and some recent originality in artistic expression. In 1965 there were 174 art exhibits displaying 13,189 professional items; in 1966 the number increased to 207 exhibits showing 14,839 works. Moreover, since 1944 over 30 galleries and painting collections have been opened to the public. The redeeming factor in most of these shows has been the emergence of a somewhat unique art style which in effect compromises between party dictates and experimentation in modern art forms.

Bulgarian music possesses a rich folk heritage which has only recently been rediscovered by the regime. Traditional themes ranged from heroism to subjects of social life and were usually sung to the accompaniment of such instruments as the *gusla* or *gadulka* (a two or three-stringed fiddle), the *tambura* (lute), the *gaida* (similar to a bagpipe), and the *kowal* (long wooden flute or reed pipe) (Figure 36).

Under the Communists, music, more than any other form of artistic endeavor, has reflected Western influence, especially among the younger generation. The popularity of jazz, Western songs, and modern dances among youth—coupled with a growing lack of familiarity or concern with traditional forms of Bulgarian music, dances, and entertainment—is of major concern to the regime. To counteract the contagion of Western influences, the regime has provided considerable financial support to the orchestras, operas, and ballet companies. Increased subsidies have been granted in part to lure famous Bulgarians back from the West and thereby to improve the quality of the performances.

Bulgarian writers and composers have been encouraged to make use of national traditions to emulate the

"national Bulgarian emotional life." Toward this goal, between 1944 and early 1967 Bulgarian writers and composers created 20 musical stage works and 10 modern musicals.

Not all Western music is frowned on by the regime. The Ruse Philharmonic Orchestra devoted the final concert of its 1966 season to the works of George Gershwin, and a one-act ballet based on his "Rhapsody in Blue," which was performed in Sofiya in May 1966, was given wide publicity and was enthusiastically received by the audiences.

While popular dances and music, the oldest form of Bulgarian culture, remain strong in rural areas, the growing number of foreign tourists in urban centers and along the Black Sea coast has further undermined the nationalist stance on music. With the growing emphasis on tourism as a means of getting hard currency, the regime has apparently decided to compromise some cultural purity for financial expediency.

#### K. Public information (U/OU)

Integration of the information media into the governmental structure is total, providing the regime with absolute control of them. The Propaganda and Agitation Department and the Culture and Art Department of the Central Committee are the chief party agencies for the control and dissemination of public information. These departments supervise the press, radio, television, and motion pictures, as well as other media of lesser importance, and in general they monitor adherence to party policies by all media.

In recent years the preeminence of the press as the leading domestic information medium has been lost to radio and television, which are now regarded as the most effective mass media for explaining party policy and for the education of the people along Communist lines. Domestic films are handicapped by a lack of technical facilities and skills but are slowly enhancing their popular appeal and sophistication. The legitimate theater has been recognized as a desirable mechanism to stress themes of Bulgarian patriotism and Soviet-Bulgarian friendship. Other significant media, in approximate order of importance, include public and private meetings, museums, displays, and posters; they are consciously used by the regime for indoctrination. Public meetings are almost invariably convened on the initiative of party or government functionaries, and museum exhibits and other visual displays either innocuously advance the party line or tend to associate past and present phenomena with the inexorable triumph of socialism.

Parallel to its control of domestic information, the regime also attempts to exclude access to outside or uncontrolled sources of information by jamming some foreign radiobroadcasts or preventing entry of foreign publications. The overall purpose of these policies is to further Communist indoctrination by the intellectual isolation of the population from the non-Communist world.



### i. Radio and television

The regime has made considerable effort to augment its broadcast facilities, and radio installations increased from a meager three transmitters in 1939 to 23 by the beginning of 1970. Since 1965 alone, nine transmitters have been placed in operation, the most powerful one being a 250,000-watt mediumwave transmitter. Other parts of the radio network have also expanded. The number of radio sets has increased from almost 63,000 in 1939 to about 2 million in early 1971, with the ratio of radio sets standing at approximately one for every four Bulgarians. Additional radio coverage is provided, moreover, through a network of about 720,000 wired loudspeakers. These speakers are connected to about 1,800 radio relay points, where received transmissions are selected by the local authorities and relayed to the wired loudspeakers. The majority of these loudspeakers are in rural areas. Poor reception and shoddy workmanship in wiring villages has decreased the potential effectiveness of the system, and interest in radio programs has declined in some areas. Broadcasts are frequently available in rural settlements from public radio receivers.

All domestic radio transmissions originate in Sofiya. *Radio Sofiya* broadcasts daily three major programs which are retransmitted or relayed throughout the country: *Horizont*, *Kristo Botev*, and *Orfei*. *Horizont*, which broadcasts about 20 hours a day, has some news and short commentary but features mainly light music, much of it being Western popular music. The second program, *Kristov Botev*, continues the traditional Communist radio programming and serves up a mixture of heavy propaganda features and assorted cultural specials. It is on the air for 14 hours a day. *Orfei* is a literary and classical music FM station broadcasting for 5 hours a day and heard only in the Sofiya area.

Radio has slowly moved from the boring, ideological drivel that long dominated its programming and drove listeners away. *Horizont*, begun in 1965, is the most notable step toward modernization. Further changes in its format and programming, implemented in early 1971, should allow the state radio to compete more effectively with Western broadcasts. Nonetheless, according to a Bulgarian survey in early 1971, the average Bulgarian listened to radio for only 2 hours 17 minutes a day, and an undetermined share of this listening time, in localities where they could be received, went to Western programs.

Bulgaria is one of the few Communist countries in Eastern Europe continuing to jam Bulgarian-language transmissions of the *Voice of America* and *Radio Free Europe*. The jamming is not entirely effective in cities, and reception is clear in almost all areas of the countryside.

Television broadcasting began on an experimental basis in early 1953, with regular programming apparently having started about 1960. The one TV station now in operation at Sofiya broadcasts two program schedules. Bulgarian television has expanded programming in recent years, and its total weekly output in 1971 was 62 hours. The daily schedule is split into a short morning segment

and about 6 hours of evening viewing. The morning broadcasts were initiated in early 1970 to provide reruns of the evening programs for swing-shift workers. Programming on Sunday is continuous from 10 a.m. until 11 p.m., while Friday evening is devoted to 7 hours of broadcasts from Moscow in the Russian language.

In early 1964 there were 66,000 TV sets, but only 10,000 of these were located in nonurban areas. By 1971 the number of sets had reached about 1.2 million. Six transmitters and 80 relay points carry a TV signal to 65% to 70% of the country, according to Bulgarian sources, and the TV audience is estimated at 3.5 million people.

Bulgarian television is tied into Intervision, a network which enables the country to exchange programs with other Eastern European countries and the U.S.S.R. A direct radio-TV link between Bulgaria and Yugoslavia provides Bulgaria with indirect access to Eurovision, the radio-TV network that links countries of Western Europe.

Bulgarian television has been subjected to much criticism and, according to a Bulgarian press poll of 1970, only 24% of those questioned had a good opinion of the system. A survey in early 1971 revealed that the average Bulgarian watches about 1 hour of television a day.

Bulgarian television loses many viewers to networks in neighboring countries. Viewers on the Yugoslav border consistently favor Yugoslav over Bulgarian broadcasts; Romanian TV is easily received in Bulgaria's northern areas and apparently is preferred over domestic television. Acceptable signals from Yugoslav television can be received in Sofiya by using high gain antennas.

### 2. Newspapers, periodicals, and wire services

The principal role of the press is to disseminate party and governmental decisions, appeals, and information to facilitate the development of socialism. Only party doctrine and views are expressed. Press content is also limited by the Law on State Secrets. In 1966 authorities claimed Bulgaria to be among the world's first in per capita press distribution, with over 714 copies of newspapers and periodicals per 1,000 inhabitants. Such claims are exaggerated, however, because they are based on statistics which include insignificant regional and local publications. Among the Eastern European countries, Bulgaria ranks only fifth in the circulation of daily newspapers, according to U.N. statistics.

Total circulation of newspapers for 1969 exceeded 777 million copies of some 759 newspapers compared with an annual circulation in 1939 of 130 million copies. The 13 daily newspapers in 1969 had a total single issue circulation of 1,764,000 copies. Sixty weeklies were printed in 1,682,000 single-issue copies, and less frequently published newspapers (including such items as factory "news boards") had a total single-issue circulation of 1,686,000. The circulation figures in themselves, however, are not an accurate indication of the popularity of the press, because many persons are compelled to subscribe because of their positions. High-pressure subscription drives are also staged periodically. *Rabotnichesko Delo* (Workers Cause) alone accounts for

approximately one-third of the total annual volume of newspapers. According to a Bulgarian news agency, there were 600,000 Bulgarian subscribers to 13 Soviet newspapers and other periodicals in 1967. A total of 25,000 copies of *Pravda* and *Izvestia* arrive daily in Sofiya, along with leading papers from other Eastern European countries.

The average newspaper consists of four pages and generally includes little advertising. *Rabotnichesko Delo*, the official Bulgarian Communist Party daily, is closely patterned after the Soviet papers *Izvestia* and *Pravda*, which serve as models for the entire Bulgarian press. It contains, in addition to some news coverage, long theoretical arguments, articles on economics, and exhortations to fulfill norms and plans. Bulgarian newspapers have regular sections with articles on party life, agriculture, economics, letters from readers, foreign news, literature, science, art criticism, bibliography, and financial news. Although articles are in general dull, there has been an effort to liven up the editorial format and increase the readability of papers, particularly *Otechestven Front*, *Zemedelsko Zname*, and *Pogled* (now a weekly). Figure 37 lists selected newspapers and their circulation.

Most Bulgarians are skeptical of information disseminated by the press and other media and regard it as propaganda circulated by urban politicians. The regime clumsily feeds this skepticism by omitting mention of occurrences which quickly become general knowledge through word of mouth, clandestine listening to foreign radiobroadcasts, and reading of bootlegged foreign newspapers and periodicals.

The Bulgarian Telegraphic Agency (BTA), which was founded in 1918, is the official Bulgarian news service. Attached to the Council of Ministers, BTA, like its Soviet counterpart TASS, is the channel for government declarations on international issues, usually rather propagandistic in tone. In addition, BTA foreign correspondents cover selected international developments for the Bulgarian national press in the characteristic Communist manner. BTA operates in all the Communist countries and in nine other countries. However, much of BTA's foreign news is obtained from TASS, and it also has agreements with *Agence France Presse* (AFP), Reuters, Associated Press (AP), United Press International (UPI), and other major services. Sofiya Press, founded in 1967, has been touted by the regime as an independent news agency (analogous to the *Novosti* news service in the U.S.S.R.), but it has no branches abroad and more accurately should be called a publishing agency.

Bulgarian periodicals have less importance as media than do newspapers, but they still are widely circulated. More than 750 different periodicals and bulletins were published in Bulgaria during 1969. Probably only one-half of these were true periodicals. Most are technical publications, and all are semi-official journals which emanate from either party, scientific, or mass organizations. In addition, about 8,000 Western periodicals and other publications in the fields of science,

technology, culture, economics, and politics are received by Bulgarian libraries and research institutions. Figure 38 lists selected periodicals and their circulation figures.

The overall goal of the periodicals appears to be an explanation of socialist construction in Bulgaria, the development of the "World Socialist System," the international situation, and the "struggle for peace." Generally speaking, party magazines and party-controlled literary periodicals arouse little enthusiasm.

### 3. Other public information media

Statistics on book publishing, along with the prevailing system of material privileges and incentives for conforming writers, lend some credibility to the Communist claim that conditions for creative literary work exist in Bulgaria. Official statistics reflecting the steady increase in the output of the state publishing houses are used by the regime to foster an impression of freedom of expression. The total annual number of all books published in the country increased from approximately 6.5 million volumes in 1939 to over 39 million in 1969, with a total of 576 million books being published between 1945 and 1967. The striking disparity between quantity and quality, however, which has dogged industrial and economic development in Bulgaria since the Communist takeover, also has its depressing counterpart in literature. The publishing house and editorial offices regularly receive for publication manuscripts which do not satisfy even minimum requirements of literacy. In addition, there is the restraint imposed on writers by the ideological straitjacket of "socialist realism," which requires that all writing represent and serve the objectives of the regime.

In November 1967 a newly founded foreign language and publishing agency called Sofiya Press began operation. The agency is an organ of the Writers Union, the Union of Bulgarian Journalists, and the Union of Bulgarian Artists, and replaces the Foreign Languages Publishing House and the Bulgarian Information Bureau. Supplying articles and photos for the press, radio, and television, Sofiya Press also publishes books, magazines, and albums in foreign languages as well as a newspaper for foreign tourists and vacationers.

Although Western publications, books, plays and movies are very popular in Bulgaria, the regime very carefully controls their entrance. The government allows the translation and publication of some Western books and plays; the editions are small in number and quickly sold out.

The regime has directed efforts toward increasing the number of museums, libraries, theaters, movie houses, and films. The role of these media in shaping the public's political outlook, however, has probably been relatively minor. The number of museums has increased from 80 in 1938 to 146 in 1969; libraries, from 4,024 in 1951 to 11,066 in 1969; theaters, from 13 in 1939 to 46 in 1969, including five opera houses; films produced, from 45 in 1939 to 316 in 1969, and movie houses, from 155 in 1939 to 3,104 in 1969. Many churches have been converted

FIGURE 37. PRINCIPAL NEWSPAPERS, 1971 (U/OU)

NAME AND PLACE OF PUBLICATION	FREQUENCY	CIRCULATION	PUBLISHER	MATERIAL EMPHASIZED
RABOTNICHESKO DELO (Worker's Daily Cause), Sofiya.	Daily	630,000	Central Committee of Communist Party	National, party, governmental, and foreign.
NARODNA MLADEZH (People's Youth), Sofiya.	6 times per week	200,000	Central Committee of Dimitrov Communist Youth Union.	National, youth, party, governmental, and foreign.
OTECHNESTVEN FRONT (Fatherland Front), Sofiya.	do	360,000	Presidium of the People's Assembly and the National Council of the Fatherland Front.	National, party, governmental, and foreign.
ZEMEDEL'SKO ZNAME (Agricultural Banner), Sofiya.	do	145,000	Bulgarian National Agrarian Union	National, agricultural, party, governmental, and foreign.
VERCHERNI NOVINI (Evening News), Sofiya.	do	150,000	Sofiya City Party Committee, Sofiya City People's Council, and Sofiya City Committee of the Fatherland Front.	Local, party, governmental, and foreign.
TRUD (Labor), Sofiya.	do	114,000	Central Council of General Workers Trade Union.	National, labor, party, foreign, and governmental.
NARODNA ARMIYA (People's Army), Sofiya.	do	*61,400	Ministry of National Defense	National and military affairs.
KOOPERATIVNO SELO (Cooperative Village), Sofiya.	do	150,000	Ministry of Agriculture	National and agricultural affairs.
NARODNO DELO (People's Cause), Varna.	Daily	*22,000	do	National, party, and local.
CHERNOMORSKI FRONT (Black Sea Front), Burgas.	do	*12,000	do	Do.
DUNAVSKA PRAVDA (Danubian Truth), Ruse.	do	*11,300	do	Do.

\*1966 figures most recent available.

FIGURE 38. PRINCIPAL PERIODICALS, 1971 (U/OU)

NAME AND PLACE OF PUBLICATION	FREQUENCY	CIRCULATION	PUBLISHER	MATERIAL EMPHASIZED
POGLED (Look), Sofiya	Weekly	220,000	Union of Bulgarian Journalists	National, party, governmental, foreign, and local.
NARUCHNIK NA AGITATORA (Agitator's Weekly Handbook), Sofiya	do	80,000	Propaganda and Agitation Department of the Party Central Committee	Propaganda on domestic and international affairs.
ZHENATA DNES (Today's Woman), Sofiya	Monthly	370,000	Committee of Bulgarian Women	Socialist women's affairs.
NOVO VREME (New Times), Sofiya	do	27,000	Party Central Committee	Marxist theory and party problems and activities. Includes the following sections: "Out of the Experience of Party Work," "Criticism and Bibliography," "Lectures and Constitutions," and "Questions and Answers."
ZHAR (Fervor), Sofiya	Weekly	100,000	Central Committee of Dimitrov Communist Youth Union	National, youth, party, governmental, and foreign.
BULGARO-SUVETSKA DRUZHBA (Bulgarian-Soviet Friendship), Sofiya	Monthly	40,000	Union of Bulgarian-Soviet Friendship Societies	Bulgarian and Soviet cultural and economic ties.
BULGARSKI VOIN (Bulgarian Soldier), Sofiya	do	18,000	Ministry of National Defense	Political indoctrination, military tactics and strategy.
PARTIEN ZHIVOT (Party Life), Sofiya	do	40,000	Party Central Committee	Party organizational journal; emphasizes implementation of party policies; discusses party problems.
SEPTEMVRI (Septemberists), Sofiya	do	15,000	Union of Bulgarian Writers	Artistic, literary, and other cultural affairs.
SLAVYANI (Slavs), Sofiya	do	10,000	Bulgarian Slav Committee	Slav cultural unity; the role of the Soviet Union as the leading Slav nation.
NARODINA PROSVETA (People's Education), Sofiya	do	10,000	Central Committee of the Union of Bulgarian Teachers	Communist educational theory and practice; also general coverage of educational affairs in Communist and capitalist countries.
RADIO I TELEVIZIYA (Radio and Television), Sofiya	do	20,000	Ministry of Transport and Communications	Technical radio and TV articles and news.
PLANOVO STOPANSTVO I STATISTIKA (Economic Planning and Statistics), Sofiya	do	5,000	State Planning Committee	All phases of state economic planning.
FINANSI I KREDIT (Finance and Credits), Sofiya	do	5,250	Ministry of Finance	Financial subjects.
NASHA RODINA (Our Motherland), Sofiya	do	28,000	Party Central Committee	General coverage, includes political, sociological, and economic articles; illustrated.
KOOPERATIVNO ZEMEDELIE (Cooperative Agriculture), Sofiya	do	na	Ministry of Agriculture	Bulgarian cooperative farm matters.
PLAMAK (Flame), Sofiya	Biweekly	11,000	Union of Bulgarian Writers	Literature, art, publishing, and domestic and foreign affairs.
LITERATURNA MISAL (Literary Thoughts)	Bimonthly	4,500	Institute for Literature at the Academy of Sciences	Literary history and criticism.

na Data not available.

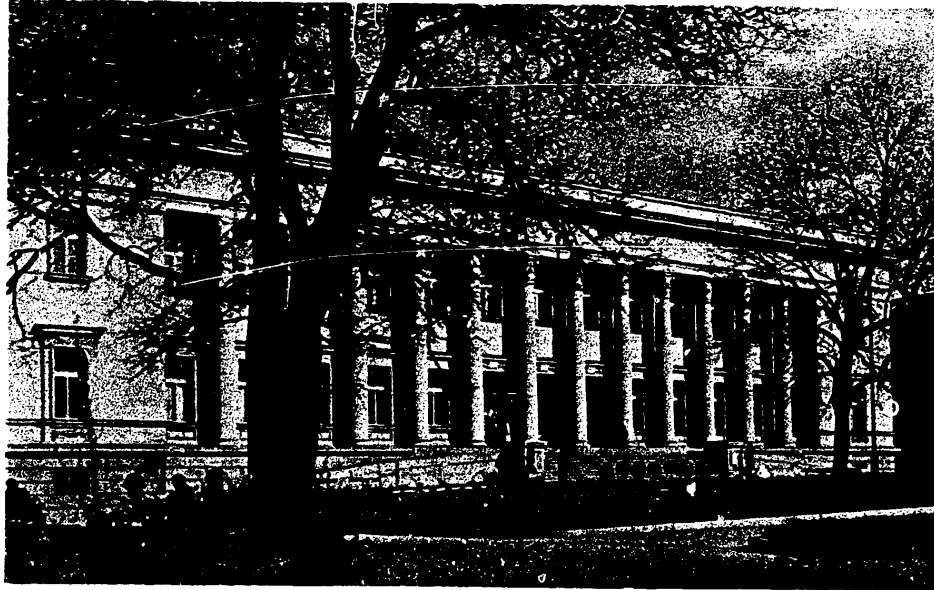


FIGURE 39. National Library "Cyril and Methodius," Sofiya (U/OU)

into museums; libraries vary considerably in their holdings; and the films emphasize political indoctrination and generally lack artistic merit. Attendance at film showings increased from 13,103,000 in 1939 to 126,362,000 in 1965, but since then has decreased to 110,223,000, apparently due to an official policy of reducing the number of film screenings. Nineteen state-controlled libraries in 1969 contained 2,965,000 volumes. Additionally, the National Library (Figure 39) held 360,000 volumes.

#### L. Suggestions for further reading (U/OU)

##### 1. General works

L.A.D. Dellin's (ed.) *Bulgaria*, 1956 stands as the most informative and readable overview; some weak chapters, notably on religion and education, diminish its usefulness. A recent work dealing with modern Bulgaria, concentrating on political affairs but also containing informative sections on cultural and educational policies, is J.E. Brown's *Bulgaria Under Communist Rule*, 1970. Useful and detailed essays on the Communist regimentation of youth activities are found in Peter Georgeoff's *The Social Education of Bulgarian Youth*, 1968. *Education in Bulgaria*, one of the comparative education studies done by the U.S. Department of Health, Education, and Welfare, is indispensable for a

thorough understanding of the educational system under the Communists; care should be exercised, however, in using the incorrectly transliterated educational flow charts. Irwin Sanders' *Balkan Village*, published in 1949, provides some insight into the rural nature of Bulgaria at the time of the Communist accession to power. Joint Publications Research Service (JPRS) (Department of Commerce) and Foreign Broadcast Information Service (FBIS) translations of both speeches by Bulgarian leaders and daily Sofiya press articles constitute important, almost invaluable, sources on recent developments, especially in education, public health, population, and labor force.

##### 2. Basic reference works

Basic reference works include the official Bulgarian statistical handbooks (*Statisticheski Spravochnik*, 1971 and *Statisticheski Godishnik na Narodna Republika Bulgariya*, 1970). The *Spravochnik* is more timely, being issued in handsized paperback, but not nearly as comprehensive as the *Godishnik*, which runs more than 600 pages. Population studies on Eastern European countries done by the U.S. Bureau of the Census provide valid statistics and bases for useful comparisons. U.N. reference works usually have information on Bulgaria, although the information is often spotty and in some cases dated.

## *Government and Politics*

### **A. Summary and background (U/OU)**

The political development of Bulgaria, at times a creature and pawn of Great Power interplay in the Balkans, has been conditioned by shifting alliances, unfulfilled irredentist ambitions, and alternating impulses toward aggressive self-assertion and subservience to foreign domination. The consolidation of Communist rule after World War II—in which it had been allied with the Axis powers—has continued to illustrate these varied political characteristics, even while the strongly pro-Soviet rulers have attempted to create new political, economic, and social bases for a stable totalitarian state.

Bulgaria emerged as a nation-state in 1878 under the auspices and tutelage of Imperial Russia, which sought thus to extend its influence in the Balkans at the expense of the dying Ottoman Empire. After almost five centuries of Turkish rule, the country's emergence as a sovereign entity was a protracted event, midwived by Russia, complicated by the disposition of Macedonia, and ultimately determined by the other Great Powers acting in concert. The Treaty of San Stefano of March 1878, imposed on Turkey by Russia, created an autonomous Bulgarian state with boundaries that encompassed most of the Macedonian region as well as the Thracian areas of Greece. Russia's Great Power rivals, mainly Britain and Austria-Hungary, viewed the settlement as contrary to their interests and forced a renegotiation. The resultant Congress of Berlin of July 1878 provided for an autonomous Bulgaria under Turkish suzerainty and reduced to one-third the size of the country as projected at San Stefano.

The Bulgarian principality, which had achieved a large degree of independence by 1879,<sup>6</sup> was generally homogeneous in ethnic terms, with only a Turkish minority of 10% to 20% remaining inside its borders. A large number of ethnic Bulgarians remained outside the borders of the new homeland, and territorial ambitions soon dominated the country's international stance and in many ways shaped internal political developments up to the middle of the 20th century. Bulgarian nationalists continued to dream of a return to the boundaries of San Stefano. This dream, raised by frequently demagogic political leaders to the status of a national goal, impelled successive governments, supported by broad segments of the population, to side with Germany in two World Wars and to oppose its neighbors in two local conflicts. Bulgaria's claims to Macedonia added to the controversy

<sup>6</sup>Final independence came only in 1908.

over the nationality of the peoples living in Macedonia, and were only modestly requited after Bulgaria suffered defeat in three of the four imbroglios.

The Bulgarian alliance with Germany in World War I, contrary to historical pro-Russian sympathies among the populace, was motivated by Bulgaria's desire to regain the greater part of Macedonia from Serbia and Greece, and the area of southern Dobruja from Romania—territories that Bulgaria lost during the Second Balkan War (1913). The Treaty of Neuilly in 1919 reaffirmed Bulgaria's territorial losses after the Second Balkan War and divested the country of Western Thrace and the access to the Aegean Sea that it had gained in 1912. During World War II, Bulgaria—once again allied with Germany—reoccupied Macedonia and Western Thrace, only to be forced to relinquish them under the terms of the armistice agreement of 28 October 1944. Bulgaria retained only southern Dobruja, which Romania had ceded by the Treaty of Craiova in 1940. Figure 40 shows Bulgarian territorial changes since the Treaty of San Stefano.

Preoccupation with territorial ambitions, aside from engaging the country in futile conflicts, engendered domestic political violence, which, encouraged by radical Macedonian emigre organizations, seriously inhibited social and economic growth. The Constitution of 1878, which in its time was a model of Western democratic thought, had introduced the trappings of Western political institutions but could not provide the tradition and experience necessary to make them succeed. Political parties were founded as early as 1890, but political strongmen using authoritarian methods restricted any incipient democratic impulses.

In this context, two of Bulgaria's most gifted and creative leaders, Stefan Stambolov (Prime Minister 1887-94) and Alexander Stambolisky (1919-23), were able to force economic and social developments, often overriding considerable opposition. Both men fell victim to the assassin's bullet, Stambolov after relinquishing his government leadership and Stambolisky after having nurtured an innovative policy that offered the olive branch to Yugoslavia. Political violence, especially acute during the period between the two World Wars, was generated mainly by Macedonian terrorists who continued their single-minded advocacy of reclaiming Macedonia at any price. By the middle 1930's the few feeble attempts at democratic interplay were thoroughly discredited, and aimless political intrigue gave way to an authoritarian pro-Fascist consolidation.

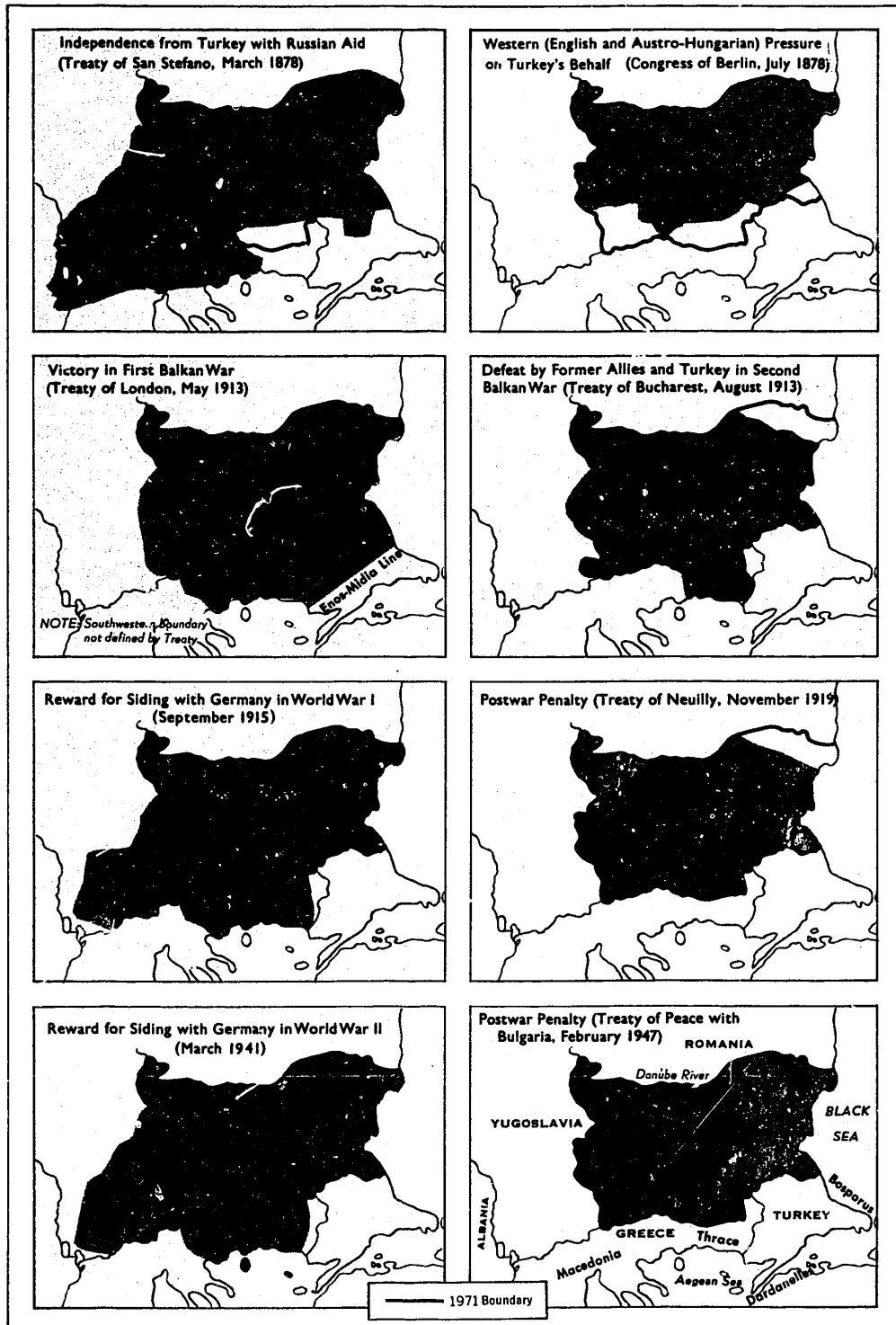


FIGURE 40. Major changes in Bulgaria's borders, 1878-1971 (U/OU)

Bulgaria's overwhelmingly rural and agricultural character dominated its social and economic structure from liberation in 1878 until the advent of the Communist era. Modest state-sponsored industrial development, most prevalent around the turn of the 20th century, helped to diversify the economy and to stimulate the growth of a small urban industrial class. Events after 1912 forestalled any further sustained development, as the burdens of war debts and reparations combined with the trade barriers of the 1920's to inhibit significant industrial investment. Some agricultural successes in the 1930's helped create a relative prosperity, and agrarian Bulgaria found a profitable trading partner in industrial Germany. Nonetheless, arable land remained divided among numerous, conservative small landowners and per capita agricultural production in Bulgaria in the 1930's stagnated at only half of the European average. Domestic violence discouraged modernization, and, indeed, many Bulgarian nationalists saw economic stagnation as the price for regaining "lost territories." Of the social gains registered, the most notable was expansion and diversification of the educational system, with elementary education made available throughout most of the country by the end of the 1930's.

The Social Democratic Party, the forerunner of the Bulgarian Communist Party (BCP), first sprang up in the 1880's out of secret Marxist societies founded by Dimiter Blagoev, a Marxist radical only recently returned from study in Russia. Venerated as the founder of the BCP, Blagoev patterned his organization on the Russian experience, and, as was true of Lenin, had to contend with factional challenges. A split within the party ranks in 1903 produced the so-called narrow wing, which later changed its name to the Bulgarian Communist Party. The BCP's early years culminated in its unsuccessful coup attempt in 1923, a move undertaken on orders from Moscow. A brutal anti-Communist repression followed and party activity until World War II was confined to often ineffective clandestine political operations. At the end of the 1930's BCP membership totaled some 30,000 at a maximum.

As in other Eastern European countries, the Communists' accession to power in Bulgaria had its roots in the political and military turmoil of World War II. Bulgaria's pro-German, noncombatant course during the war spared the populace much of the suffering of direct conflict or occupation, at least until the last phases of the war. There never was any significant resistance to Nazi troops, and the Bulgarian partisan movement, at its peak, totaled perhaps 12,000 men. A number of Communists were involved in the modest resistance effort but, in contrast to their Yugoslav and Albanian counterparts, they were unable to use it as a springboard to power. Communists during the war focused instead on political maneuvering, and issued appeals for the formation of a broad anti-Fascist coalition as early as late 1941. The deterioration of Germany's military posture in 1943 made the previously uninterested large political parties more receptive toward such a grouping, and the Fatherland

Front (*Otechestven Front*—OF) gradually took shape in late 1943. The OF, consisting of the Communist and a number of other leftwing parties, had little impact on the Bulgarian domestic scene until the unexpected Soviet occupation in late 1944, after the equally unexpected capitulation of Romania. These developments permitted the Fatherland Front to assume effective power as a coalition government. Communists held only few posts in this government, but their control of the key Ministries of Justice and Interior gave them the tools to harass, intimidate, and eliminate political opponents. With the unspoken assent and covert aid of the Soviet occupation army, the Bulgarian Communists conducted the bloodiest, most extensive purge in all of Eastern Europe. Terror was used in concert with a political action program theoretically aimed at rebuilding political institutions, but in reality directed at splitting and weakening the opposition through classic tactics of attrition. The then formidable Agrarian Party, which continues to exist in current Bulgarian political life as a decimated puppet of the Communists, was stripped of its traditional political greatness, and the execution in 1947 of its leftwing leader, Nikola Petkov, signaled the end of all legal opposition to Communist rule.

The subsequent consolidation of Communist control was engineered by Georgi Dimitrov, long-time Comintern functionary and a loyal Stalin man, in whose name the new Bulgarian Constitution of 1947 was endowed. Dimitrov's death in 1949 led to a struggle over the leadership of the party, in which Dimitrov's Sovietized brother-in-law Vulko Chervenkov eventually triumphed with Soviet support. Since 1954 the leadership of the party and, therefore, of the country has rested with Todor Zhivkov, who from 1962 to 1971 was also Chairman of the Council of Ministers (Premier), and currently holds the post of Chairman of the State Council (chief of state). Under Zhivkov, Bulgarian national interests have been virtually identified with those of the U.S.S.R., and Sofiya's policies have closely followed Moscow's lead. The repressive methods characteristic of the Stalinist period have generally persisted, despite some slight moves toward liberalization during the Khrushchev era. Bulgaria in 1971 maintained a reputation as one of the most orthodox Eastern European regimes.

The BCP maintains a monopoly of political power, but at least until the mid-1960's internecine struggles and tenacious factionalism plagued the higher leadership circles. Zhivkov's efforts to consolidate his personal position were long bedeviled by rival contenders for power, among them Yugov and the arch-Stalinist Chervenkov. The latter was the most formidable opponent Zhivkov faced, and Chervenkov's final ouster from the ruling clique came a full 8 years (in 1962) after his loss of the top party position (1954) and the relinquishment of the premiership (1956). Soviet support was, as it has continued to be, the essential factor in the struggle for power. The fall of Khrushchev in 1964 and an abortive antiregime conspiracy in Bulgaria 6 months later placed Zhivkov's leadership in doubt, but he quickly



regained the confidence of the new Soviet party leader, Leonid Brezhnev, and in 1971 he appeared to have greater command over Bulgarian affairs than at any time following his assumption of power.

The impact of a quarter of a century of Communist rule on the domestic institutions and traditional ways of life has been sharp and painful to many Bulgarians. The regime's continued attempts to bring all aspects of daily life, including the individual's social activities, under pervasive controls have aroused popular resentment and passive resistance. The effort to reorient traditional values has been troublesome for a population little removed from the tenets of the Orthodox religion's piety or the strong familial loyalties of a peasant society. Attempts to engender atheism among the populace, a major imperative of Marxism-Leninism, have been modified by the regime's ancillary desire to preserve the Bulgarian Orthodox Church as a useful tool of controlled, regime-inspired nationalism. Such careful nurturing of national pride has been employed by the regime to aid in its political consolidation and to stimulate economic growth, but this effort has been complicated by Sofiya's self-admitted, long-standing dependence on the U.S.S.R.

The vast majority of the Bulgarian people, with their generally apathetic attitude toward Communist ideology, have accommodated themselves to the Communist regime and probably will continue to do so. Bulgarians have traditionally manifested an acceptance of authority, a characteristic that has been bolstered by the frustrations and defeatism resulting from being on the losing side in both World Wars. Moreover, the Communist aim of industrialization and some of the regime's public welfare policies, such as medical benefits, social security, and free education, have received popular support.

## **B. Structure and functioning of government (U/OU)**

Immediately upon seizing power in September 1944, the Communist regime embarked upon a program designed to replace prewar political forces and institutions with those molded along the Soviet pattern. With the help of the Soviet occupation forces, it eliminated all political opposition within 3 years. The traditionally influential Democratic and National political parties were quickly infiltrated, disrupted, harassed, and then ruthlessly forced out of existence; the powerful Agrarian Party was allowed to exist only under the control and direction of the Communists.

As in other Communist-ruled countries, the structure and functioning of the Bulgarian Government is determined by and subordinated to the interests of the ruling Communist Party. The party, exercising a monopoly of power, formulates all political, economic, and social policy. The party's "leading role," established by the Constitution, thus enables it to use the government structure as the principal tool for supervising the implementation of policy at all levels and for imposing the party's will on the people. Supreme



**FIGURE 41. Todor Zhivkov, First Secretary of the Bulgarian Communist Party since 1954 (C)**

authority in both party and government is vested in Todor Zhivkov (Figure 41), who is simultaneously the First Secretary of the party and chairman of the State Council, i.e., head of state. Similarly, a group of Zhivkov's top assistants forms the main line of command in both party and government councils and, together with the frequent practice of announcing national policy in joint decrees of the party and the government, illustrates the integration of the party and government structure.

### **1. Constitution**

With the consolidation of Communist rule, the regime canceled the Turnovo Constitution of 1879—which to many authorities was at the time of its drafting one of the most democratic constitutions in the world. In its place the regime adopted in December 1947 the so-called Dimitrov Constitution, patterned after the Soviet Constitution of 1936. It became known as the Dimitrov Constitution because of the then dominant influence of Georgi Dimitrov, the former Secretary General of the Communist International, who returned to Bulgaria from Moscow in 1946 to establish the new Communist regime.

With only minor amendments, the 1947 Constitution remained in effect until 1971, when the regime published and adopted a new basic law after a decade of drafting effort. The 1971 Constitution is not radically different from the earlier document, merely formalizing in law the changes in practice that had evolved since 1947, and further emphasizing the party's primacy over all spheres of national life. The major structural change made by the new Constitution is the formation of a powerful State Council, replacing the Presidium of the National Assembly as the country's chief executive organ, and as a theoretically collective "presidency." As was the case with its predecessor, the State Council is selected by the National Assembly from its membership. Changes of lesser importance include the open acknowledgment that

the Communist Party is the "leading force" in society; the provision that Bulgaria's alliance with the U.S.S.R. is the cornerstone of the country's development; and the designation of the People's Republic of Bulgaria as a "socialist state," without, however, formally changing the official name of the state. Because these changes are portrayed as reflecting Bulgaria's "high stage of socialist development," they are ideologically important to the party's self-image, but they neither enhance nor detract from its established monopoly of power.

The 10 chapters and 139 articles of the 1971 Constitution may be grouped into five broad categories: sociopolitical system, socioeconomic system, rights and obligations of citizens, structure of the government, and miscellaneous articles dealing *inter alia* with the capital, flag, coat of arms, and the state seal. According to the Constitution, all power emanates from the people and belongs to them. This power theoretically is exercised by direct balloting *in.d.*, subsequently, through elected representative organs.

Like its predecessor, the 1971 Constitution provides for executive, legislative, and judicial organs of government. There is no provision, however, for a separation of powers as in the United States, nor would such a provision be meaningful in view of the Communist Party's avowed and genuine control over the governmental structure as a whole. The legislative branch of the government, the National Assembly, is described as the supreme organ of state authority. The State Council, which also functions as the assembly's standing executive body, does most of the legislative groundwork. Aside from the National Assembly committees, which perform some year-round legislative tasks, the activity of the National Assembly is limited to brief sessions when it formally approves legislation and decrees already put into effect by the State Council. The 1971 Constitution provides for such National Assembly sessions at least three times a year, an increase of one over the semi-annual meetings required by the 1947 Constitution. If one-fifth of the members so desire, the assembly may be convoked in special session. The State Council is called the supreme organ of the National Assembly and the supreme "permanently acting" state organ. It wields power in the name of the National Assembly and, according to Article 93, exercises "general leadership of the state's domestic and foreign policy" while the National Assembly is not in session.

The question of the constitutionality of an existing law has never been raised, nor does the Constitution provide for judicial review of legislation. Article 85 of the Constitution provides that the National Assembly alone has the right to decide whether all requirements of the Constitution have been observed in the making of a law and whether the law is contradictory to its provisions. The Constitution assigns the function of "interpreting" laws to the State Council, which also has the theoretical right to repeal executive orders that contradict the Constitution. Far from being a meaningful constitutional safeguard, these provisions merely underscore the existing

prerogatives of the State Council in arbitrarily initiating, implementing, or annulling legislation.

Like its predecessor, the new Constitution stipulates that judges are independent, being subordinate "only to the law." Judges, however, are elected by local government bodies from lists of candidates prepared by the Ministry of Justice and approved by the BCP. In essence, therefore, the Bulgarian legal apparatus continues to function as an extension of party authority.

Typical of a Communist-state system, and in line with a Bulgarian tradition of centralism, the central or national government bureaucracy completely dominates local government. The organs of local government (people's councils) are constitutionally defined as "organs of state rule and people's self-government." In reality, the powers and functions of local government are delegated and delineated by the central authorities, while its organization is that of a highly structured hierarchy. The clear subordination of each local government body to the next higher echelon is spelled out in Article 120 of the Constitution, which grants district people's councils authority to repeal "illegal or incorrect" acts of councils on the communal level. The ultimate authority of the central authorities over the entire local government structure is defined further in Article 120 which gives the Council of Ministers authority to resolve disputes between central administrative organs and executive committees of district people's councils.

The Constitution nominally grants to the people the following "basic rights": freedom of speech, assembly, and press; equality before the law; freedom of religious worship; universal suffrage and the right to hold public office for all citizens who have attained the age of 18 years (with the exception of those deprived of political rights); secret ballot; inviolability of the home and person (except on the basis of extant laws); and the right to form organizations (with the exception of those which propagate "Fascist or antidemocratic" ideologies).

Both in theory and practice, however, the Bulgarian citizens' constitutionally defined freedoms are open to abridgement by both governmental decrees and the caprice of officials. The police can legally forbid any public meeting. The formation of political parties and organizations is subject to the legal requirement that all public organizations be registered with the police. Freedom of the press is guaranteed only to public organizations, and freedom of religious worship is sharply limited. Religion, for example, cannot serve as grounds for refusal to fulfill obligations imposed by the Constitution or laws.

Amendments to the Constitution can be proposed by the State Council, the Council of Ministers, or at least one-fourth of the National Assembly, where adoption requires a two-thirds vote. The Constitution expressly permits the enactment of legislation altering official procedure. Special laws have already been passed to establish larger administrative units; to create, abolish, merge, or rename ministries; and to specify the rules

governing the election of judges and to refine and amplify the criminal and civil codes.

**2. Structure of government**

**a. NATIONAL ASSEMBLY**

The National Assembly is a unicameral body composed of 400 delegates popularly elected for a 5-year term. Of the deputies elected to the Sixth National Assembly in June 1971, about 66% were members of the BCP, and 25% were members of the Agrarian Union (BZNS), which is controlled by the BCP. The remaining 9% included a number of members representing the Komsomol youth organization and a handful of "nonparty" delegates. Since the BZNS members represent more than one-fifth of the total delegates, they are able, according to the provisions of the Constitution, to convoke the National Assembly on their own initiative. The assembly, however, has never been convoked in this manner since the Communist takeover of Bulgaria.

Although the 1971 Constitution stipulates that the National Assembly is "the sole legislative body, it actually performs little legislative work, and its three mandatory sessions a year are of only 2 or 3 days' duration each. As indicated above, the activities of the assembly are largely confined to the formal approval of the decrees issued by the State Council after having been prepared in advance by the Council of Ministers or by the BCP Politburo. Legislation encounters no opposition as such when presented for formal approval by the legislature. The assembly also ratifies major appointments made by the chairman of the Council of Ministers and the State Council.

The assembly thus continues to perform the role of a rubberstamp, contrary to press claims of its broadened powers and responsibility. The right of legislative initiative rests with many different agencies, both within and outside the formal structure of government, a fact which further negates even the theoretical legislative powers of the assembly. Under the 1971 Constitution legislation may be proposed by the State Council, the Council of Ministers, the Supreme Court, the permanent commissions of the National Assembly, and the central organs of major mass organizations. The right of debate and discussion—although enshrined in the new Constitution—is severely limited by the short duration of the assembly sessions. Some departure from the normally rigidly controlled sessions of the assembly was observable in the late 1960's, but such more lively meetings have since then proved to be the exception.

**b. STATE COUNCIL**

The State Council is a standing body nominally elected by the National Assembly and responsible to it. As with all other government bodies, the State Council is in fact completely subservient to the Communist Party. The State Council has considerably more constitutional authority than its predecessor (the Presidium of the National Assembly), and there are strong indications that, particularly with Zhivkov at its head, it will become the most influential government body. As initially constituted in July 1971, the council is composed of 23 members including a chairman (Todor Zhivkov) who is

ex officio head of state, a first deputy chairman, three deputy chairmen, and a secretary. Billed as the "supreme and permanently acting organ of state rule," the council has extensive theoretical powers, including the overall leadership of the country's defense and security, representation of the country in its international relations, and the enactment of legislation when the assembly is not in session. The State Council's authority in foreign relations extends to the appointment and recall of Bulgarian representation abroad, establishment of diplomatic ranks, and the ratification of international treaties. The latter power is exercised by the State Council on a permanent basis, even during the few days the assembly is in session. When the National Assembly is not in session, the State Council may declare a state of war in case of armed attack, decree general or partial mobilization, and appoint and dismiss the armed forces supreme command and the members of the State Committee for Defense. One of the State Council's most important executive functions is that of supervising the activities of district and local administrative organs—the district and community people's councils—a power that is shared, however, with the Council of Ministers. It is empowered to abrogate their acts if it finds them unlawful and to dissolve people's councils or to remove their executive officers.

**c. COUNCIL OF MINISTERS**

The Council of Ministers (cabinet) is defined by Article 98 of the Constitution as the principal executive and administrative organ of state rule. As such, it directs the daily affairs of state by supervising and controlling the operation of the numerous ministries and other executive agencies of government and oversees generally the implementation of governmental policy in accord with guidelines established by the party hierarchy.

In early 1972 the Council of Ministers, in addition to Premier Stanko Todorov, two first deputy premiers, and five deputy premiers, consisted of 20 ministers with portfolio, and three heads of committees with ministerial rank with the following areas of responsibility:<sup>7</sup>

**Ministries:**

Agriculture and Food Industry	Internal Affairs
Architecture and Public Works	Internal Trade and Public Works
Construction and Construction Materials	Justice
Finance	Labor and Social Welfare
Foreign Affairs	Light Industry
Foreign Trade	Machine Building
Forests and Environment Protection	National Defense
Heavy Industry	National Education
Information and Communications	Public Health
	Supply and State Reserves
	Transport

**Committees:**

- State Planning Committee
- Committee for Science, Technical Progress, and Higher Education
- Committee for Art and Culture

<sup>7</sup>For a current listing of key government officials, consult *Chiefs of State and Cabinet Members of Foreign Governments*, published monthly by the Directorate of Intelligence, Central Intelligence Agency.

The Constitution empowers the National Assembly to create new ministries and to abolish, merge, or rename existing ones. Individual members of the Council of Ministers are nominally appointed and dismissed by the National Assembly, or, when the assembly is not in session, by the State Council "at the recommendation of the Premier." In the latter case, final approval is supposed to be secured from the assembly. Deputy ministers and administrative heads at the subministerial level are appointed by the State Council without the need of assembly approval. In practice the composition and structure of the Council of Ministers is predetermined by the party, with the National Assembly automatically approving the Premier's recommendations. Numerous committees, commissions, and independent agencies whose chairmen are not accorded ministerial rank swell the relatively large bureaucracy of the central government.

#### d. LOCAL GOVERNMENT

Local government is based on a two-level system of people's councils—the *okrug* (district level) and the *obshchina* (municipality; community or commune level)—which exercises authority over corresponding areas of the country's administrative-territorial divisions. In mid-1971 there were 28 administrative *okrugs* (inset on Summary Map) in Bulgaria (one of which was the capital city, Sofiya) and 1,095 *obshchina*, of which 977 were rural and 118 urban communes. The city of Sofiya is divided further into *rayons*. The Constitution allows for the creation of other administrative-territorial units. Deputies of the people's councils are elected for 2- and 3-year terms from candidate lists prepared by the party-dominated mass organization, the Fatherland Front.

Deputies of a people's council elect from among themselves an "executive and managerial" body called the executive committee, which is in continuous session and carries on the work of the council between its sessions. "Party groups" are attached to the executive committees to insure party control at the local level.

*Okrug* people's councils are required by the Constitution to meet at least four times a year, and the *obshchina* and city *rayon* councils not less than six times a year. Extraordinary meetings may also be convoked, usually at the initiative of the council's executive committee. At the district level, people's councils are assigned broad responsibility for management of the district economy, and for health, education, cultural, and social matters. Through their own executive committees, district councils control and direct the activities of planning and construction organizations, of state farms, of locally important industrial enterprises, and of wholesale and retail commercial establishments. They formulate and administer their own district budgets (within the framework of the overall state budget), provide leadership for the cooperative farms, and share in the coordinated direction of the economic activities of cooperative farms and of enterprises.

The executive committees of the people's councils on each level are subordinate to the next higher level

executive committees and, through them, to organs of the central government. The central government (the Council of Ministers and the State Council) has the right to abrogate measures of executive committees of people's councils, a frequent way in which disputes arising between the central authorities and executive committees of *okrug* people's councils are resolved by the Council of Ministers.

#### e. JUDICIARY

Although the Constitution states that "judges and people's assessors (lay judges) are independent and subordinate only to the law," the entire court structure, the bar, and the state prosecution are viewed by the regime as component parts of a system designed to protect "socialist legality," that is, to administer such "justice" as is in the interest of the state. Indeed, the subordination of the judiciary to the party is underscored by the constitutional provisions that the Supreme Court, which supervises the activity of the entire court system, is "accountable" to—i.e. controlled by—the National Assembly and, when the assembly is not in session, to the State Council. Since the assembly is controlled by the Communist Party working through the State Council, the "independence" of the judiciary is clearly a sham.

The hierarchical structure of the court system comprises a Supreme Court at its apex, about 12 regional or district courts, numerous communal courts, people's courts, and special courts such as military courts and transportation courts. According to the Constitution, members of the Supreme Court are elected for a 5-year term by the National Assembly to which they are accountable. Judges and assessors (lay judges), of all lower courts are elected by the appropriate people's councils. The new Constitution of 1971 does not make clear whether judges sitting on people's courts will continue to be elected directly by registered voters as hitherto. In theory, judges are responsible to the bodies which elect them. In actual practice, however, the entire judicial system is centralized under the Ministry of Justice, which selects prospective judges for the bench at all levels, appoints all judicial personnel except judges, and supervises all judicial personnel and initiates disciplinary action against them.

People's courts are the courts of first instance for petty civil cases, criminal cases except crimes against the state, and juvenile cases. Decisions and sentences of these courts are reviewed by district courts. Each people's court is presided over by one professional judge and two lay judges.

District courts try civil cases concerning marital, inheritance, and adoption questions, large civil claims against state enterprises, and crimes against the state committed by private citizens. Decisions and sentences are reviewed by the Supreme Court. One judge and two lay judges preside over each district court.

The Supreme Court tries in the first instance crimes against the state committed by state officials. It may also assume jurisdiction over any civil or criminal case which

originally came before either a people's or a district court. The chairman of the Supreme Court may reopen any case, even after judgment or sentence has become valid. In contrast to the U.S. system, interpretation of laws and testing of their constitutionality are not functions of the Supreme Court, nor of any segment of the judiciary. By constitutional decree, the State Council interprets the laws and the National Assembly alone rules on their constitutionality.

There are three special court systems: the military court system, which includes military courts of the Ministry of Internal Affairs; transportation courts; and comradeship courts. Military personnel, civilians employed by military establishments, and civilians who commit crimes as accomplices of military personnel come under the jurisdiction of the military court system. Transportation courts try workers and officials of the Ministry of Transportation who commit "socially dangerous" crimes in connection with their work. In 1960 a system of quasi-judicial comradeship courts was established and given the right to decide cases of a private nature and minor offenses against public order and discipline. These courts have only limited power to impose and enforce judgment and sentence, which normally consists of varying degrees of social opprobrium and pressure.

A key figure in the judicial system and law enforcement agencies is the Chief Prosecutor, who supervises the district, municipal, and communal (*rayon*) public prosecutors. The Chief Prosecutor, elected to a 4-year term by and theoretically responsible to, the National Assembly, is in practice an instrument of the party for suppression of political opposition. In theory both the lower courts and the public prosecutors are subject to overall supervision by the Supreme Court, but the prosecutors, in cooperation with the regular and secret police, actually dominate the entire judicial process.

The legal code includes the right of appeal, and from time to time decisions of lower courts are overruled on various grounds, including that of arbitrary judgment.

### 3. Legal codes and penal system

#### a. CRIMINAL CODES

On 15 March 1968 the National Assembly adopted a new Penal Code, in preparation since 1963, which superseded the old Penal Code of 2 February 1951. The 1951 code, Bulgaria's first under Communist rule, had replaced the Penal Law of 1896 which was derived from German sources through Hungarian penal law. The most recent penal statute of 1968, as was true of the 1951 code, is patterned closely after Soviet jurisprudence.

The Penal Code of 1968, divided into general and special sections, contains 424 articles. The former sets forth the Communist concept of justice, while the latter enumerates crimes and lists specific penalties. The code differs from its predecessor in the inclusion of a greater number of modern concepts of penology, including parole and pardon (both absent from the 1951 code), and

in the increased emphasis on rehabilitation ("educational measures") and on compulsory medical treatment. At the same time the maximum term of imprisonment has been generally reduced from 20 to 15 years, except for murder and in some cases of recidivism. The death penalty is reserved as an "exceptional measure" in cases involving the "gravest crimes."

The defined objectives of the Penal Code are the protection of the social and legal order of the People's Republic of Bulgaria as well as of the rights of the citizen, protection of the socialist economic system and socialist property, and "educating citizens to observe the rules of society." Protection of the individual rights is a new theme, absent from the old code but found throughout the new document. Thus, the definition of a "socially dangerous act" has been expanded to include actions that endanger or harm individual rights in addition to the hitherto specified actions against the state and its social and legal order. The essentially propagandistic value of these changes is perhaps illustrated by the addition of a chapter in the special section entitled "Crimes Against the Rights of Citizens," even though this chapter contains no new additions to the old code.

Under the 1968 code the most severe sentences are reserved for such political crimes as high treason, espionage, diversionary activity, sabotage, and offenses against Bulgaria or another Communist state, which with few exceptions are punishable by 20 years' imprisonment or death. A Bulgarian Communist legal writer has listed political crimes as high treason, espionage, conspiracy, armed riot, terrorist acts, participation in an attempted coup, sabotage, counterrevolutionary agitation and propaganda, providing asylum for a person who has committed a crime against the state, and failure to inform the authorities of a crime against the state.

The code does not differentiate between major and minor crimes (felony and misdemeanor) and merely uses the term crime (*prestuplenie*). Article 9 of the code defines a crime as every socially dangerous act (of commission or omission) which is covertly perpetrated and which is punishable by law. The criminal code also provides punishment for so-called economic crimes against the state; these are defined as acts intended to disturb or undermine industry, transportation, agriculture, the monetary system, or other economic activity, or a failure to carry out entrusted major economic assignments (mismanagement). Such economic crimes are labeled sabotage and are punishable by prison terms of 3 to 10 years, and, in particularly severe cases, by sentences of up to 15 years.

The code of criminal procedure describes the process to be followed from the apprehension of a criminal to the final disposition of the case by the courts. Criminal proceedings are initiated by the investigative agencies (police) and the prosecutor on their own initiative, in response to accusations by citizens, enterprises, mass organizations, or public officials, or as a result of a confession.

#### b. PENAL SYSTEM

The three types of prisons provided for in the 1938 General Regulations for Prisons are still in existence: 1) central prisons for those sentenced to 3 years or more; 2) local prisons for terms of less than 3 years; and 3) special prisons for women, political prisoners, mentally incompetent persons, and juveniles. Forced labor camps (so-called labor rehabilitation camps), first created in 1945, were originally regulated by the provisions of the 1948 Militia Law (Articles 52-55), but a 1955 Decree on the Militia made no mention of such camps, probably because of the post-Stalin thaw and the regime's allegations at that time that the camps were being eliminated. They still exist, however, and amendments made in 1956 to the code of criminal procedure mention prisons, prison camps, and corrective homes. Many of the labor camps as well as the prisons provide labor for specific projects; their primary purpose, however, is confinement of politically unreliable elements. The Bulgarian Government provides no statistical information on the number of prisons and labor camps or the number of inmates, and no manner of making reliable estimates is known.

### C. Political dynamics (C)

#### 1. The political system

Communist rule imposed on Bulgaria in the aftermath of World War II resulted in the destruction of prewar political, social, and economic patterns, the elimination of all genuinely free political organizations, and the establishment of a rigid, Soviet-style political framework. Prewar political parties were either not permitted to resume their activities after the war, or they were eliminated as meaningful, independent entities during the postwar consolidation of Communist power. The latter applied to the Agrarian Union Party.

Throughout the postwar period, therefore, Bulgaria has been a one-party dictatorship in a modern totalitarian state. The Bulgarian Communist Party (BCP) has been formally acknowledged "the leading force" in the "society and state" by the 1971 Constitution, and the only other political party—the National Agrarian Union (BZNS)—has been depicted as working "in close fraternal cooperation" with the BCP in building a developed socialist society. The BZNS, however, is a mere shadow of the dominant pre-World War II party of the same name. With a membership of 120,000 in 1971—a figure which has not changed in several years—the BZNS is wholly controlled by the BCP, and in most respects should be considered as another Communist-run mass organization rather than as a political party. Its organizational structure closely parallels that of the BCP.

There exists no postwar legislation dealing specifically with the role of political parties. The Constitution guarantees all citizens the right to form organizations for political and other purposes (Article 52), but adds that such organizations cannot be directed against the socialist system or advance "antidemocratic" programs.

Although this provision theoretically sanctions the continued tolerance of a nominally multiparty system, the reality of unquestioned Communist power makes the right of citizens to organize for political expression meaningless. Similarly, the apparatus of the state can be viewed as a bureaucracy parallel to, but under the control of, the BCP; the country's National Assembly as well as its local government system are thus used primarily as forums from which the party's policies are explained to the nation. A similar function is served by the selected mass organizations which together form the so-called Fatherland Front. The chief task of the Fatherland Front is the presentation of a single list of Communist-approved candidates at election time and the conduct of pre-election propaganda. Thus, in spite of the apparently real concern of the Communist leadership for the observance of political protocol in interinstitutional relationships, the locus of political power is unquestionably the BCP's policymaking body, the Politburo, a body unmentioned in the Constitution.

Since becoming First Secretary of the Party in 1954, Todor Zhivkov has weathered purges, intraparty factionalism, and shifts in the Soviet leadership to become head of both party and government at the end of 1962. Since an abortive antiregime conspiracy uncovered in 1965, and particularly since the Ninth Party Congress in late 1966, Zhivkov has increasingly dominated a strongly pro-Soviet regime that has exhibited an unprecedented measure of stability and cohesiveness. The 10th Party Congress in April 1971 symbolized his complete control over all reins of power. Zhivkov has achieved a careful balance in the political makeup of the Politburo, the party's most powerful political body, by co-opting more pragmatic, technically qualified, and usually younger functionaries to serve alongside the older, veteran revolutionaries. The younger group seems self-assured and dedicated to helping Zhivkov reshape the regime along somewhat more pragmatic but no less orthodox lines.

Since 1966 changes in the top leadership have been few, as Zhivkov appears to have overcome the endemic factionalism of the party. At the 10th Party Congress in April 1971 only former Minister of Foreign Trade Luchezar Avramov lost his central leadership positions, perhaps because of a foreign trade scandal uncovered in late 1969. At the congress, Zhivkov demonstrated his full control over the party machinery and there were few personnel changes at the highest (Politburo) level. However, some new blood was brought into the Central Committee, which was expanded from 137 to 147 full members, and the alternate membership was increased from 87 to 110.

The leadership councils of the country in 1971 were under the unquestioned dominance of party boss Todor Zhivkov, who relies to a large degree on his senior lieutenants Stanko Todorov and Boris Velchev. Velchev (Figure 42) is the ranking secretary of the Central Committee after Zhivkov with main responsibilities for cadres and organizational affairs. Stanko Todorov



FIGURE 42. Boris Velchev, Politburo member and second-ranking party secretary (C)

(Figure 43), who is believed to have long handled economic affairs in the secretariat, succeeded Zhivkov in mid-1971 as Chairman of the Council of Ministers (Premier) and no longer has party secretarial duties. Past, unconfirmed reports state that Zhivkov has selected Todorov (age 51 in 1971), as his successor to the top party position in the event of a mishap. Zhivkov—no relation to the party chief—who handled key governmental responsibilities until his demotion in July 1971 from First Deputy Premier to one of six deputy premiers—had been considered as a “comer” because of his age (56 in 1971) and experience in economic affairs. However, his reputedly strong advocacy that Bulgaria



FIGURE 43. Stanko Todorov, Chairman of the Council of Ministers (Premier) and member of the Politburo (C)

attempt to maintain flexibility in foreign affairs may in part have caused the setback to his career.

## 2. Party organization

Organizationally, the BCP parallels the government apparatus and exercises effective control over it (Figure 44). The basic rules for the organization, functions, and membership of the party are contained in the party statutes, adopted in 1945 and revised periodically at party congresses. The statutes incorporate verbatim many of the most important articles of the statutes of the Communist Party of the Soviet Union (CPSU).

As in other Communist parties, the leading organizational principle of the party is democratic centralism. The main elements of this principle include the election of all party leaders, periodic accountability to higher party organs, strict party discipline with subjection of the minority to the majority, and the indisputable and compulsory nature of decisions of higher party bodies. In theory, power flows upward, but, in practice, the centralist aspects dominate. Party positions, for example, are filled by appointment from above, and elections are a mere formality. Every Communist is expected to obey the orders of his superior without question.

The party is organized in accordance with the country's territorial subdivisions, with a central apparatus in Sofiya, and with subordinate organizations in districts and cities. The lowest level is referred to as the basic party organization (*perichna partina organizatsiya*), which varies greatly in size. Each level is generally similar in structure to the next higher level. The representative bodies are the Party Congress for the national party, the conference for the district and communal organizations, and the general meeting for the basic party organization.

### a. NATIONAL LEVEL

The Party Congress, formally designated the supreme party organ, stands at the apex of the party structure. As a collective body, the congress hears and approves the reports of the outgoing Central Committee and Central Control and Auditing Commission, adopts and amends the bylaws of the party, and affirms the party line on basic questions of current policy. It also elects the members of the Central Committee and the Central Control and Auditing Commission. In practice, however, the principal role of the congress is to endorse policy and personnel decisions already formulated by the Politburo and the Central Committee.

Delegates to a congress are usually elected approximately 2 months before its convocation; these elections are *pro forma* inasmuch as the delegates are handpicked in advance by the central party apparatus in consultation with the district, city, or communal officials. The minimum period between congresses was 4 years until 1971, when the BCP followed the Soviet lead and established 5 years as the standard interval. Since the Ninth Party Congress in 1966, the party statutes have provided for convening National Party Conferences between congresses as forums for “more fully using the

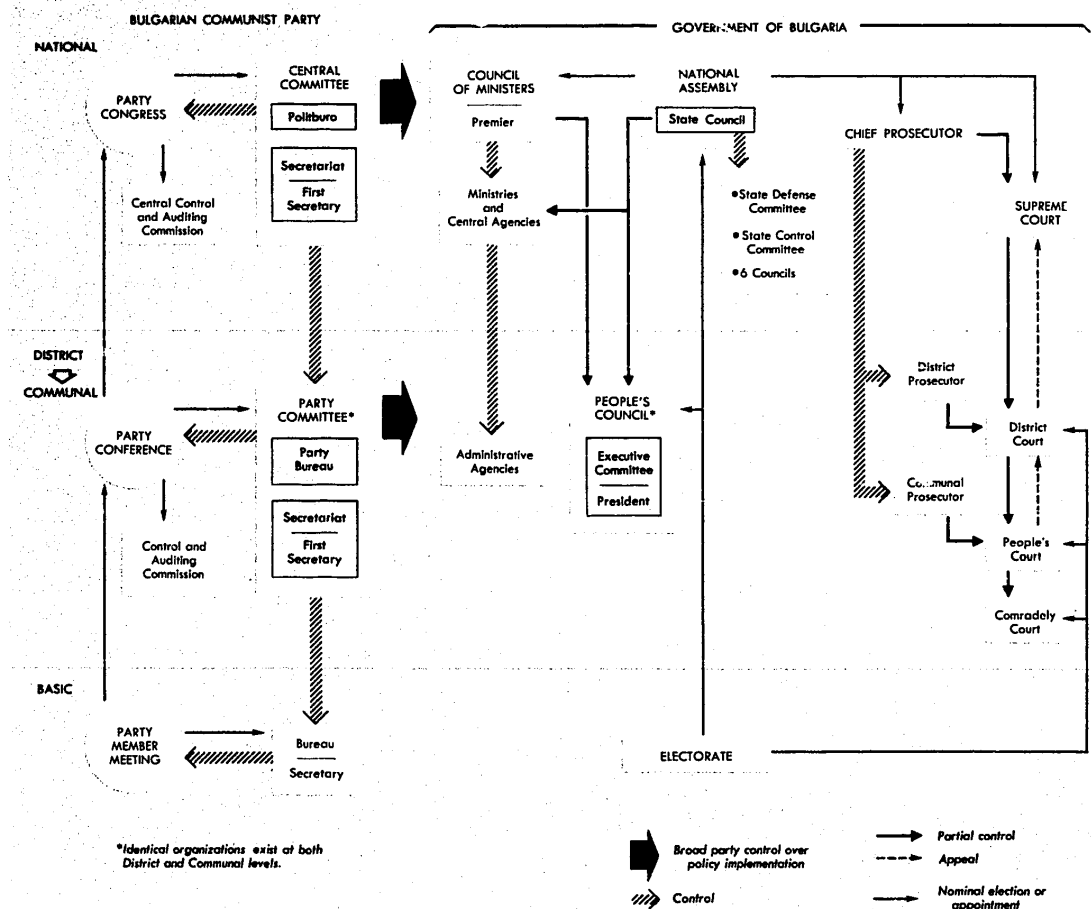


FIGURE 44. Party control of governmental structure (U/OU)

collective mind and experience of the party" on special and important problems. This provision has yet to be exercised. A session of the 10th Party Congress in April 1971 is shown in Figure 45.

The Central Committee is assigned the task of directing the work of the party between sessions. The party statutes state that the Central Committee represents the party in its relations with other parties and public organizations, organizes the various executive agencies of the party and supervises their activity, appoints the editorial board of the party's central press, and maintains central funds. The Central Committee is also supposed to hold plenary sessions at least once every 3 months and to keep lower party organizations informed of its work. Candidate members of the Central Committee can attend plenary sessions but do not have the right to vote.

Like the Party Congress, the Central Committee does not have any decisive power, although individual Central



FIGURE 45. Session of the 10th Party Congress, April 1971 (C)



Committee members are politically influential. The size of the Central Committee, as fixed by the various congresses, has increased through the years:

PARTY CONGRESS	FULL MEMBERS	CANDIDATE MEMBERS	TOTAL
Fifth (1948) .....	47	28	75
Sixth (1954) .....	65	32	97
Seventh (1958) .....	89	48	137
Eighth (1962) .....	101	67	168
Ninth (1966) .....	137	87	224
Tenth (1971) .....	147	110	257

Of the 147 full members of the Central Committee elected in 1971, 106 were reelected and 41 were newly elected; of the 110 candidate members, 68 were newly elected. Some emphasis on "youth" is evident in the composition of the 257-man Central Committee, as shown in the following tabulation:

AGE	1966	1971
Under 40 .....	11	33
41-50 .....	95	117
51-60 .....	80	79
Over 60 .....	38	28

Thirteen percent of the Central Committee's full and alternate members now are under the age of 40, a

significant increase over the 5% of the membership in this age group after the last Party Congress in 1966. The new members, however, have not changed the overall dominance in the Central Committee of Zhivkov's associates from the partisan days of World War II. Fully 61% of the members of the new Central Committee were active in party work before the 1944 takeover.

The Central Committee elected in 1971, like its predecessor, is made up of about 30% party functionaries, 40% national and district government administrators, 10% military personnel and 10% personalities in art, culture, and science. There is token representation from economic amalgamations and mass organizations such as the trade unions and women's groups.

The real locus of political power in the Bulgarian Communist Party is the Politburo, whose members—many of whom simultaneously hold top government positions—are the dominant political figures of the country. The Politburo exercises control over the party, and formulates all national policies concerning defense, internal security, political, social, and economic affairs. Figure 46 illustrates the interrelationship of top positions in the party and government.

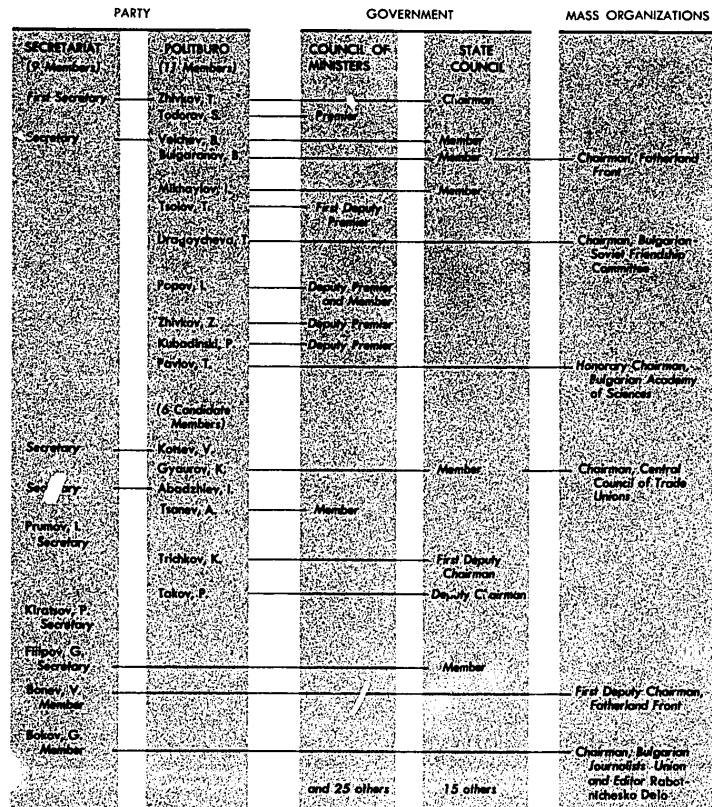


FIGURE 46. Members of the Politburo and Secretariat and their positions in the government and mass organizations (U/OU)

Although formally elected by the Central Committee, the composition of the Politburo is in reality determined principally by the Party First Secretary and, secondarily, by the Politburo members themselves. There is little evidence to indicate how the work of the Politburo is organized, or what its precise relationship is to the other leading bodies of the party.

At the 10th Party Congress in April 1971 almost the entire Politburo was reelected *in toto*. Only alternate member Luchezar Avramov, former Minister of Foreign Trade, was ousted, presumably for deficiencies connected with the foreign trade scandals uncovered in late 1969. The Politburo in 1971 has in its 11 full members and six candidate members a still considerable representation of the older Communist generation, but it seems to be dominated by the younger, more technically oriented supporters of Zhivkov. Such energetic personalities as Pencho Kubadinski, Tano Tzolov, and Ivan Popov have held full membership in this body since 1966, Popov having been elevated to the Politburo without prior membership in the Central Committee. This emphasis on vigorous technocrats is also strongly evident in the promotion of Venelin Kotsev to candidate Politburo membership, replacing Luchezar Avramov. At the same time, however, veteran members such as Ivan Mikhaylov and Boyan Bulgaranov were retained. In 1971 four of the full members were over the age of 70 and the average age of the Politburo members was 63.

The Secretariat of the Central Committee in 1971 was composed of seven party secretaries (four of whom were also Politburo members) and two other high-ranking party officials designated as "members" of the Secretariat. Although the party statutes do not define the structure of the Secretariat, prior to 1966 only party secretaries belonged to this body. Led by Party First Secretary Zhivkov, the Secretariat is charged with implementing the Politburo's decisions within the party and effectively supervising their implementation by the government bureaucracy. The Secretariat carries out these tasks through various functional departments within the Central Committee, one of the most vital of which is that controlling personnel assignments.

The effectiveness of rigidly centralized party and state rule in Bulgaria depends to a large extent upon the chain of secretariats which exist at all levels of the party structure. These secretariats serve as transmission belts for instructions and directives at each level of party and government organization, and as control organs over the selection of delegates to party conferences and congresses. Each secretariat is subordinated to the secretariat above and is bound under the principle of democratic centralism to execute all superior directives without question.

#### b. DISTRICT AND COMMUNAL LEVELS

Party organization at the lower levels closely follows the country's administrative structure. There are 27 district organizations, a separate organization for Sofiya, and approximately 1,100 communal organizations for communities of widely varying sizes. All organizations

are responsible to the party's central apparatus. Main party headquarters is shown in Figure 47.

The supreme body in party organizations at the district and communal levels is, in theory, the conference and, when the conference is not in session, the committee (the counterpart of the Central Committee at the national level). The party statutes require that district party conferences be held at least once every 2 or 3 years, and that lower level party organizations—at the city, rayon, municipality, plant, office, and similar levels—must coordinate the timing of their party conferences with the district meetings. The principal functions of these "accountability and election" conferences are to elect committees and auditing commissions, to hear and approve their reports, and to discuss party, state, and economic work in the respective administrative-territorial area. Communal conferences elect delegates to district conferences which, in turn, elect delegates to the Party Congress. Although the election of delegates to the conferences by party members at the lower level gives the appearance of a democratic process, control over the selection of delegates is always exercised from above.

The basic party organizations (cells), constituting the lowest echelon, exist in schools, industry, agriculture, the armed forces, and in the state apparatus. Their size varies from three to about 300 members, with the larger organizations being subdivided into sections. These basic organizations are responsible for mobilizing workers for plan fulfillment, for recruitment of new members, and for ideological indoctrination of the youth. They are an important basis for the party's control structure since they work directly with the rank and file as well as with nonparty individuals.

Prior to 1971, secretaries of basic party organizations were required to have been party members for at least 3 years. The repeal of this provision at the Tenth Party Congress was evidently intended to ease the selection of qualified secretaries, especially in rural areas.

#### c. MEMBERSHIP

BCP membership is open to any working Bulgarian citizen 18 years of age or older who does not "exploit the

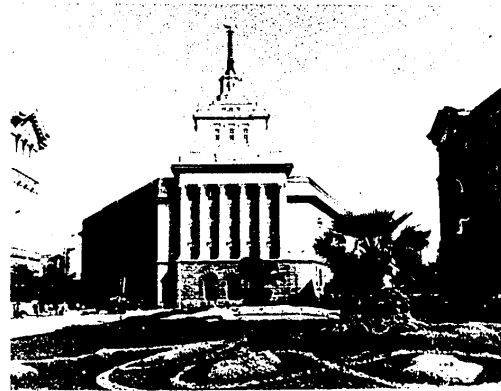


FIGURE 47. Communist Party headquarters, Sofiya (C)

labor of others," who accepts and upholds the party's program and statute, actively works in a party organization for the implementation of party decisions, and regularly pays his membership dues. Party members are recruited on an individual basis; however, applicants who are 18-20 years of age must be members of the Dimitrov Communist Youth Union (Komsomol). All prospective members are carefully screened, and the character, background, and work of the applicants are thoroughly considered. A change in the party statutes at the Ninth Party Congress in 1966, eliminated the previous requirement of candidate party membership as preliminary to full membership.

Membership in the BCP, shown in Figure 48, shows a sharp increase since 1964. Before World War II the party claimed no more than 30,000 members. On 9 September 1944, when the Fatherland Front coalition took over the government, the party claimed only about 25,000 members. The immediate postwar period saw a rapid increase in membership, a result of the party's stress on mass recruitment. The Titoist-Kostovite purges of the late 1940's, however, significantly reduced membership. Since then, membership generally has been on the increase, although there probably was a slight decline after the Eighth Party Congress in late 1962. The apparent reason for this decline was the gradual removal of Stalinists from the party's rank and file.

The acceleration of recruitment of new members in the late 1960's reflects Zhivkov's attempt to broaden the base of party membership. At the 1971 Party Congress he stressed that it is "absolutely natural" that the composition of the party be made systematically younger. He also specified that the "most worthy representatives of the workers, farmers, and people's intelligentsia" must be enlisted into party ranks.

The social structure of the party's membership since 1948 is shown in Figure 49. Two trends are discernible: 1) a steady rise in the membership of the worker and employee groups, and 2) a corresponding decrease in the peasant group. In his report to the 1966 Party Congress, Zhivkov called for an even greater increase in the membership of the worker group and, in so doing, charged that some party organizations had not admitted enough people "engaged in material production." By

FIGURE 48. GROWTH OF THE BULGARIAN COMMUNIST PARTY (U/OU)

YEAR	TOTAL CLAIMED MEMBERSHIP	NUMBER PER 1,000 TOTAL POPULATION
1946.....	490,000	69.7
1948.....	495,658	69.4
1950.....	428,846	59.0
1954.....	455,251	61.0
1958.....	484,255	62.7
1960.....	500,000	63.6
1962.....	528,674	64.9
1964.....	525,444	64.8
1966.....	613,000	73.6
1971.....	699,000	122.6

FIGURE 49. DISTRIBUTION, BY PERCENT, OF BCP MEMBERSHIP ACCORDING TO SOCIAL STRUCTURE (U/OU)

	WORKERS	PEASANTS	EMPLOYEES	OTHER
1948.....	26.5	44.7	16.3	12.5
1954.....	34.1	39.8	17.9	8.2
1958.....	36.1	34.2	21.7	8.0
1962.....	37.2	32.0	23.5	7.3
1966.....	38.4	29.2	32.4	
1971.....	40.1	26.1	28.2	5.6

1971 the number of workers on the party rolls had increased to 40.1% of total party membership.

### 3. Mass organizations

The BCP controls numerous auxiliary or mass organizations which it uses as transmission belts between the party and the population. Through these organizations, the party has been able to maintain political control over all sociopolitical groups; there is scarcely an adult Bulgarian who does not participate to some extent in one or another political, economic, social, or cultural mass organization. Although membership is allegedly voluntary, those who refuse to join are restricted in their activities and are usually regarded as political unreliaables. Statutes of mass organizations generally imitate the statute of the party, and their top leadership consists almost entirely of leading Communists. The most important mass organizations include the Fatherland Front, the Dimitrov Communist Youth Union, and the Central Council of Trade Unions.

The Fatherland Front, headed by aged Politburo member Boyan Bulgaranov, is the largest and most influential Communist-controlled mass organization. The major tasks of the front are to mobilize workers for the fulfillment of production plans and to organize national election campaigns. Other tasks which the front performs are recruiting voluntary labor for farms, afforestation work, and urban park development; popularizing Soviet-Bulgarian friendship; assisting local people's councils to meet their obligations; and, through the system of comradesly courts and commissions, to combat waste, disorderliness, and red tape.

At its 1967 congress, the Fatherland Front reported a membership of 3,768,436 which, according to Bulgarian claims, was 67% of all the voters of the country. Women made up 1,833,000, or slightly more than 49% of the membership. Of the total membership, about 84% had no party affiliation. Yet, of the 1,700 delegates at the congress, 52% belonged either to the BCP or to the puppet Agrarian Union. This clearly revealed the extent of Communist control of the front in that the 16% of the members who were party affiliated accounted for more than half of the delegates to the congress.

The Dimitrov Communist Youth Union (Komsomol or DKMS) in 1970 organized some 1,161,000 young people between the ages of 14 and 28 in a variety of free-time educational, recreational, and cultural activities. Acting

also as a "feeder" organization of the Communist Party, the DKMS provides a forum for political indoctrination and the preliminary selection of potential party stalwarts. Since the late 1960's, the focus of Komsomol activity has been on scientific-technical training and military and patriotic education.

The Central Council of Trade Unions (CCTU) oversees 11 subordinate unions which together organize perhaps 64% of the labor force. As in other Communist countries, trade unions in Bulgaria do not represent the interests of the worker; they serve, instead, as propaganda forums for the regime's economic campaigns and as instruments of government control.

**4. Electoral procedures**

There have been no free elections in Bulgaria since 1931, and no elections with opposition parties participating since 1946. Since the Communist consolidation of power, only candidates selected by the BCP and presented to the people by the Fatherland Front have appeared on the ballot. Balloting is a civic duty, and failure to vote has frequently resulted in loss of employment or other economic sanctions. Both the high participation rates and the results of national elections held since 1949 indicate the rigged nature of Bulgarian elections, as shown in Figure 50.

Preparations for a nationwide election campaign begin several months in advance. Agitation and propaganda teams advertise the forthcoming elections as free and democratic, and public media extoll the achievements of the regime and make optimistic promises for the future. In addition, high party officials address electoral meetings throughout the country and urge the voters to cast their ballots for the single slate of candidates presented by the Fatherland Front.

All citizens 18 years of age and older, except those who have been deprived of civil rights by law, are eligible to vote. Nationality, sex, race, religion, or social class cannot be used to deny a citizen the right to vote, according to the Constitution. Voting is direct and nominally by secret ballot, but it is very often difficult for the voter to dissent. Voters may, but do not have to, use screened polling booths to mark ballots. They must then openly place ballots that contain the single list of candidates into an envelope. The envelope, sealed, is dropped into a ballot box in front of judges. Only one candidate is listed for

each position. The voter's only choice is to strike from the list the names of candidates of whom he disapproves. Because only those voters wishing to do this are likely to use the polling booths—and thus become suspect—even this limited form of dissent is rarely exercised.

At the last national elections held in June 1971—for delegates to the National Assembly, district and people's councils, and courts—all major party leaders were reelected to the National Assembly. The Fatherland Front list of candidates received 99.9% of all votes cast.

**D. National policies (C)**

The principal objectives of the Bulgarian Communist Party since it seized power in 1944 have been the consolidation and maintenance of political power, the ultimate creation of an idyllic "Communist man" inculcated with the regime's values and goals, and the achievement of the transition from "socialism to communism." Domestically, this has meant suppressing opposition to communism and consolidating an initially factionalist regime, and, in foreign affairs, pursuing a course of nearly complete subservience to the Soviet Union.

The stress placed on attaining these goals has resulted in the regimentation of all social groups and the mobilization of basic institutions, including the maintenance of a government monopoly of communications media through which the populace is subjected to a continuous barrage of propaganda. Coercion has been used frequently to enforce the implementation of unpopular policies, to achieve internal uniformity, and to secure acceptance of Communist objectives. The regime has not only used the entire party and government apparatus toward these ends, but it has also relied extensively on "mass" organizations reaching into every sector of society.

Although lagging behind in the liberalizing trend that swept most other Eastern European Communist countries until the invasion of Czechoslovakia in 1968, Bulgaria began in 1965 to shed the cloak of stolid conservatism and dogged Stalinism that characterized the political scene for most of the postwar years. The post-1968 events in Czechoslovakia destroyed the euphoria of liberal expectations in Eastern Europe, and in Bulgaria resulted in an immediate retraction of the minor concessions that

FIGURE 50. ELECTION RESULTS, 1949-71 (U/OU)

YEAR	REGISTERED VOTERS	PERSONS VOTING		VOTES FOR FATHERLAND FRONT	
		Number	Percent of registered voters	Number	Percent of votes cast
1949.....	4,751,849	4,698,979	98.9	4,588,996	97.7
1953.....	5,917,667	4,991,638	99.5	4,981,506	99.8
1957.....	5,218,602	5,206,428	99.8	5,204,027	99.9
1962.....	5,482,007	5,466,517	97.7	5,461,224	99.9
1966.....	5,774,251	5,751,886	99.6	5,747,133	99.9
1971.....	6,168,931	6,159,942	99.85	6,154,082	99.9

in themselves had not yet even become a trend. Domestic political and cultural rigidity, therefore, has tended to overshadow the limited innovative aspects of Zhivkov's economic and foreign policies that had been introduced in the late 1960's. With Soviet approval, the regime has initiated various policies containing elements of Bulgarian nationalism and self-interest. Zhivkov has continued, however, to demonstrate unswerving fealty to the Soviet Union by consulting with Soviet leaders on all major departures from past policy. Frequent political and economic consultations are held, both in Sofia and Moscow. Figure 51 shows Zhivkov arriving in Moscow in late 1970 for one of these routine consultations.

**1. Domestic**

Since seizing power in September 1944, the Communist regime has been almost continually reorganizing and adjusting the economic bureaucracy in an effort to achieve more and better industrial and agricultural production. This tinkering was most evident from 1962-68, a period when the regime initiated a policy of partial decentralization of economic activity. Marked by vacillation and uncertainty, and never developed beyond the experimental phase, the program aimed at lessening the rigidity of centralist planning and management by giving subordinate levels a number of functions and responsibilities. Specific goals included considerable independence for enterprises in the planning process, wider application of profitability as a spur to productivity, and more extensive use of economic levers. Centrally determined compulsory plan indices were reduced; "production committees" were formed to facilitate worker participation in decisionmaking; and greater freedom of action was allotted to foreign trade enterprises.

The reform program launched in December 1965 after almost 4 years of talk, did not abandon central planning, but an attempt was made, at least on paper, to combine central control with increased enterprise independence to permit greater flexibility. These December "theses" indeed were a liberal document, but many of the most advanced features were never implemented and the entire program was overtaken by events elsewhere in Eastern Europe.

At the party plenum in July 1968 party leader Zhivkov outlined a "new" blueprint which rejected the concept of "planning from below" as stressed in December 1965 and advocated a return to centralized planning. Recentralization has meant, in the industrial sphere, delegating many enterprise responsibilities to state economic trusts (DSO). Since January 1971, the socialized, nonagricultural sector of the economy has been run by approximately 70 state trusts, while the formerly independent enterprises have become branches of the DSO. In the agricultural sphere the counterparts of the DSO are the huge "agricultural-industrial complexes" created in 1970 and 1971 to link directly agricultural-related industry to large specialty farms. Some 170 complexes now dominate the agricultural sector.

Collectivization of agriculture was essentially completed by 1958, with all but 1% of agricultural land brought into the socialized sector. Over 80% of gross agricultural output originates on collective and state farms. Much of the country's agricultural output is exported, in part to hard-currency West European markets in order to finance imports. Only a very small amount of agricultural land has been opened up in the last 20 years and there is no new marginal farm land to be developed. The regime has sought more intensive and efficient use of the land by mechanization, irrigation, and the upgrading of the rural labor force. During the Sixth Five Year Plan (1971-75), it is envisaged that irrigated land will be increased by 250,000 hectares, a figure which might be scaled down, however, in order to modernize already existing irrigation systems.

In the industrial sector, the regime has continued to give preferential treatment to heavy industry, and particularly to "those branches . . . which contribute to speeding up technical progress and which yield the greatest economic results." During the 1971-75 plan high priority is to be given to the "complex mechanization and automation" of production processes. By the end of 1975, according to these probably overoptimistic Bulgarian projections, nearly 70% of economic activity is to be computerized. Large amounts of Soviet aid are expected, and, according to some reports, the Bulgarian



FIGURE 51. Soviet leaders Brezhnev (right) and Kosygin (left) greeting Todor Zhivkov in Moscow (U/OU)

automation program is a pilot project for future Soviet efforts in this field.

The consumer goods industry is promised speedy development in the 1971-75 period, but past performance provides grounds for skepticism. A major theme of the Tenth Party Congress in April 1971 was "concern for man," portraying the party's solicitude for the welfare of the consumer. These pronouncements, however, were in large part prompted by the regime's reaction to the Polish workers' riot in December 1970, and were not translated into higher plan goals for consumer-related industry. The draft of the Sixth Five Year Plan approved at the Party Congress in April 1971 was little changed from the version unveiled before the Polish events of the previous December.

After its ruthless destruction of Bulgaria's traditional small and handicraft industries in the early postwar period, the regime in the mid-1960's temporarily eased some of the rigid controls that had prevented their reappearance. By 1970, however, strict controls had once again been reinstated, primarily because many small-scale entrepreneurs had become too successful. Large numbers of artisans had left the "socialist" sector to enter private business, and a high demand for handicraft goods and services had evidently swollen their income. By contrast, concessions made to the peasantry permitting them to cultivate private plots have not been reversed, and Zhivkov himself has paid tribute to the importance of the plots (approximately 10% of the tilled acreage but officially included in the socialized sector) to the country's agricultural economy. The private plots have been an important source (40% of the farmer's income and a significant source of vegetables and meat. Income derived by the peasants from private plots has also allowed the regime to keep agricultural wages very low.

The regime has regimented all labor in support of its economic program by maintaining tight government control of the trade unions and by rigidly planning the full utilization of manpower. In a campaign to improve labor discipline, the regime has been attempting to reduce absenteeism and the prevalence of idle machinery. Regime authorities, however, have also decried management's tendency to shift the blame for laxity to individual workers, and have emphasized that management itself has contributed to production shortfalls through inefficient organization and failure to improve the workers' living and working conditions. The regime has attempted to counter a high degree of labor mobility by implementing wage incentive programs and improving the quality of on-the-job training.

The regime's cultural policies have been characterized by a consistently rigid orthodoxy, punctuated only occasionally by brief periods of respite. Since 1966-67 a vigorous campaign has been waged to "integrate," and thus better control, all cultural workers and creative unions under a ministerial level "public-state" Committee on Art and Culture. By 1971 the committee had set up a network of committees throughout the

country and had jurisdiction over all creative unions except the Bulgarian Writers Union (BWU).

Many classics of Western literature are available in the country, but Bulgarian authorities as a matter of policy carefully screen and control the dissemination of contemporary Western literature. Much of the selection of Western works allowed in the country has centered on material which either directly or indirectly tends to support the regime's anti-Western propaganda. Nevertheless, Western literature has been more evident in recent years, although the Bulgarian reader's diet is still more limited than that of citizens of most other Communist countries of Eastern Europe. Recognizing that even this limited "door-ajar policy" toward the West could result in an influx of "undesirable" influences, Zhivkov has consistently warned the people against "modernism" and "indiscriminate mimicry of decadent bourgeois schools of art." These warnings have become particularly pointed as Bulgaria has continued to encourage its tourist industry.

The regime's emphasis on Bulgaria's historical heritage is intended in part to counter the effect of foreign influences on Bulgarian youth. Alienation from traditional Bulgarian life and society, admiration of what is foreign, and lack of strong patriotic feelings are among those characteristics of Bulgarian youth which are disturbing top party leaders. The increased efforts by the regime, in some cases employing a more realistic and reasonable approach to these problems, have not yielded expected results, however, and have had no discernible success in engendering support for the regime among young people.

Regime policies toward religion are ambivalent. Although actively propagating atheism, especially among the youth, the regime considers it expedient to use existing religious organizations and clergymen for the mobilization of public opinion behind Communist policies and goals. Thus it seeks to harness the nationalistic tradition of the Orthodox Church to Communist goals, while generally tolerating religious services and practices—within limits—as long as the religious leaders cooperate.

As in all European Communist countries, social activities and organizations come under intensive party and governmental direction and scrutiny. Social activities fall within a policy framework which stresses service to the state and society as determined by the party. Heavy stress is placed on indoctrination of young people in Communist ideology through the educational system and youth organizations; linking "education with life" through a polytechnical-oriented educational curriculum; and assimilation of minorities through the expansion of cultural and educational programs.

## 2. Foreign

The formulation of foreign policy is the prerogative of the Politburo and Secretariat of the BCP. The policy is then implemented through the party's pervasive hierarchy within the Ministry of Foreign Affairs. Major

questions of policy are sent by the chairman to the Foreign Policy and International Relations Department of the Party Secretariat for decision or referral to the Politburo. Matters of prime importance are forwarded directly to the Politburo, while on rare occasions an urgent matter can be relayed directly to party chief Todor Zhivkov. The newly formed State Council, headed by Zhivkov, has extensive powers and responsibilities in the field of foreign affairs. Central among these is appointment and recall of Bulgarian representatives abroad, control over the diplomatic service, and ratification of international treaties. Constitutionally, ratification of treaties is also a responsibility assigned to the National Assembly, thereby giving rise to an apparent overlap of authority that has not yet been resolved. Additionally, the Constitution grants to the State Council the general leadership of the state's foreign policy and the charge to represent Bulgaria in its international relations.

Bulgaria's postwar foreign policy has coincided in all important respects with that of the U.S.S.R., and Zhivkov periodically reiterates Bulgaria's continuing loyalty to the Soviet Union. Zhivkov summed up this aspect of Bulgarian foreign policy at the Party Congress in April 1971 when he declared that the BCP and people "were, are, and always will be with the Soviet Union," and that "there is no power in this world capable of diverting Bulgarian Communists from this road of unbreakable friendship." The new Constitution adopted in 1971 formalizes this Bulgarian-Soviet relationship by declaring that the Bulgarian state serves the people "by developing and strengthening friendship, cooperation, and mutual assistance with the Soviet Union and other socialist countries."

Bulgaria's reaction to major international events has given substance to these expressions. The regime quickly followed the Soviet Union in breaking relations with Israel following the 1967 Arab-Israeli war, and it has continued to hold Israel completely responsible for Middle East tensions. Sofiya has also aligned itself with Moscow's line on Vietnam, duly charging the United States with aggression and professing full solidarity with the North Vietnamese. Bulgaria was one of the staunchest supporters of the Soviet-led invasion of Czechoslovakia in 1968, a fact which temporarily cooled Bulgarian relations even with the postinvasion Czechoslovak regime.

Despite the dogmatic position of the government on international issues, many Bulgarians have been inclined toward a more moderate position. They argue that both the Vietnam and the Middle East conflicts have cost the country money and resources which they feel would be better used at home. In addition, Bulgaria has never had a tradition of anti-Semitism, and they fear that the militant anti-Israeli stance of the government might cause anti-Semitism to develop and spread.

On some issues, Bulgaria has been used as a mouthpiece for Soviet policy, as was evident during the U.S.S.R.'s protracted effort to convene an international conference of Communist countries. Party chief Zhivkov surprised the delegates at the Bulgarian Party Congress of

November 1966 by reviving the call for such a conference, and he worked actively for its final convocation in June 1969. Bulgaria has also made Moscow's principal adversary, China, its own primary enemy by periodically criticizing Peking for rejecting joint proposals on Vietnam, for attacking the U.S.S.R., and for its splitting activities within the world Communist movement. This criticism has resulted in a sharp deterioration of Sino-Bulgarian relations, an animosity only slightly lessened by Peking's assignment of a new ambassador to Sofiya in 1970. Bulgaria's role within the Warsaw Pact, its overtures to Albania, and its political efforts in North Africa and the Middle East are also fully in accord with Soviet policy.

In carrying out the dictates of Soviet policy, however, Bulgaria has gradually evolved from the sycophant of the 1950's into a staunch ally in the 1960's, with a more flexible and active policy designed to serve Bulgaria's own national interests as well as those of the Soviet Union. Foreign policy came under intensive review following the antiregime conspiracy in 1965, and in December of that year Zhivkov, in a speech to the National Assembly, pledged to employ all means "to develop economic and cultural relations with all countries and peoples on the basis of equality, mutual advantage, and noninterference in domestic affairs."

Bulgaria's implementation of this policy was nothing less than dramatic for the 2 to 3 years that it was pursued most intently. From 1965 until early 1968 the regime made a concerted effort to improve relations with the West, mainly with Western European states. High-level exchanges took place with every country of Western Europe except West Germany, Spain, and Portugal. Relations with France improved significantly, largely because of the simultaneous interest of the French Government in Eastern Europe. Zhivkov himself visited Paris in October 1966, his first visit to a nonsocialist country.

Contacts with the Western world were sought on a broad but selective front, with emphasis on economic, scientific, cultural, and tourist ties. Bulgarian diplomatic activity during the first 7 months of 1967 alone included economic and political consultations with 28 delegations from various non-Communist countries. As a result of these and other initiatives, agreements for increased trade were signed with Sweden, France, Italy, Egypt, Sudan, Syria, and Iran; joint trading companies were formed with France and Australia; tourist agreements were signed with Norway, Austria, Iraq, and Egypt; and, finally, agreements on scientific, technical, and agricultural cooperation were reached with Iraq, Denmark, and France.

Bulgaria's more vigorous diplomatic activity slowed down in late 1967, and was almost completely stifled for a time following the Soviet-led invasion of Czechoslovakia in August 1968. Many factors account for the foreign policy retrenchment of 1967, among them the increased vehemence of the Sino-Soviet dispute, sharpening differences between the U.S.S.R. and

Bulgaria's neighbor Romania, the accession of a military junta in Greece, and increased polemics with Yugoslavia over Macedonia. Moreover, Bulgaria's foreign trade deficit became increasingly troublesome in 1967, with the largest debt registered in the West German account.

Bulgarian-West German economic relations increased markedly in the mid-1960's, and by 1966 Bonn became Sofiya's fourth largest trade partner and the first among Western countries. At one point in late 1966 Sofiya appeared closer than any other East European nation to establishing diplomatic relations with Bonn. Pressure from the Soviet Union and East Germany forestalled this development, however, and a mounting trade deficit in West Germany's favor led to a steady decline of Sofiya's imports from Bonn. Relations have since continued at a low-key pace, and Sofiya is clearly staying in the background of East-West detente, awaiting the Soviet lead.

Diplomatic relations between Bulgaria and the United States were broken in 1941 because of Bulgaria's alliance with the Axis powers in World War II. Relations were resumed in 1947, but the United States withdrew its diplomatic representation in 1950 after the regime charged the U.S. Minister with espionage activities and with plotting to overthrow the Bulgarian Government. The regime engaged in vitriolic attacks against the United States throughout the early 1950's, although in 1953 it expressed willingness to renew formal relations. With the resumption of relations at the Legation level in 1959, Bulgaria moderated its posture toward the United States, enabling relations to improve somewhat during the early 1960's. This period featured settlement of claims of U.S. citizens arising from war damage and from nationalization of property in Bulgaria, and an increase in cultural and official exchanges.

The regime revived its anti-U.S. policies in 1964, however, following the December 1963 trial of foreign ministry official Asen Georgiev and his execution as an American spy. The pervasive anti-American propaganda that prevailed throughout 1964 gradually diminished despite the strains of the Vietnam war, permitting in November 1966 an agreement to raise U.S.-Bulgarian diplomatic relations to embassy level. Relations have improved little beyond the "cool and correct" level since 1966. Bulgarian efforts to increase exports to the United States have generally been unsuccessful mostly because of the noncompetitive nature of such exports. For its part, Sofiya blames the lack of trade on U.S. unwillingness to extend it most-favored-nation status. Bulgaria's eager participation in the Soviet-led invasion of Czechoslovakia cooled relations with the United States considerably—leading the United States in 1968 and 1969 to refuse participation in the annual Plovdiv trade fair. A certain degree of normalcy, at least, had been reestablished in bilateral relations by 1971, but Sofiya continues to be periodically obstinate and uncooperative, often on seemingly minor issues.

Anti-American propaganda continues at a high level and the regime invests considerable money in insulating

the populace from Western, especially American, influences. Bulgaria alone among the Eastern European countries continues across-the-board jamming of all Western radio broadcasts.

The outstanding bilateral problem between Bulgaria and Turkey has centered on the relatively large (8.5%) Turkish minority in Bulgaria. Emigration of the Turks, although briefly permitted and even forcefully encouraged in 1950-51, had been prohibited throughout the rest of the postwar period. Beginning with the visit of the Bulgarian Minister of Foreign Trade to Ankara in 1965—the first such cabinet-level visit to Turkey since World War II—the atmosphere of relations improved enough to allow substantive negotiations on this issue. An agreement on very limited emigration was formally signed in March 1968. Cooperation between the two countries has proceeded smoothly on a number of other matters, including border controls, health protection, and transportation regulations. The visit to Sofiya in October 1970 of Turkish Prime Minister Demirel inspired a Bulgarian press campaign stressing traditional friendliness between the two countries and was accompanied by the signing of a consular agreement and setting up of a joint economic commission.

Bulgarian-Greek relations long foundered on the "outstanding problem" of payment of Bulgaria's war reparations debt to Greece, fixed by the Paris peace treaties of 1947 at US\$45 million. Haggling over this issue, as well as other problems, had produced no results and a virtual iron curtain existed between the two countries until 1964, when the reparations deadlock at last was broken. A number of other agreements—involving trade, cultural cooperation, tourism, and communications—were signed at the same time, thereby laying the groundwork for better relations. Since 1964 relations have been relatively correct, becoming slightly cooler after the Greek military junta assumed power in 1967 and again after the Soviet-led invasion of Czechoslovakia in 1968. Relations improved, however, in 1970 with the signing of a partial border demarcation agreement and an exchange of high-level visits. In early 1971 Bulgaria made a series of wideranging proposals for extensive economic cooperation between the two countries, whose fruition could significantly improve bilateral relations.

Bulgaria's contacts with the other Eastern European Communist countries have consistently been in line with Moscow's stress on the fraternity and unity of the Communist nations of Eastern Europe. The country has been one of the staunchest advocates of "socialist economic integration" under the aegis of the Council for Economic Mutual Assistance (CEMA). Economic integration with the Soviet Union, from the enterprise through the ministerial and national level, is a real goal, actively pursued, and the subject of daily media exhortations. During 1967 Sofiya renewed its bilateral treaties of friendship and mutual assistance (before their actual expiration) with Poland and the U.S.S.R. and signed a new treaty with East Germany. This was part of



the Bulgarian effort to help Moscow restore the solidarity in Eastern Europe's policy toward Bonn that had been partially broken when Romania unilaterally established relations with West Germany in January 1967.

Bulgaria's relations with Albania are cool because of Albania's support of China in the Sino-Soviet dispute. In July 1968 relations with Albania reached a low point marked by the mutual expulsion of embassy staffs. Relations have improved somewhat, as indicated by the mutual exchange of commercial representatives in early 1969 and of charges d'affaires in late 1970.

Bulgaria has labored to maintain good relations with Romania despite the long period of coolness that began with the award of southern Dobruja to Bulgaria following German occupation of Romania in 1940. Relations between the two countries became quite close and remained so until the mid-1960's, when Romania became more vocal in asserting independent positions within the Warsaw Pact and CEMA. In 1971 relations were fairly good, with the overall tone being set by the state of Soviet-Romanian relations. Sofiya and Bucharest renewed their friendship treaty in November 1970, some 3 years late. The delay was clearly caused by Romanian-Soviet difficulties over the text of their own friendship treaty.

Bulgaria's relations with Yugoslavia have closely followed the Soviet lead, deteriorating immediately upon Tito's break with the Cominform in 1948 and improving at the time of the Khrushchev-Tito reconciliation in 1955. After the Hungarian revolution in 1956 the level of polemics increased markedly until a second rapprochement between Moscow and Belgrade at the end of 1960. Relations fluctuated only slightly during the next 8 years, but deteriorated considerably in the wake of the invasion of Czechoslovakia in 1968, which Yugoslavia, like Romania, vocally opposed. By 1971, little improvement was noted in relations, with the Yugoslavs failing to send an official delegation to the Bulgarian Tenth Party Congress in April.

Apart from being a function of fluctuating Soviet-Yugoslav relations, Sofiya's relationship with Belgrade has been continually colored by the Macedonian problem. As a result of the Balkan Wars of 1912-13 and of frontier changes during and after World War I, Macedonia was divided, as shown in Figure 52 among what are now Yugoslavia, Greece, and Bulgaria. Since then it has been the source of violent debate and controversy among the many factions seeking to establish legitimate claims to all or portions of the area. Yugoslavia looks on Bulgaria's refusal to recognize the existence of a separate Macedonian nationality—claiming that Macedonians are Bulgarians—as a potential threat to Yugoslav territorial integrity. In Bulgaria the issue is exploited for domestic consumption, affording the regime a safe outlet for Bulgarian nationalism without rebuke from Moscow. The Yugoslavs do not believe that Sofiya at present aspires to annex Yugoslav Macedonia by force, but Belgrade is aware that the Bulgarian leadership



FIGURE 52. Approximate division of Macedonia since 1919 (C)

would seek to exploit any eventual opportunity to loosen Yugoslavia's hold over Macedonia in the post-Tito era.

Through late 1967 and early 1968 Bulgaria took the initiative in the dispute, forcefully promoting its claims to Macedonia. In mid-1968, because of festering problems in the Kremlin's relations with Eastern Europe's reformist regimes, the U.S.S.R. took a more active pro-Bulgarian stance in the confrontation. Since late 1969, however, the Yugoslavs have taken the propaganda initiative on the issue, despite some evidence that both Moscow and Sofiya desired at least a temporary abatement in the intensity of the polemics. Thus, in 1971 the future direction of the Macedonian controversy depended largely on Belgrade's assessment of Moscow's intentions vis-a-vis Yugoslavia.

As an enemy of the Allies during World War II, Bulgaria was ineligible for charter membership in the United Nations. After unsuccessfully seeking admission for 8 years, Bulgaria was accepted under the terms of the 16-nation package deal of December 1955 and has since been a firm supporter of the U.S.S.R. in the United Nations. Bulgaria is also a member of the following specialized agencies of the United Nations: International Atomic Energy Agency; International Labor Organization; United Nations Education, Scientific, and Cultural Organization; World Health Organization; Universal Postal Union; International Telecommunications Union; World Meteorological Organization; International Civil Aviation Organization; and the Intergovernmental Maritime Consultative Organization.

The most important Communist nondefense organization to which Bulgaria belongs is the Council for Economic Mutual Assistance (CEMA). The establishment of CEMA was partly in counteraction to the Marshall Plan, but, more important, it was a Soviet move designed to dominate, coordinate, and ultimately integrate the economies of the Communist East European countries and to pool economic experience and technical assistance.

Other Soviet-sponsored international Communist or Communist-front organizations in which Bulgaria is represented are the World Peace Council; World Federation of Democratic Youth; International Union of Students; Women's International Democratic Federation; International Federation of Resistance Fighters; International Association of Democratic Lawyers; World Federation of Scientific Workers; International Organization of Journalists; International Medical Association; and International Radio and Television Organization.

### 3. Defense

Bulgarian military policy is keyed to Soviet defense needs and is coordinated through the Warsaw Pact with the defense policies of the other East European countries adhering to the pact. A major objective is the creation of a large, well-armed defense force to buttress Soviet military forces and to fulfill Bulgarian commitments under the Warsaw Pact. Bulgarian defense policies also include the use of the armed forces as a symbol of national sovereignty and as an agency supporting Communist purposes for the political indoctrination and regimentation of virtually all able-bodied men during their 2-year term of active service. This ideological objective is also furthered by means of a number of youth organizations which provide extensive premilitary training and physical conditioning.

The Bulgarian military establishment is under the control of the BCP. Although national defense policies are formulated by the top elements of the BCP, actual defense planning appears to be conducted on a bilateral basis between the U.S.S.R. and Bulgaria. Faithful implementation of Soviet-formulated defense policies has corresponded to the power interests of the Bulgarian ruling elite. Bulgarian military forces adhere to Soviet training methods and tactical doctrine.

Planned defense expenditures since 1965 have been between 6% and 7% of total expenditures. The actual level of the military effort is difficult to measure because there is price manipulation within the planned economy and concealment of defense allocations under other budgetary headings. Bulgarian defense policies have been largely successful in maintaining and improving the country's military position with respect to nearby potential adversaries.

Bulgaria has taken some measures to provide for defense against chemical, biological, and radiological (CBR) warfare. Publications on the subject have indicated an awareness of the threat, and have emphasized the necessity for defensive measures. Responsibility for CBR defense for civilians is shared by the Ministry of Public Health and the Ministry of National Defense.

The basic task of civil defense in Bulgaria is providing for the protection of the population from weapons of mass destruction. Civil defense policies aim to accomplish this through the evacuation and dispersal of the population from threatened cities, the organization of

medical and veterinarian support, and the protection of water supplies and food products. In the event of attack, local civil defense organizations are responsible for maintaining civil order; insuring, insofar as possible, uninterrupted functioning of industry, transportation, communications, and other vital services; and guiding clearance, salvage, and repair operations of damaged facilities. In peacetime, civil defense work units are used to maintain medical and sanitary facilities, and to provide general assistance in the event of natural disasters.

Both the State Council and the Council of Ministers are responsible for formulating civil defense policy, while direct supervision over civil defense matters probably is exercised by the Ministry of National Defense. The State Committee for Defense, appointed and supervised directly by the State Council, has some central planning duties in the civil defense field. Regulations and instructions issued by the Civil Defense Chief, who along with his staff is appointed by the State Council, are binding on government agencies at all levels and on the general populace. Authority to impose sanctions for noncompliance with regulations is vested in civil defense chiefs at all levels.

Existing laws require that every Bulgarian citizen over the age of 18 undergo civil defense training. Employed citizens are automatically registered at their place of work; unemployed citizens are organized with a local residential block organization. Each block is comprised of several streets depending on the number of houses per street. Each block chairman supervises one secretary, one civil defense specialist and instructor, and five or six squad leaders to direct the activities of their block members in case of an emergency.

Civil defense training is carried out in close cooperation with the military services, the Bulgarian Red Cross, and the Ministry of Internal Affairs. Although compulsory, training is brief and elementary in nature. In 1960 the civil defense organization prepared a manual for high school students describing in a simple manner the nature of biological agents and methods for their dissemination. The publication stressed the need for protection of crops and forests in war, and assigned this task to state and cooperative farms. In 1966 the Bulgarians translated and updated a 1962 Soviet handbook entitled *Civil Defense*. Their printing of 50,000 copies of this publication indicated the regime's intention to make widespread use of it for basic instruction purposes.

Since the late 1950's, underground shelters have been incorporated in the design of certain large apartment developments. However, shelter construction in Bulgaria has probably not been widespread. There have been many open complaints that public shelters are too few, are poorly constructed (faulty ventilation; thin, nonairtight doors), and have little or no equipment installed. In 1962, for example, it was reported that public shelters had been provided for only about 13% of Sofiya's population, a deficiency which could well indicate the low level of investment in shelter

construction throughout the country. There is little evidence to suggest that this situation has changed in recent years. Reports indicate that top officials of the regime are to take refuge, in case of attack, in a series of underground shelters in the Vitosha Mountains, near the Sofiya suburb of Boyana. These shelters are reportedly equipped with independent power units, ventilating systems, food and water supplies, and military stores. A restricted area surrounding the Boyana shelters is patrolled by special guard units, and passes are necessary to enter.

### E. Propaganda programs (U/OU)

The Bulgarian leaders attach considerable importance to a highly developed and pervasive propaganda mechanism designed to influence the Bulgarian population in favor of the regime's domestic and foreign policies and to provide for dissemination of regime views abroad. Moreover, the tight censorship and direct operational control exercised over all information media prevents effective dissemination of views and facts not approved by the regime and insures intensive and ubiquitous propagation of the Communist line within the country.

The press is the most important domestic propaganda medium, but either radio or television ranks a close second. Domestic films, because of the lack of technical facilities and skills, rank fourth in effectiveness. In addition, all educational institutions concern themselves with Communist indoctrination of the youth, while the various mass organizations serve as effective channels for indoctrination of all segments of the population.

The BCP Politburo exercises complete control over the propaganda apparatus. Propaganda directives from the Politburo are normally coordinated with the Party-State Commission for Ideological and Cultural Questions and then channeled through the Propaganda and Agitation Department of the Party Central Committee (the top party agency concerned solely with propaganda) to lower party levels, mass organizations, and agencies of the government. These in turn relay them to their appropriate administrative and operational elements. All informational media are guided by these specific directives, but they are also expected to keep abreast of the propaganda line established in official pronouncements of party and governmental leaders. Despite its complete domination of informational media, however, there is good reason to doubt the effectiveness of the regime's domestic propaganda program. The pervasiveness and exaggeration that characterize the regime's propaganda appears to be generally counterproductive and, according to Western observers, Bulgarians in nearly all walks of life regard the propaganda effort with skepticism and suspicion.

#### 1. Domestic propaganda

The fundamental long-term themes of Bulgarian domestic propaganda are identical to those of other European Communist states. These include the

superiority of the socialist-Communist system over the capitalist system of the West; the eventual victory of socialism and communism over capitalism by means of economic competition; the progressive and democratic character of Soviet political, economic, and social institutions as contrasted with the reactionary and undemocratic nature of similar Western institutions; the "peaceful" aims of the Communists as contrasted with the cold war aims of the capitalist-imperialist world; the improvement in domestic conditions in comparison with prewar conditions; and, the identification of certain national institutions, leaders, and sentiments with the progressive ideals of socialism and communism.

In addition to these basic themes, the regime's propaganda elaborates a number of appropriate specialized subthemes directed at specific special-interest groups within the population. The three major targets are the peasants, workers, and youth. The military establishment and the national minorities are also important target groups. Propaganda directed at all these groups has the same ultimate objective as all domestic propaganda—the achievement of a socially, politically, and economically homogeneous Communist state. Shorter range specialized propaganda is designed to obtain the fullest possible integration of the target group into the so-called new society, as well as its support for Communist objectives.

The effectiveness of domestic propaganda has been vitiated by the constant exposure of the populace to exaggerated claims and boring diatribes. This has been particularly true of propaganda directed at the youth who, attracted by the popular music and general youth culture of the West, has ignored the regime's simplistic blandishments and exhortations. For this reason, the authorities in recent years have attempted—with some success—to modernize the broadcast media in terms of both technical equipment and sophistication of content.

#### 2. Propaganda directed abroad

The primary objective of the regime's foreign propaganda is to contribute to the overall effort of the Soviet-oriented Communist countries to proselytize the Communist system and Soviet-sponsored policies. Secondary objectives of Bulgarian propaganda broadcasts to the non-Communist countries are more self-seeking, and include developing an image of respectability for Bulgaria, and portraying it as a modern country with a rapidly developing economy. Like most other East European Communist states, Bulgaria consistently follows the propaganda lead of the U.S.S.R. on current international issues. Thus, Bulgarian foreign propaganda asserts that only the U.S.S.R.'s foreign policy—invariably described as just and correct—will lessen international tension and preserve world peace. By contrast, Western diplomatic moves and pronouncements are generally characterized as attempts to further imperialist goals and increase international tensions.

Although radio constitutes the major medium through which Bulgarian propaganda is disseminated abroad,

diplomatic and trade missions, cultural exchanges, books and periodicals, and the Bulgarian Telegraph Agency (BTA) are also important parts of the propaganda apparatus. BTA operates in all Communist capitals and maintains branches in nine countries outside the Communist world—Greece, Turkey, Iran, Algeria, Tunisia, Egypt, Argentina, Uruguay, the United Kingdom, and West Germany. Sofiya Press, which purportedly has subscribers in 75 countries, fills its role as an "independent" news agency by disseminating longer, feature materials on Bulgaria.

After a rapid growth in both coverage and volume after the total number of broadcast hours by Sofiya International Service has remained relatively stable between 1967 and 1971. Beginning in 1945 with 17 broadcasts in nine languages totaling about 18 broadcast hours weekly, the country's official international broadcasting output in 1967 totaled about 161 hours weekly in 12 languages. By 1971 Bulgaria was broadcasting about 170 hours weekly in 11 languages, broadcasts in the Macedonian language having been dropped and Serbo-Croatian and Bulgarian-language program hours having been increased. Programs are targeted at audiences in Europe, Africa (especially central and west Africa), the Western Hemisphere, and the Arab world, utilizing six shortwave and three medium wave transmitters. One "clandestine" radio station *Radio Peyk-e Iran*, (the *Iran Courier*), is located in Bulgaria, and broadcasts a total of 25 hours of programs weekly in three languages (Azerbaijdhani, Kurdish, and Persian). Figure 53 provides an overall comparison of Bulgaria's radio transmissions to specific foreign areas.

The changed allocation of broadcast time devoted to specific geographic areas is consonant with Bulgarian and Soviet foreign policy objectives as well as with the ideological competition growing out of the Sino-Soviet dispute. *Radio Sofiya* broadcasts to Arab countries have increased from 3 hours 30 minutes a week in 1956 to 18 hours 30 minutes a week in 1967. Other notable increases in transmission time have been evident in Turkish-language programs which accounted for 21 hours 30 minutes weekly in 1967 as compared with only 5 hours 15 minutes in 1955, and Greek-language programming, which increased to 21 hours 30 minutes a week from 5 hours 15 minutes in 1955. Since 1967, Yugoslavia has been the target of an increased Bulgarian propaganda effort. Thus, Sofiya has increased its Serbo-Croat programming from 4 to 14 hours weekly, and, in keeping with its "nonrecognition" of a separate Macedonian nationality, has discontinued Macedonian-language broadcasts.

**3. Propaganda from Western countries**

Informational activities conducted by non-Communist countries within Bulgaria are negligible because of restrictions imposed by the regime. As a result, information from Western countries reaches Bulgaria primarily in the form of radiobroadcasts. Eight major Western broadcasting services can be heard in Bulgaria, with a combined Bulgarian-language schedule of about

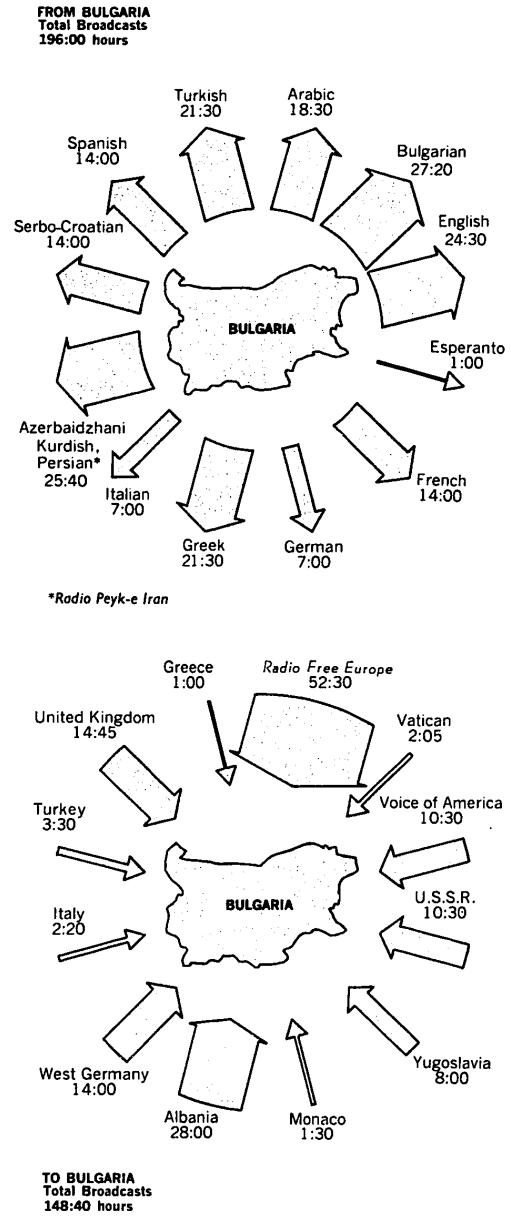


FIGURE 53. Radiobroadcasts to and from Bulgaria, 1971 (C)

148 hours weekly in 1971. The weekly schedule of major broadcasting services in the Bulgarian language to Bulgaria is shown in Figure 53. The regime stopped jamming British Broadcasting Corporation transmissions in the spring of 1964; but as of 1971 Bulgaria was one of the few Eastern European countries still consistently

jamming both *Radio Free Europe* and Voice of America broadcasts.

Western propaganda directed at Bulgaria generally attempts to counter Bulgarian domestic and Soviet propaganda, to exploit the propaganda vulnerabilities of the Bulgarian regime, and to furnish objective information about developments in both the Communist and non-Communist areas of the world. Western radiobroadcasts in recent years have employed an increasingly sophisticated and factual approach in their news and political reporting while simultaneously providing more entertainment and special-interest programs directed to specific groups—youth, workers, and women. This change in emphasis has been in response to Bulgarian listeners who reported that they were most interested in factual, medical, scientific, and educational programs presented in a simple and non-polemical manner.

The effectiveness of foreign broadcasting to Bulgaria is limited by the regime's concerted jamming efforts, especially in major cities where most radio receivers tend to be concentrated, and by the mountainous terrain of the country. It is known, however, that the Bulgarian people listen extensively to Western radio services despite the regime's use of pressure tactics and intimidation.

#### F. Threats to government stability (S)

Bulgaria has virtually no tradition of active political resistance, and there are no known subversive organizations operating in the country on a national scale. Indeed there is only scant evidence that small, localized, informal groupings of anti-regime individuals exist. For all practical purposes, domestically initiated subversion is virtually nonexistent, being limited to isolated individuals and small groups which occasionally voice grievances or clandestinely distribute pamphlets. Expressions of discontent leading at the most to work stoppages, student demonstrations, or intellectual defiance—undoubtedly upset the party's concern for orderliness but constitute no meaningful threat to the regime. Far more pervasive and more debilitating from the regime's viewpoint is the passive resistance manifested by many segments of Bulgarian society, an apathy visible in shoddy workmanship, low productivity, and a high incidence of theft and drunkenness.

That such apathy has seldom been translated into action is to some extent a measure of the effectiveness of the police system. Moreover, the bleak prospects for successful action—even in light of the Polish events of December 1970 when workers forced a change of regime—are further diminished by the general expectation among the populace that serious internal troubles would precipitate Soviet intervention. Such intervention could be more easily executed in Bulgaria, where the country's historically closer relations with Russia have diluted the intensity of anti-Soviet feeling. The favorable terrain for guerrilla warfare found in many sections of the country is thus of little importance. Highly effective border and travel controls—coupled with a

pervasive internal security system—have insulated the country from subversion, despite the proximity of non-Communist Greece and Turkey to the south and of traditionally hostile Yugoslavia to the west.

An influx of Western tourists in the late 1960's, a result of Sofiya's need for a hard-currency earning industry, has made insulation of the population more difficult. The increasing inroads of all aspects of Western culture have elicited cries of "ideological subversion" from the regime and have spurred it to even greater efforts to limit contact between Western tourists and the Bulgarian people. "Ideological subversion" has also been a watchword for the party's guardians of orthodoxy, and the raising of this specter often has signaled a crack-down on dissident intellectuals.

Perhaps the greatest potential for serious subversive activity has in the past rested within the leadership circle of the party and government, largely because of the chronic factionalism which beset the party. Differences between the "nativist" and "Muscovite" leaders have been especially troublesome, perhaps reaching a peak in April 1965 with the uncovering of an attempted coup against the Zhivkov regime. Discovered by the Soviet Committee for State Security (KGB) before fruition, the plot was reportedly planned by nationalist military officers advocating a policy of less subservience to the U.S.S.R. The accused leaders of the plotting—Tsolo Krustev and Ivan Todorov—evidently had a strong power base in the northwestern district of Vratsa as a result of their leadership of the region's anti-German partisan brigades in WW II. The area long harbored opposition to Zhivkov's rule, and, indeed, continued to show evidence of political unrest several years after the abortive 1965 coup was uncovered. By 1968, after considerable purging, however, Zhivkov had eliminated virtually all the malcontents.

Since 1965 the political controls and informant network in the military have been considerably expanded and strengthened. Signs of disaffection among the enlisted ranks have been few, although the average conscript undoubtedly brings into the service the same resentments and antagonisms that are prevalent among his social class in civilian life. Unconfirmed reports periodically tell of the arrest or trial of army officers, often for dissenting activity, but meaningful specific information is not available. Nonetheless, the military establishment's main mouthpiece, the defense ministry daily *Narodnya Armiya*, consistently infuses its reporting with nationalistic overtones. In a country labeled in the past "the Prussia of the Balkans," the status and the influence of the military evidently continues to be strong.

Official complaints about shortcomings on the part of some Bulgarian youth have frequently been coupled with charges of indifference, carelessness, and failure to fulfill tasks assigned to them. Bulgarian youth—especially the more educated—view their country as corrupt, overbureaucratic, and too closely allied with the Soviet Union. Combining idealism and materialism, they advocate the formation of a "genuine" socialist system,

free from corruption and able to provide the "good life." Such disaffection is mitigated by the absence of a clear idea of differing life styles and is expressed, if at all, in small-scale incidents. Ridicule and satire are part and parcel of student holidays and reflect a resigned cynicism and disillusionment. Government control of both the "carrot" and the "stick" has engendered an outwardly apolitical youth, whose values emphasize the importance of material success. In this light the mass organization Komsomol—one of the regime's main organs of control over youth—is considered important by most young people only because it is a recognized prerequisite for professional success.

Apathy has seldom been translated into violence. At a time in 1968 when embittered Polish youth, infected by the Dubcek reform period in Czechoslovakia, were battling police, the Bulgarian authorities were confronted only by "The Disaffected," a small but countrywide grouping of university students who advocated a return to the ideals of past Bulgarian Communist heroes (such as Dimiter Blagoev and Georgi Dimitrov) and who opposed the "revisionist" leadership of Todor Zhivkov. There continues to be dissatisfaction among university students over such perennial grievances as excessive study loads, housing shortages, and overpriced cafeteria facilities. Some scattered and unorganized demonstrations have occurred. Other irritants include the highly competitive and specialized higher educational structure, and resentment of the better treatment—especially higher stipends—afforded foreign students.

Unrest among the peasantry has not been evident since the initial shock of forced collectivization in 1950-51. Even that period of rapidly forced regimentation (perhaps 40% of the peasantry was collectivized in one year) elicited relatively little open resistance and only scattered sabotage, this in a country whose population was 80% rural and composed almost entirely of independent small landowners. Nevertheless, the initial 1950-51 phase of collectivization was followed by a 3-year slow-down and consolidation phase, in apparent deference to the disgruntled peasant whose morale and productivity fell in equal degree. The peasant response to government pressure has been varied, including apathy, diffidence, and thievery, but has almost totally excluded violence. The rapid migration to urban areas, spurred by industrialization, has been part of the peasant's response to collectivization. Various agricultural problems—the marked increase in erosion, the deterioration of land quality, and the shortages of intensively cultivated produce—also stem in part from the peasant's attitude. Concessions to this attitude and to economic necessity have included the retention of the private plot and the curtailment of compulsory deliveries of certain scarce produce.

Industrial workers, theoretically the group most favored by Communist governments, are at times restless and show little enthusiasm for the regime, but they possess little subversive potential. Their chief complaints are the high cost and the low level of living, poor pay and

long hours, and pressure for fulfillment of high production norms. Unconfirmed reports of wildcat strikes and work stoppages circulate periodically, often at the time of commodity price increases, and may indeed have some substance in fact. The regime apparently has been able to cope with such unrest easily, although the high-level attention devoted to trade union activities in the wake of the Polish worker unrest in December 1970 suggested that the leadership felt the need to reexamine its policies and capabilities to handle labor unrest.

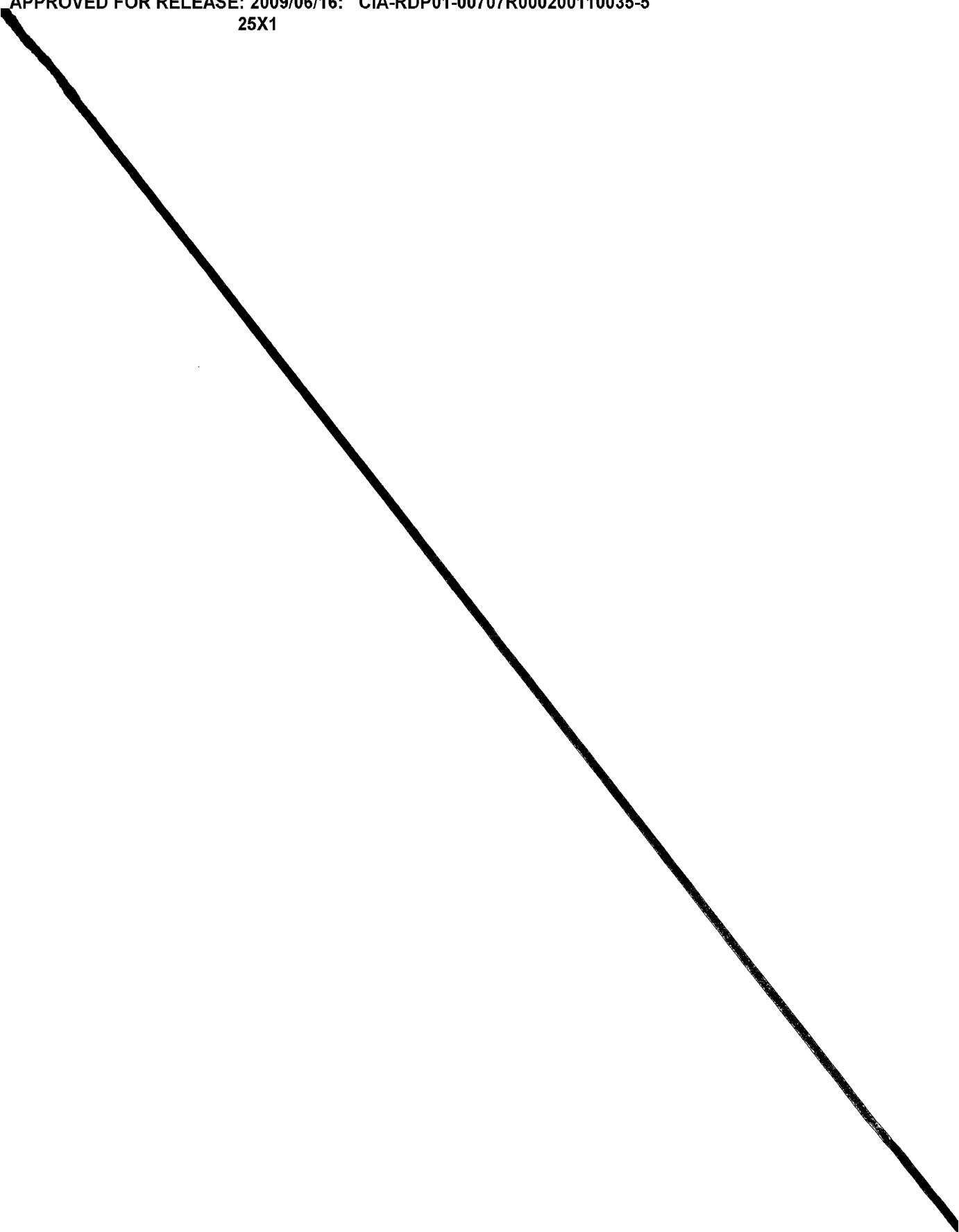
Potential for subversive activity probably exists among the largely unassimilated Turkish community, but the security apparatus keeps close and successful watch on the activities of this minority through a network of informers in its midst. Unrest and disturbances among the Turks, reported sporadically, appear most often to be in the nature of street brawls between Turkish and Bulgarian youths, and probably present little organized or actual threat to the regime. The Macedonian minority in southwestern Bulgaria is much smaller and accordingly presents even less of a potential threat than the Turks. Nonetheless, Belgrade's policy on the Macedonian issue is interpreted by Sofiya as one threatening to create a Macedonian fifth column in support of Yugoslav interests. As a result, Sofiya has vigorously attempted to "Bulgarize" the Macedonians. Since 1965, all activity associated with a Macedonian national identity—including cultural and linguistic expressions—has been officially forbidden.

The danger of subversion from elements favoring the Chinese Communist ideological position has been minimal both within the Bulgarian party and among the people in general. The leaders of the attempted coup in 1965, however, were condemned as "town criers of Maoism in Bulgaria," a charge clearly trumped up by the regime to mask the anti-Soviet thrust of the plot. Nonetheless, the "Maoist" label has some, albeit only potential, relevance to the Bulgarian political scene; the party rank and file still contains substantial numbers of old-line Stalinists, and Bulgaria, alone among the Eastern European countries, in 1959 attempted a "great leap forward" in apparent, but short-lived, admiration for Chinese style and methods.

## G. Maintenance of internal security (S)

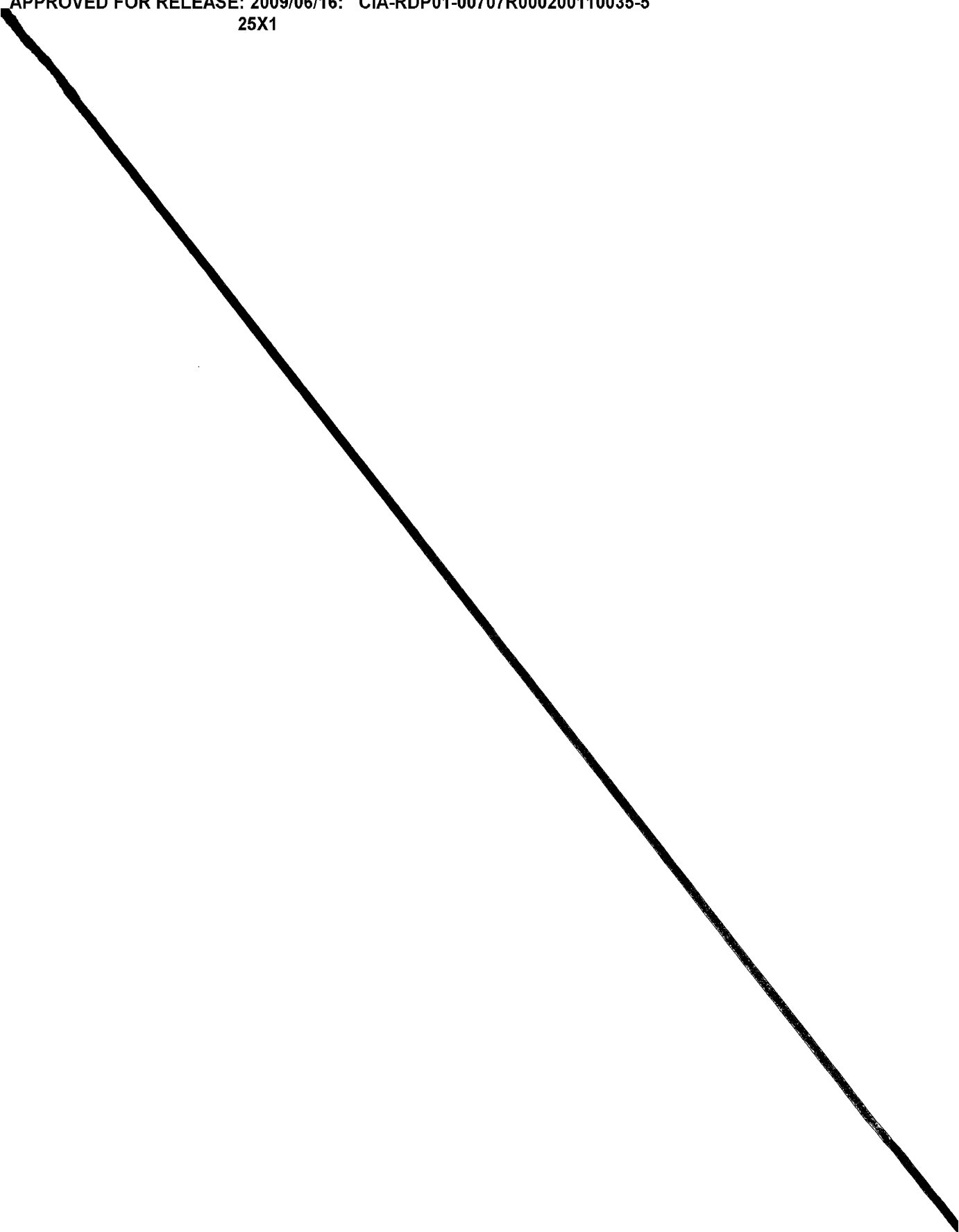
Public order, internal security, and intelligence are the responsibilities primarily of the Ministry of Internal Affairs (MVR) and secondarily of the Intelligence Division (RUMNO) of the Ministry of National Defense, which retains a mandate for the collection of military intelligence. The Ministry of Internal Affairs discharges its functions through two main components—State Security (which includes the secret police) and People's Militia (regular uniformed police). State Security (DS), which was independent of the MVR from 1963 to 1968, is the ministry's major component; it directs the collection and reporting of foreign and domestic intelligence and supervises counterintelligence activities. The People's Militia (NM) discharges the regular police function in

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and A.A. Vasiliev's classic work *History of the Byzantine Empire* includes an examination of the role Byzantine influences played in the shaping of the Bulgarian national character and its political manifestations. Bulgaria's role in the Balkans in more recent times, and its relationship with its neighbors are well and reliably discussed in Robert Wolff's *The Balkans in Our Time*. The origins and political impact of the perennial Balkan

problem—the issue of Macedonia—has been examined by Elisabeth Barker in her definitive study *Macedonia, Its Place in Balkan Power Politics*. Reliable and nonpolemical studies of the development of the Bulgarian Communist Party are few, and most are not comprehensive; the best of these perhaps is Joseph Rothschild's *The Communist Party of Bulgaria: Origins and Development, 1883-1936*.

## The Economy

### A. The basic setting (S)

Traditionally an agricultural country, Bulgaria has been industrializing rapidly. The country has a limited natural resource base—mainly deposits of lignite and various nonferrous metals as well as a good hydroelectric potential. Its economy is more closely tailored to the Soviet model than is any other in Eastern Europe, and much of its growth has been a result of U.S.S.R. aid and trade. Bulgaria, however, is still at a relatively low level of development.

In 1970 gross national product (GNP) was estimated at US\$11.1 billion (in 1969 prices). By aggregate measure, the economy has progressed quite well. Bulgaria's per capita GNP was \$1,305 in 1970 (in 1969 prices), which was greater than Romania's (\$1,142) and almost as large as Poland's (\$1,347). During the Fourth and Fifth Five Year Plans (1961-65 and 1966-70, respectively), total GNP grew at a respectable average annual rate of 6.7% (Figure 55). Estimated gross industrial product led the way with an annual rate of increase of 11.5%. Yet, because of occasional poor harvests and the overall importance of the agricultural sector to economic

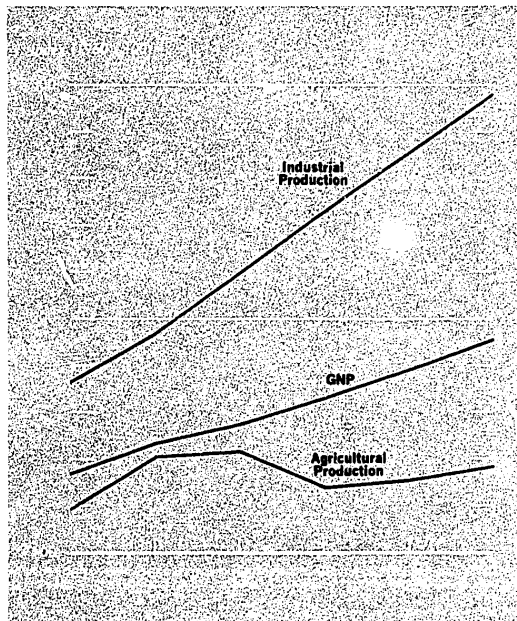


FIGURE 55. Estimated growth of GNP and industrial and agricultural production (S)

performance, potentially higher GNP growth rates were not achieved.

Without a large amount of aid, the economy would not have grown as rapidly as it did. The U.S.S.R. has been more generous to Bulgaria than to any other Eastern European country, providing over US\$2.5 billion in credits prior to 1970. It also guarantees a market for many products of Bulgarian industry—offering a big advantage to a country at Bulgaria's level of development, in contrast to the more advanced countries of Eastern Europe which have been held back by dependence on the Soviet market.

In the future, a continuation of rapid development may be more difficult. So far, growth has been achieved by shifting labor from agriculture to industry and by extensive investment. Future growth will become more and more dependent on increased productivity and will thus involve improvements in management and more effective use of technology. The regime's policy reflects an appreciation of these needs, although plans for the future are very ambitious.

#### 1. Structure of the economy

A 20-year policy of forced growth has changed the economic landscape of Bulgaria. In 1950 industry accounted for only 22% of GNP compared with 47% in 1970 (Figure 56). The change was led by a concentration of investment in industry (primarily basic and heavy industry), averaging over 45% of total investment in the 1960's.

The manufacturing sector is responsible for over 70% of industrial output (Figure 57) and 60% of industrial employment. Within manufacturing, two of the more important and faster growing industries have been machinery and equipment and chemicals (Figure 58). Much of the output of the rapidly growing machinery and equipment industry is produced under specialization agreements for export to other countries belonging to the Council for Mutual Economic Assistance (CEMA). Another major industry both in terms of the value of output (26% of gross industrial production in 1970) and in exports (32% in 1969) is agricultural processing.

Although a substantial share of industry is hampered by inefficient plant and equipment, new powerplants and heavy industrial facilities generally embody technology modern by Soviet standards. The U.S.S.R. has supplied powerplant facilities, equipment for the Kremikovtsi combine, the oil refinery and petrochemical plant at Burgas, and machinebuilding plants. Many chemical plants use Western technology and equipment.

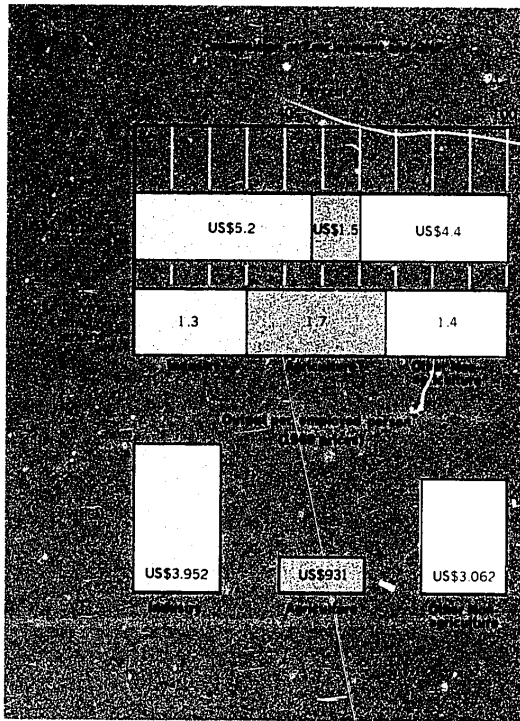


FIGURE 56. GNP, employment, and output per worker, by major sector, 1970 (S)

although because of price and credit considerations these are not always the best or newest obtainable. In light industry and agricultural processing, growth has been achieved mainly by using existing plants more intensively; however, modernization of the textile industry has been planned for 1971-75. In any event, by

Western standards most equipment is obsolete and inefficient, but it is sufficiently sophisticated for Bulgaria at its present stage of development.

A relatively successful agricultural sector has paved the way for industrialization. Gross agricultural output grew by 37% between 1960 and 1970, a rate much faster than for any other Eastern European country. Although in labor productivity and yields the sector still lags behind the West, the policy of collectivization and mechanization enabled the regime to reduce the labor employed in agriculture to less than two-fifths of the working population by 1970. The modernization of agriculture has not only released labor to industry, but it has provided capital goods as well, secured through growing agricultural exports.

Recently, Bulgaria adopted a new organizational framework for agriculture—the agroindustrial complex (AIC). Unique in Eastern Europe, the complexes are formed by the horizontal and vertical integration of state farms, collective farms, and onsite processing plants. The dual economic objectives are to expand production and to lower unit costs through increased industrialization and large-scale operation. If the AIC's eventually prove to be successful in increasing output, the regime is likely to attempt to eliminate private and subsidiary plots. For the present, however, private plots are expected to continue providing an important segment of agricultural output—14% to 16% of crop production and about one-third of all livestock production—and a necessary increment to the income of agricultural workers.

Bulgaria has also expanded its energy base to provide the basis for development. Although electric power quadrupled and fuel output quintupled in the 1960's, the country is becoming more and more dependent on imports, particularly for fuels. Bulgaria is also dependent on imports of ferrous metals. Interestingly, although the raw material base of the nonferrous metal industry is

FIGURE 57. DISTRIBUTION OF INDUSTRIAL PRODUCTION, BY BRANCH OF ORIGIN (U/U)  
(Percent of total)

BRANCH OF INDUSTRY	1960	1965	1968	1969	1970
Manufacturing.....	73.0	71.5	71.9	71.7	71.6
Of which:					
Machinebuilding and metal working.....	12.4	16.5	19.1	19.6	20.0
Chemicals and rubber.....	3.7	4.8	6.1	6.7	7.5
Light industry.....	23.4	18.4	19.2	19.0	18.3
Of which:					
Cellulose and paper.....	0.9	0.9	1.1	1.1	1.0
Glassware, porcelain, and faience.....	0.6	0.8	0.9	0.9	0.9
Textiles.....	13.5	10.1	9.3	9.3	9.1
Clothing.....	5.5	4.4	5.4	5.2	4.9
Leather, fur, and footwear.....	2.3	1.8	2.0	2.0	1.9
Printing.....	0.6	0.4	0.5	0.5	0.5
Agricultural processing.....	33.5	31.8	27.5	26.4	25.8
Electric power (including steam heat).....	2.0	2.3	2.5	2.5	2.6
Fuels.....	2.8	3.8	3.7	4.2	4.7
Ferrous metallurgy (including ore mining).....	1.1	2.2	2.9	2.9	3.1
Nonferrous metallurgy (including ore mining).....	4.4	4.4	3.6	3.3	3.3
Building materials.....	3.1	3.8	3.9	3.7	3.6
Logging and wood processing.....	6.3	4.8	3.9	3.8	3.6
Other branches.....	7.3	7.2	7.6	7.9	7.5

FIGURE 58. GROWTH OF GROSS INDUSTRIAL PRODUCTION (UO/U)  
(1960 = 100)

BRANCH OF INDUSTRY	1950	1955	1960	1965	1966	1967	1968	1969	1970
Manufacturing:									
Of which:									
Machinebuilding and metal working.....	12	29	100	231	278	336	377	428	481
Chemicals and rubber.....	12	33	100	219	263	316	398	471	570
Light industry:									
Of which:									
Cellulose and paper.....	36	60	100	174	218	266	311	333	357
Glassware, porcelain, and faience.....	14	32	100	243	278	337	383	415	448
Textiles.....	30	57	100	131	141	157	169	184	196
Clothing.....	13	35	100	147	181	219	252	265	271
Leather, fur, and footwear.....	42	51	100	142	166	190	214	229	226
Printing.....	45	65	100	126	147	167	186	204	219
Agricultural processing.....	36	51	100	159	173	187	196	207	215
Electric power (including steam heat).....	15	43	100	200	226	263	304	338	378
Fuel.....	33	67	100	238	265	290	321	399	483
Ferrous metallurgy (including ore mining).....	3	32	100	333	391	498	609	663	755
Nonferrous metallurgy (including ore mining).....	14	39	100	171	177	189	197	202	217
Building materials.....	18	43	100	214	233	273	295	308	334
Logging and wood processing.....	43	64	100	130	135	141	149	161	167
Other branches.....	5	43	100	164	186	210	236	267	298
Total gross industrial production.....	25	48	100	172	193	219	242	266	291

NOTE—Indexes for branches of industry are based on production by socialized industry.

much larger, its growth has been much slower than that of ferrous metals.

**2. Economic policy**

The regime that came to power in 1946 has applied the traditional Communist methods of economic management more successfully than has any other Eastern European government. The rural populace has accepted Communist agricultural policies more readily because Bulgarian farmers were already accustomed to cooperative farming. Moreover, the standard of living was at a very low level, so that increases in the availability of basic necessities have kept the population generally satisfied to date, in spite of deficiencies in quantity and mix. However, a number of signs are beginning to suggest that demand for more and better consumer goods is increasing.

The structure of domestic priorities has remained remarkably stable, and plans for the future generally mirror plans of the past. Although the regime claims that Bulgaria has now become an industrial state, rapid economic growth continues to dominate decisionmaking criteria. Plans for 1971-75 include: 1) an 8% to 9% annual increase in national income; 2) capital investment totaling 20 to 21 billion leva, of which 75% is assigned to material production; and 3) a 55% to 60% increase in gross industrial output. Light industry and agricultural processing combined will receive only 10% of the investment in industry, while the bulk of investment is to go into heavy industry.

After growth, in terms of priority, is efficiency. Thus far, however, the regime has had little success with its programs; the ratio of gross output to employment is one of the lowest in Eastern Europe. The desire for greater efficiency lies at the heart of Bulgaria's economic reform,

one of the more visible aspects of which is the integration and rationalization of economic activity. This reorganization is based on the premise that greater control should improve management—leading to more effective utilization of inputs, larger output, and lower unit costs.

Another aspect of the reform is the formulation of more realistic wholesale prices and provisions for their periodic adjustment. The results should be a quicker response to changes in the supply of raw materials and intermediate products as well as improved resource allocation. In turn, enterprise managers can forecast costs more accurately and, perhaps, begin to reduce excess inventories.

**3. Foreign trade**

At first blush the growth of Bulgaria's foreign trade is impressive, averaging approximately 13% in the 1960's; however, most of it has been with other CEMA countries. The regime's few attempts to expand trade with the West have been disastrous, leading to large deficits in the balance of payments. Bulgaria has had to appeal to the U.S.S.R. for help on these occasions and, as a result, has had to accept increased economic dependence upon the U.S.S.R. Within CEMA Bulgaria pursues a very aggressive foreign trade policy in an attempt to get an expanding market for its heavy industrial products, especially machinery.

Agricultural products and processed foods still make up the largest category of Bulgarian exports (42% of total exports in 1969), but exports of machinery and equipment—insignificant in 1950—grew to one-fourth of total exports in 1969, while exports of industrial consumer goods rose from 2% to 22% of the total during the same period. Bulgaria is also a heavy importer, especially of machinery and equipment, which accounted for about

40% of total imports in 1969. Total imports averaged 18% of GNP during 1966-70, making Bulgaria the Eastern European country most dependent on foreign trade.

In foreign trade policy the key word is still integration—both with the U.S.S.R. and, to a lesser extent, with other members of CEMA. By 1975, Bulgaria's total trade is planned to grow 60% to 65%, and 82% of trade is to be conducted with other socialist countries.

**B. Sectors of the economy (S)**

**1. Agriculture, fisheries, and forestry**

**a. AGRICULTURE**

Still the mainstay of the economy, the agricultural sector covers almost all domestic food requirements and continues to provide a large share of total exports. In 1970, 44% of all exports were still food and other agricultural products, down from slightly more than 57% in 1960. In addition, agricultural production has provided the basis for the relatively rapid industrialization of the country.

Agricultural output grew far more rapidly in Bulgaria than in any other Eastern European Communist country during the 1960's. The average annual growth rate of 3.2% during 1961-70 was more than twice that of the entire Eastern European region. Bulgaria has been more successful than the other Communist countries in boosting agricultural production, largely because its surplus agricultural labor has permitted a concentration on higher valued crops and because investments in agriculture have been large enough to have a significant effect on raising agricultural technology to a higher level. Despite the favorable rate of growth, agriculture in Bulgaria still is backward and inefficient by Western standards.

(1) *Land use and climate*—Bulgaria has the smallest agricultural area of any Eastern European Communist country, although its total land area is greater than that of East Germany or Hungary. Almost two-thirds of the country is mountainous or hilly, and nearly one-third is forested. Only about half of the total area is suitable for agriculture (Figure 59), compared with about three-fifths in neighboring Romania and Yugoslavia. Nevertheless, Bulgaria has one of the highest ratios of arable land to population in Europe (0.55 hectare per capita). Most of the arable land is in the Danubian plain in the north and in the Thracian plain in the southeast (See Land Utilization inset on Summary Map).

There is a wider range of climate in Bulgaria than in most countries comparable in size. The weather is cool in the mountainous areas and warm along the Black Sea coast and in the southwest, where the Mediterranean exerts a moderating influence. Most of the country has moderately cold winters and warm summers. Rainfall ordinarily is adequate for crops, but there are periodic summer droughts that cause pronounced fluctuations in

Total land area: 42,800 square miles (11.1 million hectares)

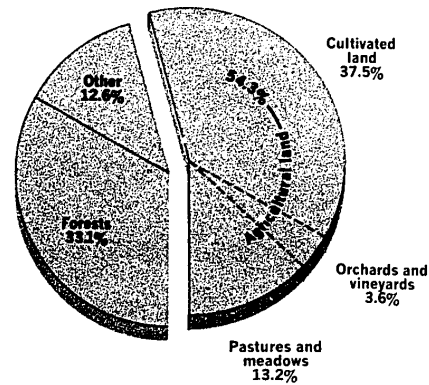


FIGURE 59. Land use, 1969 (U/OU)

crop yields and, consequently, in livestock production. A great range of soil types in addition to the climatic variations makes possible a diversified agriculture.

(2) *Organization and policies*—Collective and state farms make up the important socialized sector of agriculture in Bulgaria. Collective farms, called agricultural labor cooperatives, are all of the same type and resemble the *kolkhosi* of the U.S.S.R., except that Bulgarian collective farm members retain, in theory, an equity in land contributed to the farm. Since 1967 however, collective farms have not paid rent for the land contributed, and new members have been able to join collectives without contributing land. The Cooperative Congress in 1967 removed the requirement for payment of rent. Payments to members depend only on the amount and type of work done. In 1958, during the preliminary phase of the Chinese-inspired "leap forward" period, 3,244 collective farms were consolidated into only 665 units. Some of the overly large units proved difficult to operate and subsequently were broken up, but Bulgaria still tends toward large farming enterprises. At the end of 1969 there were 795 collective farms. The average size, 4,136 hectares, was the largest in any Eastern European Communist country. In 1969 they farmed 73% of the total arable land and produced 62% of total gross agricultural production.

State farms make up the other major farming enterprise in Bulgaria. Numbering only 159 in 1969, they held about 13% of the arable land but produced only about 9% of total gross agricultural production. Intended to specialize in the production of seed and breeding stock for collective farms and in the introduction of new farming techniques, they have been more important in supplying farm products to domestic and foreign markets. Although they receive priority treatment in the allocation of funds and materials, state farms have been inefficient because of poor management and the indifference of workers.

The most significant change in agricultural policy since the collectivization drive of the late 1950's was the introduction of AIC's at the April 1970 Central

Committee Plenum. Approved as a means of introducing industrial methods into agriculture, the complexes will merge state and collective farm enterprises under a single management—the first such move by an Eastern European country. By July 1971, 156 AIC's had been approved by the government, accounting for more than 90% of both arable land and agricultural labor. The average size of a complex is 26,200 hectares. It is expected that by 1980 this form of farming enterprise will predominate. The regime believes this new organizational farm will result in increased productivity of labor, higher output, and lower per unit costs. How successful the regime will be remains to be seen. Prior to 1971 the AIC's established were no more than bookkeeping operations. Reported wariness of local-level farm officials toward the AIC may cause the government to implement the program more slowly than originally planned.

(3) *Crops*—Crops account for about two-thirds of gross agricultural production. Grains, for which the soils and climate of the northern and eastern plains are favorable, are grown on nearly 55% of the cultivated land. Forage crops, such as alfalfa, clover, and corn for silage, are becoming increasingly important because of the increased emphasis on livestock production. In 1969, forage crops accounted for nearly one-fifth of the cultivated area, more than twice as large a share as in 1950. The following tabulation shows the shifts in the percentage distribution of cultivated area since 1950:

	1950	1960	1969
Grains .....	69.7	59.3	54.3
Industrial crops .....	12.2	12.2	13.1
Vegetables, potatoes, and melons ...	2.9	3.4	3.5
Forage crops .....	7.2	18.4	17.0
Other crops and fallow .....	8.1	6.7	12.1

Wheat, the most important grain, is used almost exclusively for food. It accounted for nearly one-half the total area sown to grains in 1969, compared with about 26% for corn, 18% for barley, and only 1% for rye. The area planted to wheat—as well as all other grains but barley—has been declining since 1950. Reduced acreage of wheat, rye, and corn accounts for most of the drop in total area devoted to grains. Barley acreage has been increasing over the years largely at the expense of oats. Despite the decline in grain area Bulgaria in recent years has become self-sufficient in grain, which accounts for about 22% of total gross agricultural production. The introduction of improved varieties of seed and increased input of chemical fertilizers helped to stabilize yields at a higher level and permitted the country to become a net exporter of grain during the 1966-70 period. Wheat production in 1967 set a record of 3.3 million metric tons (Figure 60). Similarly, exports of wheat in 1967 reached a high of 535,000 tons, dropping to less than 300,000 tons in 1970. Yields of corn also grew, setting a new high in 1970, but exports are estimated to have dropped below the 300,000 tons exported in 1969 because of higher domestic feed requirements.

Production of fruits and vegetables amounts to about one-fifth of total gross agricultural production, nearly as large a share as that of grains. Fresh and canned fruits and vegetables remain an important source of foreign exchange earnings, but less so than in earlier years. They accounted for 6% of total exports in 1969 compared with about 9% in 1965. Unfavorable weather and a decline in the area planted to vegetables has held down the output of fruits and vegetables since 1968.

The output of industrial crops, especially sunflower seed and tobacco, has increased and accounts for about 12% of total gross agricultural production. Although

FIGURE 60. PRODUCTION AND YIELDS OF PRINCIPAL CROPS (U/OU)

	1956-60 AVERAGE	1961-65 AVERAGE	1966	1967	1968	1969	1970
<i>Production (in thousand metric tons):</i>							
Total grains .....	4,321	4,702	6,702	6,417	5,224	5,996	6,681
Of which:							
Wheat .....	2,247	2,208	3,193	3,254	2,549	2,569	2,982
Corn .....	1,288	1,601	2,207	1,971	1,768	2,415	2,380
Barley .....	489	694	1,064	985	807	905	1,174
Oats .....	187	141	182	169	76	78	118
Rye .....	110	58	56	38	24	29	27
Sugar beets .....	1,271	1,440	2,528	2,032	1,407	1,628	1,684
Potatoes .....	335	400	421	381	369	357	367
Sunflower seeds .....	249	338	423	478	459	541	405
Tobacco (oriental) .....	76	101	125	110	107	90	111
<i>Yields (in quintals per hectare):</i>							
Wheat .....	16.3	18.1	27.9	30.6	24.0	24.7	29.6
Corn .....	24.9	25.1	38.1	34.8	31.3	41.3	37.5
Barley .....	18.1	20.5	25.5	25.4	20.0	22.0	28.9
Oats .....	10.9	10.0	15.8	14.1	7.9	10.3	11.8
Rye .....	9.9	9.9	13.5	12.3	10.0	11.6	12.3
Sugar beets .....	205.0	205.4	404.0	342.2	264.5	282.3	304.3
Potatoes .....	87.4	85.5	113.4	106.1	114.0	118.4	115.0
Sunflower seeds .....	11.6	13.4	16.6	17.8	16.3	18.9	14.5
Tobacco (oriental) .....	7.6	8.7	11.0	11.3	10.0	8.3	10.2

higher yields from the use of improved seed, irrigation, and more fertilizer contributed to this growth in output, almost of equal importance was the expansion in the area planted. Despite the use of more improved technology, relatively large fluctuations in yields of most crops still occur as a result of extremes in weather.

(4) *Livestock*—The average rate of growth in the livestock industry was slightly higher than that for crops during most of the 1960's, but it still only accounted for about one-third of gross agricultural production in 1969. Growth of output was higher in the first half of the 1960's than in the second because fodder shortages and unprofitable farm prices helped to depress growth during the last 3 years. Consumer demand for livestock products, especially red meat and fats, grew much faster than supplies, thereby creating an especially tight retail market situation during 1969 and 1970. Increased investment, new producer incentives, an expanded feed industry, and specialization of production have been programed to provide the lift needed to boost output in the 1970's.

The output of most livestock products showed a steady upward trend between 1955 and 1967, but since has stagnated or declined (Figure 61). In 1970, output of red meat was below 1965 and that of milk, eggs, and wool no better than 1967. Increased productivity of livestock has prevented a more significant decline in output, because, except for poultry, there were smaller numbers of productive livestock at the end of 1970 than in 1965.

All categories of livestock have declined in numbers since the early 1960's largely because private owners decreased their herds faster than herds were increased by state and cooperative farms. Recognizing this shortcoming, the government took steps in 1969 to encourage private production of livestock by guaranteeing increased availability of livestock feed and by raising procurement prices for slaughter animals. Between 1965 and 1969 the private sector's share of total livestock output had dropped from 37% to 33%. The share of private production in the total, however, is expected to

decline further over the long run. Current plans call for large specialized livestock farms to be the major producers of all livestock products by 1975, with emphasis on pork, beef, and poultry meat.

(5) *Manpower and investment*—Agricultural employment has been reduced substantially by industrialization and collectivization since World War II, but there is still surplus agricultural labor. In 1950, about 75% of the working population was employed in agriculture; by 1970 the share had dropped to about 40%. The expanding industrial sector will be able for some time to continue drawing labor from agriculture, because as mechanization and specialization of farming enterprises progresses, fewer people will be needed on farms. Keeping young and skilled workers in sufficient numbers on collective farms is a necessity if the operation of large-scale specialized farming enterprises is to be efficient.

The substantial share of state investment funds allocated to agriculture during the postwar period (averaging about one-fourth of total investment) has been used mainly for farm buildings, agricultural machinery, and irrigation projects. In the 1959-63 period, during the "leap forward" which saw a rapid expansion of collective farms, the share reached about one-third, but it declined to less than 16% in 1969. Between 1965 and 1970, however, the use of collective funds for capital investment increased from less than 19% to 30%. The irrigated area has been expanded, from about 37,500 hectares in 1939 to more than 1 million hectares in 1970 (about one-fifth of the total arable land) and is planned to reach 60% by 1980. The number of tractors (15-horsepower units) increased from 8,657 in 1950 to about 94,000 by the end of 1970. Although the preparation for and planting of most crops is highly mechanized, harvesting is less so. Also, the mechanization of livestock raising lags considerably behind that of crop production. Draft animals are used mostly on private plots and collectives in mountainous areas. They accounted for

FIGURE 61. NUMBER OF LIVESTOCK AND OUTPUT OF LIVESTOCK PRODUCTS (U/OU)

	1950	1955	1960	1965	1966	1967	1968	1969	1970*
Number of livestock (in thousands, at end of year):									
Horses.....	498	472	312	240	229	224	199	182	165
Cattle.....	1,664	1,602	1,452	1,450	1,385	1,363	1,297	1,255	1,278
Hogs.....	818	1,413	2,553	2,408	2,276	2,314	2,140	1,967	2,370
Sheep.....	7,820	7,829	9,333	10,312	9,998	9,905	9,652	9,223	9,680
Goats.....	715	652	246	436	409	384	376	350	345
Poultry.....	9,703	13,817	23,366	20,845	23,627	27,726	24,874	29,590	33,706
Livestock products (in thousands of metric tons):									
Meat, red**.....	134	155	174	278	293	296	320	285	268
Cows milk.....	282	382	744	1,000	1,098	1,210	1,198	1,204	1,210
Eggs (millions).....	585	811	1,221	1,449	1,490	1,683	1,627	1,519	1,613
Wool (grease basis).....	13.8	14.4	21.0	25.8	25.0	27.2	29.0	28.0	27.0

\*Preliminary estimates.

\*\*Estimated.

only 5% of the total draft power available in 1969, according to official statistics.

Machine tractor stations (MTS) were established in Bulgaria, as in the other Eastern European Communist countries, to regulate the use of agricultural machinery and to strengthen state control over agriculture. The MTS work on a contract basis, mainly on collective farms. In 1959 the regime began phasing out the MTS, and by 1966 more than 60% of the 212 MTS operating 7 years earlier had been dissolved and their machinery sold to collective farms. Whereas in 1960 the MTS held 77% of the inventory of tractors, by 1970 the share had declined to less than 15%. Collective farms now may buy new machinery, fuel, and spare parts on the same terms as MTS and state farms.

Bulgaria now surpasses Hungary, Poland, and Romania in the use of fertilizers. Application of chemical fertilizers increased sharply from about 37 kilograms of active nutrient per hectare of arable land in 1963 to about 131 kilograms in 1970.

**b. FISHERIES**

The fishing industry in Bulgaria, relatively new and rather small, is growing rapidly. Established in 1964 with only two vessels, by early 1971 the ocean fishing fleet was composed of 20 trawlers and four refrigerator ships. Curiously, the fleet has been acquired from East Germany and the U.S.S.R., although Bulgaria produces trawlers in its own shipyards. The composition of the fleet is given in the accompanying tabulation:

NUMBER AND TYPE	COUNTRY OF ORIGIN	TOTAL GROSS REGISTER TONS
<b>Trawlers:</b>		
5 <i>Tropik</i> .....	East Germany .....	12,175
3 <i>BMRT</i> .....	U.S.S.R. ....	9,510
12 <i>Atlantik</i> .....	East Germany .....	31,884
<b>Refrigerator:</b>		
4 <i>Sibir</i> .....	U.S.S.R. ....	23,857
1 <i>Altair</i> .....	do .....	3,556
<b>Total</b>		<b>80,982</b>

The catch has increased in proportion to the growth of the fleet. In 1966, 24,000 metric tons were caught, and in 1970, 85,000 tons were landed. The 1971 catch was expected to equal 100,000 tons. During the Fifth Five Year Plan the total catch equaled 186,658 tons. The Sixth Five Year Plan provides for a doubling of the fleet and an annual catch equaling 180,000 tons by 1975.

To cope with the growing fleet and larger catch, shore facilities are being constructed at Burgas. The complex includes, among other items, a port to handle and refit the vessels, refrigerated storage for 10,000 tons, a cannery with a 10,000-ton annual capacity, and shops for handling smoked and salted fish and fish products. Also, a plant will be built at Varna with an annual processing capacity of 1,250 tons of salted fish and 850 tons of frozen fish, as well as a capability for producing fish delicacies, fish flour, and other products.

Imports of fish and salted fish have fluctuated widely, totaling 20,170 tons of fish and 4,596 tons of salted fish in

1966-69, most of which was from the U.S.S.R. Fish has been exported to Ghana, Nigeria, Romania, and Yugoslavia, but only in small amounts.

**c. FORESTRY**

Slightly less than one-third of Bulgaria is covered by forest, but past neglect and excessive exploitation limits its economic importance—current timber output is 2.5 million cubic meters. The logging and wood processing industries employed 6.5% of the industrial labor force in 1970 (30% less than in 1960) and accounted for only 3.6% of gross industrial production (43% less than in 1960). The major reason for the decline is the lack of capital investment, averaging only 1.3% of total investment for both the forestry industry and logging and wood processing in the late 1960's.

The major forest areas are in the Balkan Mountains in central Bulgaria and in the Rila, Pirin, and Rhodope Mountains in the west and southwest. Most of the coniferous forests, which make up 26% of the total forested area, are in the mountains of southwestern Bulgaria. Broadleaf forests, which account for 23% of the forested area, are more dispersed and are found along the lower slopes of the Balkan, Rhodope, and Rila Mountains, in the river valleys, and along the Black Sea coast. Nearly one-fourth of forest land supports only coppice and brush.

Timber and wood products generally account for slightly more than 2% of exports annually. Also, some timber and wood products are imported, especially from the U.S.S.R. under an agreement by which Bulgaria supplies labor brigades for logging in the Komi Autonomous Soviet Socialist Republic in exchange for timber.

**2. Fuels and power**

Bulgaria's energy base continued to expand rapidly in the 1960's. Output of electric power increased three times and output of fuels nearly five times, compared with a tripling of industrial output. Like other Eastern European countries, Bulgaria is steadily shifting to a greater use of coal substitutes. In 1969, for example, petroleum accounted for 43% of energy consumption compared with about one-third in 1966 (Figure 62). Coal

FIGURE 62. CONSUMPTION OF PRIMARY ENERGY,\* 1969 (C) (Percent)

<b>Production:</b>	
<b>Solid fuels:</b>	
Hard coal .....	15.8
Brown coal and lignite .....	31.3
Fuelwood .....	2.6
<b>Petroleum:</b>	
Crude oil .....	43.0
Natural gas .....	2.7
Electric power .....	4.6
<b>Total</b> .....	<b>100.0</b>

\*Includes net imports of coal, coke, crude oil, petroleum products, and electric power.



consumption, however, has continued to rise and still amounted to 47% of total consumption in 1969.

Rapidly growing consumption has been accompanied by an increasing dependence on imports of energy. Imports accounted for 56% of primary energy in 1969, compared with only about 10% in 1960. The U.S.S.R. is the main supplier, providing electric power, crude oil, and hard coal.

a. COAL

Production of coal nearly doubled during the 1960's and provided nearly 75% of the total output of primary energy in 1969. The entire increase was accounted for by growth in the output of lignite (Figure 63). Production of brown coal has been declining since 1963 because of dwindling reserves, and output of hard coal has been negligible—amounting to 400,000 metric tons in 1970. Because of the poor quality of coal reserves, output in 1970 represented only about 9 million tons in hard coal equivalents.

Proved and probable reserves of coal total less than 5 billion tons, mainly located in the central and western parts of the country. Lignite deposits make up over 90% of reserves and are found primarily in the Maritsa River basin in central Bulgaria. Most brown coal reserves—which total only about 300 million tons—are located 20 miles west of Sofiya in the Pernik basin. Anthracite is found in the Svoge basin just north of Sofiya, and the only commercially important bituminous coal deposits are in the Balkan basin which lies between Gabrovo and Sliven. The presence of a rich coal deposit has been reported in the Dobruja region.

Efforts have been made—with meager results—to upgrade the coal from the Balkan basin for use in making coke. A cleaning plant put in at Tvarditsa has been operating below capacity and yielding a high-cost, low-quality product. The country's only good coking deposit, discovered in 1966 on the Black Sea near Kavarna, lies at a depth of nearly 3,300 feet, and there are as yet no plans to exploit it.

Thus, the only facility for producing metallurgical coke—at the Kremikovtsi Metallurgical Combine—must rely almost exclusively on imports. This combine produced 837,000 tons of coke in 1970, adequate to cover

the needs of its own blast furnaces and part of the needs of the Lenin Plant at Pernik. The deficit in the industrial coke supply—about 465,000 tons in 1970—is usually met by imports from Czechoslovakia, Poland, and the U.S.S.R. But in 1970, Bulgaria imported 128,000 tons of coke from the United States because traditional suppliers were able to cover only 50% of the deficit.

Household needs for coal have been satisfied by Bulgaria's growing output of lignite. Lignite briquets are of increasing importance; new facilities to produce briquets raised output from 600,000 tons in 1966 to 900,000 tons in 1969.

Bulgaria will continue to push the development of coal in contrast to other countries such as Yugoslavia, where cutbacks are in progress. Output of lignite in particular is expected to more than double in the 1970's, while production of brown coal will continue to decline. Production of hard coal will remain insignificant, and imports will continue to rise rapidly.

b. PETROLEUM AND NATURAL GAS

Production of crude oil has been erratic since commercial development began in 1954. In the 1960's, output varied between a high of 500,000 metric tons in 1967 and a low of 160,000 tons in 1964. Production of 334,000 tons in 1970 was far below the 1 million tons predicted in the 1966-70 plan. Imports account for over 90% of crude oil requirements, and shipments from the U.S.S.R., which amounted to 4 million tons in 1969, made up 80% of all crude oil supplies. Imports from non-Communist countries, which ran at 1.2 million tons in 1970, account for practically all the rest.

Bulgaria's main oil fields are at Gorni Dubnik and Dolni Dubnik, and Tyulenovo. In addition, drilling has begun offshore at Tyulenovo, although Soviet experts reportedly are not impressed with the potential. Explored reserves of crude oil and natural gas are very small and are located in fractured dolomite strata of a type that usually cannot sustain commercial rates of production for a prolonged period. Prospects for significant new discoveries are poor, because exploratory and developmental drilling must be conducted at 3,000 to 5,000 meters, and the turbodrilling equipment now in use in Bulgaria is inefficient at such depths. Consequently, it is

FIGURE 63. PRODUCTION OF ENERGY, BY PRINCIPAL SOURCES (8)

	UNIT	1950	1955	1960	1965	1969	1970
Electric power	Million kilowatt-hours	797	2,073	4,657	10,244	17,234	19,508
Thermal	do	530	1,425	2,771	8,244	15,391	na
Hydroelectric	do	267	648	1,886	2,000	1,839	na
Petroleum and natural gas:							
Crude oil	Thousand metric tons	0	150	200	229	325	334
Petroleum products	do	5	30	125	2,225	4,685	5,600
Natural gas	Million cubic meters	0	0	0	73	525	474
Coal (net)	Thousand metric tons	*5,928	9,428	15,986	25,042	29,002	29,229
Of which:							
Brown coal	do	*4,670	6,429	10,060	9,564	6,875	6,876
Lignite	do	1,101	2,706	5,356	14,926	21,757	21,956

\*Gross production.

probable that domestic production will provide a decreasing share of total supply as demand rises during the 1970's.

Bulgaria has had far better results in developing oil processing facilities than in opening up its own crude oil deposits. Output of petroleum products rose from 500,000 metric tons in 1963 to about 5.6 million tons in 1970. Nearly all of this production comes from two modern refineries built with Soviet equipment and technical assistance—the Burgas complex at Kameno completed in 1963-65 and a new petrochemical combine at Pleven put in during 1969-71. The Burgas refinery, using both domestic and imported crude oil, produces motor gasoline, jet fuels, diesel fuel, and fuel oil. A small and outdated refinery at Ruse, which processes domestic crude only, produces a less sophisticated mix of diesel fuel, fuel oil, mazut, and lubricating oil base stocks. These three refineries have a combined capacity of 6.5 million tons of processed oil; in 1970 they provided over 70% of Bulgaria's consumption of oil products. The balance of consumption is supplied by imports, almost all of which come from the U.S.S.R.

Projected requirements of about 15 to 17 million tons of oil products in 1975 will be provided partly from imports of refined products, including 2 million tons from the U.S.S.R., but mainly by an expansion of domestic refining capacity. The crude throughput capacity of domestic refineries is thus expected to be about 13 to 14 million tons. Existing agreements with the U.S.S.R. provide for the import of 10 million tons of crude oil by 1975, but, if domestic production of refined products is to reach the anticipated level, additional imports of crude oil will be necessary.

Output of natural gas rose from 109 million cubic meters in 1966 to 474 million in 1970. The main deposit is the first one discovered, at Chiren, near Vratsa. New discoveries have been made in the last few years at Golemo Peshtene, near Vratsa and at Devetaki, near Lovech. The Chiren deposits supply the Wilhelm Pieck cement plant in Beli Izvor and the Nitrogen Fertilizer plant near Vratsa. Rather ambitious plans for 1975 call for an output of 1 billion cubic meters of natural gas, plus the import of 3 billion cubic meters via a pipeline from the U.S.S.R.

#### c. ELECTRIC POWER

Compared with other Eastern European Communist countries, Bulgaria has a small electric power base. In installed capacity and gross production, it outranked only Hungary and Albania in 1970. Its per capita output of 2,295 kilowatt-hours (kw.-hr.), however, placed it ahead of Hungary, Poland, and Romania, and output grew faster than in any other Eastern European country during the 1960's. Starting with a very small electric power base in 1960, the expansion of capacity was the product of a high and rising rate of capital investment (during the decade electric power was the most significant item in the country's annual industrial investment, averaging almost 15% of the total industrial outlay each year).

Generating capacity almost doubled after 1965 and increased by 3.4 times during the 1960's. At the end of 1970, installed capacity totaled 4 million kilowatts (kw.), and production during the year amounted to 19.5 billion kw.-hr. In spite of the growth in capacity, the amount of electricity produced still is inadequate to meet the expanding needs of industry and other consumers. Power is frequently rationed to all consumers, and periodic shortages still hamper industrial output and force emergency restrictions on household use as well. These shortages are caused by a number of problems: difficulties in meeting powerplant construction schedules; burning low-grade domestic fuel in imported equipment which is not designed for such fuel; unsatisfactory functioning of thermal plant cooling systems; and poor maintenance of equipment that, in any case, is being overworked. There are frequent breakdowns, and there is not enough reserve capacity to meet emergency and peakload requirements.

Consumption of electric energy is concentrated in the south-central and western areas of the country. Industrial consumers—principally the chemical and rubber, metallurgical, fuels, and machinebuilding industries—account for about 70% of the total consumption, and households for 14% (nearly all have enough electricity for lighting, but not for other uses). Agriculture, commerce, and transportation are supplied with enough electricity to meet minimum needs.

Thermal powerplants accounted for 80% of the total installed capacity and provided about 89% of the total production in 1970; hydroelectric facilities contributed the balance. More than one-third of the thermal capacity is in the southeastern part of the country, where the greatest deposits of lignite occur. About 18% is in the west-central region, which contains the country's largest concentration of industry, urban areas, and brown coal mines. Another significant concentration is along the Danube River and the Black Sea coast, where plants are fueled primarily with imported coal. Approximately 30% of the thermal production is provided by plants operating on imported fuels. Almost two-thirds of the hydroelectric capacity is in plants on the Maritsa and Arda River systems in the southern part of the country. Hydroelectric facilities also have been developed on the Iskur River in the southwest. Approximately 85% of the total generating capacity is classified as a public utility and is designed to serve multiple classes of consumers. The remainder of the capacity is designated as industrial and serves particular plants or industries; the largest plant serves the petrochemical complex at Burgas (Figure 69).

Power is transmitted by a well developed national network that connects all major powerplants and extends to all economically important areas. Transmission facilities are concentrated around Sofiya. The highest voltage lines now in use, 220-kilovolt (kv.), join the principal powerplants and consuming centers and are used in international exchanges. Bulgaria exchanges electric power with Romania and with Yugoslavia through the CEMA network. An extra-high voltage

transmission line from the Moldavian Soviet Socialist Republic was scheduled to be completed by the end of 1971. This line is designed to carry an estimated 3 billion kw.-hr. of electricity per year and will be a significant link for importing additional power from the CEMA network. Electric power is exchanged with Yugoslavia over two transmission lines. Bulgaria also is developing a link with Greece.

Plans call for expanding the electric power base by the end of 1975 to 7.6 million kw., which will provide an annual production of 30 to 31 billion kw.-hr. Besides building new facilities, including one nuclear powerplant, Bulgaria plans to expand existing thermal and hydroelectric facilities. The largest new thermal powerplant will be built at Bobovdol, near Stanke Dimitrov, and thermal capacity will be enlarged at the Maritsa Istok industrial complex near Dimitrovgrad, and at the Ruse plant, among others. Several generating plants will be added at the Sestrimo and Vucha River hydroelectric projects. The country's first nuclear powerplant, at Kozloduy, is scheduled for initial operation in 1974 and completion in 1975. The plant, a pressurized-water type designed in the U.S.S.R., is based on an existing Soviet plant and is to be constructed under Soviet supervision.

**3. Metals and minerals**

Bulgaria has a fairly good supply of metals and minerals by Eastern European standards. Current reserves of lead, zinc, and copper appear able to sustain production for 20 years or more, and there are ample supplies of materials for the cement industry—limestone, clay, shale, and gypsum. The main deficiencies are poor-quality reserves of iron ore and manganese and only small supplies of chromium, cobalt, molybdenum and other ferroalloying materials. Bulgaria relies on imports for tin, mercury, and aluminum.

**a. FERROUS METALS**

Bulgaria's output of ferrous metals (Figure 64) is the smallest among the Eastern European Communist countries. Even though output of crude and rolled steel has tripled since the mid-1960's, Bulgaria still depends on

imports for over 20% of its pig iron needs, 25% of its iron ore, and nearly one-fourth of its rolled steel supply. Exports of rolled steel have risen steadily but are dwarfed by imports of ferrous metals.

The two main producers of iron and steel are the Lenin Plant in Pernik and the Kremikovtsi combine near Sofiya. Two other plants—the Electrometal Foundry in Sofiya and the Pernik Machine Building Plant—produce small amounts of crude steel. The Kremikovtsi Iron and Steel Works, behind schedule since construction began in 1960, has belatedly become Bulgaria's—and the Balkans'—largest steel mill. In 1970, the plant began producing cold rolled sheet; output of tinsplate, galvanized sheet, and high-grade steels is to begin in the next few years. Kremikovtsi is expected to provide most of the planned increase in rolled steel output, from 1.4 million tons in 1970 to about 3 million tons in 1975. Planners studied the feasibility of a third metallurgical combine—a costly proposition even without the construction delays that plagued Kremikovtsi. However, the plan was reportedly rejected in favor of a joint venture in the U.S.S.R. A third plant would have put a considerable strain on raw material supplies.

Not only does Bulgaria now import nearly all of its coking coal; it also faces serious problems in supplying other raw materials. Bulgaria's iron ore reserves amount to some 250 million tons, and most of the ore, located near Kremikovtsi, averages only about one-third Fe content and requires expensive beneficiation. As a result, the development of the Kremikovtsi deposits has been extremely slow—output of iron ore has increased only slightly since 1968.

Reserves of manganese—some 28 million tons—also require concentration because of an excessive phosphorous content. Reserves of chromium amount to only 100,000 tons, and supplies of other ferroalloys are limited to the small amounts obtained as byproducts from processing copper and lead-zinc ores.

**b. NONFERROUS METALS**

Bulgaria is self-sufficient in lead, zinc, and copper. Reserves of lead-zinc ore in terms of metal content are estimated to contain 4.1 million tons of lead and 1.5

FIGURE 64. PRODUCTION OF SELECTED MINERALS, METALS, AND CONSTRUCTION MATERIALS (S)

(Thousands of metric tons, unless otherwise indicated)

	1950	1955	1960	1965	1969	1970
Iron ore (gross weight).....	49	113	415	1,804	2,688	2,107
Manganese ore.....	8	63	25	42	39	32
Pig iron (including ferroalloys).....	3	8	192	695	1,134	1,252
Crude steel*.....	5	120	300	650	1,667	1,980
Rollled steel.....	6	74	193	431	1,208	1,429
Refined lead.....	3	5	40	93	95	96
Refined zinc.....	0	1	17	66	76	74
Refined copper.....	0	**4	14	24	36	40
Cement.....	602	812	1,586	2,681	3,551	3,668
Bricks (million units).....	237	444	931	1,196	1,351	1,548

\*Data are estimated because official Bulgarian statistics do not reflect the full output of crude steel.

\*\*Blister copper.

million tons of zinc. Copper reserves are estimated at 2.5 million tons of metal. Bulgaria is the chief producer of lead in Eastern Europe and ranks second, after Poland, in the production of zinc and copper. Bulgaria could produce a great deal more of these metals, for even though the raw materials are abundant nonferrous metallurgy has been one of Bulgaria's slowest growing industries—in sharp contrast to the steel industry with its greatly inferior raw materials base. In 1965, nonferrous metallurgy accounted for 4.4% of gross industrial output and received 9.4% of capital investment in industry; in 1970 these shares dropped to 3.3% and 5.1%, respectively. Here, as in other cases, Bulgaria has emphasized import substitution at the expense of developing exports. Most of Bulgaria's eight plants for concentrating lead-zinc ores are in the Rhodope Mountains, where about 75% of the lead-zinc ore is mined. Metallic lead is produced at Kurilo, Kurdzhali, and Plovdiv (the latter two plants producing zinc as well). About 30% of the production of lead and two-thirds of zinc was exported in 1969, primarily to Western countries.

Copper is refined at three plants: an older plant at Eliseyna; a newer, larger one at Pirdop; and at the newest facility, Medet, near Panagyurishte. Almost two-thirds of Bulgaria's output of electrolytic copper is processed into rolled products at the Dimitar Ganev combine near Sofiya—the only factory in the country which turns out rolled nonferrous metal products. The combine is currently being expanded; output by 1973 is to total 110,000 tons of semimanufactured copper, brass, bronze, zinc, and aluminum products.

Bulgaria has at least one facility for concentrating uranium ore, which is mined northeast of Sofiya. Over 500,000 tons of uranium ore containing 1,000 tons of recoverable metal are produced a year. All concentrates are shipped to the U.S.S.R. Bulgaria also recovers small

amounts of gold from copper processing and from river sands in Chirpan, Vurshilo, and Vitosha.

**C. NONMETALLIC MINERALS**

Most of Bulgaria's small production of nonmetallic minerals, chiefly asbestos, bentonite, salt, and sulfur is exported. Bulgaria is the only Eastern European Communist country that produces asbestos, but the type produced is suitable only for nonstrategic uses. Better grades have to be imported. Output of barite, mica, and fluorspar covers most domestic requirements.

Production of major construction materials has kept pace with the growth of construction activity and is more than adequate to meet domestic requirements. Bulgarian cement has improved in quality and variety in recent years and is produced in sufficient quantities to permit export. The Wilhelm Pieck cement plant is shown in Figure 65. Yugoslavia, Libya, and Turkey have been the principal foreign buyers of Bulgarian cement in recent years.

**4. Manufacturing and construction**

Manufacturing industries—the machinery and equipment industry, the chemical and rubber industry, light industry, and agricultural processing—accounted for 60% of total industrial employment and 72% of gross industrial output in 1970. Agricultural processing accounted for the largest share of manufacturing output, followed closely by the machinery and equipment industry. The heaviest concentrations of employment are found in machinery and equipment and in light industry.

**a. MACHINERY AND EQUIPMENT**

A primary objective of Bulgaria's economic plan is to expand and diversify output in the machinery and equipment industry. It provided only 12.4% of industrial output in 1960, but forced expansion increased its share of output to 20% in 1970. Over the same period, the share



FIGURE 65. The Wilhelm Pieck cement plant, which is equipped with East German machinery (C)

FIGURE 66. PRODUCTION OF SELECTED ITEMS OF MACHINERY AND EQUIPMENT (UO)

	UNITS	1950	1955	1960	1965	1969
Electric motors.....	Thousand kilowatts.....	65	114	919	2,801	3,920
Transformers.....	Thousand kilowatt-amperes.....	160	587	1,172	2,672	2,624
Metalcutting machine tools.....	Units.....	886	1,400	3,150	8,063	12,789
Of which:						
Lathes.....	do.....	102	584	1,519	3,350	3,938
Electric forklift trucks.....	do.....	0	16	3,104	16,562	26,458
Freight cars.....	do.....	0	986	2,007	1,583	1,761
Maritime freighters.....	Thousand gross register tons.....	0	0	3.8	3.2	33.8
Tractor cultivators.....	Units.....	410	1,315	3,560	5,111	3,327
Tractor plows.....	do.....	900	1,947	4,944	2,120	4,086
Radios.....	Thousands of units.....	8	66	157	130	160
Refrigerators.....	Units.....	179	952	6,489	40,591	118,835
Motoreycles.....	do.....	0	0	7,530	6,505	3,523

of industrial workers engaged in the production of machinery and equipment grew from 15.1% to 21.4%. Growth in the output of selected items is shown in Figure 66. If the rapid growth is sustained, the industry should surpass agricultural processing in the late 1970's and rank first in terms of value of output.

Besides trying to produce a large share of the capital goods for domestic investment, Bulgaria has also pushed exports of machinery and equipment. Within the framework of CEMA specialization agreements, Bulgaria manufactures 270 engineering products and supplies 95% of other CEMA countries' imports of electric trucks and electric telfhers. By 1969 exports to CEMA accounted for 96% of all the machinery Bulgaria sold abroad. Bulgaria raised the share of machinery and equipment from 13.9% of total exports in 1960 to 19.1% in 1970. How ambitious Bulgarian aims are may be judged by the target for 1970, which was to make machinery and equipment 40% of total exports. During the Fifth Five Year Plan the export-import ratio for machinery was lowered to 1:1.7, and the ratio is to drop to 1:1.2 by 1975. However, in absolute terms, imports are still double the value of exports.

By the end of 1970 there were 440 enterprises in Bulgaria producing machinery and equipment. Many of the enterprises are located in and around Sofiya, but a few plants are located in and around each of the other major urban centers. In addition to the profitable production of electric trucks and electric telfhers, Bulgaria produces a lot of heavy machinery—boilers, turbines, earthmoving equipment, agricultural machinery, textile machinery, processing machinery for foods, beverages, and tobacco, and transportation and materials-handling equipment.

The development of a shipbuilding industry has been another profitable venture for Bulgaria. Most ships are destined for the U.S.S.R. or other CEMA countries, but a few have been sold in the West. Current output is approximately 120,000 deadweight tons (d.w.t.), but by 1975 output is expected to reach 400,000 d.w.t. Bulgaria has three major shipyards. The Georgi Dimitrov shipyard at Varna specializes in 23,500-d.w.t. mixed cargo vessels, and 38,000-d.w.t. dry-cargo vessels. The yard plans to build 70,000-d.w.t. tankers by 1975. The Ivan Dimitrov

shipyard at Ruse specializes in river and seagoing ships up to 5,000 d.w.t. The newest facility is the Iliya Boyadzhiev shipyard at Burgas. Capable of producing seagoing vessels up to 3,000 d.w.t., most of the production at Burgas is smaller—300-ton trawlers for the U.S.S.R. Baltic fishing fleet, passenger vessels for the Black Sea coast, and colliers and tugs for rivers and seaports.

Bulgaria has had only a little success in developing an automotive industry. Begun in 1966, the assembly of automobiles was forecast to be approximately 35,000 annually by 1970. Actual 1970 production was closer to 7,000. The automotive industry is controlled by the Autoprom State Economic Association (DSO). Its branches include two automobile assembly plants, one at Lovech (Figure 67) and the other at Plovdiv. The Madara plant in Shumen produces trucks, and a plant for the production of buses is being constructed at Botevgrad.

The Lovech plant was equipped to assemble the Rila 1400 (Soviet Moskvich 408) and the Pirin-Fiat (Italian Fiat 850 and 124). In 1970, the Lovech plant assembled approximately 6,000 Rila 1400's, but the Pirin-Fiat line has not yet got underway. The Plovdiv plant was constructed under a US\$25 million contract with Renault to produce the Bulgar Renault (French Renault 8 and 10) and the Bulgar Alpine. Although the plant produced 2,500 automobiles in 1969, contract difficulties caused 1970 production to fall to an estimated 1/3 of its 1969 level.

Production of trucks in 1970 amounted to 2,850, including 2,700 Soviet CAZ 53-A units and 150 Czechoslovakian Skoda trucks, which entered into production late in the year. Projected production of Skoda trucks in 1971 was 500. Other future production plans include 7,000 Rila 1400's in 1971 at the Lovech plant. In 1973, the Lovech plant will begin assembly of the Soviet Zhiguli.

Total automobile assembly at Lovech is expected to reach 40,000-50,000 by 1975. Output of Chavdar buses at the Botevgrad plant is projected at 2,500 units in 1975. Bulgaria's cooperation with Italy and France has been hampered by contract difficulties and shortages of hard currency; production of Fiats and Renaults will probably

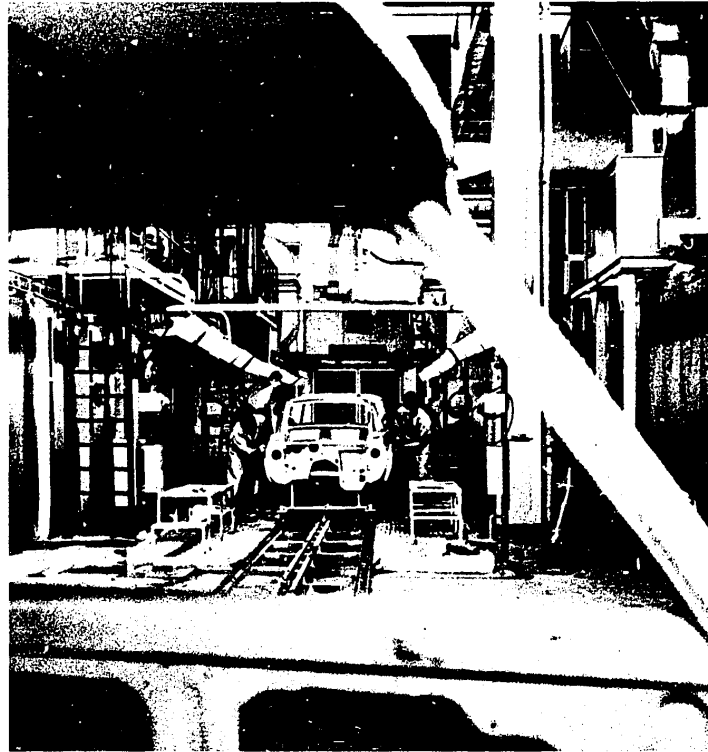


FIGURE 67. The Lovech automobile assembly plant, showing relatively unsophisticated manufacturing techniques (U/OU)

cease, leaving the automobile industry inexorably entwined with the U.S.S.R. and other CEMA members in both production and sales.

b. CHEMICALS AND RUBBER

The subject of special attention in the 1960's, the chemical and rubber industry expanded its output at an average annual rate of 19%—much faster than the 11.3% annual growth rate reported for total industrial production—increasing the industry's share of total industrial output from 3.7% in 1960 to 7.5% in 1970.

However, Bulgaria still ranks far below the other countries of Eastern Europe in the production of most chemical products; output of selected products is shown in Figure 68.

Most of the output of the chemical and rubber industry is used domestically, but, as the industry has grown, chemical exports have increased—from 2.7% of total exports in 1960 to 8.1% in 1970. In addition exports of rubber products accounted for about 1% of the total. The only major export products are soda ash, sulfuric acid, chlorine, and calcium carbide. In the late 1960's,

FIGURE 68. PRODUCTION OF MAJOR CHEMICAL PRODUCTS (S)  
(Thousands of metric tons, except where otherwise indicated)

	1950	1955	1960	1965	1969
Calcium carbide.....	3.0	8.9	21.7	55.1	72.4
Caustic soda (100%).....	0.1	2.4	17.1	32.4	49.0
Nitrogen fertilizer*.....	0	31.2	83.6	245.8	264.2
Phosphorous fertilizers (P <sub>2</sub> O <sub>5</sub> ).....	0	0	40.9	93.7	139.9
Soda ash (100%).....	0	70.6	128.4	222.7	264.9
Sulfuric acid (100%).....	0	19.0	122.6	317.6	498.1
Synthetic ammonia*.....	0.015	41.4	110.8	337.7	712.3
Plastics, artificial resins, and gums.....	0.4	0.9	7.3	33.2	74.4
Penicillin (in billion international units)....	0	2,630	7,327	21,860	29,547
Motor vehicle tires (in thousand units)....	38.1	72.5	196.2	348.6	333.2

\*Expressed in terms of nitrogen content.

the importing of chemical and rubber products began to level off, although the Bulgarians still run a deficit on this trade account.

One of the largest centers of the heavy chemical industry is on the Devnya plain, near Varna. Located in the area are the Karl Marx Soda Works and chlorine and polyvinylchloride plants. Plans for 1971-75 call for continued expansion of the chemical industry in this area. A new soda works being constructed at Devnya is designed to produce 1.2 million tons of soda ash and other products a year—three times the output of the Karl Marx plant. Also, a plant for the production of artificial fertilizer and other chemicals is to be constructed in 1971.

Other large chemical complexes are located at Dimitrograd, Plevin, Vratsa, and Stara Zagora. These plants specialize in the production of ammonia, urea, carbon bisulphide, nitrate fertilizers, and sulfuric acid. Three plants have been built for the production of chemical fibers. Polystyrene fibers are produced in Yambol, acrylonitrile fiber in Burgas, and polyamide fiber in Vidin; total output is expected to reach 100,000 metric tons a year. The petrochemical complex located at Burgas (Figure 69) is being expanded, and other facilities are being developed at Plevin. Developing in step with refining capacity, the expansion of the petrochemical industry will be of great benefit to the rubber industry. The production of synthetic rubber amounted to only 15,000 tons of butadiene-styrene in 1970. Plans for 1975 call for 40,000 tons of butadiene-styrene and 60,000 tons of polyisoprene rubber. There are two tire plants, one in Vidin and the other in Sofiya. By 1975 these plants are to increase production of new tires by 500% in an attempt to make Bulgaria self-sufficient in tires.

#### c. LIGHT INDUSTRY

Light industry has played a minor role in Bulgaria's economic development. In order to construct a socialist state out of a backward, agricultural society, the regime needed a foundation, and, according to socialist theory, the bedrock of socialism is heavy industry. Given a limited amount of available funds for capital investment, the direction of investment flows was obvious. Another factor was the lack of an export market to give incentive to production. The products were of too poor quality to be readily sold in the West, and in other Eastern European countries similar policies of minimum self-sufficiency were being followed.

As industrialization progressed and the economy matured in the 1950's, a greater volume of consumer goods and other light industry goods began to be produced. However, enterprises in light industry were required to fulfill only rather naive targets. Consequently, variety and quality were subordinated to quantity as output plans were met, and unsalable goods accumulated on the shelves. In the early 1960's the more annoying aspects of the product mix were corrected, and output increased modestly (Figure 70). Yet, light industry was still relegated to a secondary position as the development of heavy industry continued to occupy almost all of the regime's attention. The lack of emphasis

on the development of light industry has resulted in a lower-than-average rate of growth, and the sector's share of gross industrial production has continually declined.

In 1970 the various branches of light industry—cellulose and paper; glassware, porcelain, and faience; textiles; clothing; leather, fur, and footwear; and printing—accounted for 18.3% of industrial production and 18.6% of industrial employment. The most important branch in terms of either output or employment is textiles, and in terms of exports the most important branch is clothing. The fastest growing branch during the Fifth Five Year Plan was cellulose and paper, at an average annual rate of 15.3%. Textiles grew the least, 8.6% annually; the four other industries grew at rates ranging from 11% to 13%.

During the Fifth Five Year Plan the regime intended for light industry to begin to play a larger role in foreign trade. Even though the level of fixed capital investment remained relatively constant, exports did rise from a sluggish annual increase of 7.2% during 1961-65 to 11.3% during 1966-69. However, light industry accounted for only 10.5% of total exports in 1969. Since total exports experienced a similar growth pattern, light industry's share of exports was unchanged from 1965, and lower than in 1960. Although imports of light industry products matched the change of pace, the Bulgarians have been able to maintain a modest surplus in this sector's trade account.

The economic plan for 1971-75 exhibits the same lack of emphasis that has been characteristic of earlier plans. Capital investment for most branches will remain constant, with one major exception. The development of chemical fibers and use of more synthetics call for new machinery and equipment as well as new techniques; thus, extensive modernization is planned for the textile industry. Other measures include greater quality control and greater varieties of output, particularly in consumer goods such as clothing.

#### d. AGRICULTURAL PROCESSING

With rapid industrialization, agricultural processing has declined in importance, yet, it remains the most important single industry in the economy, both in the value of output (approximately US\$2.9 billion in 1970) and in terms of exports (\$579.4 million in 1969). It continues to employ a large share of the industrial labor force—15% in 1970. In the 1960's the product of the agricultural processing industry increased at an average annual rate of 8.4%, well below the rate for gross industrial production; consequently, its share of total industrial product fell from 33.5% in 1960 to 25.8% in 1970. The output of agricultural processing has been one of the mainstays in Bulgaria's foreign trade. Since 1960 exports have grown 12% annually, averaging one-third of total exports in the late 1960's. Growth in the output of selected items is shown in Figure 71.

Besides food preparation, the industry includes fish processing, and alcoholic beverage and tobacco processing. The meat processing branch is the most important, accounting for 20% of total industry product

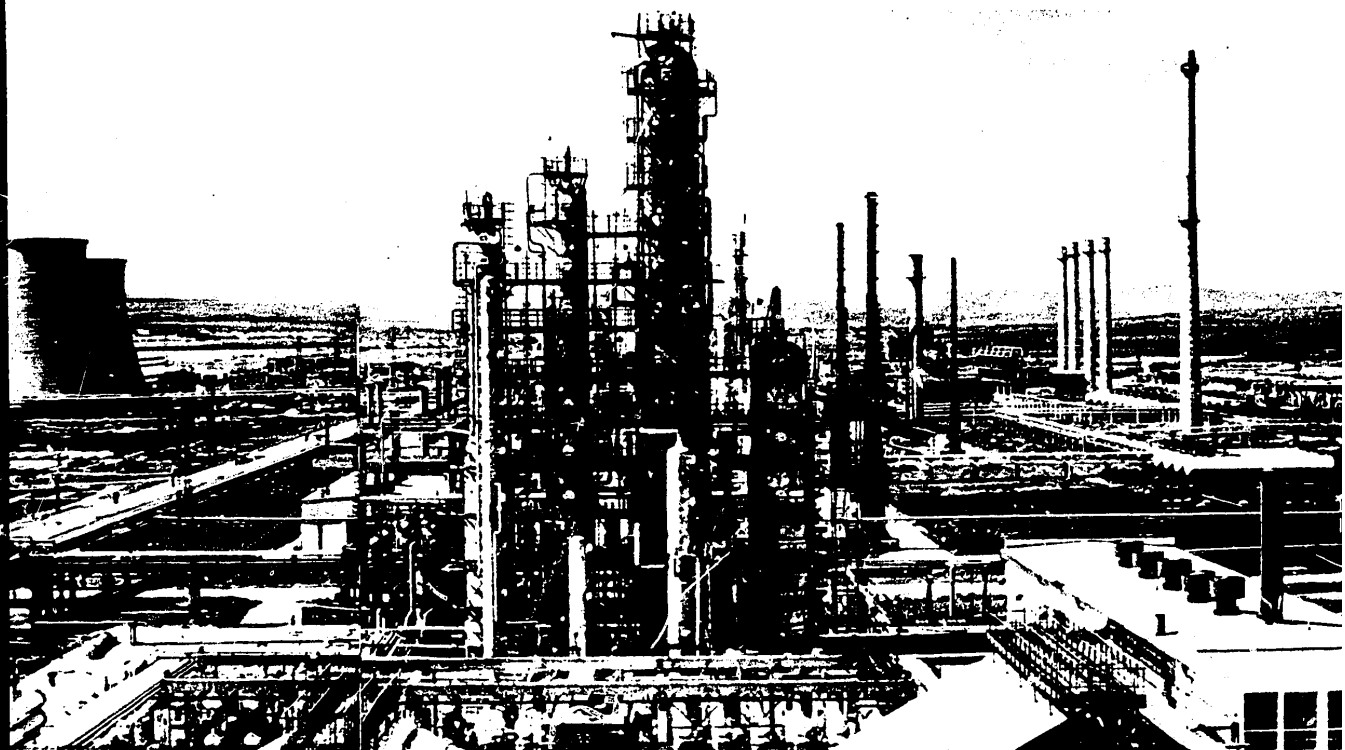


FIGURE 69. The petrochemical complex at Bargas with its powerplant, which is the largest industrial heat and power plant in the country (U/OU)

in 1969. One of the most rapidly growing branches is canning (of both fruits and vegetables), which accounted for 15% of the industry's output in 1969. The two other major branches, alcoholic beverages and beer, and tobacco and tobacco products, accounted for 15% and 10% of the value of the industry's output, respectively.

In 1970, 326 enterprises were engaged in processing agricultural products. The processing plants are widely distributed throughout Bulgaria, but heavy concentrations, particularly of the canning branch, are found in the districts of Pleven, Plovdiv, and Veliko Turnovo.

Tobacco and tobacco products compose nearly half of Bulgarian exports from the agricultural processing industry. Exports of alcoholic beverages have grown the

most rapidly. Since 1960 exports of wine and spirits have increased about 20% annually and now compose more than one-fifth of the industry's exports. The other major export branch is canning, but its rate of growth has been relatively slow, and the branch's share of exports decreased from 32.4% in 1960 to 21.1% in 1969. Dairy and meat products, taken together, account for only 10% of the industry's exports. Bulgaria's largest foreign customer for processed agricultural products is the U.S.S.R. In fact, in 1969 cigarettes accounted for 11% of all Soviet imports from Bulgaria, and total Soviet imports of canned fruits and vegetables, alcoholic beverages, and tobacco and tobacco products were valued well in excess of imports of Bulgarian machinery and equipment.

FIGURE 70. PRODUCTION OF SELECTED PRODUCTS OF LIGHT INDUSTRY (U/OU)

	UNITS	1950	1955	1960	1965	1969
Cotton fabrics.....	Million linear meters.....	83.1	132.1	218.4	291.3	334.7
Woolen fabrics.....	do.....	8.9	10.7	18.7	20.1	26.0
Footwear.....	Million pairs.....	3.2	3.5	7.5	10.1	15.1
Of which:						
Leather footwear.....	do.....	1.7	1.5	4.3	5.2	4.8
Paper.....	Thousand metric tons.....	25.4	43.2	53.9	85.2	191.6
Plate glass.....	Thousand square meters.....	1.8	3.2	7.6	17.4	18.3
Plywood.....	Thousand cubic meters.....	24.1	36.5	64.3	81.4	73.7



FIGURE 71. PRODUCTION OF SELECTED PRODUCTS OF THE AGRICULTURAL PROCESSING INDUSTRY (U/OU)  
(Thousands of metric tons, except where otherwise indicated)

	1950	1955	1960	1965	1969
Meat*	54.3	94.0	148.0	207.2	259.3
Canned vegetables	23.1	58.6	153.4	196.5	224.6
Canned fruit	24.6	36.6	124.0	165.8	223.2
Vegetable oils (edible)	29.4	48.5	78.1	98.3	137.6
Flour	1,097	1,534	1,506	1,589	1,572
Bread	278	619	877	1,459	1,556
Sugar, refined	37	63	171	315	316
Grape wine (in millions of liters)	101.6	138.1	119.2	278.0	337.5
Tobacco products (in metric tons)	9,956	8,860	13,606	32,148	52,582

\*Meat slaughtered in slaughterhouses only.

e. CONSTRUCTION

The regime's policy of rapid industrialization, and the consequent high level and rapid growth of capital investment, has fostered a relatively high, sustained rate of growth in the construction industry—averaging 9.4% annually, in spite of the slow growth of housing construction. The share of fixed capital investment allocated to construction and assembly is given in the following tabulation, in million of U.S. dollars:

	1960	1965	1970
Total fixed capital investment . . . .	1,107.0	1,696.2	2,705.1
Investment in construction and assembly . . . . .	700.3	940.9	1,428.5
Percent of total . . . . .	60.0	55.5	52.8

The Bulgarian construction industry, despite its rapid growth, is backward even in comparison with construction in other Eastern European countries. The industry has been slow to train skilled workers and to mechanize. Management also has been poor, both on the site and in organizing supply. Enterprises were slow to use machinery and equipment for more than one shift. Moreover, both capital and labor were often idle because of poor scheduling and the lack of materials and spare parts.

Concentrated efforts have been made to put construction on a more industrialized basis, especially since 1969. Management has been told to adopt the critical-path method to shorten construction time and to maximize the use of productive factors. Prefabricated construction, particularly the type involving concrete slabs, has become more common. The amount of machinery and equipment in use has continued to increase. For example, the number of bulldozers acquired since 1965 is greater than the number acquired in the previous 15 years. In spite of this increase, Bulgarian officials estimate the capital-labor ratio in construction to be only one-fourth that in industry, and even two-thirds that in agriculture.

The shortcomings of the construction industry are particularly evident in housing. In Bulgaria housing standards have always been low, and there has been little real improvement. Since 1956 Bulgaria has reportedly constructed an average of 45,000 dwellings per year, but

a constructed dwelling is not "finished." Before a dwelling can be occupied the new owner must correct the mistakes and deficiencies of the construction process at his own expense.

In 1970 the dwelling stock was estimated at 1,764,000 units—10.9 square meters per capita. The bulk of the dwelling stock is of postwar origin. Approximately 38% of the units are located in urban areas, but the area per capita (9.4 square meters) is less than in rural areas (12.4 square meters). Although a large migration to urban areas has been observed since the early 1950's, it was not until 1964-65 that the regime finally began to react. Since 1965 twice as many dwellings have been constructed in urban than in rural areas. This effort has been, however, too little and too late. A byproduct of concentrating construction in urban areas was a net decrease in the dwelling stock in rural areas. Fortunately, the migration to the cities has been somewhat faster than the decline in the number of rural dwellings. Consequently, families remaining in rural areas are housed better, at least in terms of space, than urban families.

The regime has promised substantial improvement of the housing situation during the 1970's. Other construction works should also be improved. Planning officials have pinpointed what they consider to be a major explanation for the industry's lagging performance—the spreading of construction activity too thinly over the economic landscape. In the Sixth Five Year Plan a smaller number of projects will be constructed. The result of this measure may reduce the volume of unfinished construction, removing a source of continuing frustration for the regime.

5. Domestic trade

The development of internal trade reflects the slight, but nevertheless very real, policy shifts that have affected the Bulgarian economic system. There have been three periods in the development of domestic trade: 1) the period previous to 1952, when the economy was being socialized, was characterized by great shortages and market instability and by planners operating under Stalin's thesis that demand should outstrip supply to stimulate production; 2) in the second period, 1952-60, prices were manipulated in an attempt to balance supply

and demand for the goods produced, even though in many cases this resulted in products being sold below cost; 3) in the period since 1960 trade has been used more frequently as an indicator of what should be produced rather than serving as an intermediary between producer and consumer.

Wholesale and retail sales are largely controlled by the state. Only enterprises engage in wholesale trade, and transactions are recorded on the enterprises' accounts by branches of the Bulgarian National Bank. Retail trade is strictly a commodity-monetary exchange; credit transactions are rare. The only private trade is on the free market, where farmers and self-employed craftsmen sell their products at market-determined prices. Yet there is some regulation of private trade because only those persons who have been licensed by the local people's council can trade with the public.

The conduct of domestic trade is overseen by the Ministry of Internal Trade and Public Works. Below the ministry level, coordination and direction are provided by an administration for retail trade, public catering, and baking. Day-to-day control of trade enterprises, however, is exercised by the district people's councils.

In 1969 state-owned enterprises accounted for 62.4% of retail trade turnover and 59.4% of public catering sales. Cooperatives accounted for all but a minute fraction of the remainder. Although the trade network is no longer territorially oriented, cooperatives account for the bulk of trade conducted in rural areas. All cooperative organizations have been merged into the Central Cooperative Union which, in addition to engaging in trade, is involved in industrial activity (with output of US\$700 million in 1969) and in the development of several agroindustrial complexes. By late 1971 the union was composed of 835 consumer cooperatives, 744 agricultural organizations, and 420 production cooperatives with a total membership exceeding 3.5 million.

The regime periodically has adjusted the structure of retail and wholesale prices. In the 1950's prices were reduced because of economies from increased production and the attempt to clear the shelves of an accumulation of low-quality items, as well as by the desire to increase the standard of living, in effect, by subsidizing goods deemed socially desirable. During the 1960's the policy changed gradually, and attempts have been made to eliminate or reduce the subsidy on consumer goods and services so that price would become more reflective of cost.

More is known about the structure and movement of retail prices than of wholesale prices. During 1961-63 retail prices were raised by 6%, including an 11% increase in food prices, mainly meat, alcoholic beverages, cheese, and vegetables. A long-delayed price reform in 1968 boosted prices of foods, rents, services, and public transportation, largely items that previously had been sold at a loss. The price increase for popular meats and cheeses was more than 50%, and for transportation 50% to 100%. Prices were decreased somewhat for sugar, fish, lard, and bacon, but the net effect was a 4% increase in

the retail price index. Another token price reduction in 1969 did not substantially alter the impact of the 1968 price reform. Prices remained constant in 1970, and, although a price rise was rumored toward the end of the year, public opinion and the Polish experience may have caused the regime to delay it (on the other hand, there were reports that no changes in retail prices were planned).

Under the New Economic Mechanism the criteria used to form wholesale prices are norms for the cost of production, norms for profitability, and foreign trade prices. Wholesale prices must be high enough to insure both the quality of the product and sufficient profitability to accumulate funds for internally financed investment, yet prices must also be low enough to be competitive. A new wholesale price schedule became effective in January 1971 and, if plan directives are followed, the wholesale price schedule will be reformulated once a year in response to changing conditions. The regime declared that the 1971 price revision reduced wholesale prices 10%. The only visible effect of the new prices, coupled with revision in the prices of some imports, was a reduction of retail prices in June 1971, affecting only poultry, certain textiles, a few medicines, and some consumer durables. Again, the consumer experienced no substantial gain.

Per capita consumption seems to have improved more in 1966-70 than in 1960-65, but it is still lagging behind retail sales. It should be noted, however, that a large part of consumption—especially on farms—comes from the consumer's own production, from payments in kind, and from the free market. In fact, the Bulgarians estimate that, over 1965-69, income from private plots accounted for an average of 17% of per capita income. Although the free market will continue to be important, consuming from one's own production or from payments in kind will decrease in the 1970's because of continued urbanization, which, in turn, will boost the volume of retail sales shown in official statistics.

Despite sporadic attention, Bulgaria's retail trade network is still inadequate. Under the Fifth Five Year Plan the number of trade outlets expanded slowly, from 28,153 in 1965 to 32,705 in 1970. In addition, Bulgaria in 1970 had 19,775 eating places, of which 21% were canteens. Although the 8.7% annual increase in retail sales in 1966-70 was an improvement over the sluggish performance of the preceding 5 years (7.2%), the growth in sales was still well below the 11% average increase of the last half of the 1950's. The distribution of retail sales remained static during 1960-65. Since 1965 a small change has taken place, with the sale of nonfood items increasing more than the sale of food items at a ratio of 1.7:1. The percentage distribution of total retail sales (in terms of 1960 prices) is given in the accompanying tabulation:

1966	11.0
1967	9.0
1968	6.5
1969	7.7
1970	7.0

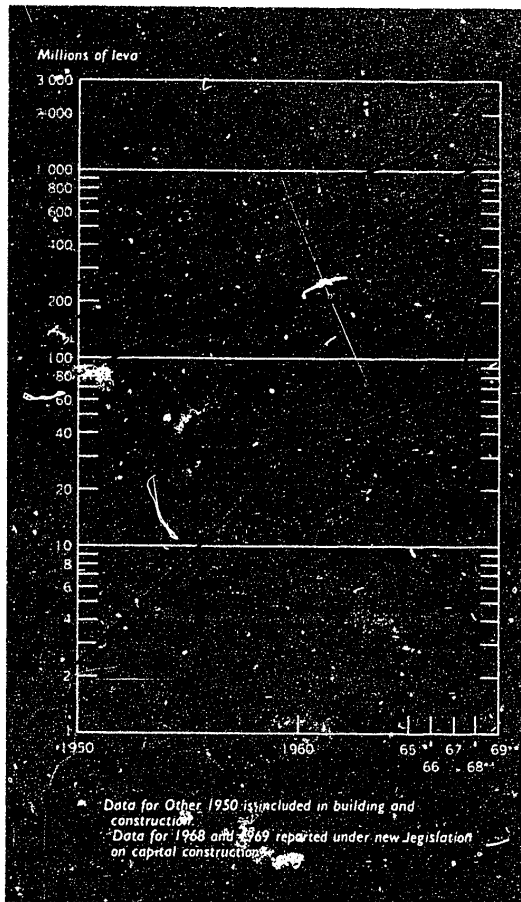


FIGURE 72. Level and composition of fixed capital investment (U/OU)

The 1971-75 5-year plan calls for reconstruction and improvement of the internal trade network and more and better consumer goods as part of the program of "concern for man." Although past experience indicates that much of the emphasis is probably rhetoric, the variety and quantity, but not the quality, of goods on the shelf has increased perceptibly since December 1970. Emphasis has also been placed on rapid development of consumer services. The goals of the plan for services are ambitious, detailing a 70% to 80% increase in commercial services, including a 580% increase in dry cleaning alone. Employment in industrial services is to increase 250% more than in the preceding 5-year plan.

**C. Economic policy, planning, and the financial system (S)**

**1. Economic policy**

Bulgaria entered the 1970's in the same manner it began the 1950's, borrowing its economic policy from the U.S.S.R. In the 1960's, after abandoning the Chinese-

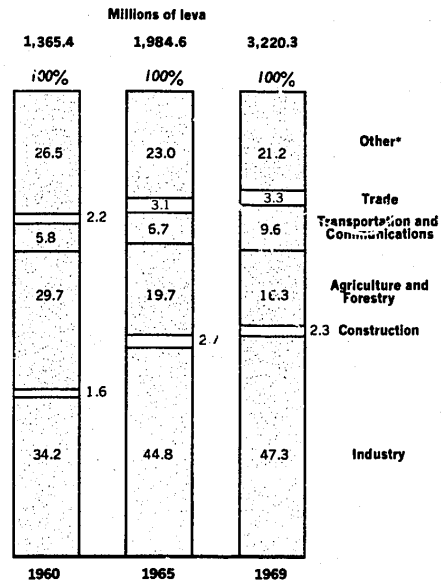
inspired "great leap forward" program, only two slight detours were taken—a halfhearted attempt at economic reform and an abortive attempt to expand trade with the West.

**a. DOMESTIC**

Since 1950, economic activity has been dominated by the push for industrialization. Planned investment increased by about 10 times, reaching approximately 2.5 billion leva in 1969 (Figure 72). By 1960 industry was receiving about one-third of total capital investment, and by 1965 its share increased to 45% (Figure 73). (More detailed information on the distribution of total investment among the economic sectors is contained in Figure 74.)

Within industry, important shifts of emphasis occurred in the early 1960's, as shown by changes in the shares of investment going into the various branches (Figure 75)—investment in ferrous and nonferrous metallurgy rose from 18% in 1960 to nearly 25% in 1965, while the shares for electric power and fuel and light industry declined.

Structural change and growth resulted in an increasingly complex and inefficient economy. A variety of factors were at work: the extreme centralization of planning, lack of enterprise incentives, and the inappropriateness of performance indexes to help guide investment decisions—in short, all of the problems inherent in a command economy. Bulgarian officials, contemplating reform to deal with these problems, kept



\*Health, welfare, science, education, culture, art, communal services, and housing.

FIGURE 73. Fixed capital investment by economic sector (U/OU)

FIGURE 74. DISTRIBUTION OF CAPITAL INVESTMENT, BY ECONOMIC SECTOR (U/OU)  
(Percent of total)

	1949	1956	1960	1965	1965	1967	1968	1969	1970
Industry .....	31.4	36.8	34.2	44.8	45.1	45.8	45.8	47.3	47.2
Construction.....	2.2	0.5	1.6	2.7	3.6	3.8	3.0	2.3	2.2
Agriculture.....	11.7	21.6	27.9	18.8	17.7	16.2	16.9	15.4	15.2
Of which:									
Labor Cooperative Agricultural Farms (TKES).....	2.7	9.6	18.0	11.8	na	9.8	10.0	9.9	na
Forestry.....	0.7	1.3	1.8	0.9	0.9	0.9	0.9	0.9	1.0
Transportation.....	16.5	6.2	5.4	6.1	7.5	8.9	8.4	8.6	8.5
Communication.....	1.6	0.7	0.4	0.6	0.8	1.3	1.1	1.0	0.9
Trade.....	2.4	2.0	2.2	3.1	2.8	2.8	3.1	3.3	3.0
Other branches of material production.....	0.0	0.1	0.1	0.0	0.1	0.1	0.1	0.1	0.1
Housing and commercial economy.....	22.9	23.8	19.2	16.9	15.2	13.7	13.8	14.7	15.0
Of which:									
Housing.....	20.0	18.6	14.1	12.0	10.6	9.1	8.7	9.6	9.7
Science and science services.....	0.2	0.6	0.9	0.8	0.7	1.0	1.1	0.9	1.0
Education, culture, and arts.....	2.7	3.0	3.5	3.0	3.0	2.6	2.6	2.6	2.6
Public health, social insurance, and physical culture.....	2.2	1.9	1.5	1.2	1.5	1.5	1.7	1.2	1.4
Other branches not contributing directly to material production.....	5.5	1.5	1.3	1.1	1.1	1.4	1.5	1.7	1.9
Total.....	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

NOTE—Figures may not add to totals because of rounding.  
na Data not available.

FIGURE 75. DISTRIBUTION OF CAPITAL INVESTMENT IN INDUSTRY, BY BRANCH (U/OU)  
(Percent of total)

INDUSTRY	1950	1955	1960	1965	1966	1967	1968
Heavy manufacturing:							
Machinebuilding and metalworking.....	13.3	10.5	10.3	12.2	13.3	15.4	17.8
Chemicals and rubber.....	*10.9	*1.6	5.3	9.1	14.4	18.7	15.6
Electric power (including steam heat).....	37.1	28.0	14.3	15.8	15.9	15.1	11.0
Fuel.....	7.3	20.1	15.5	12.9	11.1	9.5	5.8
Ferrous metallurgy (including ore mining).....	3.8	3.2	6.4	15.1	11.0	9.3	8.6
Nonferrous metallurgy (including ore mining).....		14.0	11.9	9.4	6.5	5.9	5.1
Light industry:							
Cellulose and paper.....	**	**	1.0	1.7	1.1	0.9	0.9
Glassware, porcelain, and faience.....	**	**	2.1	1.6	1.5	0.7	0.8
Textiles.....	3.5	2.7	6.2	4.1	3.3	3.2	5.2
Clothing.....	**	**	0.4	0.3	0.4	0.5	0.6
Leather, fur, and footwear.....	0.3	0.2	0.5	0.6	0.6	0.5	0.6
Printing.....	**	**	0.5	0.2	0.3	0.3	0.3
Agricultural processing.....	6.1	5.1	13.2	8.0	9.0	9.5	10.1
Building materials.....	3.8	3.0	5.9	3.8	5.3	5.2	5.4
Logging and wood processing.....	4.2	2.9	3.3	2.7	3.3	2.3	2.3
Other branches of industry.....	9.6	8.7	3.1	2.5	3.0	3.1	2.8
Total.....	100.0	100.0	100.0	100.0	100.0	100.0	100.0

NOTE—Figures may not add to totals because of rounding.  
\*Chemical industry only.  
\*\*Data are included in "Other branches."

close watch on attempts by the other countries of Eastern Europe to solve similar problems, particularly Czechoslovakia. Yet, as they watched with interest the events in Eastern Europe, they were constantly aware of reactions from Moscow. Consequently, they approached economic reform with great circumspection.

The period of reform in Bulgaria can be broken into two stages, 1966-68 and 1969-70. Reform was officially initiated with the publication of the "Draft Thesis... on

the New System of Planning and Management of the National Economy," in December 1965. Actually, the New System of Management was first discussed in 1963 and introduced experimentally in 1964. The reform was designed to promote managerial efficiency and improve the quality of Bulgarian production without sacrificing the central control of the Communist Party. The 1966-68 stage, however, should not be likened to the policy of decentralization adopted at that time in Czechoslovakia

or Hungary but rather to the policies of Poland or East Germany.

The reform's overall goals—efficiency and adaptability—policy changes in the first stage were focused on the basic economic unit, the enterprise. Incentives were to be devised to encourage greater productivity and technical progress. Investment was to be internalized, relying on enterprise accumulation and bank credit. Fixed and liquid assets were to be subject to taxes to insure that they would be productively used. Enterprises were also to be given an increase in contractual responsibility, so long as the contracts negotiated did not violate plan directives. In planning, enterprises were to work out the details in order to reduce exaggerated centralism and make planning more scientific—i.e., to improve central planning, not to weaken it.

The old system of supervision of the enterprises by administration and ministries was replaced by the formation of state economic trusts (DSO's), which in turn were guided by the Council of Ministers. Although enterprises were administratively subordinate to the DSO's, they were legally independent. In addition to these changes, the regime revised the price and tax structure and linked wage payments more directly to labor productivity.

In the second stage—1968-70—liberalization of planning was in effect abandoned as a way of attaining efficiency. Bulgarian leaders now stressed computerized control through scientific planning far more than increased efficiency through enterprise incentive. The principles of reform were eulogized, not practiced; the tools were modified, but policy remained the same.

The latest available data indicate that the reform did little to alter the overall investment trend of the early 1960's—the share going to industry remained about constant and equalled only 47% in 1970 (Figure 74). By 1968 the share going to heavy manufacturing had increased, but only to 33% (Figure 75). The share going to electric power and fuel decreased somewhat—to 24%—as did the share for ferrous and nonferrous metallurgy—to 14%. The share for light industry remained approximately the same, slightly in excess of 8%.

Over 1969-70, discussion of reform centered on the necessity of adopting the newest techniques of scientific management of the economy via computer control of a more streamlined, integrated economic system. In 1969 an experiment with vertical and horizontal integration began with the formation of agroindustrial complexes.

The plan for 1971-75 calls for continuation of the 1965 reform in the spirit of the second stage. It began in 1971 with the adoption of integration as the norm for agriculture. Other sectors of the economy were rationalized, and the number of DSO's was decreased from 120 to 68. Enterprises lost their legal independence, becoming instead branches under the direct control of the new economic organizations. Thus, the DSO's are now economic rather than administrative in nature and directly responsible for the performance of their

enterprise branches to the Council of Ministers. Although titled the New Economic Mechanism, the policy is only old wine in new bottles.

#### b. FOREIGN

In conjunction with the domestic reform policy the Bulgarians believed that the road to modernization pointed in the direction of vastly increased imports of machinery and equipment from the West. In the late 1950's they had tried a similar policy which failed when exports did not increase fast enough to keep the debt manageable. In the late 1960's, this new policy thrust was blunted and redirected, partly as a result of the Czechoslovak experience, but more importantly because of the same difficulty of producing exports acceptable to the West, the unsustainable increase in debt to the West, and, ironically, the excessive sophistication of the Western imports. The Bulgarians watched history repeat itself until 1968, when the Soviets were compelled to render them financial assistance. Blocked from Western technology because of their disadvantageous trade relationships, they began to eye CEMA with renewed interest.

Despite the small economic gains received from CEMA to date, the Bulgarian leaders hope that CEMA will facilitate Bulgaria's transformation from a backward agricultural state to an advanced industrial state. They realize that the small size and limited resources of the country prevent obtaining optimum levels of production, economies of scale, and concentrated research and development. They would like to have CEMA assign Bulgaria a monopoly on production of particular lines of goods, especially of machinery and equipment, which would guarantee a large market within the bloc. They have also argued for the establishment of joint projects within CEMA for which Bulgaria would produce specified components (e.g., automobile parts). As a byproduct, the partner states would provide technological assistance and licenses.

Bulgaria generally supports Soviet policies in CEMA. For example, during the price disputes in the mid-1960's, Bulgaria fully endorsed the Soviet view that prices should be adjusted within CEMA in favor of agricultural and raw material exports, since such changes would favor Bulgaria, too. But the regime has, on occasion, taken a position at variance with the Soviet view when concrete Bulgarian economic interests were at stake. For instance, Bulgaria campaigned for the establishment of quotas within the Investment Bank according to national income despite Soviet insistence on relating quotas to foreign trade.

Relationships with other CEMA states have not been entirely tranquil and smooth. The Bulgarians have resented what they considered to be inadequate assistance from the advanced states of CEMA, notably East Germany and Czechoslovakia. The differences have a logical economic basis—Bulgaria wants "equalization of the economic levels of the CEMA countries," but the more advanced CEMA countries are not eager to contribute to equalization.

**2. Implementation of economic plans**

The basic instruments for stating the regime's policies are the economic plans. There are three types of plans: long-term, 5-year, and annual. Long-term planning—i.e., 15-20 years—is used to project major structural changes in the economy. Long-term plans are divided into 5-year periods which are used as a basis for development of the 5-year plans. Originally used only to give general continuity to planning, the 5-year plan has become the basic planning document. The plans contain specifications for the economic and cultural development of society, including the rate and distribution of investment, targets for foreign trade, increases in the living standards of the people, and educational and medical requirements. Annual plans are more detailed than the 5-year plan which they enforce because they adapt the 5-year projections to changing conditions and regulate the activities of economic organizations.

The fundamental responsibility of planning is shared by the Council of Ministers and the State Planning Committee. Once the plan has been drafted and coordinated, it is submitted to people's councils and trade unions for discussion. Although, in principle, the planning draft is subject to modification during those discussions, a substantial change would be rare.

Annual plans are automatically submitted to and enacted into law by the National Assembly. Conversely, the 5-year plans in the past were approved by Party Congresses. According to the regulations of the New Economic Mechanism, 5-year plans are now required to be submitted to the National Assembly and thus gain the status of law. This regulation, however, was ignored when the directives for the 1971-75 plan were approved.

Planning since World War II falls into five periods—1947-53, 1953-57, 1958-60, 1961-65, and 1966-70—roughly corresponding to the regime's long-term planning periods. The first period, one of strenuous effort to develop the economy, included the Two Year Plan (1947-48) and the First Five Year Plan (1949-53). A period of consolidation of achievements, coinciding approximately with the Second Five Year Plan (1953-57) followed. With the adoption of the Third Five Year Plan (1958-62) there began another period of ambitious planning, culminating in the "leap forward" program of 1959-60. Since 1960, planning has become more realistic, and the period following the "leap forward" was again one of consolidation.

The original Third Five Year Plan, approved at the Seventh Party Congress in June 1958, was similar to the Second Five Year Plan, but more conservative; for example, by the end of 1962 gross agricultural production was to reach the goal that had originally been set for 1957 in the Second Five Year Plan. In November 1958, however, the party introduced the "leap forward" program. This program, probably inspired by the Chinese Communist "leap forward" campaign of 1958-60, greatly raised the goals for 1962, and also set the objective of fulfilling major goals of the revised plan 1 or 2 years early.

Under the "leap forward" program Bulgaria increased the rate of growth of industry and investment in 1959, but the program as a whole was an expensive failure. It left a legacy of imbalances that probably had unfavorable effects on industrial growth for several years. During 1960 the economy grew at a slower rate than in 1959, and the rate declined further in 1961-63.

The 1958-62 plan was declared "substantially fulfilled" at the end of 1960, and a new 5-year plan was drawn up. The aims of this plan, the Fourth Five Year Plan (1961-65), were further industrialization, consolidation of the gains of the "leap forward" period, and correction of the imbalances that developed at that time. National income was to increase by about 60%, gross industrial production by 70%, and gross agricultural production by 45% to 50%. Capital investments for the period 1961-65 were scheduled to be double the amount for 1956-60, emphasis being put on completing projects begun during the "leap forward" program. The goal for industrial growth was attained, but results in agriculture were disappointing and national income did not grow as planned. Capital investment also fell short of the planned figure.

The Fifth Five Year Plan, covering the period 1966-70, also projected high growth rates. National income was to increase by 50%, industrial production by 70%, and agricultural production by 30%. Investment during 1966-70 was to total 12 to 13 billion leva compared with the 7.5 billion leva invested in 1961-65.

Regardless of official claims to the contrary, the plan was unfulfilled—no doubt because of the 1968 agricultural failure. Annual growth rates of national income during the Fifth Five Year Plan are given in the following tabulation, in percent:

	1965	1966	1967	1968	1969	1970
Financing the national economy . . . . .	52	54	55	53	52	50
Social and cultural expenditure . . . . .	28	26	27	28	29	32
National defense . . . . .	7	6	6	6	6	6
Government administration . . . . .	2	2	2	2	2	2

As a result, national income increased slightly less than the planned 50%.

The aggregate increase in industrial production was 71.1%, indicating fulfillment of the plan. However, output in key sectors was far short of what had been envisioned. The lack of reporting on sectors overfulfilling the plan casts doubt on the validity of the "official" figures.

Agricultural production increased only 26% during the plan period. After an excellent first year, production fell off in 1967 and had a negative growth rate (-10.5%) in 1968. Since 1968 agricultural production has managed to rise to approximately the 1966 level.

The plan for capital investment was substantially overfulfilled, amounting to 14.9 billion leva over the period. However, much of this investment was dissipated. Under the New Economic Mechanism, the allocation of

investment among enterprises will be determined by the DSO's to avoid wasteful expenditures and facilitate the concentration of investment.

The Sixth Five Year Plan continues the emphasis on rapid growth, but to a degree it is more realistic. National income is to increase by 45% to 50% during the period and industrial production by 55% to 60%. Capital investment will amount to 20 to 21 billion leva; 75% of this investment is destined for industry. The planned increase in agriculture, 17% to 20% over the 1960-70 average, probably reflects awareness of the anticipated effects of reorganization on production.

The theme of the Sixth Five Year Plan is "concern for man." Given the lack of support for this theme in the directives, it seems likely that this is a reaction to the Polish riots of December 1970. One item receiving emphasis is the plan to increase housing from 10.9 square meters per person in 1970 to 12.5 square meters in 1975. The space available in the dwelling stock in rural areas is more than adequate, but in the cities it has been in critically short supply since the early 1950's when labor began migrating to work in industry. Although housing has received periodic attention, the remaining severity of the crisis serves as an indictment of the regime's excessive emphasis on industrial growth.

### 3. The financial system

#### a. FINANCIAL PLANNING

The annual financial plan on the national level projects the flow of funds within the economy according to the production and consumption goals set by the economic plan. Regional levels of government and economic organizations incorporate and coordinate their financial plans with the state plan. Projections are also made for the financial needs of private enterprise and for the incomes and expenditures of the population. The main components of the financial plan are the cash plan, the credit plan, and the budget.

The cash plan is drawn up by the State Planning Committee to balance currency flows within the economy. Since the government has prohibited cash payments of more than 100 leva between enterprises, the cash plan is largely restricted to balancing the incomes of the population—wages, pensions, social security benefits, payments for the sale of agricultural products, and so forth—against the available supply of consumer goods and services. Through the cash plan the government attempts to identify and control the inflationary pressures built into an economy in which not enough consumer goods are available to satisfy the demand generated by steadily rising incomes. The extent of unsatisfied demand is illustrated by the rapid growth of savings deposits, which in the 1960's rose at an average annual rate of 15.6%. The government encourages savings, paying from 2% to 4% interest to depositors, but greater reliance is placed on taxation to reduce effective demand.

The credit plan, drafted by the Bulgarian National Bank (BNB), covers both long-term (over 1 year) and short-term credits. The function of the credit plan is the identification of all sources of loanable funds and the allocation of these funds among branch banks, which in

turn grant credit to economic organizations for working capital and capital investments.

After 1955 the volume of short-term credit expanded steadily, reaching 2.7 billion leva (US\$2.3 billion) in 1965. Of the amount which was not overdue in 1965 (2.5 billion leva), 53% was used to supplement working capital and 9% was used for seasonal expenditures and supply. The domestic trade sector received the majority of the credit, 49%, and industry received 37%. Under the New System of Management, enterprises were encouraged to use retained earnings to finance working capital, but credit for this purpose still averaged 53% of all nonoverdue short-term credit for 1966-69. Over the same period an annual average of 11% was allocated for seasonal expenditure and supply. By 1969 the volume of short-term credit had grown to 4.6 billion leva (\$3.9 billion); of this amount, 37% was still received by industry, but the share received by domestic trade had fallen to 41%.

Long-term credits have been used to finance capital investment in industry, agriculture, and housing. As in other Communist countries, most industrial investment in Bulgaria originally was financed by direct, interest-free grants from the budget. In 1965, long-term credits totaled only 860 million leva (US\$735 million). The population received 37% of the total. The remaining 63% went to the national economy, heavily favoring cooperative farms—53% of the total; other cooperative enterprises received only 1% and state enterprises received 9%. However, the New System of Management replaced budgeted grants to industry with interest-bearing loans to encourage more efficient use of investment funds. By 1969 the volume of long-term credit had grown by 225% and equaled 2.8 billion leva (\$2.4 billion). The distribution in 1969 was changed markedly from 1965. Only 18% of the available credit was received by the population—virtually all of it used for construction and repair of housing. Cooperative farms received 15% and other cooperative enterprises received 2%. Thus, the amount of credit-backed investment in state enterprise grew to 66% under the New System of Management.

#### b. THE BUDGET

Drafted by the Ministry of Finance, the budget includes transactions of the state and district governments as well as contributions to and payments from the state social security system. The function of the budget is to redistribute funds collected from enterprises and the population to finance economic development, government administration, national defense, and social welfare. Although most investment is now allocated outside of the budget framework, the budget remains a powerful tool for implementing the economic plan. The following tabulation shows the distribution of planned expenditures by main categories, in percent:

	1965	1966	1967	1968	1969	1970
Turnover tax . . . . .	39	38	33	35	37	37
Profit tax . . . . .	18	14	12	11	3	3
Capital use tax . . . . .	2	3	4	4	5	5
Enterprise income tax .	3	8	11	14	21	21
Individual income tax .	7	6	6	7	6	8

The category "financing the national economy" includes some direct capital investment and credit for capital investment channeled through the banking system, subsidies to industrial and foreign trade enterprises, and additions to state reserves of materials. Expenditures for social-cultural purposes—including social insurance, education, health, and cultural activities—represent the second largest outlay of the budget. Defense expenditures were about 8% of total expenditures in the early 1960's, but declined to 6% beginning in 1966. Some defense-related spending may be included in the nonitemized residual in budget expenditures; also, some defense items are hidden in other budget categories. Government administration accounted for about 4% of total expenditures during most of the 1950's and 2.5% in 1961-65.

Before 1965 turnover taxes and deductions from profits of enterprises accounted for about two-thirds of budget revenues. The turnover tax—in effect, a sales tax on consumer goods, with widely different rates for different types of products—accounted for one-half of receipts, and enterprise profits accounted for another one-fifth. Starting in 1965 the turnover tax began to decline in importance, but quickly regained its significance. The profit tax has been gradually displaced by two new taxes designed to give greater incentive to enterprise efficiency: 1) the capital use charge on fixed and working capital—with rates ranging from 1% in agriculture to 5% in the processing industry—was introduced in 1965, when it accounted for 2% of budget receipts (by 1970 it had risen to about 5% of total revenues); 2) the tax on net enterprise earnings, introduced in 1964 and now known as a "gross enterprise income tax" because of changes in the method of assessment, is applied to returns from sales, minus turnover tax and material costs of production (i.e., excluding wages and salaries). The enterprise income tax, paid only by enterprises working under the New System of Management, has increased in importance as the New System was expanded. In 1970 this tax accounted for 21% of planned budget revenues. In 1968 the introduction of reforms caused further change in the distribution of the tax payments. Economic enterprises working under the old system, including banking and insurance institutes, paid the profit tax. Enterprises under the new system paid the capital use tax as well as the gross enterprise income tax. The structure and change in relative shares of revenue by source is shown in the accompanying tabulation:

	1960	1965	1970
Catering .....	19	20	19
Food .....	26	25	21
Nor.food .....	55	55	60
Total .....	100	100	100

**C. FINANCIAL INSTITUTIONS**

The Ministry of Finance has the responsibility for the financial system as a whole. In practice, however, financial authorities have had no policymaking functions. Under the New Economic Mechanism the

BNB should begin to take more part in policy decisions commensurate with the increase in its control over investment spending.

Three times in the last 4 years the banking system has been reorganized as policy vacillated between specialization and concentration. Since 1 January 1971, the BNB has been the only commercial bank operating domestically, with 140 branches. Attached to the BNB are two semi-independent banks: the Bulgarian Foreign Trade Bank (BFTB) and the State Savings Bank. The BNB controls the issue of currency,<sup>8</sup> buys and sells foreign currency, collects taxes, maintains accounts for all enterprises, and makes long-term and short-term credit available to DSO's. Although major investment loans are only made with the advice of the State Planning Committee, it is through the latter function that the BNB can influence the management of DSO's.

All foreign banking activities are conducted by the BFTB. The BNB owns 70% of the BFTB and must approve its actions. The main functions of the BFTB are to conduct foreign exchange credit transactions and to provide short-term loans to foreign trade organizations for imports of machinery and equipment. The State Savings Bank holds individual savings deposits and provides loans for the construction of residential housing by individuals.

Insurance other than social insurance is under the jurisdiction of the State Insurance Institute. The largest category of insurance is compulsory property insurance, which is required on the property of state enterprises, cooperatives, and public organizations, and on some types of private property. From 1954 to 1965, state economic enterprises were not insured; property losses normally covered in non-Communist countries by insurance were handled in Bulgaria through the budget. In 1965 insurance was made compulsory for all enterprises under the New System of Management. Almost all crops, certain animals, and beehives must also be insured. Accident insurance is obligatory for travelers using public transportation facilities, the premium being included in the fare. Life insurance and protection against losses resulting from fire, personal accidents, and damage to crops and livestock are available on a voluntary basis.

**D. International economic relations (S)**

**1. Foreign trade**

Bulgaria is the most dependent on foreign trade of the Eastern European Communist countries. In 1966-70, imports averaged about 18% of GNP; the country having the next highest share was Hungary with 14%. Total trade turnover nearly tripled during the period 1956-60 (Figure 76). Trade slowed down in the 1960's, but still

<sup>8</sup>The Bulgarian unit of exchange, the leva, is used exclusively for internal transactions. In commodity trade transactions 1.17 leva = US\$1.00; for noncommercial transactions and tourist use the exchange rate is 1.99 leva = US\$1.00. The purchasing power of the leva is generally lower than these rates indicate, and it is much lower for high-grade consumer goods and most investment goods.



FIGURE 76. GROWTH OF EXPORTS AND IMPORTS (U/OU)

	TOTAL			TRADE			
	EXPORTS	IMPORTS	TURNOVER*	BALANCE*	EXPORTS	IMPORTS	TOTAL
	<i>Value in millions of U.S. dollars, at current prices</i>			<i>Indexes of volume (1955 = 100)</i>			
1939.....	54	46	100	9	51.4	57.8	54.7
1955.....	236	250	486	-14	100.0	100.0	100.0
1956.....	302	251	553	51	136.5	101.8	118.7
1957.....	370	332	702	38	166.9	135.1	150.5
1958.....	373	366	740	7	169.0	152.1	160.3
1959.....	467	579	1,046	-112	214.4	255.5	235.5
1960.....	572	633	1,204	-62	279.2	262.1	270.4
1961.....	663	666	1,329	-3	321.5	278.6	299.5
1962.....	773	785	1,557	-12	380.2	334.4	356.7
1963.....	834	933	1,767	-99	412.0	394.4	402.9
1964.....	980	1,062	2,042	-83	485.2	444.9	464.5
1965.....	1,176	1,178	2,354	-2	573.8	496.3	534.0
1966.....	1,305	1,478	2,783	-173	649.3	624.1	636.3
1967.....	1,458	1,572	3,030	-114	756.9	661.8	708.1
1968.....	1,615	1,782	3,397	-167	865.4	766.6	814.4
1969.....	1,794	1,749	3,544	45	953.3	752.2	850.2
1970.....	2,009	1,816	3,825	193	1,057.1	783.4	917.0

\*Figures may not add to totals because of rounding.

more than doubled over the decade as Bulgaria raised imports of machinery and materials for industrialization and increased exports of agricultural products and consumer manufactures. Plans for 1971-75 call for continued growth, with an increase of 60%-65% in trade turnover.

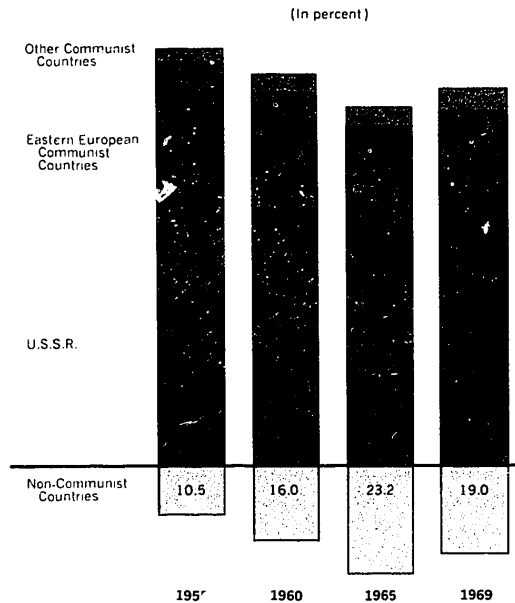
a. GEOGRAPHIC DISTRIBUTION

Among the CEMA countries, Bulgaria is uniquely dependent on trade; it also relies more heavily on trade with the U.S.S.R. The Soviet share of trade, amounting to about one-half of Bulgaria's turnover during 1950-67, rose to 55% in the late 1960's (Figure 77). Trade with other Eastern European CEMA countries has been more volatile—the share has ranged from nearly 40% in the early 1950's to around 20% since the mid-1960's. Other Communist countries—Albania, Yugoslavia, Cuba, and those in Asia—normally have accounted for a very small share of Bulgarian trade. The value of trade with the major trading groups is shown in Figure 78.

Bulgarian exports to other CEMA countries, excluding the U.S.S.R., have grown by 8.2% annually since 1965 and averaged 10.8% of total exports. Imports from other CEMA countries since 1963 grew somewhat faster—11.3% annually—and accounted for an average of 19.8% of total imports. Approximately two-fifths of Bulgaria's trade within CEMA was with East Germany, whose overall importance as a trade partner has been second only to that of the U.S.S.R.

Within the non-Communist area, the developed Western nations made up 16.6% of Bulgarian trade in 1970, while less developed countries accounted for under 6%. About 40% of Bulgaria's trade with the West is with West Germany and Italy; Austria, Switzerland, France, and the United Kingdom account for almost all the rest.

Trade with non-Communist countries—mainly the developed West—has been marked by two Bulgarian spending sprees. The first, in 1959-60, reflected Bulgaria's



NOTE: Components may not add to totals because of rounding

FIGURE 77. Geographic distribution of foreign trade (U/OU)

disenchantment with the terms and commodities involved in its goods exchange with Eastern Europe together with a new Soviet policy of encouraging Eastern European imports of Western equipment, financed largely by Soviet-owned banks in the West. Bulgaria's large purchases of machinery boosted the share of the developed West from about 8% in the mid-1950's to 13% in 1960. But the Bulgarians failed to meet their debt to

FIGURE 78. VALUE OF FOREIGN TRADE, BY GEOGRAPHIC AREA (U/OU)  
(Millions of U.S. dollars)

	1955	1960	1965	1966	1967	1968	1969
Turnover.....	486.2	1,204.0	2,353.5	2,783.3	3,030.1	3,397.4	3,543.8
U.S.S.R.....	237.9	639.6	1,202.2	1,370.1	1,555.0	1,840.0	1,953.4
Eastern European Communist countries.....	183.5	325.5	510.6	525.6	627.6	658.9	738.3
Other Communist countries.....	13.8	45.8	95.4	129.3	117.2	138.4	124.8
Non-Communist countries.....	50.9	193.2	545.3	758.4	730.3	760.1	727.2
Imports.....	249.9	632.6	1,177.7	1,478.3	1,571.9	1,782.3	1,749.3
U.S.S.R.....	118.5	332.3	588.6	706.5	782.8	946.2	973.8
Eastern European Communist countries.....	99.1	174.3	235.8	269.7	322.6	347.9	361.5
Other Communist countries.....	5.6	24.2	49.9	51.7	59.3	72.8	58.5
Non-Communist countries.....	26.6	101.8	303.3	450.3	407.2	415.4	355.5
Exports.....	236.2	571.5	1,175.8	1,305.0	1,458.2	1,615.1	1,794.4
U.S.S.R.....	119.4	307.3	613.6	663.6	772.2	893.8	979.6
Eastern European Communist countries.....	84.4	151.2	274.8	255.8	305.0	311.0	376.8
Other Communist countries.....	8.1	21.6	45.5	77.6	57.9	65.6	66.3
Non-Communist countries.....	24.4	91.4	242.0	308.0	323.1	344.7	371.7
Trade balance.....	-13.7	-61.1	-1.9	-173.2	-113.7	-167.2	45.1
U.S.S.R.....	0.9	-25.0	25.0	-42.9	-10.6	-52.4	5.8
Eastern European Communist countries.....	-14.8	-23.1	39.0	-13.9	-17.6	-36.9	15.3
Other Communist countries.....	2.5	-2.6	-4.4	25.9	-1.4	-7.2	7.8
Non-Communist countries.....	-2.2	-10.4	-61.4	-142.3	-84.1	-70.7	16.2

the Soviet banks and, faced with a cutoff of new credit, they were forced to curtail imports in 1961. The lesson was quickly forgotten. In 1964-66 the Bulgarians were back in the Western market, running the West's share of trade up to 23% and the trade deficit up US\$140 million in 1966. Imports were cut back in 1967 but indebtedness continued to mount, financed this time largely by Western credits. In 1968, the Bulgarians had to call on the U.S.S.R. for a hard currency loan to pay off Western creditors. In return, the Bulgarians have tried to restrain imports from the West. The Western share sagged to less than 15% in 1969, although it increased somewhat in 1970.

During 1971-75, the Bulgarians will become even more dependent on trade with the U.S.S.R. The new 5-year plan foresees a rise in the Communist share of trade from 79% in 1970 to 82% in 1975. All of this increase is to come from trade with the U.S.S.R. which is planned to reach 58% of total turnover by the mid-1970's.

Only in recent years has Bulgaria shown interest in developing its trade with the United States, which in 1969 accounted for 0.5% of Bulgaria's trade with non-Communist countries. The regime would like to interest U.S. businessmen in trade, partly to stimulate competition among Bulgaria's trade partners. The potential U.S. market for Bulgarian products, however, is too small to induce U.S. importers to make major efforts to increase trade.

b. COMMODITY COMPOSITION

Agricultural products and processed foods still make up a large share of exports (Figure 79). The fastest growing exports, however, have been industrial consumer's goods and machinery. Based on data in constant prices, the share of consumer manufactures has grown from 13% of exports in 1955 to over 20% during 1967-69, and machinery and equipment reached one-fourth of exports

in the last half of the 1960's compared with only 3% in 1955. Industrial raw materials, on the other hand, dropped from 20% of exports in 1955 to about 6% in 1969.

Most of the rise in exports of machinery and consumer manufactures has been accounted for by the U.S.S.R. Machinery currently makes up about 30% of exports to the U.S.S.R., and consumer goods about 21%. Food—accounting for one-third of exports—is the only other large category; the remaining 15% is a varied mix of metals, chemicals, building materials, and other products. The Soviet-Bulgarian trade agreement for 1971-75 calls for the share of machinery to reach over 40% of Bulgarian exports during the 5-year period.

In contrast, exports to non-Communist countries—and particularly to the developed West—have been light on machinery and consumer manufactures. Agricultural products still amount to about half of exports, while raw materials and semimanufactured goods account for about 40% and machinery and consumer manufactures less than 10% taken together. These shares have not changed much since the mid-1960's, and no significant shifts in the export pattern appear likely in the 1970's.

Compared with exports, the commodity structure of Bulgarian imports has not changed much since 1960. The largest shift—reflecting trade troubles with the West—was a drop in the share of machinery and equipment from 49% in 1966 to just over 40% in 1969.

Machinery and equipment—including materials for complete plants—have consistently made up almost half of Bulgaria's imports from the U.S.S.R. during the 1960's. In 1969, fuels and metallurgical products each accounted for 17% of imports, chemical products about 5%, and consumer goods only 3%. Under the 1971-75 trade agreement, machinery, including computers, automobiles, and equipment for light industry, is to account for about 47% of Bulgaria's imports from the U.S.S.R.

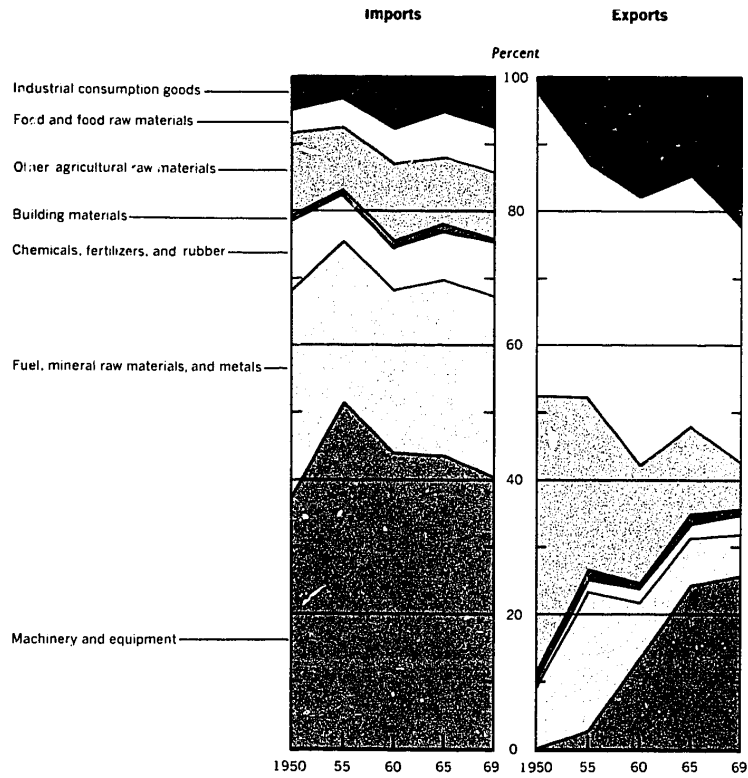


FIGURE 79. Commodity composition of exports and imports (U/OU)

Machinery amounted to about one-third of Bulgaria's imports from non-Communist countries in the latter part of the 1960's; most of the rest—about 50%—was raw materials, chemicals, and metallurgical products. Imports of food and other consumer items accounted for about 15% of the total. Major purchases from the West since 1962 have included petrochemical and fertilizer plants from France, Italy, Belgium, the United Kingdom, and West Germany, and ore carriers and other merchant ships from Japan, Norway, Sweden, and the United Kingdom.

**2. Balance of payments**

**a. CURRENT ACCOUNT**

Bulgaria's trade balance moved from a cumulative surplus during the 1950's to a chronic deficit during most of the 1960's, especially with non-Communist countries, as shown below, in millions of U.S. dollars:

	1952-58	1959-66	1967-69
Communist countries	139	-193	-97
Of which:			
U.S.S.R.	110	-237	-57
Non-Communist countries	-2	-353	-139
Of which:			
West Germany	-7	-180	-21
France	-2	-85	-48
Austria	-4	-74	-40
<b>Total</b>	<b>137</b>	<b>-545</b>	<b>-236</b>

A tighter import policy, however, yielded a surplus of US\$45 million in 1969, including \$16.2 million with non-Communist countries (Figure 80). In 1970, Bulgaria ran a huge surplus with Communist countries and a small deficit with the rest of its trade partners.

Tourism is a major plus item among Bulgaria's current account transactions. Excluding visitors in transit, 1.7 million foreign tourists went to Bulgaria in 1970, of which about 360,000 were from non-Communist countries. Total tourist receipts were only US\$16 million in 1962 and \$53 million in 1966. Gross tourist earnings in 1970 are unknown, but hard currency earnings are estimated

FIGURE 80. TRADE BALANCE (U/OU)  
(Millions of U.S. dollars)

	1967	1968	1969	1970
Communist countries	-30	-96	29	208
Of which:				
U.S.S.R.	-11	-52	6	na
Non-Communist countries	-84	-71	16	-15
Of which:				
West Germany	-12	-18	9	na
France	-13	-31	-3	na
Austria	-18	-11	-10	na
<b>Total</b>	<b>-114</b>	<b>-167</b>	<b>45</b>	<b>193</b>

na Data not available.

to have amounted to no more than \$25 million. Bulgarian travelers to foreign countries represent an insignificant outflow of foreign exchange. Only 306,000 Bulgarians left on outside visits in 1970, and less than 50,000 went to non-Communist countries. Earnings from transportation undoubtedly have increased—cargo carried by Bulgarian merchant ships alone has doubled since 1965, and there are indications that Bulgaria is currently running a surplus on transportation. Invisible earnings from all sources, however, have not been able to cover much of the large deficit in commodity trade.

b. FOREIGN AID

Bulgaria has had to rely heavily on credit from both Communist and non-Communist countries. The U.S.S.R. provided over US\$2 billion in credits during 1947-69 and extended an additional \$550 million in 1969 to be drawn during 1971-75. Credits from other Eastern European Communist countries have amounted to less than \$130 million since World War II. Outstanding indebtedness to the U.S.S.R. at the end of 1970 is estimated at \$1.1

billion. Most, if not all, other Communist credits have been repaid.

During 1959-68 Bulgaria bought more than US\$500 million worth of Western machinery and equipment on credit. By 1968, Bulgaria's indebtedness to the West reached about \$400 million. The outstanding debt has been cut back since then—to an estimated \$300 million in 1970. Most credits from the West have been medium term—only 13% of the credits outstanding in 1967, for example were for more than 5 years.

Through early 1971, Bulgaria had extended credits of more than US\$64 million to other Communist countries and about \$250 million to less developed countries. The latest Bulgarian loans include a 10-year credit for \$12 million granted in 1970 to Iraq for petroleum development, to be repaid in crude oil, and a \$20 million credit extended in 1971 to Chile for purchase of Bulgarian plant and equipment. Bulgaria also has extended credits of \$12 million to Bolivia, \$13 million to Peru, and \$5 million to Colombia.

## Science

### A. General (C)

Although Bulgaria has made progress in scientific research and development since 1966, it continues to have the weakest overall scientific and technical capability among the East European countries with the exception of Albania. Government policy calls for the development of science and technology as a means of speeding industrialization and of furthering technical progress in all branches of the national economy. The 1971-75 5-year plan contains a section entitled "Development of Scientific Research and the Acceleration of Technological Progress" and forecasts an expenditure by 1975 of almost 3% of the national income on scientific and technical research and development. The government is attempting to refine the structure of the scientific organization in order to simplify the integration of science with production and to speed the application of research results. Numerous research organizations have been established over the years, but a lack of coordination and inadequate funding have made their operations inefficient. These institutes and laboratories have not been capable of solving the complex technical problems of accelerated national development. Much of the research underway in Bulgaria is essentially an effort to adapt foreign technology to conditions existing in the country.

Bulgarian scientific personnel, many of whom were trained in the West, have been cut off from most contacts with Western scientific institutions. Bulgarian scientists continue to teach and use obsolete techniques and for the most part have remained unfamiliar with new Western methods and precision equipment. The State Committee for Science and Technical Progress (DKNTP) is attempting to correct this situation by replacing older scientists and professors with younger men. The younger scientists, however, are inexperienced and insufficiently qualified to carry out extensive scientific research. Scientific development also is hindered by political discrimination, whereby scientists who are not members of the Communist Party usually are placed in less important research facilities than their politically reliable fellows. This practice has had a harmful effect on individual initiative and interest.

Bulgaria has attempted to make the transition from a completely agrarian to an industrial-agrarian economy with insufficient capital and with little, if any, capability for scientific instrumentation. Consequently, it has been forced to rely on foreign scientific and technical assistance. The Bulgarian Academy of Sciences (BAN),

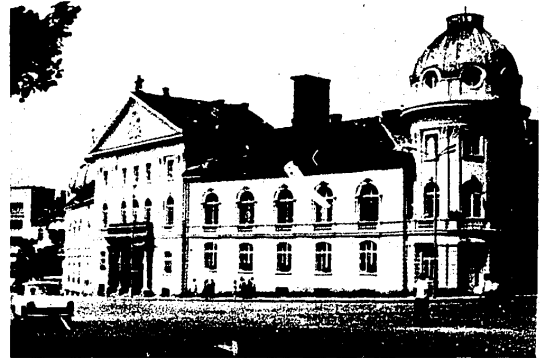


FIGURE 81. The Bulgarian Academy of Sciences (BAN), Sofiya (C)

Sofiya (Figure 81), concludes yearly agreements for scientific cooperation with the U.S.S.R. and is continuing to develop and strengthen scientific collaboration based on bilateral agreements with other Communist countries. All of these agreements provide for joint investigations and for the exchange of technical personnel. Collaboration has occurred on the application of science to industry, on the investigation of semiconductors, on problems of computer technology, and on scientific investigations using artificial earth satellites. Bulgaria has close ties with the U.S.S.R. in space science, aeronomy, and meteorological research activities. A Joint Yugoslav-Bulgarian Commission for Scientific-Technical Cooperation meets annually to approve programs for the coming year. The BAN also has agreements for an exchange of scientific personnel with the U.S. National Academy of Sciences, the French National Center for Scientific Research, the British Royal Society, and the National Research Council of Italy.

BAN is a member of more than 30 international scientific organizations and has participated in important scientific conferences and events such as the International Geophysical Year, the International Quiet Sun Years, International Biological Program, International Upper Mantle Project, and the International Hydrological Decade. Delegates from the BAN participate each year in many scientific congresses, conferences, symposiums, and other events. In addition, a number of Bulgarian scientists are members of the executive committees of some international organizations—for example, Academician L. Krustanov in the World Meteorological Organization and Academician G. Nadzhakov in the International Atomic Energy Agency.

Many other scientific institutes and organizations not affiliated with the BAN also maintain agreements with related foreign institutions. While substantial delegations of Bulgarian scientific personnel are sent to participate in international scientific conferences in the Communist countries, only single delegates have been sent to scientific meetings in Western countries. Separate bilateral agreements in applied science, outside the jurisdiction of the BAN, are concluded under the auspices of the Council for Economic Mutual Assistance (CEMA).

### **B. Organization, planning, and financing of research (S)**

The organization of science and technology is controlled by the party and the government. The party exercises authority through its Central Committee Department of Science and Education and the government through its top executive body, the Council of Ministers. The DKNTF, established by governmental decree in 1962, is a supradepartmental agency under the Council of Ministers and is the highest scientific organization in Bulgaria. It is concerned with coordinating, planning, directing, and allocating funds for research and development; with expediting the practical application of scientific achievements; and with controlling the training and utilization of scientific personnel. The DKNTF is aided by a Scientific Council of specialists and by various scientific committees responsible for research in specific scientific areas. The DKNTF is assisted by the State Committee for Planning in planning annual and long-range research projects and by the Ministry of Finance in establishing requirements for manpower and funds for the maintenance of scientific research and development institutes. The DKNTF also coordinates Bulgarian scientific research with that of other member nations of CEMA.

The DKNTF has been an important factor in the expansion of scientific facilities, particularly for technological research. In addition to the approximately 50 research institutes and several research centers under the BAN and the large number of agricultural research facilities under the Academy of Agricultural Sciences, there are about 80 scientific research and development institutes which are administratively under government ministries or departments but whose activities are coordinated and directed by the DKNTF. The DKNTF also directs the Scientific and Technical Information Center and the Patents and Inventions Office. The DKNTF is looked to for policy guidance and technical assistance in the industrialization of Bulgaria and has played a significant role in increasing Bulgarian interest in Western achievements. It is the leading advocate of rapid, large-scale automation of Bulgarian industry and has openly favored the use of Western over Soviet techniques and equipment, which it considers obsolete.

Although technically under the Council of Ministers, the BAN actually is supervised by the DKNTF, which approves the plans of BAN before their submission to the Party Central Committee. The BAN—formerly the

highest scientific coordinating establishment in the country—is governed by a general assembly consisting of nearly 50 academicians and a slightly larger number of corresponding members, together with honorary and foreign members. The position of full member of BAN is still one of honor in Bulgaria. BAN's assembly decides the general course of research activity in the BAN in the context of national policy. The assembly's decisions are implemented by a presidium, which consists of 15 persons elected by the assembly from its members and which organizes and directs research activities in all departments. The main aim of the BAN is the promotion of science, with the purpose of raising the level of the national economy, improving the management of the state, and enriching the culture through scientific achievements, discoveries, and inventions. It also furnishes the government with expert advice on scientific matters. BAN has nine departments, six of which are concerned with science and technology, specifically the Departments of Physics and Mathematics, Technical Sciences, Geology and Geography, Chemical Sciences, Biological Sciences, and Medical Sciences. It is interested mainly in basic research but also works on applied problems and is responsible for the country's modest nuclear energy program. It is also responsible for the publication of numerous technical journals and is concerned with international scientific affairs. Figure 82 shows some of the more important scientific research institutes operated by BAN and indicates the general organization of scientific research and development activities in Bulgaria.

Scientific and technical research is carried out primarily by the scientific research institutes of the BAN and the Academy of Agricultural Sciences, by the University of Sofia and the higher technical schools, and by numerous scientific and technical research institutes under various government committees and ministries, such as the Committee for Industry, the Ministry of Heavy Industry, and the Ministry of Public Health. Institutes and laboratories of higher educational establishments, most of which are under the Ministry of National Education, carry out both theoretical and applied studies. Institutes at the University of Sofia, many of which have been established by BAN, are directed more toward basic research, while those attached to higher technical schools are more concerned with the applied aspects of science in support of industry, agriculture, or transportation. In the institutions of higher learning, especially the University of Sofia, many of the professors conduct research within the BAN and the university simultaneously. Institutes under the government industrial ministries concentrate on applied research.

In an effort to channel research into applied areas supporting economic advancement and to apply the result of research more quickly, the government set up in January 1971 centers for scientific research and development within the framework of the state economic enterprises. The centers, designated TsNIRD's, will take

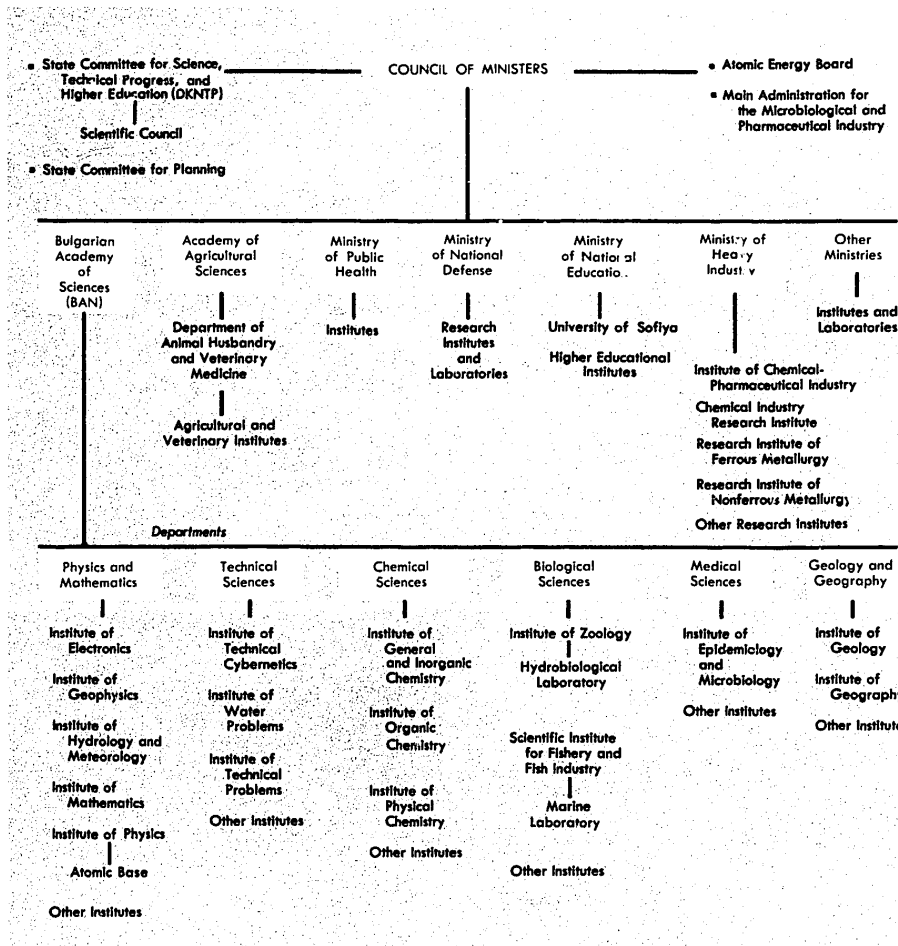


FIGURE 82. Organization of scientific and technical research in Bulgaria, 1971 (C)

over the direction of scientific organizations and institutions that are subordinate directly to ministries and offices, to BAN, or to higher educational institutions—to the extent that they are working in fields of activity of corresponding state economic enterprises. Each TsNIRD is charged with carrying out an annual check and analysis of its basic products and technology, comparing the latter with the best models in the world, and then working out programs for attaining and surpassing these models. The establishment of TsNIRD's represents an effort to concentrate previously dispersed scientific research and development organizations. At the beginning of 1971 there were 180 Bulgarian scientific research and development institutes serving state economic organizations. With the initiation of the new organizations, however, the number has been reduced to only 49. In addition, the Faculty of Mathematics of the University of Sofiya and the Institute of Mathematics of BAN are to be joined into a TsNIRD for mathematics and mechanics. If this experiment proves successful, other

faculties of the university and institutes of BAN will be merged. Not all institutions will be placed under TsNIRD's; the director of the Central Scientific Research Institute for the Technology of Machinebuilding, located in Varna, has stated that his institute will not be attached to a state enterprise because the institute's activities have broad application to machinebuilding.

Military research activities are conducted by various research institutes and laboratories under the Ministry of National Defense, which provides technical supervision for the military research and development program. Overall control of the military research effort is probably exerted through several agencies under the Council of Ministers.

Funds for scientific research and development are largely provided for in the state's annual budget, which is established by the State Planning Committee and the Ministry of Finance in accordance with plans approved by the Council of Ministers. The DKNTP is responsible for the allocation of the budget's funds devoted to science

and technology. The funds for research and development centers of the state economic enterprises do not come from the state budget but from the income of the amalgamations. In 1970 the proportion of the national income allocated to science amounted to 1.8% and, according to official government sources, is expected to increase to 2.5% of the national income by 1975. In 1960 only 0.5% of the national income was used for science. Because the term "science" probably includes a number of activities which would be considered part of management in the United States, the exact amounts allocated for research and development alone are not known. The rapid rise in the proportion of the national income allocated to science may reflect in part the planned incorporation of automated data processing into the management of the national economy; the plan calls for the establishment of 15 to 16 large national systems of automated management, along with a number of computing centers to handle socioeconomic, scientific, and technical information.

The largest share of government funds for research has been granted to the ministerial scientific research institutes, reflecting the increasing emphasis on applied research in Bulgaria. There has been a trend toward financing research expenditures of scientific organizations through direct contracts with manufacturing enterprises and organizations rather than through the government budget. In 1965 contract research expenditures amounted to 42% of the entire cost of scientific activities. The trend toward meeting research and development expenditures out of production costs is another indication of the government's effort to force research laboratories to engage in more applied research. Still financed out of the government budget are BAN, the Academy of Agricultural Sciences, and the establishments engaged in medical scientific research.

Since 1969, the percentage breakdown of the funds allocated by the DKNTF for research has averaged as follows:

Technological sciences .....	64
Fundamental sciences .....	14
Agricultural sciences .....	14
Social sciences and the humanities .....	4
Medical sciences .....	2
Nuclear sciences .....	2

During the same period the percentages of funds received by BAN for research and development were distributed as follows:

Exact and natural sciences .....	47
Hydrological and meteorological services .....	11
Social sciences and humanities .....	10
Nuclear sciences .....	8
Medical sciences .....	3
General expenses .....	21

**C. Scientific education, manpower, and facilities (S)**

The quality of scientific manpower varies widely in Bulgaria. While there are some very competent scientists, chiefly those trained in the West and at Soviet higher educational institutions and research institutes, the

majority of younger scientists and technicians are inexperienced and lack sufficient qualifications to conduct an extensive research program. Frequently, their research assignments are merely a reworking and reevaluation of investigations originally conducted in more advanced countries. Moreover, students have lacked inducements for a career in science, because salaries, which are comparable to those of skilled workers, are low and scientific appointments are influenced more by political activity and assumed political reliability than by qualifications and merit.

Higher education in science is provided by the University of Sofiya; several higher institutes which specialize in such fields as chemical technology, engineering, agriculture, mining and geology, and medicine; and the teachers colleges. Although entrance to the university and to the higher institutes is by competitive examinations, some young people are still barred from higher education because of their family background or political "unreliability." The quality of training is generally adequate, but the lack of modern research equipment restricts the teaching of the latest scientific techniques.

Only a few of the higher educational institutions are important in the training of scientists and engineers: the University of Sofiya, with an enrollment of about 13,900 students; the Higher Institute of Electrical and Mechanical Engineering, Sofiya, with about 13,800 students; and the Higher Institute of Chemical Technology, Sofiya, with about 5,500 students. Training in the basic sciences is concentrated at the University of Sofiya, while technical training is available at the higher technical schools. Programs have been introduced through which students are expected to gain practical work experience in factories where they spend one-third of their time in training while studying in technical fields. Many students acquire a higher education as correspondence or evening students while working full time in production. The regime considers the education of these workers important in its efforts to acquire an increasing number of trained specialists with higher education (especially in mechanics, automation, and chemical technology). A program of adult education also has been introduced to help agricultural, engineering-technical, and other production specialists to keep abreast of the newest scientific achievements and to implement new techniques. Courses and lectures are given and technical schools have been established at factories, machine tractor stations, and state farms.

Graduate programs were initiated in 1948 to upgrade scientific workers for the national economy. However, the Bulgarians are not strong in postgraduate training. Only 30% of the students expected to receive an advanced degree were granted the degree during the 1969/70 school year. This was partially attributable to the selection of unqualified persons for postgraduate training and to the poor organization of the work itself. The DKNTF determines the number of science students to be accepted each year for graduate study as well as the specialties to be followed. Candidates for postgraduate



work must pass language examinations in their specialties. Graduate work is organized by the scientific research institutes of BAN, the Academy of Agricultural Sciences, and the higher educational institutions. BAN ranks highly as an educational institution, enrolling approximately 260 students for postgraduate work each year and some who are in their final undergraduate work at the University of Sofiya. Students who show considerable promise have opportunities to continue their postgraduate education in the Soviet Union or in other East European countries, the United Kingdom, France, or the United States. The Candidate of Science degree is granted after successful completion of a 3½-year graduate program, passing of an examination, and defense of a dissertation. The Doctor of Sciences degree requires a doctoral dissertation involving a significant scientific contribution or theoretical conclusions and discoveries of great significance for the advancement of science, technology, and the national economy.

Bulgaria sponsors a program of student exchange on the basis of cultural agreements and existing scientific-technological collaboration. It also sends scientists abroad to take special training, to lecture, and to exchange experience with their foreign counterparts. Other exchange agreements involve employment contracts for Bulgarian specialists to work in other countries.

Bulgaria is attempting to increase the number of scientific and technical personnel and to raise the qualifications of personnel already engaged in teaching and research. According to official Bulgarian sources, 45,000 persons were concerned with scientific and developmental activities in 1970; of this number, BAN employed 5,500 in its institutes and facilities. One or two of the scientific research centers attached to state economic enterprises had even more workers than BAN. As a measure of Bulgarian commitment to automated data processing and automated systems of management, during the next few years the Council of Ministers plans to promote training for 20,000 students in higher educational institutions and special schools in organizing and operating data processing and automated management systems. An additional 42,090 persons, ranging from ministers to shop-level managers in enterprises, are to be familiarized with the principles of automated management systems and the applications of electronic calculating techniques.

Bulgarian research and development facilities suffer from a lack of modern instrumentation and equipment, although considerable funds have been used for the purchase of foreign computer hardware. Because the country does not have sufficient foreign exchange for most needed purchases, Bulgarians are being forced to develop and manufacture much of their own instrumentation and equipment. Among the best equipped facilities are those concerned with the nuclear sciences, but even these are considered modest and conventional by world standards.

## D. Major research fields

### 1. Air, ground, and naval weapons (S)

Bulgaria, which suffers from a lack of funds and of trained personnel, does not have a research and development program for weapons systems, although a minor amount of work is done which could offer limited support to such a program. Most of the country's defensive armament requirements are satisfied by the U.S.S.R., with some also supplied by other Warsaw Pact countries. Bulgaria produces small arms, ammunition, antitank weapons, and explosives.

Bulgaria has no capability to design, develop, or produce modern air weapons systems beyond that required for light aircraft. The last aircraft known to have been designed and developed in Bulgaria was the LAZ-series of low-speed, propeller-driven planes which are of limited significance in terms of modern aircraft. Although efforts in aerodynamics, structures, and materials research are very limited, the work in materials and structures shows competence and appears to complement Soviet investigations. Occasionally theoretical papers on supersonic flow have been published, and in recent research the Bulgarians have used numerical methods to solve the problem of Mach 5.5 flow about a cylinder and a plate. However, there is no evidence to associate this work with any experimental program. Research studies at the BAN Institute of Physics in Sofiya demonstrate a degree of indigenous competence and strong Soviet influence in shell theory, but no applied research in structures has been noted. There is no discernible research activity on missile systems or in any of the associated technologies. Space-related activity is confined to the operation of several satellite optical tracking stations.

Research in naval weapons is virtually nonexistent. The primarily nonmilitary Shipbuilding Research and Design Institute in Varna was reorganized and enlarged under the guidance of Soviet design specialists and probably provides a potential for such research. A scientific and research section was established to solve problems in the fields of ship design and technology and to organize production in shipyards. Special sections also were established for development of standardizations in work and for designing ship deck machinery.

Research on ground weapons is nonexistent. The only significant capability for research on ground equipment is in the area of materials-handling equipment. As a member of CEMA, Bulgaria has the responsibility for developing and producing electric-driven forklift trucks. Balkancar, a state commercial enterprise, including some 30 installations, specializes in the production of hoist-transport-type machinery at its Lovech plant. Developments have included over 40 types of electric and motor-driven trucks, starter and industrial truck batteries, and spare parts for electric trucks.

## 2. Biological and chemical warfare (C)

Bulgaria is not known to have an offensive biological warfare (BW) research and development program. However, microbiological research is conducted which yields information and data that could be useful in a BW offensive program. Work related to BW defense is underway at the Scientific Research Institute for Epidemiology and Microbiology, Sofiya. Scientists at this institute are investigating bacteriophages as diagnostic and therapeutic agents. Other defensive-oriented BW research being conducted includes rapid detection of micro-organisms in aerosols; fluorescent antibody technique for detection of BW agents; and the epidemiology, prevention, and prophylaxis of various endemic diseases.

The Bulgarian chemical warfare (CW) research program is oriented toward defensive research and is the least diversified of the active Warsaw Pact countries. The development of antidotal or prophylactic compounds for protection against C-type nerve agents (tabun, sarin, and soman) has received the largest part of research attention during the 1960's. Research on an antidote identified only as Nemikol-5 (believed to be a mixture of oximes and cholinolytic glycolates) has been reported, but its efficacy apparently is no better than known oxime derivatives. Some work also has been done on the V-series organophosphorous compounds, on psychotomimetic agents, and on stabilization of mustard gas. Bulgaria also reportedly is conducting intensive research on drugs of vegetative origin, some of which may have CW potential. CW-oriented research is conducted at the Research Institute for Chemical Warfare in Sliven, and at the Research Institute of Radiology and Radiological Hygiene, under the direction of Col. (Dr.) Ivan Nikolov, the Institute of Chemical Warfare, and the Military Medical Research Institute, all in Sofiya. Work at the Higher Military Medical Institute is directed by Col. G. N. Kotev, Bulgaria's leading CW scientist. There are no known research facilities engaged in process development studies in the production of nerve agents, but a few plants are manufacturing toxic compounds of World War I vintage for commercial application which could be diverted to CW if required.

## 3. Atomic energy (C)

Bulgaria has established a very modest nuclear energy program confined to basic research and the use of radioisotopes. It lacks the necessary industrial and educational bases for a significant program and is hampered by a shortage of qualified personnel. The few accomplishments to date have been achieved through the assistance of other countries, and future progress will be dependent upon continued foreign collaboration.

The program was initiated in 1955 after the conclusion of the Soviet-Bulgarian agreement for nuclear energy cooperation, and in 1957 a Committee for the Peaceful Uses of Atomic Energy was established under the Council of Ministers to direct the program. BAN, responsible for carrying out the program, established the Atomic

Scientific Experimental Base of the Institute of Physics, called the Atomic Base, a few miles southeast of Sofiya.

Under the terms of the Soviet-Bulgarian agreement, the U.S.S.R. has supplied a 2-megawatt, swimming-pool-type research reactor to the Atomic Base. The reactor went into operation in September 1961 and has been used for research, training, and the production of radioisotopes. Most of the research conducted in the nuclear sciences in Bulgaria is basic in nature and is carried out in cooperation with other countries. Bulgaria has agreements for nuclear cooperation with the Soviet Union and other Eastern European countries and has signed a bilateral agreement for cooperation with France. Bulgaria has also benefited from its membership in the Joint Institute for Nuclear Research (JINR) at Dubna in the U.S.S.R.

Exploitation of uranium ore deposits is being carried out by the Soviet-Bulgarian Mining Co., which was established in 1946 to administer the development, mining, and processing of uranium ore in Bulgaria. The U.S.S.R. completely controls this company, although theoretically it is a joint enterprise. Bulgarian uranium deposits are located throughout the country; the greatest concentration is in the region of Bukhovo, a well-known base-metal mining area east of Sofiya. The Bulgarian deposits are of low to medium grade, and a concentration plant has been constructed at Bukhovo to process the ore. All of the uranium mined and concentrated in Bulgaria is shipped to the U.S.S.R.

The principal application of nuclear energy in Bulgaria has been the use of radioisotopes for medicine and research. However, in 1966 the U.S.S.R. and Bulgaria concluded an agreement for the construction of a nuclear power station which is to consist of two pressurized water reactors having a total installed electric power capacity of 880 megawatts electrical. Construction was started in August 1969 at a site on the Danube near the village of Kozloduy, with the first reactor scheduled for completion in 1974 and the second in 1975.

## 4. Electronics (S)

Although Bulgaria's electronics industry has undergone some expansion and modernization, its research and development capabilities remain very limited. Some theoretical research is being accomplished, but most of the research effort is devoted to the adaptation of Eastern European and Western equipment to Bulgarian requirements. Progress toward achieving an indigenous capability in any electronics subfield has been slow but is improving steadily and is evident mainly in the research and development of computer systems. Even here Bulgarian electronics research capabilities are too small to support the development of any broad range of computer models. Attempts are being made to develop a capability in electronic computers by concentrating on a limited number of types of high-quality computing equipment. Since 1961 three small but well-designed analog computers have been developed. The second in the series, Analog-2, using Bulgarian-manufactured transistors, was

scheduled to enter production in 1967, but the production status of this computing system is not known. An improved model bearing the designation Analog-3 is known to have been produced. Bulgaria also has developed and produced solid-state desk calculators competitive with the best Soviet models. Some work has been done on the development of a small digital computer based on domestic designs. The greatest emphasis, however, is on the use of foreign technology. Since 1967 a program has been underway to acquire modern digital computers from Japan and to license Bulgarian production of Japanese computing equipment. The benefit derived from this association is enabling Bulgaria to manufacture its first high-quality scientific computer. Designated ZIT-151, this computer is a licensed version of a third-generation Japanese computer incorporating monolithic integrated circuits. The advanced technology reflected in the circuitry is beyond the Bulgarian development and production capability, and the country will have to rely on the Japanese to supply the needed circuit elements for the next 2 to 3 years.

In early 1967 several institutes, formerly engaged in research on computers, were consolidated into the state economic enterprise "IZOT" (formerly the State Economic Association for Computer and Organization Technology), which will design, produce, market, install, and maintain computer equipment and provide organizational and technical facilities. Analog computer developments appear to concentrate at the Elektronika Development Enterprise, Sofiya.

Bulgaria is maintaining an active research interest in semiconducting materials as part of its overall program to develop miniaturized and microminiaturized components. Most of the research on semiconductors is performed by institutes under the state economic enterprise "Electronic Elements." Research on electromagnetic wave propagation is limited to a relatively simple, almost routine, exploration of the ionosphere and its effects on medium-frequency (MF), high-frequency (HF), and very-high-frequency (VHF) radio waves. The BAN Institute of Electronics in Sofiya successfully operated Bulgaria's first ruby pulsed laser in 1964. In 1967 the same laboratory successfully operated the country's first helium-neon gas laser. The Radio-Electronics Research Institute is conducting research on thin film for microelectronics, on equipment to produce vacuum stream for nickel chromium thin film for application to ultra-high-frequency (UHF) TV receiver circuits, and on VHF solid state portable transmitter/receiver sets.

##### **5. Medical sciences, including veterinary medicine (S)**

Bulgarian medical research in general is mediocre when compared with that of Western and more advanced Communist countries. The regime has acknowledged the country's shortcomings in medical research and has created new organizations with the objective of achieving

some world recognition in medical studies. A Department of Medical Sciences has been established in BAN, and a Scientific Medical Council has been created within the Ministry of Public Health to coordinate research and to generate trained manpower and material support. Emphasis continues to be placed on applied medical sciences rather than on basic research. Studies are being pursued in the biology, biochemistry, and biophysics of the cell; protection against toxicological hazards in industry and agriculture; and the protection of industrial environments. Primary focus is on clinical medicine, including the search for new drugs and problems related to cancer, tuberculosis, and endocrine, gastroenteric, and hepatic diseases.

Microbiology has received preferential attention from Bulgaria's political leaders. A Main Administration for the Microbiological and Pharmaceutical Industries has been established directly under the Council of Ministers. Researchers have emphasized the selection of micro-organisms for application in industrial microbiology, especially for production of antibiotics and edible protein. Interest has been shown in the physiology of herpes simplex virus, the morphology of tobacco mosaic virus, and the biochemical analysis of deoxyribonucleic acid (DNA) and ribonucleic acid (RNA) of viruses. Practical investigations have stressed the identification, immunology, and genetics of familiar micro-organisms.

The government has spent large sums of money to promote research in pharmaceuticals and chemicals that could be used in combating diseases, including diseases of the nervous system. Research is directed primarily toward the synthesis of new medical compounds, and production of antibiotics has received considerable attention. Bulgaria is one of the few countries producing oleandomycin, which is used against micro-organisms resistant to penicillin. Some of the most successful work in pharmacology is in the development of drugs from indigenous plants, which have yielded an important neuromuscular relaxant and a valuable antihemorrhagic preparation.

Work in biochemistry has been concerned chiefly with nucleic acids, enzymes, and the synthesis of protein. Biochemists have succeeded in separating pure messenger RNA fractions. Investigations have been conducted on the metabolism of connective tissue as related to pathological processes and diseases, such as arteriosclerosis. Research in biophysics, a relatively new field of research in Bulgaria, has included research on the active and passive electrical properties of tissues, on the characteristics of erythrocytes, the analysis of biopotentials, and the mechanism of metabolism regulation in cells. Bulgarian work in intracellular fluids using electron paramagnetic resonance techniques is original. Also, clinical biochemists have developed a simplified blood compatibility test and are applying sera and erythrocyte testing agents.

Research in physiology at the BAN Institute of Physiology in Sofiya has been undisputed, but progress is being made. Studies have been done on the

analysis of the mechanism of visual response to sight stimuli. Interdisciplinary studies have examined the physiological elements of body response to psychotropic drugs, environmental changes, and physical strain. The work at the Research Institute of Neurology and Psychiatry in Sofiya on cerebral hemodynamics and metabolism in disturbances of circulation parallels investigations in U.S. laboratories. High-altitude research is designed primarily to test the therapeutic effects of mountain climate.

Bulgaria has initiated a program involving an underwater habitat, designated Shelf-1, under the direction of the DKNTP, the Research Institute of Fisheries and Oceanography, and the Bulgarian Navy. The scientific program includes physiological and psychological research on aquanauts who spend protracted periods beneath the water at increased pressure.

The Institute of Radiology and Radiological Hygiene in Sofiya, under the Ministry of Public Health, has undertaken the study of radiation hazards. The work, which is poorly financed, has examined postradiation disorders of the thyroid and kidney and the effects of radon on the respiratory tract of uranium miners. Genetics study is employing modern approaches, and gamma irradiation of seed has achieved mutagenesis. In addition, forms of wheat and barley have been developed.

An extensive program is being established under which information on all public health problems in the country would be analyzed centrally, and a center for hygiene and epidemiology has been established in Sofiya. Epidemiological surveys have recorded the incidence of cardiovascular, pulmonary, and rheumatic diseases. Malaria, endemic in certain sections of Bulgaria, has been eliminated, and there has been a sharp decrease in tuberculosis and endemic goiter. Bulgarian scientists are active in research on cancer. Dr. Rayko Raychev has received international recognition for his work on malignant melanoma, the effect of hormonal factors on melanoma, and its development and metastasis.

Military medical research is controlled by the medical services of the Bulgarian Army. It is carried out at the Higher Military Medical Institute, Sofiya, and the Aeromedical Institute at Vrazhdebna. Research has been concerned mainly with wound healing and the recognition, prophylaxis, and treatment of biomedical effects of chemical, biological, and radiological agents. Some work on the toxicology and pharmacology of chemical warfare nerve agents has been attempted, and several articles on the prophylaxis and treatment of agent effects have been published. A limited number of aerospace medical research articles also have been published. Military medical research facilities are of higher quality in both personnel and equipment than are civilian facilities.

The Department of Animal Husbandry and Veterinary Medicine of the Academy of Agricultural Sciences in Sofiya has initiated a program to coordinate closely all

veterinary research programs to insure application to important animal diseases. The veterinary research institutes conduct all diagnostic, microbiological, serological, parasitological, and other research on cooperative and state farms under actual production conditions. Veterinary research efforts have been increased, resulting in more scientific publications. The decline in the reported incidence of animal diseases indicates an adequate supply of veterinary biologicals and sufficient veterinary personnel to initiate and maintain animal disease control programs. An improved tissue culture vaccine for foot-and-mouth disease produced by the Veterinary Institute for Contagious and Parasitic Diseases, Sofiya, has been effective in the control of this disease. The last outbreak of the disease was in 1967. Concern has been expressed about the possibility of having introduced scrapie disease into the country through the importation of sheep from the United Kingdom. Veterinary research is conducted on the following diseases: Aujeszky's disease, Johne's disease, Newcastle disease, anthrax, chronic respiratory disease, coccidiosis, tuberculosis, and avian leucosis. Research also is done on sterility problems, nutritional disorders, and parasitic infestations. The Bulgarians have shown an active interest in the application of radioactive isotopes for the control of insects through sterilization. Veterinary scientists attended the International Atomic Energy Symposium in Vienna in 1970.

## 6. Other sciences (S)

### a. CHEMISTRY AND METALLURGY

The Bulgarians are moderately active in chemical research and have made some progress in basic research since 1966. Compared with most other European countries, however, the chemical research effort remains very weak. Applied chemical research is particularly weak because of past emphasis on basic research and a tendency to rely heavily on imported chemical technology. The Bulgarian chemical industry, partly because of the small market for chemical products, remains the smallest of any of the Eastern European Communist countries except that of Albania. Most of the significant chemical research is done at the University of Sofiya and at the Higher Institute of Chemical Technology. The university has maintained a modest academic research program for many years, which has been strengthened by the location of three important chemical research institutes at the university: the Institute of Physical Chemistry, the Institute of General and Inorganic Chemistry, and the Institute of Organic Chemistry.

The Bulgarians have a well-developed capability for research in organic chemistry, including synthesis and physical organic chemistry. Prof. B. I. Kurtev, director of the Institute of Organic Chemistry, has been active in organic chemical research for many years and is interested in the synthesis and configurations of amino acids and other organic nitrogen compounds and in stereospecific synthesis. Researchers under his direction

are involved in studies on beta-ureido acids and dihydrouracils. Other research underway at the institute consists of noteworthy studies directed by Dimitar Shopov on kinetics and reaction mechanisms of catalytic hydrocarbon conversion reactions, such as cracking, dehydrogenation, demethylation, and isomerization. Physical chemistry is most highly developed at the Institute of Organic Chemistry, where research is done on the electronic structure of organic compounds and on nuclear magnetic resonance. Research at the University of Sofiya has included studies on the reactions of organophosphorous compounds, on the synthesis of phenothiazines and other heterocyclic compounds, and on the synthesis of azo dyes. Chemists at the Higher Institute of Chemical Technology are concerned with liquid-phase oxidation of alkylaromatic hydrocarbons and the effect of organic borates on such oxidations.

A significant amount of research on high polymers is underway at the Institute of Organic Chemistry, where Marin Mikhailov and his associates have worked on epoxy resins, polyesters, methacrylates, polyamides, and polyformaldehyde. The Higher Institute of Chemical Technology has been concerned with studies on the production of polyformaldehyde. Work on chemical fibers was begun in 1967 at the Institute of Chemical Technology and has included studies on polyester fibers and the modification of wool by synthetic resins.

Only a limited amount of biochemical research is done in Bulgaria. The Institute of Organic Chemistry has done some work on the structure and reactions of myoglobin and its derivatives, while the University of Sofiya has engaged in studies on acetylcholine.

The Institute of General and Inorganic Chemistry engages in both physical and inorganic chemistry and does work on catalysts, adsorbents, and analytical methods. Georgi Bliznakov, director of the institute, is an active investigator in the fields of crystal growth, adsorption phenomena, catalytic processes, preparation of inorganic compounds, and inorganic reaction kinetics. Bulgarian chemists have been engaged since 1928 in theoretical and experimental studies on the process of formation and growth of crystals, and some of the work has received international attention. The Institute of Physical Chemistry is concerned largely with electrochemistry. Studies have been done on electrolytic crystal growth and on inclusions in nickel and other metals during electrodeposition. Because of the continuing importance of agriculture to the Bulgarian economy, there is considerable interest at several facilities in the chemistry of soils, fertilizers, and plant nutrition. Chemists at the University of Sofiya are active in studying the effects of zinc, copper, manganese, molybdenum, and other trace elements on the growth of crops. The N. Pushkarov Institute of Soil Science in Sofiya also is concerned with trace element effects and with the uptake of nutrients from soils.

Bulgaria does relatively little metallurgical research and development. Extensive deposits of nonferrous ores make nonferrous metal production the most significant

activity of the metallurgical industry. The small research and development effort is directed primarily toward applied research in solving steel and nonferrous metals production problems. Some research on foundry processes and gray iron production, as well as on steel-making operations, is undertaken. A modest amount of research on extractive metallurgy of copper, lead, and zinc is done. Essentially no fundamental or solid state metallurgical research is conducted, although some basic work on germanium single crystals from semiconductor applications has been done at the University of Sofiya. Metallurgy is taught at the university and at the Institute of Chemical Technology.

#### b. PHYSICS AND MATHEMATICS

Physics research, while minor when compared with that underway in scientifically advanced countries, represents a sizable effort for Bulgaria. The research is concentrated primarily in solid-state and nuclear sciences and related technologies. The major and best effort is devoted to a very narrow field of solid-state physics, although efforts in the nuclear sciences are being expanded. A number of other branches of physics are being studied, partly because they are of some importance to the main effort and partly to maintain some awareness of world activities.

In solid-state physics, the Bulgarians continue to concentrate on photoconductance and photovoltaic parameters of cadmium sulfide semiconductor devices. A major portion of these studies is done at the BAN's Institute of Physics, where specific projects deal with spectral distribution of surface potential on cadmium sulfide. Interest continues to be focused on the development of sulfide compounds and the expansion of knowledge surrounding their properties. The work is being directed by Dr. P. Kircheva, who also has worked on Raman stimulated self-modulation in carbon bisulfide. Investigations associated with conductivities and photopolarization properties of arsenic sulphide are being carried on to determine the effects on spectral frequency as the compound is pulsed with lasers. Bulgarian capabilities to develop semiconductors and integrated circuits have improved, and the Bulgarians have produced high-frequency switching transistors, MOS transistors, and planar diodes. BAN's Institute of Electronics has been successful in growing epitaxial films and has contributed to a production capability for integrated circuits. BAN has provided generous support to laboratories that specialize in the growth of thin germanium crystals, and these are being examined for structural defects. Studies also have been carried out on the semiconducting properties of zinc and aluminum oxides, which are normally used in producing low-temperature thermistors. Solid-state research associated with magnetic materials is of top priority at the Institute of Physics. The University of Sofiya's physics laboratory is doing research on the physics of magnetism in connection with ferro-chromium-copper oxide complexes in relation to the compound's magnetostatic, Mossbauer, and neutron diffraction effects. Bulgarian scientists working

in crystallography and crystal growth techniques have concentrated on the role of transient nucleation in crystal growth as it applies to the cooling stages. These and other studies indicate a desire to improve Bulgarian capabilities in producing perfect crystals. Some good work is being done in investigations of the growth mechanism of perfect planes by examination of natural galena whiskers.

Research related to plasma is carried out by about six competent Bulgarian physicists at the University of Sofiya, BAN's Institute of Electronics, and BAN's Institute of General and Inorganic Chemistry. Dr. N. K. Martinov has been engaged since 1960 in important research dealing with solid-state plasma at the university. He has been studying the collective properties of plasma in relation to interactions with strong electric and magnetic fields. A large portion of his work concerns definitions and verifications of formulated models developed during the past 15 years. He has done some research at the Institute of Physics on relaxation behavior of solid-state plasma from the standpoint of collisions. Dr. Martinov has worked closely with Dr. N. Nikolov on occasion on subjects related to nuclear fusion at the University of Sofiya, where they studied low-frequency resonances and potentials in a plasma for the purpose of determining hydrodynamic fluid approximations. At the Institute of Electronics, Z. H. Genehev researched the areas of plasma with applications to communications. This work involves excitation of surface waves in a plasma waveguide bounded with a magnetic wall. A. Petrakiev and R. Milanova of the University of Sofiya have done extensive research on problems of ionization. Their recent work involves research on the relationship between the magnetic field intensity and the excitation potential for examination of spectral line intensification of oxygen and nitrogen in pulse discharges. Petrakiev was chosen for this research because of his competency in plasma analysis and its associated spectrographic instrumentation that would be needed in studying spatial and time functions of plasma parameters.

In both high- and low-energy physics, the Soviet Union is contributing to Bulgarian capabilities by training Bulgarian specialists and making advanced and modern equipment available to them at the Joint Institute for Nuclear Research (JINR) at Dubna in the U.S.S.R. Bulgarian centers of nuclear research are the Institute of Physics and the associated Atomic Base and the Department of Physics at the University of Sofiya. These facilities are investigating neutron physics, physics of reactors and reactor operation, elementary particles, nuclear dosimetry and spectroscopy, and the techniques for production and application of radioactive isotopes. The reactor at the Atomic Base is being used for studies of relaxation and deformation in power spectrums of neutrons to gain better understanding of the shielding mechanisms. The Institute of Physics, which has access to the research reactor, is concerned mainly with training activities and the carrying out of radiation effects studies. Students and researchers at the University of Sofiya are active in research on radioactive gases in reactor sections

and the measurements of activation of specimens in the environments of the reactor beam tubes. The specialists in isotopic studies have been emphasizing the disposal of radioactive wastes and dosimetry. Most of the studies appear oriented toward obtaining data needed for building power reactors and can be classed as applied in nature and closely associated with nuclear technologies. The absence of theoretical research along these lines has been lamented by top-level government officials. Bulgarian physicists at the Dubna facility also engage in low-energy research, and their current work deals with cross sections of fission and interactions between fission fragments. One of the major handicaps of the Bulgarian nuclear scientists has been the lack of sophisticated nuclear instrumentation. However, in 1965 the Nuclear Device Plant was set up in the former prison at Pleven for the manufacture of equipment for measuring or using radiation, such as radiometers for protective devices and gamma measuring meters for process control in industry.

A large portion of the high-energy nuclear physics research conducted by Bulgarian specialists is performed at the JINR. The Bulgarians have a good reputation for their research at the Dubna facility and have held top positions there. P. Markovic is well known as a deputy director of the JINR's High Energy Laboratory. Dr. Khristo Khristov of the University of Sofiya's Chemical-Technical Laboratory is considered the leading Bulgarian high-energy nuclear physicist and also once held a leading position at the JINR. The most recent Bulgarian research at the Dubna facility is related to the elastic dispersion of protons from protons and protons from deuterons. The approach being used involves the fine target technique which employs semiconductor radiation detectors in place of the conventional photoemulsions. With this new approach, more precise measurements are possible for energies above 20 GeV and approaching the accelerator's maximum energy of 70 GeV. Academician G. Nadzhakov, director of the Institute of Physics, appears to be highly competent in theoretical research.

Quantum electronics research is being conducted on a small scale at the Institute of Electronics, Sofiya. In 1964, laser specialists were successful in operating the first ruby-pulsed laser in Bulgaria. The first Bulgarian helium-neon gas laser was successfully operated in 1967 at the same laboratory.

Mathematical research in Bulgaria is very poor and shows very little evidence of improving. The country has no history of achievements in creative mathematics, and the program for scientific advancement ignores both pure and applied mathematics. A minor amount of research is underway in analysis, algebra, geometry, logic, topology, and probability. The approach is most often classical and does not appear to be creative. The greatest emphasis in research is on ordinary differential equations and is oriented toward engineering. Insignificant work has been done on complex variables, Fourier analysis, projective geometry, and statistics. Some significant work has been done in fluidics, however, at the Institute of Mathematics and Mechanics and the Institute of Engineering Cybernetics, both in Sofiya.

There is considerable interest in the use of electronic computers, but the programs are still in the formative stage. The computers in use are old Soviet computers of the accounting type, but plans call for the purchase of new analog computers during the next few years at a cost of about US\$10 million. The Bulgarians have sought permission to manufacture a Japanese computer under license. The Bulgarians hope to get delivery of new Soviet large-scale, high-speed computers. Although the Bulgarians have established a Training Center for Computer Engineering, they will have to rely on the U.S.S.R. to furnish manpower to apply computers in engineering and scientific uses.

#### C. ASTROGEOPHYSICAL SCIENCES

Capabilities for research in the earth sciences are small but fairly proportionate to the country's size and economic-political situation. The principal effort is directed toward the development of natural resources. Most of the fields lack facilities, equipment, and well-trained manpower.

Geodesy is the strongest discipline of terrestrial science in Bulgaria; however, there is only a minimum of capability to conduct basic research. The major weakness in the field has been in the design and development of geodetic instruments. Research has been concentrated in triangulation and leveling, a post-World War II development in Bulgaria. The most notable work has been performed by Prof. Vladimir K. Khristov, director of the Central Laboratory of Geodesy, Sofiya, on the Krasovskiy ellipsoid and Gauss-Kruger projection and the preparation of tables of geodetic parameters for conversion to the Soviet geodetic systems. Khristov and Prof. Vasil Peevski, head of the Geodetic Department of the University of Sofiya, are Bulgaria's outstanding personalities in geodetic research. As a member of the East European Subcommittee for Satellite Geodesy, Bulgaria participates in geodetic satellite observations and studies based on these observations.

Geomagnetic research is conducted by the Institute of Geophysics, whose principal geomagnetic observatory is at Panagurishite. The work includes both data accumulation and theoretical studies. Paleomagnetism is a specific area of specialization. Some geomagnetic research is also directed toward mineral prospecting. The seismological section of the Institute of Geophysics is studying past earthquakes in Bulgaria and is compiling a seismic map of the country. It maintains a seismic station in Sofiya which is one of a network of central European stations.

Geological research appears to be almost entirely directed toward mineral prospecting. BAN's Institute of Geology conducts research in several areas of scientific geology and has emphasized petrology. A Committee for Geology is subordinate to BAN's Department of Geology and Geography.

With assistance from the U.S.S.R., the Bulgarians have undertaken exploration for oil in Bulgarian coastal waters in the Black Sea. In 1960 a Soviet geophysical expedition completed the first seismic investigation of the seabed off

Bulgaria. In 1968-69 the second stage of geophysical investigation was completed, and in September 1970 a third phase was begun. The third phase expedition has involved three Soviet scientific research vessels and two Bulgarian vessels; the latter reportedly are equipped with modern geophysical apparatus.

While capabilities in astronomy are low, there are indications of improvement, and new observatories reportedly are under construction. The principal established astronomical observatory is at the University of Sofiya. The director, Dr. Nikola Bonev, also heads the Section of Astronomy in BAN's Department of Physics and Mathematics; the section is concerned principally with theoretical astronomy. The Institute of Physics also engages in theoretical astronomical research, principally in the areas of cosmology. Astronomical research has included the analysis of stellar spectrographic data obtained from the U.S.S.R.; statistical studies of certain clusters of galaxies; studies of planetary parameters; and studies of techniques for predicting solar activity.

Little significant space research has been developed independently of the Soviet Union. Primary operational activity is in the field of optical satellite tracking, with links to the Cosmos Computing Center in Moscow, the Radio Research Station, Slough, England, and the Smithsonian Astrophysical Observatory, Cambridge, Massachusetts. Bulgaria also participates in the Soviet-sponsored intercosmos program for the cooperative study of the ionosphere by means of radiofrequency transmissions from satellites. In 1970 an agreement was concluded with the U.S.S.R. for the construction of a communications satellite ground terminal in Bulgaria.

BAN's Institute of Geophysics has a small but active ionospheric physics section, which operates the Sofiya Ionospheric Observatory. The work of the section consists of theoretical studies and empirical analyses of data accumulated both in Bulgaria and by foreign stations. Interest is about equally divided between the lower and middle regions of the ionosphere. The subjects emphasized are ionization and recombination processes, solar influences, electron density profiles, and absorption characteristics of the lower ionosphere. Cosmic ray research is conducted by the Institute of Physics' Laboratory for Cosmic Radiation, at an elevation of 2,925 meters on Vrukh Musala in the Rila Mountains. The laboratory is maintained in collaboration with the Central Physics Research Institute of the Hungarian Academy of Sciences, and studies are made of both galactic and solar cosmic radiation. The laboratory was established in 1959 as a joint venture of the Bulgarian, Hungarian, and Romanian Academies of Science and is one of the best equipped stations in Europe. It also collaborates with the U.S.S.R.'s Crimean Astrophysical Observatory.

Meteorological research is conducted on a small scale by BAN's Institute of Hydrology and Meteorology, Sofiya, which includes sections for aerology, climatology, hydrometeorology, and synoptic meteorology. Meteorological research also is conducted in the atmospheric

physics section of the Institute of Geophysics. The work, largely theoretical, is devoted to atmospheric turbulence and cloud physics. The Hydrometeorological Service, Sofiya, provides the national weather service and has an extensive network of observing stations.

In hydrology and hydraulics, research capabilities, while fairly good and improving, still lag most other Eastern European Communist countries. Most of the research is of an applied nature and is directed toward the full utilization of water resources for power, irrigation, and supply. During the 1960's Bulgaria made extensive use of hydraulic models for studies on sedimentation processes, river channel dynamics, phenomena of filtration under hydraulic structures, dissipation of kinetic energy in tailraces, and characteristics of the extreme discharge over spillways. Special tests are being made with radioactive isotopes in the study of water-current phenomena, and specially designed television is used to measure water volume in pressure pipes. Considerable research also is underway on the correlation of factors for the high-water-stage cycle, minimum runoff, and drying-up of rivers. In the field of instrumentation, Bulgarian engineers have devised a new lysimeter, flowmeter, and bathometer.

The oceanographic capability of Bulgaria is very low, and little change has been noted since 1940. Techniques in marine science are obsolete and facilities are inadequate. Most of the effort is directed to applied research for the development of economically valuable coastal fisheries. The almost complete lack of training facilities seems to preclude any significant increase in oceanographic research potential.

During 1970, Bulgarian scientists successfully carried out underwater diving tests using Shelf-1, which apparently was constructed in Bulgaria. Capable of submerging only to a depth of 20 meters, it was used to investigate engineering and operational aspects of underwater living. Marine biological studies using Shelf-1 were conducted by researchers from BAN's Institute of Zoology in Sofiya and included taking plankton samples and measuring oxygen content at varying depths.

BAN's Research Institute of Fisheries and Oceanography in Varna is the most important organization concerned with marine sciences. Other facilities carrying out oceanographic investigations are the Hydrobiological Laboratory of the Institute of Zoology, the Hydrobiological Section of the University of Sofiya, and the Marine Laboratory in Burgas. Bulgaria is not a member of any international oceanographic organization.



## *Transportation and Telecommunications*

### **A. Summary (S)**

The transportation and telecommunication (telecom) systems of Bulgaria are barely adequate to meet the country's growing economic needs and are among the least developed in Europe. However, improvement and expansion projects underway or planned are expected to upgrade the transportation and telecom facilities substantially by 1975.

The railroad, highway, and telecom networks center on Sofiya, the capital, in the west and on Plovdiv in the south-central part of the country. Both rail and highway systems are fairly evenly distributed. The commercially more important routes run west to east, connecting Sofiya with the Black Sea ports of Varna and Burgas. The strategically and commercially important Danube is the only navigable inland waterway.

All forms of transportation and telecommunications are owned by the government and controlled and operated through the Ministries of Transport and Information and Communications. Bulgarian railroads are the most important long-haul mode and in 1969 accounted for 62.3% of the total freight-ton-miles as compared with 31% for highways and 6.7% for inland waterways. Highway transport is of growing importance to the economy but is used principally in a short-haul role. Statistics for 1969 show that, of the total tonnage moved, highways carried 86.5%, railroads 12.7%, and inland waterways less than 1%.

A sparse system of pipelines—totaling 73 miles and moving crude oil, refined products, and natural gas—complements the surface-transportation facilities.

Railroads make international connections with Greece, Yugoslavia, and Romania; early in 1971 a new Bulgarian line was completed to the border of Turkey, but no crossing is possible until the Turks complete their new connecting line, which should be by early 1972. Highways make connections with all adjacent countries. The Danube, one of the more important waterways in the world, provides connections with Romania, Yugoslavia, Hungary, Czechoslovakia, Austria, West Germany, and the U.S.S.R. Although the river forms most of Bulgaria's northern boundary, it has only two established crossing points: a combination rail-highway bridge at Ruse and a railroad car ferry at Vidin. There are no highway ferries, but stockpiles of ferry equipment are held at several potential crossing sites.

The merchant marine has 107 ships over 1,000 gross register tons—a 23% increase in fleet size since 1968. In 1970 the fleet carried 84% of Bulgaria's total seaborne

foreign trade; this trade is adequately served by two major and 10 minor seaports on the Black Sea coast and by several river ports on the Danube. Both of the major maritime ports have been expanded in recent years to keep pace with the demands of increased trade.

Civil aviation, formerly maintained as a matter of national prestige, has become economically important. Under a major reorganization accomplished in 1968, the former flag carrier—Bulgarian Air Transport State Enterprise (TABSO)—became BALKAN Bulgarian Airlines (referred to as BALKAN). The new carrier has 32 major transport aircraft, all of Soviet manufacture, and provides services to Europe, the Middle East, and North Africa, as well as domestic points. Bulgaria has a total of 81 operational airfields—25 military, seven joint, and 49 exclusively civil—and one seaplane station.

In line with some of the aims of the 1971-75 Five Year Plan, all transportation facilities are being improved or expanded. The railroads are increasing their double-track mileage, electrification, and axleload limits. Some roads are being reconstructed to improve alignments, eliminate bottlenecks, or upgrade surfaces. Work is continuing on the development of an expressway system of highways, and major urban centers are being provided bypass routes. Inland-waterway improvements include increasing and modernizing the river fleet and expanding the inland ports. New ship purchases are expanding the merchant fleet; plans call for an oceangoing fleet totaling 2.5 million deadweight tons by 1975. Facilities at the maritime ports of Varna and Burgas are being improved, and new port facilities are scheduled for construction or are underway on a lake site west of Varna and at Shabla. Ship channels are being dug between the Black Sea and the new facilities along the lake.

The pipeline system is being expanded extensively with about 690 miles of new lines (crude, refined, and natural gas) under construction; included is the Bulgarian portion of an international line that is to transport natural gas from U.S.S.R. fields to Sofiya and other major centers.

The telecom system is based on an open-wire network supplemented by a number of radio-relay stations. Carrier-equipped landlines, radio relay, and high-frequency radio provide the main means of international communication. Radiobroadcasting is extensive, but reception in some mountainous areas is poor. Plans call for updating and improving telecom services in general and include provision for better and more extensive radio and TV coverage; on a long-range basis the government

aims to improve telecom services by installing more automatic telephone exchanges and a fully automatic telex.

### B. Railroads (C)

The Bulgarian State Railroads (BLZ), a government agency under the Ministry of Transport, operates a total of 2,650 route-miles of track and is the most important means of long-haul transportation in the country. The network trackage comprises 2,470 miles of standard-gage (4'8 1/2") and 180 miles of 2'6" narrow-gage lines. Except for 132 miles of double track on the standard-gage lines, the network is all single track. Electrification of the BDZ lines at 25,000 volts is continuing and in mid-1971 totaled 528 miles. The electrified lines—all single track—are the following: Sofiya–Plovdiv, Mezdra–Gorna Oryakhovitsa, Ruse–Gorna Oryakhovitsa, and Sofiya–Sliven. Electrification work is progressing eastward from Sliven. The rail system is not extensively developed; however, railroads serve all important urban, industrial, and major-port areas, and the greatest density of rail lines is centered on Sofiya.

Because of its geographic position, Bulgaria acts as a bridge between Europe and the Near East and Middle East, and a variety of routes and transportation facilities for commodities in transit is provided. Rail transit traffic through Bulgaria has been increasing steadily since 1960. Most of the transit traffic moves from Yugoslavia to Turkey via the Dragoman Pass, Sofiya, and Plovdiv, and thence to the Greece border (near Svilengrad), where the line crosses the northeastern part of Greece before entering Turkey. A newly constructed line providing a direct connection with Turkey was opened to traffic in October 1971. Two heavily traveled east-west routes connect Sofiya with Varna and Burgas, the major Black Sea ports: the Sofiya–Gorna Oryakhovitsa–Varna line and the Sofiya–Karlovo–Burgas line. In addition to the connections with Yugoslavia and Greece, four other international connections are made, one with Greece and three with Romania. A rail line from Sofiya passes south through the Struma River valley and connects with the Greek rail system near the Bulgarian border town of Kulata. The three connections with Romania are at Kardam in the east, over the Danube bridge at Ruse, and via a Danube railroad car ferry at Vidin.

Extensive tunneling and bridging are required because of the mountainous nature of the terrain and the numerous streams (Figure 83). Most lines have steep grades, sharp curves, deep cuts, and high fills; over one-third of the standard-gage mileage is on grades of 1% and over. The more important main lines generally have a minimum radius of curvature of about 900 feet. It is estimated that the network has 1,600 rail bridges (about 900 steel and the remainder stone or concrete), 95% of which are less than 100 feet long. The 176 tunnels, which total more than 151,000 feet in length, are concentrated mainly between Sofiya and Cherven Bryag on the Sofiya–Varna line, on the Sofiya–General Tochorov line through the Struma River valley, and on the north-south

line from Ruse to Podkova. The bridges generally are of steel-truss, stonemasonry deck-arch, steel-girder, and concrete-arch construction; the longest, a double-deck international rail-highway bridge over the Danube at Ruse (Figure 84), measures 7,300 feet and has plate-girder and through-truss spans. The lower deck carries a single-track rail line and incorporates a lift span; the upper deck carries a two-lane highway. The longest of the tunnels, 19,019 feet in length, is about 5 miles west of Klisura on the Sofiya–Burgas line. To improve low average speeds, the BDZ has been spending heavily on track reconstruction. Work has started on increasing main-line axleload limits. All of the electrified main lines have been reconstructed to bear axleloads of 24 short tons, and some of the other lines are to be upgraded eventually to the same standard. It is anticipated that by 1975 only a few lines will remain with the original 19-ton axleload design standard. Existing 62-, 71-, and 83-pound-per-yard rail is being replaced with 98- and 101-pound rail. Some welding has been carried out, but only about 14% of the system has continuous welded rail. Wooden ties (beech and oak) predominate, but reinforced-concrete ties are being used increasingly; concrete ties have been laid over about 31% of the system. Crushed-stone and gravel ballast is used almost exclusively; in recent years some experimental work has been done using roadbeds without ballast.

In 1970 the railroads employed 54,037 persons, carried 75.2 million short tons of freight, and produced 9.5 billion short-ton-miles; during the same year they carried 106 million passengers and produced 3.9 billion passenger-miles. In 1970 diesel and electric traction accounted for 61% of the total traffic, and the average gross weight of freight trains on the network was about 1,152 short tons. The average length of freight haul was 126 miles; the average passenger journey, 37 miles. Freight-car turnaround was 3.5 days, and the average speed of trains—based on freight and passenger units combined—was 23 miles per hour. Principal commodities carried were coal, fuel oils, metals, and construction materials (crushed stone, gravel, and sand).

Equipment data are fragmentary and in many instances unavailable, but it is estimated that in 1970 Bulgaria had 37,800 freight cars, predominantly 2-axle with screw couplers, and 680 locomotives. Bulgaria has imported diesel locomotives from Austria, Hungary, East and West Germany, and Romania, and electric locomotives from Czechoslovakia.

According to the Sixth Five Year Plan (1971-75), 80 main-line electric locomotives from Czechoslovakia (Figure 85), 50 main-line diesel-electric locomotives, 40 diesel switching locomotives, 56 electric train sets (from the U.S.S.R.), 900 passenger cars, 25 sleeping cars, and 12,000 freight cars (number based on all cars having two axles) are to be acquired by the end of the plan period.

Coal, coal dust, and mazut (a petroleum residue) are the fuels used in the steam locomotives. The standard-gage cars are interchangeable with those of the neighboring countries. Bulgaria participates in the

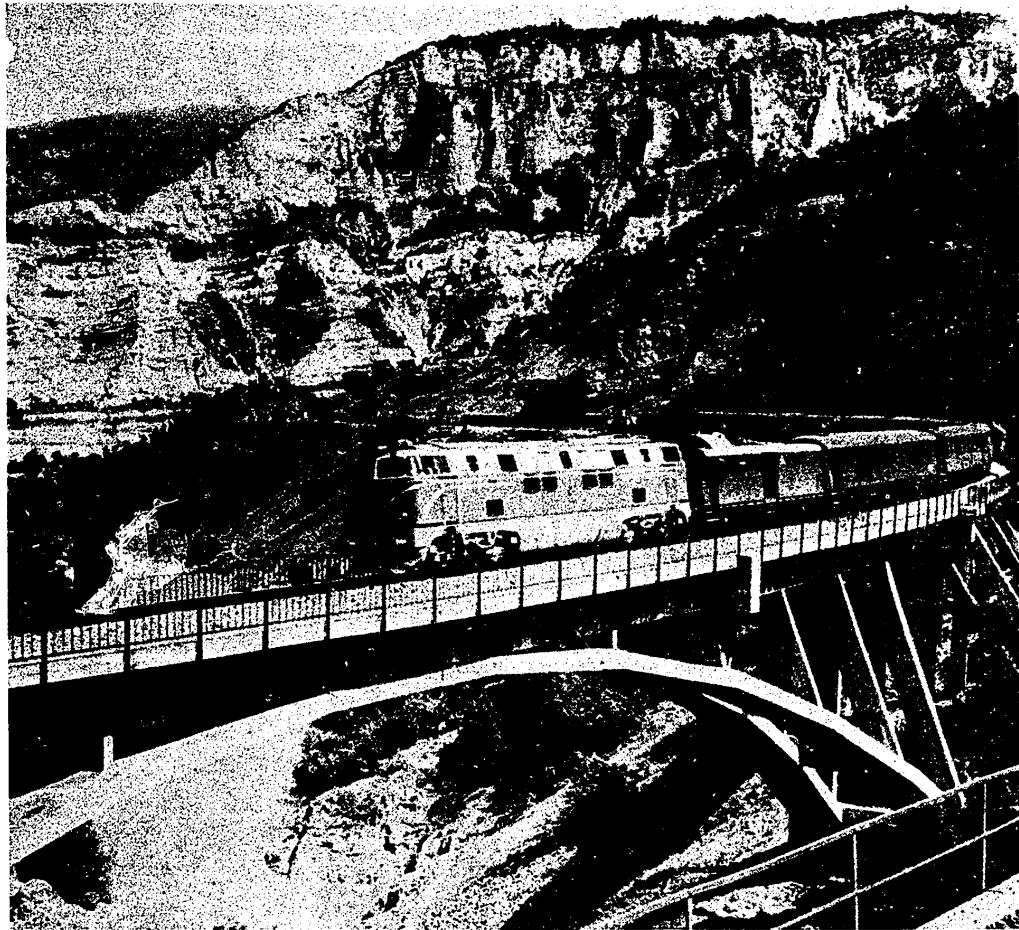


FIGURE 83. The Railroad bridge in the Iskur gorge. One of two northerly routes from Sofiya, the line through this gorge crosses numerous bridges as it passes through the Balkan Mountains. (U/OU)

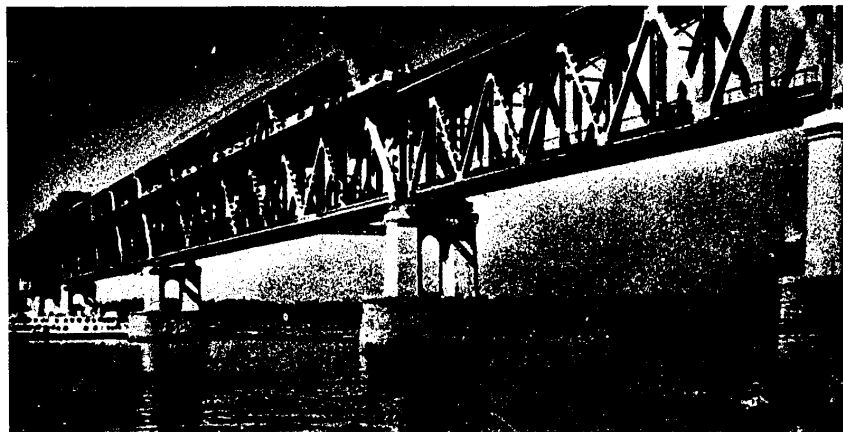


FIGURE 84. Ruse-Giurgiu combination rail-highway bridge across the Danube. The span of the lower deck is lifted to permit passage of river traffic; highway traffic uses the upper deck. (U/OU)

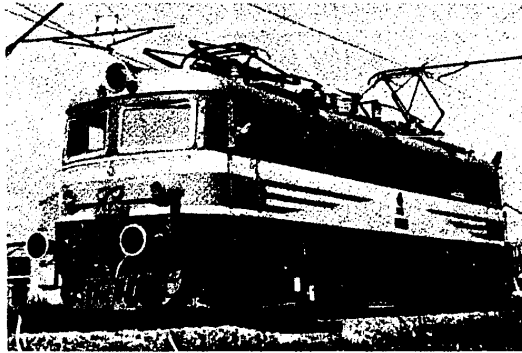


FIGURE 85. Class 41 electric locomotive. These 4-axle, 3,000-kilowatt units, first used in 1962 on the Sofiya-Plovdiv line, complement similar Class 42 units on all electrified lines. Top speed for both classes is 68 m.p.h. (U/OU)

Council for Economic Mutual Assistance (CEMA) freight-car pool, formed in July 1964 to achieve more efficient car utilization among the European Soviet-oriented countries, and has contributed 4,000 of the 110,000 cars forming the pool. Containerization—beyond the use of the CEMA 5-ton container—has not yet made much progress, but it is one of the major projects to be initiated during the next 5 years. The first terminal to be developed, in preparation for international traffic, is to be at Varna. Initially the BDZ is to use 10- and 20-ton containers, probably built in Bulgaria. Some experimental container trains have already operated between Bulgaria and the U.S.S.R. and between Bulgaria and East Germany. Palletization has been developed since 1965, and as of late 1971 the system had more than half a million flat pallets and 150,000 box pallets in use.

Some rail lines are still controlled by an absolute-block system; dispatchers at principal division headquarters transmit orders by telephone or telegraph through block operators to train crews. The more important lines have automatic signals, but many lines use a token system. A semiautomatic block system has been installed on 1,360 miles of track, and the Sofiya-Karlovo sector has centralized traffic control. The principal traffic interruption factors are heavy snows, slides, and washouts in the mountains and spring floods in the river valleys.

Principal repair plants reequipped for the additional task of building rolling stock are at Sofiya, Dryanovo, and Burgas. Prospective workers have to attend a 3-year training course at the Burgas Industrial School before beginning work in the plants. The Sofiya plant builds cement and tank cars; the plant at Dryanovo, passenger coaches and dining cars. The Burgas plant builds a variety of freight cars. Plants at Karlovo and Samuil repair freight cars, and the plant at Ruse repairs locomotives and freight cars. The major classification yards are in Sofiya, Mezdra, Pernik, Ruse, Stara Zagora, and Karnobat. The railroad is organized into three regional divisions; headquarters are in Sofiya, Plovdiv, and Gorna Oryakhovitsa.

Improvements scheduled to be completed by 1975 include 125 miles of new double tracking and over 500 miles of electrification on the following lines: Sliven-Burgas, Karnobat-Varna, Sofiya-Mezdra, Plovdiv-Zimnitsa, and Stara Zagora-Gorna Oryakhovitsa.

### C. Highways (S)

Highway transport is becoming increasingly important to the Bulgarian national economy. Rapid industrial growth and the promotion of tourism in recent years has brought on a concentrated effort to upgrade the road network. The main routes are capable of meeting the minimal requirements of the economy, but many secondary roads remain unsuitable for the growing volume of traffic. Movement and supply of military forces by highway transport would not be seriously hindered along the primary east-west routes; however, north-south movement would be limited by the lack of alternative roads, the relatively inferior condition of the highway surfaces, and poor alignments.

The road network is evenly distributed throughout the country. Principle routes radiate from Sofiya to the borders and to the Black Sea ports of Burgas and Varna. The basic system consists of a grid-like network of main routes connected by numerous secondary roads. The network density of about 0.48 mile of road per square mile of area is comparable to those of neighboring Yugoslavia, Romania, and Greece but is significantly greater than that of Turkey. International road connections are maintained with all adjacent countries.

The Bulgarian highway network totals an estimated 20,700 miles and consists of 7,900 miles of paved roads (bituminous, bituminous surface treatment, concrete, stone block, cobblestone), 8,100 miles surfaced with crushed stone or gravel, and 4,700 miles of earth roads. The earth roads include unimproved tracks and are generally only one lane wide. Surface widths are as great as 50 feet on some stretches, but more typically are 18 to 21 feet wide. Shoulders, where they exist, are of earth or gravel and generally range between 2 and 6 feet. Base construction is principally of crushed stone or gravel and is up to 12 inches thick on the more recently constructed roads.

Bulgaria has an estimated 8,600 highway bridges, over 95% of which are less than 100 feet in length. Most of the streams crossed are narrow and shallow and easily forded during fair weather. Structures on the main highways are built of steel, concrete, or masonry and are generally wide enough for two lanes of traffic. Span types include through-truss, pony-truss, beam, girder, and deck-arch construction. Some one-lane low-capacity timber bridges exist on secondary roads, especially in mountainous regions; these are gradually being replaced with two-lane bridges of modern design. It is estimated that there are 10 to 15 tunnels on the road system: the tunnels are lined and unlined (Figure 86), and their lengths range from 100 to 750 feet. There are no known highway ferries along the main routes of the network. Facilities for ferry



**FIGURE 86.** Unlined tunnel. A number of this type are encountered along mountain routes. (C)

operations have been built in the port areas of several cities along the Danube, but there is no evidence that they are available for regular civilian use.

Highway operations are chronically impaired by physical bottlenecks and climatic conditions. Many roads have numerous railroad grade crossings, narrow and low-capacity bridges, and sharp turns and narrow streets in most urban areas. Travel through mountainous areas is slowed by steep grades and sharp curves. Clearance limitations are imposed by tunnels, numerous underpasses, and through-truss bridges. Snow and ice are common hazards throughout most of the country between December and April; even on main routes, winter extremes can halt traffic for several days. Snow removal is inadequate and, normally, little more than cinderling is done on secondary roads. Spring thaws cause severe damage to many of the main roads; highways break up, and surfaces become a mass of potholes. The damage inflicted on secondary roads is enough to make them impassable until they are repaired.

The government controls all highway construction and maintenance work through its Main Roads Administration. Design and planning responsibility is delegated to the Road Planning Agency; construction and maintenance is directed by the Road Construction Agency. Work is performed by local road-construction enterprises, supplemented by military and civilian labor detachments. Domestic production of bitumen, gravel, portland cement, and steel are sufficient; however, most construction equipment must be imported from the U.S.S.R. and Czechoslovakia.

A highway modernization program underway, in addition to upgrading construction standards, aims to eliminate serious bottlenecks, improve existing roads, and construct cross-country limited-access highways. High-priority projects include the construction of urban bypasses and the realignment of roads that now have severe grades and curves. The most ambitious project is the system of limited-access highways which will greatly

facilitate cross-country movement and connect every major city in the country. Most of the work has been completed, but further refinements are scheduled through 1980.

Highway transport is closely regulated by the government. The Ministry of Transport directs and controls all trucking and bus operations through its transport or industrial enterprises. In 1970, trucks hauled some 511.5 million short tons of freight and produced 4.7 billion short-ton-miles; the average length of haul was just over 16 miles. Principal commodities shipped by road are construction materials, coal, foodstuffs, and light industrial products. Municipal and intercity bus service is well developed.

Bulgaria has embarked on a major effort to develop its automotive industry. Through agreements with France, Italy, Czechoslovakia, and the U.S.S.R., several vehicle-assembly plants have been established. Present assembly includes the French Renault car (Bulgar Renault), the Italian Fiat car (Pirin), the Czech Skoda trucks, and Russian Moskvich cars and GAZ trucks (both marketed under the name Rila). Other Bulgarian automotive plants produce limited quantities of a light pickup truck—the Balcan M-10—and some buses. In addition to the imported components for its assembly plants, Bulgaria also depends greatly on imports of complete vehicles to fulfill its transport needs. Virtually all imports come from Eastern Europe and the U.S.S.R. As of January 1969, vehicle registrations totaled about 151,500 units: 105,000 automobiles, 34,500 trucks, and 12,000 buses.

#### **D. Inland waterways (C)**

Inland waterway transportation is confined to the Danube, the only river of commercial significance. Domestically, the Danube supplements a rather sparse pattern of major east-west land routes across northern Bulgaria; internationally, the river forms the major portion of the boundary between Bulgaria and Romania and provides direct access from Bulgarian river ports to the Black Sea or northwest to countries of both central and western Europe.

The Danube and its waterway facilities are adequate for the demands of Bulgarian shipping. Most of the navigation channel is in Romanian waters, and routine maintenance is largely performed by that country. Bulgarian maintenance is normally limited to dredging in port areas or approaches and where unstable riverbanks threaten the navigable channel.

In 1970, Bulgarian Danube waterway craft carried 4.0 million short tons of freight and produced 1.2 billion ton-miles in domestic and international river trade. During the same year 275,000 passengers were carried and 18.6 million passenger-miles produced. Normally the principal Danube River shipments in export trade are pyrites and other ores, tobacco, and grain and other foodstuffs. Major import shipments are bulk petroleum, textiles, steel and other metals, machinery and equipment, chemicals, and light manufactures. The traffic pattern is directionally unbalanced with roughly

two-thirds of the annual tonnage moved upstream and one-third downstream. The volume and density of foreign transit traffic greatly exceeds the Bulgarian domestic or international traffic. More than one-half of the Bulgarian Danube River trade is still carried in foreign bottoms.

The Danube provides a 1,608-mile internationally navigable route between the Black Sea and Ulm, West Germany. The Bulgarian portion—about 300 miles long—lies within the lower Danube and is navigable throughout by fully loaded 2,500-ton craft for about 300 days a year. The safe draft is 8 feet upstream to Ruse and 5 feet beyond. The island-studded river is characterized by a gentle gradient, a shoaled course reaching a maximum width of 1.5 miles, and a normal high-water current velocity of about 3.5 miles per hour. The left (Romanian) bank is in general low, marshy, and fringed by seasonally inundated swamps. The right (Bulgarian) bank is backed closely by a nearly continuous line of bluffs averaging about 300 feet in height (Figure 87).

Bulgarian waterway operations are performed largely by tug-towed dumb barges. Upriver barge trains on the lower Danube often comprise 12 units towed astern in six pairs or three rows of four units fleeted abreast. Downriver trains may consist of up to 14 units with four alongside the tug and the remainder astern in two rows of four and six units fleeted abreast. Operations on the Bulgarian Danube are aided by shore-based and floating navigational aids, including route-kilometer markers, buoys, and range beacons. Two-way day-and-night navigation is practiced throughout the shipping season.

The principal traffic interruption factor is ice. All traffic is halted during the average 40-day fast-ice period between mid-January and late February. Operations normally continue during 45-day periods of drift or rim ice that precede and follow the freeze. Additional interruptions result from autumn and winter fogs, which suspend navigation when visibility is poor; floods, which occur at irregular intervals and may alter the channel alignment; and low-water conditions, which are relatively rare and usually of short duration.

The Bulgarian portion of the Danube has no locks or dams. The only fixed structure on the river is the combination rail-highway bridge connecting Ruse with

Giurgiu, Romania. The other principal crossing site is the railroad ferry between Vidin and Calafat, Romania.

The eight Bulgarian Danube ports are generally small and poorly equipped. Ruse and Lom, the major ports, together probably handle more than 60% of the total yearly port turnover. Ports of secondary significance are Silistra, Tutrakan, Svishtov, Somovit, Orekhovo, and Vidin. Ruse and Lom are the only ports with protected basins, extensive quayside fixed and mobile freight handling equipment, and adequate open and covered storage facilities. Riverfront berthing, handling, and storage facilities at the other six ports are extremely limited. All of the ports have direct rail or road clearance to the national networks. Collectively they have an estimated total military unloading capacity of 30,000 short tons per day,<sup>9</sup> about 50% of which is provided at Ruse.

In January 1970 the Bulgarian inland cargo fleet consisted of 153 dry-cargo and tank dumb barges with a total capacity of 189,700 short tons and 25 tugs with a total of 22,480 horsepower. Most barges are 670- to 1,000-ton dry-cargo carriers; most tank barges are 1,000-ton units. The majority of tugs are 700- to 1,250-horsepower vessels. In 1970 there were nine passenger vessels with a total seating capacity of 2,840. Between 1960 and 1970, total barge capacity more than tripled, and the number of units more than doubled. Since 1960 the number of tugs has doubled and the aggregate horsepower has increased 400%. By the end of 1970 about five pusher trains were operational—five 1,500-horsepower tugs and at least 20 pusher barges of 1,350-ton carrying capacity. Although the Bulgarian fleet has increased its share in the transport of goods, there is still need for chartering craft from other riparian fleets.

Bulgarian river transportation is controlled internally by the Main Administration for Water Transportation, operating under the Ministry of Transport. The government-owned Bulgarian River Navigation Co. operates and maintains all vessels of the Bulgarian Danube fleet and administers port activity. Waterway construction and maintenance are the responsibility of the Construction Department in the Ministry of

<sup>9</sup>See footnote, Figure 89.



FIGURE 87. Steep bluffs backed by low hills at Somovit. This type of terrain typifies much of the Bulgarian Danube shoreline. (C)

Transport. International Danube regulation is provided by the Danube Commission, established at the U.S.S.R.-sponsored Belgrade Convention in 1948. Commission membership includes all riparian states except West Germany. Primary functions are the planning of improvement projects, promulgation of operating regulations, coordination of river maintenance, and publication of pilot charts and other navigational data.

In recent years most waterway development efforts have been devoted to enlarging and modernizing the fleet and increasing port capacities. In port development the expansion of the facilities at Ruse and Lom continues. Long-range plans include construction of a lock and hydroelectric dam complex on the Danube near Somovit, concurrent construction of a navigation canal from the Danube near Somovit to Pleven, and development of an industrial port at Pleven. There is also under study a grandiose plan for the construction of a navigation canal between Ruse on the Danube and the maritime port of Varna on the Black Sea.

### E. Pipelines (C)

Bulgaria does not have an extensive pipeline system, but an ambitious construction program underway is expected to expand the network substantially by 1975. Of the 73 miles of pipeline now in operation, 41 miles are

used for transporting crude oil, 3 miles for refined products, and 29 miles for natural gas (Figure 88).

The main petroleum pipeline, 17 miles long, is used to transport crude oil from the Burgas port area to a refinery in Kameno. Shorter crude-oil lines extend between the Dolni Dubnik oilfields and Pleven and between the Tyulenovo oilfields and the port of Kavarna. Two parallel lines—one for crude oil and one for refined products—extend from Ruse to Giurgiu, Romania.

There are only two significant natural-gas pipelines. One extends 12 miles from a gasfield at Chiren to the Wilhelm Pieck Cement Works near the village of Beli Izvor; the other extends from the gasfields at Staro Oryakhovo to a glass plant in Beloslav, a distance of 17 miles.

Several new pipelines are being constructed to meet the increasing needs of the economy (Figure 88). A 210-mile line under construction is to be used to transport crude oil from the port of Kavarna to a new refinery being constructed at Pleven. Another line, 160-miles long, is being constructed to move petroleum products from a refinery at Burgas to Stara Zagora, Plovdiv, and other points in southern Bulgaria. Also under construction is an international line to transport natural gas from U.S.S.R. fields, across Romania, to the Bulgarian cities of Varna, Burgas, and Sofiya; total mileage of this line from the

FIGURE 88. SELECTED PIPELINES\* (C)

TERMINALS		LENGTH	DIAMETER	PRODUCTS TRANSPORTED	THROUGHPUT CAPACITY**	REMARKS
From	To					
		<i>Miles</i>	<i>Inches</i>			
Burgas.....	Kameno.....	17	16	Crude.....	na	
Tyulenovo.....	Kavarna.....	12	10	...do.....	na	
Dolni Dubnik.....	Pleven.....	9	na	...do.....	7,300	
Giurgiu, Romania.....	Ruse.....	3	40	...do.....	41,000	Parallel pipelines beneath Danube River.
Kavarna.....	Pleven.....	210	na	...do.....	140,000	Under construction; completion expected 1972. Will serve new refinery nearing completion at Pleven.
Giurgiu, Romania.....	Ruse.....	3	40	Refined.....	41,000	Parallel pipelines beneath Danube River.
Burgas.....	Plovdiv.....	160	na	...do.....	41,000	Under construction; expected completion date not known. Will extend from refinery in Burgas.
Pleven.....	Somovit.....	20	na	...do.....	na	Planned; expected completion date not known.
Pleven.....	Sofiya.....	85	na	...do.....	na	Do.
Staro Oryakhovo.....	Beloslav.....	17	na	Natural gas....	na	
Chiren.....	Beli Izvor.....	12	na	...do.....	2,000,000	
Romania border..... (about 5 miles NE. of Kardam).	Sofiya.....	320	40	...do.....	na	Part of international line under construction from U.S.S.R. gasfields to Bulgaria. When completed, line will serve Varna, Burgas, Plovdiv, and Sofiya. Segment to Varna scheduled for completion by 1972; entire line expected to be completed by 1975. An interconnecting branch line, about 275 miles long, from Varna to Sofiya via Pleven, has been planned; scheduled period of construction not known.

na Data not available.

\*Includes pipelines under construction or planned.

\*\*Barrels per day for crude oil and refined products; cubic meters per day for natural gas.

U.S.S.R. to Sofiya is about 470 miles, 320 miles of which are to be within Bulgaria. Planned pipelines include a branch natural-gas line to extend from a connection with the international line at Varna to Sofiya via Pleven. Also planned are two pipelines for transporting refined products, one from Pleven to Somovit, the other from Pleven to Sofiya.

**F. Ports (C)**

Bulgaria has two major ports and 10 minor ports distributed along its Black Sea coast. Varna and Burgas are the only important maritime ports (Figure 89); the minor ports—Kavarna, Balchik, Nesebur, Pomorie, Nos Atiya, Chernomorets, Sozopol, Primorsko, Michurin, and Akhtopol—serve primarily local fishing enterprises and small naval activities.

Although there are no natural well-sheltered harbors along the coastline, shoreline characteristics are the predominant factors influencing the location and distribution of ports. Varna and Burgas have been constructed at the heads of the country's large bays, Varnenski Zaliv and Burgaski Zaliv. Minor ports are located either along the exposed coast or in small coves, and few have artificial protection. Burgas and eight of the minor ports are located along the southern section of the coast, which is characterized by numerous small coves and bights; Varna and the remaining two minor ports are located along the northern section of the coast, which is more regular and has few indentations.

Varna and Burgas are both linked to the national road and rail transportation networks; all of the minor ports are cleared by road, but only Pomorie has rail clearance as well.

FIGURE 89. MAJOR PORTS (C)

NAME; LOCATION; ESTIMATED MILITARY PORT CAPACITY*	ACTIVITIES	HARBOR	BERTHS
Varna..... 43°13'N., 27°55'E. 19,300	Largest and best-equipped commercial port, shipbuilding center, naval base. Principal shipments—engineered products, tobacco, cement, foodstuffs. Principal receipts—fertilizers, paper, steel, machinery, trucks, construction materials, military equipment, other manufactured goods, coal, petroleum. Three major commercial shipyards primarily for construction but able to perform above- and below-water repairs; largest drydocking facility 810-ft. graving dock; 2 building docks, 775 and 645 ft.; 2 floating drydocks, lifting capacities 4,500 and 1,000 tons. New port facilities under construction for handling timber in Varnensko Ezero, and new port planned at Gorno Devnensko Ezero, a lake 13 miles W. of Varna.	Artificial, breakwater-protected harbor with 3 divisions: Outer Harbor, 60 acres, depths up to 34 ft., approach deep; Inner Harbor, 90 acres, general depths 19 to 32 ft., least depth in approach through breakwater entrance 30 ft.; Varna Canal, 70 acres, general depths 13 to 24 ft., but least depth through channel 18 ft.	Alongside—For 3 large, 7 standard, 5 small ocean-type cargo vessels; 10 standard, 23 small coaster-type cargo vessels; 7 lighters; 2 small ocean-type tankers; 2 medium, 14 small naval vessels. Moorings—When not used for alongside berths, naval wharfage can provide 32 medium and 62 small Mediterranean-mooring naval berths. Anchorage—For 3 large passenger ships, 4 ocean-type cargo vessels, 12 small cargo vessels in area E. of harbor.
Burgas..... 42°30'N., 27°25'E. 12,700	Important export center; handles mostly bulk cargoes; secondary naval base provides operational and logistical support. Principal shipments—machinery, lumber, tobacco, canned fruits and vegetables, lead, zinc. Principal receipts—apatite, phosphate, coal, pig iron, machinery, fish, crude and refined petroleum. Two small shipyards: commercial yard builds and repairs small vessels, naval-base shipyard effects minor repairs to small naval vessels; largest drydocking facility is marine railway with 200- to 400-ton hauling capacity. New fishing port facilities at head of Burgaski Zaliv just W. of Main Harbor still being developed.	Three harbor divisions (2 protected by breakwaters and 1 protected by breakwater and configuration of land): Main Harbor, 72 acres with central depths of 27 to 29 ft.; Fishing Harbor, 80 acres (part of which being filled) with depths up to about 20 ft.; and POL Harbor, somewhat less than 100 acres, central depths of 36 ft.; fairway leading to Main Harbor has least depth of 29 ft.; fairway to Fishing Harbor believed to have depth of about 20 ft., and fairway to POL harbor has depth of over 36 ft.	Alongside—8 standard, 5 small ocean-type cargo vessels; 4 standard, 8 small coaster-type cargo vessels; 5 lighters; 1 large, 1 standard ocean-type tankers; 5 small naval vessels. Anchorage—For 11 large passenger ships, 15 ocean-type cargo vessels, numerous small cargo vessels in area E. of Main Harbor.

\*The estimated military port capacity is the maximum amount of general cargo—expressed in long tons—that can be unloaded onto the wharves and cleared from the wharf aprons during a period of one 24-hour day (20 effective cargo-working hours). The estimate is based on the static cargo-transfer facilities of the port existing at the time the estimate is prepared and is designed for comparison rather than for operational purposes; it cannot be projected beyond a single day by straight multiplication.



Maritime port cargo tonnage has been increasing steadily at an annual rate of roughly 10% in recent years; the amount handled in 1969 was 13,864,000 tons. It is anticipated that the amounts handled will continue to increase because of improvements in port facilities now being developed at Varna and Burgas, and the new trade agreements that have been made with the U.S.S.R., the country which alone accounts for over 50% of Bulgarian foreign trade. Coastal trade (cabotage) in 1969 amounted to only 233,000 tons. The most important types of exports (according to value) are machinery and equipment, consumer goods, agricultural commodities and products, livestock, and livestock by-products; the most important imports are machinery and equipment, fuels, raw minerals and metals. An increase in the import of steel and fuels from the U.S.S.R. is projected.

All Bulgarian maritime ports are controlled by the Black Sea Shipping Co., which has headquarters in Varna; the company is subordinate to the Ministry of Transport.

Varna, (Figure 90) located about 50 miles south of the Romanian border, is the third largest city and the most important port in Bulgaria. It also serves as headquarters and chief operating, administrative, and logistic base for the navy. In 1969 this port handled 5,222,000 tons of cargo. Varna is the locale of the Georgi Dimitrov Shipbuilding Combine (one of the largest enterprises in the country); industries for the manufacture of textiles, machines, industrial chemicals, and cement; and food-processing plants. Most commercial wharves are cleared by rail, and all are cleared by road. A large project, soon to be initiated, is the construction of port facilities 13 miles west of Varna at the western end of Gorno Devnensko Ezero, a lake that is to be connected through dredged ship channels and Varnensko Ezero to the Black Sea; the location will enhance the development of industries in the immediate area, and, because of its connection with the national rail network, will allow Bulgaria to handle greater amounts of transit cargo. New port facilities for handling Soviet timber are under construction in Varnensko Ezero, and a new ship channel is being dug between Varnensko Ezero and the Black Sea.

Burgas, 47 miles north of the Turkey border, has a small naval base and shipyard and is also a regional administrative center. In 1969, 8,529,000 tons of cargo were handled. The city is important for the manufacture of electrical supplies, railroad cars, machines, textiles, radiators, and boilers, and for the processing of lumber, flour, salt, and fish. The naval base has limited facilities and supports small naval vessels. About 2,000 feet of new wharfage has been added along the southern side of Main Harbor, and a new fishing harbor has been constructed recently just west of Main Harbor. At Nos Chukala, a petroleum port 3 miles southeast of Burgas (sometimes referred to as Friendship Port), crude oil is unloaded for transshipment to the refinery at Kameno.

The degree of importance of the minor ports varies considerably, and although cargo-tonnage statistics are not available for individual ports, combined they handled a total of 415,000 tons in 1969. Akhtopol,

Chernomorets, and Primorsko have little significance, serving only a limited number of fishing boats. Five of the minor ports—Sozopol, Nos Atiya, Michurin, Balchik, and Nesebur—have small naval activities, but only Nos Atiya is completely naval, the others also serving fishing boats. Sozopol has the most comprehensive naval facilities and is considered the third most important naval base. Balchik, where a new 490-foot wharf equipped with cranes has been constructed, is considered Bulgaria's third most important port. Sozopol and Michurin also have small shipyards. The port of Kavarna is important for shipping crude oil obtained from nearby fields, and Pomorie is important for shipping locally produced salt; a new port is scheduled to be constructed at Shabla to handle Soviet crude oil.

### G. Merchant Marine (C)

As of 1 May 1971 the Bulgarian merchant marine consisted of 107 ships of 1,000 gross register tons (g.r.t.) and over, totaling 658,311 g.r.t., and 950,386 deadweight tons (d.w.t.). This represents an increase since 31 December 1967 of 29% in the number of ships, 25% in g.r.t., and 23% in d.w.t. Composition of the fleet is as follows:

TYPE	NUMBER OF SHIPS	TOTAL G.R.T.	TOTAL D.W.T.
Dry cargo	55	247,325	364,256
Refrigerator cargo	1	3,556	2,544
Bulk cargo	28	209,330	308,633
Tanker	17	165,878	255,359
Combination ore/oil carrier	1	8,796	11,909
Passenger	5	23,426	7,685
<b>Total</b>	<b>107</b>	<b>658,311</b>	<b>950,386</b>

Bulgaria's ships range in age from 1 to 51 years, 49 of them being over 10 years old; the average age is about 18 years. About 85% of the ships have diesel propulsion (90 diesel, one diesel electric); the remaining 15% have steam boilers (14 oil fired, two coal fired).

Each of 41 of the 107 ships—15 bulk cargo, 14 dry cargo, and 12 tankers—exceeds 10,000 d.w.t. *Toundja*, a tanker of 45,860 d.w.t. acquired secondhand from Norway in 1969, is the largest ship in the fleet.

Eighty-five of the ships, comprising over 90% of the total fleet tonnage, were built in foreign shipyards—principally in the United Kingdom, Japan, and Sweden. The other 22 ships, 11 of which are *Sopot* class dry-cargo types of 1,812 g.r.t. and 2,300 d.w.t., were built in Bulgarian shipyards.

Seventy-five of the ships (over 70%) have maximum speeds ranging from 10 to 13.8 knots; 31 can attain speeds ranging from 14 to 16.3 knots; and one, the passenger ship *Varna*, has a top speed of 18 knots.

Augmenting the seagoing merchant marine is a coastal fleet of 12 ships (under 1,000 g.r.t.) totaling 6,376 g.r.t. and 6,725 d.w.t. comprised of the following:

TYPE	NUMBER OF SHIPS	TOTAL G.R.T.	TOTAL D.W.T.
Dry cargo	10	4,919	5,825
Refrigerator cargo	1	535	700
Passenger	1	922	200

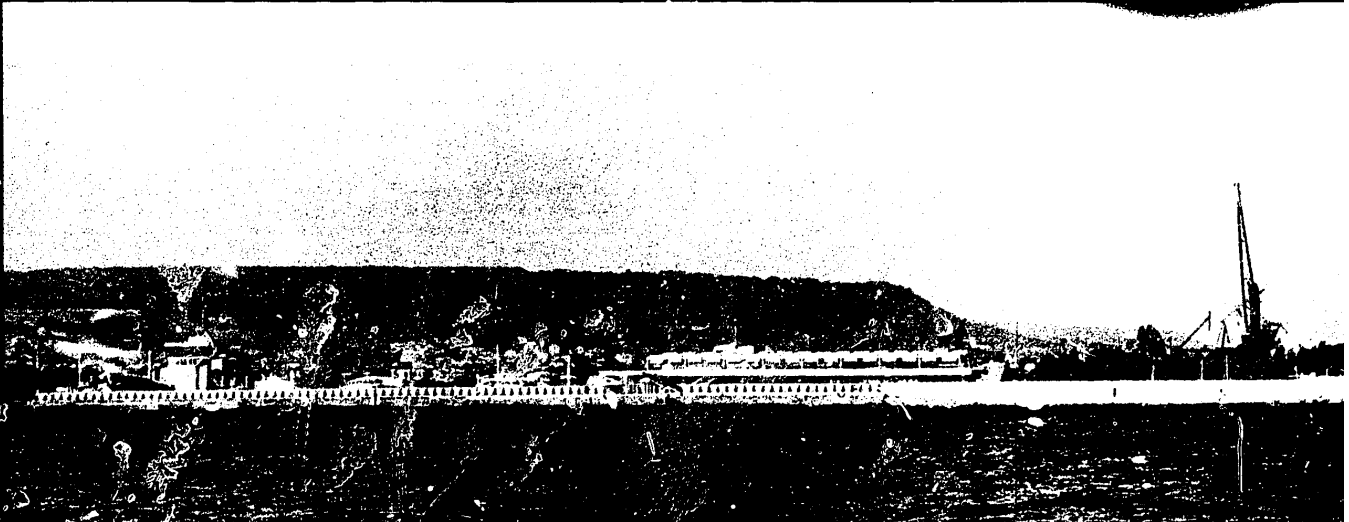


FIGURE 90. Varna port. The East Breakwater and East Quay protect the harbor facilities and shipyard basin. The concentration of cranes, in addition to those on the East Quay, are on the North Quay of the Inner Harbor. (S)

Additionally, there are 20 fish-factory trawlers (over 1,000 g.r.t.) totaling 53,569 g.r.t. and 26,079 d.w.t. and five processing refrigerated fish transports totaling 27,413 g.r.t. and 19,799 d.w.t.

The state-owned merchant marine is under the administrative control of a conglomerate, the Main Administration for Water Transportation, which is subordinate to the Ministry of Transport. The maritime element of the Water Transportation unit has its head office in Varna, and its responsibility includes the transport of goods and passengers by water, the repair of Bulgarian and foreign ships, and the maintenance of ports. Operational control of the oceangoing ships in the merchant fleet is vested in three shipping companies: *Navigation Maritime, Bulgare* (NAV BULGAR), which is in Varna and manages the dry-cargo, bulk-cargo, and refrigerator ships; *Bulgarski Tankeren Flot* (BUL TANK) Burgas, which manages the tanker fleet; and *Balkanturist, Sofiya*, which manages the passenger ships.

Bulgaria has memberships in the Council for Mutual Economic Assistance (CEMA) and the Inter-Governmental Maritime Consultative Organization (IMCO), a specialized agency of the United Nations located in London.

About 78% of Bulgaria's foreign trade in 1970 was conducted with other Communist countries, with the U.S.S.R. accounting for 68% of this total. Of the remaining 22%, about 16% is trade with non-Communist countries and 6% with the developing countries. In 1970, Bulgaria's seaborne foreign trade amounted to 14.4 million tons, 84% of which was carried in domestic ships.

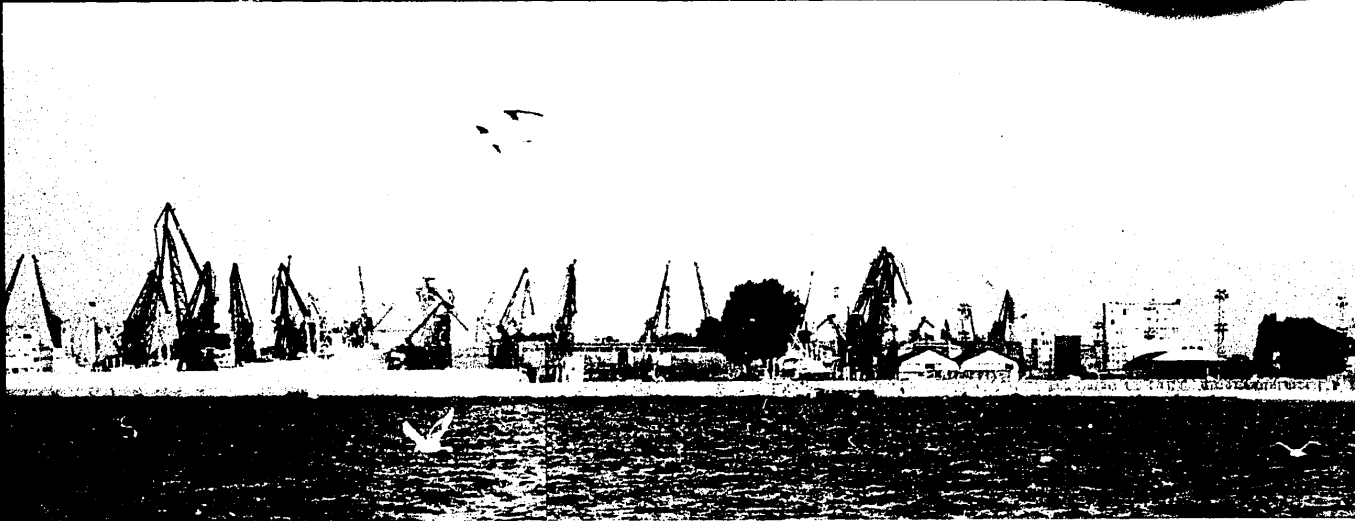
To transport the balance of its seaborne foreign trade in 1970, Bulgaria chartered 35 foreign-flag ships (34 voyage charters, one time charter). These were as follows: Greece, 17 ships; Liberia, 7 ships; Cyprus, 4 ships; West Germany, Italy, and Yugoslavia, 2 ships each; and Panama, 1 ship.

The latest available information shows that in 1969 the merchant marine provided service on 74 shipping routes and made 1,692 calls at 254 ports in areas of the eastern and western Mediterranean, western and northern Europe, the Red Sea, the Far East, North and South America, and Africa.

Along with the existing scheduled-shipping routes to ports in western Europe (including the western Mediterranean), the Middle East, and North Africa, Bulgarian ships travel widely in tramp service throughout the world. In October 1968 a scheduled service to Australia and the Far East via India and Singapore was established. This route, served by the newest of the cargo ships, now provides monthly service from Black Sea ports not only for Bulgarian cargoes but also for the imports and exports of Czechoslovakia, Austria, Hungary, and Romania. A second scheduled-liner service operating via western European ports to the Far East was reportedly established in 1969; and the 1971-75 Five Year Plan calls for establishment of a new shipping line between Bulgaria and Cuba.

Bulgaria's seaborne foreign trade consists chiefly of imports of machinery and equipment, steels and other metals, ore, coal, coke, petroleum, raw textiles, and fertilizer; and exports of agricultural products in raw or processed form, textiles (fabrics, clothing, and carpets), leather goods and clothing, some medicines, and ships. More than 70% of the annual ship production was exported in 1970.

A total of 84 cargo ships (55 dry cargo, 28 bulk cargo, one refrigerator cargo) have a combined lift capability of about 567,500 long tons of cargo. Units of the small coastal fleet (10 dry cargo, one refrigerator cargo) could transport another 5,500 tons of cargo. Three ships (*Algeneb, Rodina, Stephen Karadja*) have a heavy-lift capability (40 tons or more) and seven ships (*Batak, Buzludja, Murgash, Musala, Ruen, Trojan, Vejen*) have large hatches (50 feet or longer).



The 18 tankers in the fleet could transport about 2,004,500 barrels of petroleum products.

More than 6,000 persons are employed in the maritime industry, about 4,800 of whom are seagoing personnel. A significant number of former naval personnel have been recruited to man the merchant ships added to the fleet in recent years.

Future officers for the merchant marine are trained at *Visaemorsko Uciliste Nikola Vapcarov*, a higher naval school at Varna. Maritime-related curriculums also are offered at the Machine-Electrotechnical Institute, Sofiya; the Electrotechnical and Machine Institute, Varna; and the Scientific Research-Institute for Shipbuilding Projects and Construction (*Naucno-Izledovatelski Proektantsko-Konstruktorski Institute po Korabostroenie—NIPKIK*).

A merchant seaman school in Varna offers courses in seamanship and engineering for lower ratings. The training period is 5 months, and attendance is compulsory for acquisition of the necessary papers.

Bulgaria is following a general shipping program that calls for the expansion and modernization of the maritime industry. According to the government, a large merchant fleet is needed to meet the transportation requirements of the expanding industrial and agricultural sectors of the economy as well as the corresponding development of foreign trade. The merchant marine is a large earner of foreign exchange, providing hard-currency funds probably not obtainable in any other way.

The principal objectives of the government's maritime policies in the enhancement of its national maritime identity have been expansion of the merchant fleet, extension of shipping routes, and the establishment of new routes. The 1971-75 Five Year Plan for the merchant fleet, which now exceeds 950,000 d.w.t., calls for an oceangoing fleet totaling 2.5 million d.w.t. by 1975—a

fleet that will be capable of transporting more than 85% of the country's seaborne foreign trade.

To meet its long-range fleet target, Bulgaria has plans to build in its own shipyards six 35,800-d.w.t. special bulk-cargo ships and 11 of 23,500 d.w.t. seven 12,700-d.w.t. all-purpose vessels, and 70,000-d.w.t. tankers. Also, by 1975 Bulgaria plans to purchase from the U.S.S.R. about 60 ships, including 21 high-speed 15,000-d.w.t. bulk carriers, 50,000-d.w.t. tankers, and specialized vessels such as dredgers, hydrofoils, and transport-refrigerating ships for ocean fishing.

#### H. Civil Air (C)

Civil aviation in Bulgaria is fully government owned and controlled. Up until 1968 Bulgaria's civil-air transportation services were provided by the Bulgarian Air Transport State Enterprise (commonly called TABSO). Subsequently, Bulgarian civil aviation underwent a major reorganization that resulted in the formation of three enterprises: BALKAN Bulgarian Airlines—referred to as BALKAN—(scheduled domestic and international services); Bulair (cargo and charter operations); and the Agricultural Aviation Co. This situation was short-lived. In March 1970 the Committee for Economic Coordination under the Council of Ministers implemented still another reorganization that brought the three civil air enterprises under an administrative organization called BALKAN Bulgarian Civil Aviation. Ultimate control of civil aviation, aviation equipment, and associated facilities, however, rests with the Ministry of Transport.

Generally speaking, Bulgaria's scheduled civil-air transport capability is adequate to meet the country's international and domestic air-transportation requirements. Scheduled BALKAN flights originating in Sofiya serve a total of 27 countries in Europe, the Middle East,

and North Africa. Twenty-two cities in non-Communist countries are served: Algiers, Amsterdam, Athens, Baghdad, Beirut, Banghazi, Brussels, Cairo, Casablanca, Copenhagen, Damascus, Frankfurt, Istanbul, Khartoum, London, Nicosia, Paris, Rome, Stockholm, Tunis, Vienna, and Zurich. Flights are also provided to six European Communist cities: Moscow, East Berlin, Bucharest, Budapest, Prague, and Warsaw. The Bulgarian carrier has been expanding its international route network and has shown an interest in extending its services into South and Southeast Asia and sub-Saharan Africa within the next few years, and, in the more distant future, to the Western Hemisphere.

Bulgarian civil aviation also has been playing an increasingly active role in international cargo operations. Regularly scheduled cargo flights on the Sofiya-East Berlin and Sofiya-Vienna-Paris lines have recently been initiated, and it has been announced that a Sofiya-Moscow line will soon be opened.

Scheduled domestic air services are highly developed. More than 125 flights depart weekly from Sofiya to 10 other points throughout the country. Burgas and Varna receive much of this traffic, each being served by more than 30 flights per week. Passenger traffic peaks during summer months, reflecting internal tourist travel to the popular Black Sea resort areas. Extra flights from the central cities to the resorts are added to serve the heavier summer traffic.

BALKAN also provides nonscheduled transport services for both domestic and foreign travel. Such flights are often made to accommodate various governmental agencies in transporting personnel on official business or cultural missions. During the summer, BALKAN provides charter flights for tourists visiting Bulgaria from many Western European countries. Other nonscheduled operations include transportation of such products as fresh fruit and vegetables, meat, and manufactured goods to points throughout Europe, the Middle East, and North Africa, and Muslim pilgrim flights from Morocco and Libya to Saudi Arabia.

The Bulgarian civil-aviation fleet is estimated to include 30 major transport aircraft (20,000 pounds or greater gross weight). All of Soviet origin, they comprise seven COKE (An-24), nine COOT (Il-18), six CRATE (Il-14), six CRUSTY (Tu-134) (Figure 91), and 2 CUB (An-12) aircraft. Bulgaria, unlike some of its European Communist neighbors, has shown no inclination to purchase aircraft from Western firms. New aircraft acquisitions in the foreseeable future will probably continue to be from the U.S.S.R. The twin-engine piston CRATE and turboprop COKE aircraft are employed exclusively on domestic routes. Twinjet CRUSTY's and four-engine turboprop COOT's are used for international flights, and the CUB's are used only on cargo and charter flights. Charter flights also make up part of the workload for the COOT and CRUSTY aircraft.

The domestic flight network is supplemented by a system of airtaxi transportation. Hemusair, a semiautonomous airtaxi company, operates charter flights to smaller

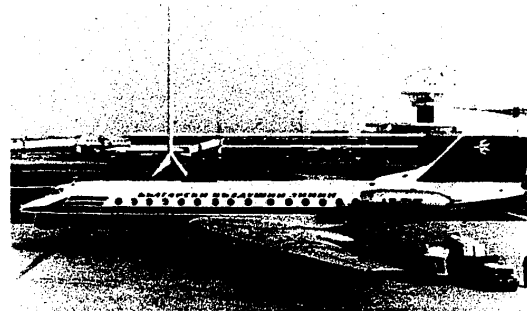


FIGURE 91. Soviet-built CRUSTY (Tu-134). BALKAN's newest transport aircraft, it is used on international routes (S)

cities using two CLOD (An-14) aircraft and a number of COLT (An-2) biplanes. During the late 1960's Hemusair also provided airtaxi services using a Learjet and a Cessna 402 leased from a Danish firm. The exact status of Hemusair since the 1970 reorganization is not yet clear.

The Agricultural Aviation Co. operates about 150 light aircraft and helicopters. The most significant of these, in terms of potential military value, are the estimated five HOUND (Mi-4) helicopters, which, when properly configured, can carry as many as 16 passengers. The rest of the agricultural fleet comprises the COLT, Po-2, PZL-101, and Z-37 fixed-wing aircraft and HARE (Mi-1) helicopters, all of which are of Soviet, Polish, or Czechoslovak manufacture. The primary duties of the agricultural fleet include cropdusting, spraying, fertilizing, and seeding. Agricultural and airtaxi planes are also available for a variety of general aviation services such as medical evacuation, geological prospecting, and aerial photography. Bulgarian agricultural aircraft and technicians have been contracted out to the governments of Egypt and the Sudan to conduct cropdusting and fertilizing in those countries.

Statistics released by the Government of Bulgaria indicate that civil-aviation employees number about 3,500, nearly 3,000 of whom are involved in operational services. BALKAN suffers from an apparent shortage of qualified flight personnel to man its civil transports. On at least one occasion the use of Soviet pilots to fly BALKAN aircraft on international routes has been noted; information is not available on the extent of Soviet participation in Bulgaria's civil aviation operations.

BALKAN's principal aircraft maintenance and repair facility is located at the Sofia/Vrazhdebna airfield. Most domestic airports also have small shops capable of performing minor line maintenance. BALKAN does most of the maintenance of its own aircraft, but the large transports must be sent to the Soviet Union for major overhaul. Since all its major transports are of Soviet manufacture, Bulgaria is completely dependent on the U.S.S.R. for spare parts, an adequate supply of which is kept at Sofia/Vrazhdebna. Although the Soviets will not allow a large stockpile of spare parts to be maintained in Bulgaria, there is little or no difficulty in obtaining parts when needed.

There are no formal civil-aviation training facilities in Bulgaria. Basic aviation training can be acquired either in the military or through membership in the Komsomol, the Communist youth organization. Flight and ground training courses are offered by the Komsomol through a nationwide system of aeroclubs. As a rule, however, the jet and turboprop pilots of civil aircraft receive the bulk of their training in the military service.

Employees of BALKAN receive on-the-job training and refresher courses at Sofia/Vrazhdebna. Initial transition training on new-type Soviet aircraft is performed in the U.S.S.R., but this task is taken over by instructor-qualified Bulgarian pilots as soon as sufficient familiarization with the new equipment is achieved.

Bulgaria is a contracting party to the multilateral Warsaw Convention of 1929 and the associated Hague Protocol of 1955. In general, the terms of the convention govern the liability of air carriers in case of damage or injury to passengers, baggage, and cargo in international flights. In 1967 Bulgaria adhered to the 1944 Convention on International Civil Aviation (Chicago Convention) and became a member of the International Civil Aviation Organization (ICAO).

Bulgaria has entered into bilateral air-transport agreements or arrangements with seven other Communist and about 30 non-Communist countries. BALKAN is party to a multilateral accord with the air carriers of Poland, East Germany, Czechoslovakia, Hungary, and Romania (known as the Six-Pool Agreement), which fosters cooperation among these carriers with regard to pooling of revenues and mutual exchange of supporting services.

Under the terms of these agreements and arrangements, BALKAN operates its international services and, in turn, is served by 10 foreign carriers. Of these, only three are from non-Communist areas: BEA—British European Airways, Lufthansa German Airlines, and Austrian Airlines. The seven Communist air carriers serving Sofiya are Aeroflot (U.S.S.R.), CSA (Czechoslovakia), JAT (Yugoslavia), LOT (Poland), Interflug (East Germany), Malev (Hungary), and TAROM (Romania).

### I. Airfields<sup>10</sup> (S)

The Bulgarian air-facilities system consists of one seaplane station and 81 operational airfields having runways at least 2,000 feet in length. Twenty-five of the airfields are military, seven are joint military and civil, and 49 are exclusively civil.

Of the 81 airfields, 34 are classed as major facilities, having runways in excess of 6,000 feet; 24 of the major fields have hard-surfaced runways, and 10 have runways of improved graded earth. Thirteen of the airfields can support jet light bomber operations, and six of these can also accommodate jet medium bombers. Each of the 34 major facilities can support sustained jet fighter operations, assuming the use of mobile support facilities in some instances.

<sup>10</sup>Detailed information on individual Bulgarian airfields is contained in Volume 15, *Airfields and Seaplane Stations of the World*, published by the Defense Intelligence Agency.

The air force controls the 25 military air bases and four joint-use airfields, as well as the seaplane station near Varna. The other three joint-use airfields are controlled by BALKAN Bulgarian Airlines, as are 43 others involved in scheduled transport operations or utility functions. Six of the airfields are controlled by the Komsomol, the Communist youth organization, and are used in preliminary flight training, soaring, and parachuting.

The airfield network extends the width of the country uniformly in two belts, one north and one south of the Balkan Mountains. Several military airfields are close to Romania, but the bulk of the tactical air facilities, including nine of the 10 primary dispersal strips, are in southern Bulgaria fronting the Turkish-Greek-Yugoslav periphery.

During 1968 and 1969, improved concrete-reinforced revetments for aircraft and servicing vehicles were constructed at each fighter, ground-support, and reconnaissance base. In 1970 this passive-defense program was extended to the primary dispersal facilities. Thus far, eight of the dispersal strips have been provided with 13 aircraft revetments each, in addition to servicing-vehicle revetments and hardened covered-storage bunkers. In all probability Gotse Delchev and Krumovo, the two other primary dispersal facilities, will be equipped similarly in the near future. Several of the primary dispersal airfields have been provided with semipermanent support buildings and small caretaker cadres, and at least one of these fields permanent runway lighting has been installed. Similar improvements at other primary dispersal facilities are anticipated.

There is no firm evidence to date that new passive defenses are under construction at the secondary dispersal strips, but new support facilities noted at Mikhaylovgrad may presage the future improvement of some selected military-reserve airfields.

Both international and domestic civil-air services are centered on Sofia/Vrazhdebna, Bulgaria's largest airfield. Its 9,200-foot concrete runway was resurfaced in 1968. Major improvements, including new taxiway systems with high-speed runway turnoffs, were made at Burgas and Varna/Topoli, the other two international airports, in 1968 and 1969. A new 6,900-foot concrete runway was completed and placed in operation early in 1969 at Turgovishte/Bukhovtsi, and concrete runways approximating 6,000 feet in length are under construction at Gorna Oryakhovitsa and Vidin/Smurdan. Completion of the work at these locations will provide major concrete runways at all airfields used by Bulgarian civil-aviation elements in regular domestic passenger and freight service. The improvements also will provide additional dispersal facilities for the air force.

Another significant development within Bulgaria in the past several years has been the large-scale construction of small agricultural-type airfields having runway lengths less than 2,000 feet; early in 1968 about 90 existed, now there are 240. Most of these airfields are equipped with one or two service aprons and connecting link taxiways. Most of the runways are of graded earth, but it is noteworthy that over 25% have permanent

FIGURE 92. SELECTED AIRFIELDS (S)

NAME AND LOCATION	LONGEST RUNWAY: SURFACE, DIMENSIONS; ELEVATION ABOVE SEA		LARGEST AIRCRAFT NORMALLY SUPPORTED	REMARKS
	LEVEL	LEVEL		
	<i>Feet</i>			
Balchik 43°26'N., 28°11'E.	Concrete 7,200 x 200 620		IL-28 (BEAGLE)	Military. Major jet fighter base. Can support jet light bombers.
Bezmer 42°27'N., 26°21'E.	Concrete 8,200 x 260 505		do	Military. Major ground support base. Can support jet medium bombers.
Burgas 42°34'N., 27°31'E.	Concrete 8,300 x 150 130		Tu-104 (CAMEL)	Civil. BALKAN international airport. Can support jet medium bombers.
Cheshnegirovo 42°07'N., 25°00'E.	Concrete 7,400 x 200 640		MiG-17 (FRESCO)	Military. Major ground support base.
Gabrovnitsa 43°33'N., 23°16'E.	Concrete 7,200 x 200 625		MiG-21 (FISHBED)	Military. Major all-weather jet fighter base.
Graf Ignatievo 42°18'N., 24°43'E.	Concrete 8,400 x 270 620		BEAGLE	Joint. Major all-weather jet fighter base. Can support jet medium bombers. Fighter division headquarters. Major jet fighter modification center. Also used in BALKAN service to Plovdiv.
Kamenets 43°20'N., 25°00'E.	Concrete 8,200 x 260 400		do	Military. Advanced jet fighter flying training school. Can support jet light bombers.
Plovdiv 42°08'N., 24°47'E.	Graded earth 8,100 x 1,000 510		IL-14 (CRATE)	Military. Helicopter center of the air force.
Ravnets 42°32'N., 27°16'E.	Concrete 7,200 x 200 100		BEAGLE	Military. Major all-weather jet fighter base. Can support jet light bombers.
Sofia/Kumaritsa 42°49'N., 23°18'E.	Concrete 7,400 x 260 1,830		do	Military. Major all-weather jet fighter and transport base. Can support jet light bombers.
Sofia/Vrazhdebna 42°42'N., 23°24'E.	Concrete 9,200 x 260 1,760		Tu-114 (CLEAT)	Joint. Principal BALKAN international and domestic airport. Used also by special-purpose transports of air force. Can support jet medium bombers.
Tolbukhin 43°37'N., 27°50'E.	Concrete 8,200 x 260 825		BEAGLE	Military. Major reconnaissance base. Can support jet medium bombers.
Turgovishte/Bukhovtsi 43°18'N., 26°42'E.	Concrete 6,900 x 190 600		COKE	Joint. Newly completed BALKAN airport. Also used in FISHBED dispersals.
Uzundzhovo 41°59'N., 25°35'E.	Concrete 7,200 x 220 580		MiG-19 (FARMER)	Joint. Major all-weather jet fighter base. Used also in BALKAN service to Khaskovo.
Varna/Topoli 43°14'N., 27°50'E.	Concrete 8,200 x 150 272		CAMEL	Civil. BALKAN international airport. Can support jet medium bombers.

NOTE—Data on POL capacities not available.

surfaces. Several of the hard-surfaced airfields are used by BALKAN Bulgarian Airlines for feeder-route services to major airports. Undoubtedly, any or all of these small airfields would be usable in troop movements and logistical support activities by the helicopters and some light aircraft held by the air force.

The major military airfields and the civil airports are well maintained. Prior to 1969 some marked deficiencies existed in navigational and landing aids, flight control, and support services and equipment, particularly at the primary dispersal facilities. However, some of these

problems have been overcome, although mobile support equipment continues to be used to a wide extent during dispersal activities. Details of selected airfields are given in Figure 92.

### J. Telecommunications (S)

Telecommunication (telecom) facilities in Bulgaria are less developed than those of most European countries and generally meet only the basic needs of the public and government. All facilities are owned by the government. Except for a few special-purpose systems, all services are

controlled and operated by the Ministry of Information and Communications. Radio and TV programs are produced, disseminated, and monitored by the Ministry of National Education.

Domestic telecom service is provided by open-wire lines, cables, and radio facilities. Most public services are provided by the open-wire telephone and telegraph network that extends to all areas of the country. Telephone service in large cities is fairly efficient, and facilities are being expanded gradually to meet the demands of new subscribers. Much work has been done to link the larger cities with automatic long-distance exchanges, and Sofiya now has automatic telephone service with Blagoevgrad, Burgas, Pernik, Plovdiv, Stara Zagora, and Varna. Links have also been established between the following: Burgas and Varna, Burgas and Stara Zagora, Khaskovo and Dimitrovgrad, and Lovech and Troyan. About 75% of all exchanges are automatic, but many rural areas are still served by antiquated switchboards. As of January 1970 about 415,000 telephones were in use.

Most of the country is served by an unreliable telegraph network that is equipped primarily with manual equipment. Some improvements have been made with the introduction of automatic teleprinter service, but there still is an unnecessary time lag between sending and receiving messages. Teleprinter service is available between Sofiya and 11 other cities, and a telex network connects Sofiya with Burgas, Plovdiv, Ruse, Varna, and Veliko Turnovo. Facsimile service is available between Sofiya and Plovdiv. Radio-relay facilities supplement the landline system between major cities. A domestic radiocommunication network connects Sofiya with district capitals, but it appears that this is a standby system and used only as a backup in case of wireline interruption or failure.

Most international traffic is routed through Sofiya, the principal domestic and international telecom center. Carrier-equipped landlines provide regular telephone and telegraph services to neighboring countries. In addition to direct telephone links with other Communist countries of Europe, circuits are also available to Austria, France, Switzerland, the United Kingdom, and West Germany. Direct telex communication service is available to the European Communist countries, Greece, Turkey, and to many principal cities in Asia and Africa. Facsimile services are provided for the international news agencies. Direct radiocommunication circuits are available to key centers in Europe, the People's Republic of China, South America, and the Middle East.

Special-purpose systems are operated by the Ministries of Information and Communications, National Defense, Internal Affairs, Forests and Environment Protection, and Heavy Industry. The Ministry of National Defense operates an independent system of open-wire lines, multiconductor cables, and radiocommunication facilities. The telecom system used by the railroad is operated by the Ministry of Information and

Communications and is generally old and in a state of disrepair. The Ministries of Internal Affairs, Forests and Environment Protection, and Heavy Industry use HF radiocommunication networks to link principal areas of operations with their respective headquarters in Sofiya.

Radiobroadcast programs originate in Sofiya and are transmitted by AM stations located in seven other cities. FM service is available from stations located in Botev, Plovdiv, Sofiya, and Varna. As of January 1970 Bulgaria had about 2 million radio receivers. Reception in some areas is poor because of mountainous terrain and low transmitter power. Jamming of news commentaries of *Radio Free Europe* and *Voice of America* is still in evidence. The popularity of wired broadcasts has increased because of the economy of installing, maintaining, and licensing these facilities. Programs emanating from Sofiya are received at local centers and redistributed over wire lines to speakers installed in public gathering places, parks, schools, and homes; in 1971 there were about 720,000 wired speakers.

Television coverage is via one TV station in Sofiya and 25 relay stations scattered throughout the country. This network covers about 65% of the country and is capable of reaching approximately 40% of the population. New transmitting stations are being constructed throughout the country to provide for a more complete TV network. In 1971 there were about 1,200,000 TV sets. Television broadcast equipment is poorly maintained because of a shortage of qualified maintenance personnel, and some transmitting sites are inaccessible in times of adverse weather. Bulgaria belongs to the International Radio and Television Organization, which provides for the exchange of TV programs among member countries through *Intervision*.

The Bulgarian telecom industry consists of six main plants; these establishments fill most of the domestic demand for radio receivers and telephone equipment. In recent years Bulgaria has produced an increasing share of its advanced electronic equipment. Most TV receivers were formerly imported, but Bulgaria can now make about two-thirds of its sets. Local plants also produce a large quantity of other equipment such as small transceivers, automatic telephone exchanges, telegraph equipment, and electronic measuring instruments. Products not domestically manufactured in adequate quantities are imported, mainly from the Soviet Union, Hungary, Czechoslovakia, and Japan.

Plans call for a high-capacity radio-relay link from Sofiya to Istanbul, Turkey, and the laying of additional underground cables. New and more powerful TV transmitters and AM/FM relay stations are being constructed to provide better coverage throughout the country. Color TV broadcasting experiments are underway. In addition, the government's 20-year plan for updating and improving services includes installing additional automatic local and long-distance telephone systems and a fully automatic telex, and replacing the overhead wire lines with underground cables.

## Military Factors

### A. Military geography

#### 1. Location and description (U/OU)

Bulgaria is a small country in southeastern Europe extending inland from the shores of the Black Sea to the mountains of the Balkan Peninsula (Summary Map). The country is a topographic complex of hills, low mountains, and broad plains. Some of the plains are cultivated for crops, while other sections of the plains are grasslands or partly forested. The hills and mountains are mainly covered by scrub and brush. Most of the streams in the country originate within its borders and drain into the Black Sea, the Aegean Sea, or Danube River.

With a perimeter of about 1,390 miles, Bulgaria borders Romania (a member of the Warsaw Pact), Yugoslavia, NATO-allied Greece and Turkey, and the Black Sea. Bulgaria is important to the Warsaw Pact nations because it is located in a part of the Balkan Peninsula where several important land routes lead to the Middle East. The narrowest part of the Turkish straits, the Bosphorus, is within 100 miles<sup>11</sup> of the Bulgaria border; and Sofiya, the capital, is within 1,000 nautical miles of the Suez Canal and within 1,500 nautical miles of the major cities of Europe.

Bulgaria has an area of approximately 42,800 square miles, slightly less than that of Pennsylvania, and a population of 8,601,000. The maximum dimensions are about 310 miles east-west and about 170 miles north-south.

##### a. TOPOGRAPHY

Almost half of the country is occupied by a horseshoe-shaped zone of high hills and mountains (Rhodope Mountains and Balkan Mountains) opening toward the Black Sea (Figure 93). Between these mountains are plains and hills which extend eastward to the Greece and Turkey borders and the Black Sea. North of the Balkan Mountains, in central Bulgaria, is a broad lowland extending northward across the Danube River into southern Romania. In general, north-south movement and internal communications are handicapped by the hills and mountains, and east-west movement and communications are facilitated in the lowlands. The open lowlands in the north and southeast have few physical obstacles and permit relatively easy penetration deep into the interior of the country. Hills and mountains furnish natural defenses along the western and southern borders but are penetrated in places by passes and stream

<sup>11</sup>Distances are in statute miles unless nautical miles are specifically indicated.

valleys. The rugged, forested Balkan Mountains in central Bulgaria channel or restrict movement and communications between the two large lowland areas.

Most of the population is concentrated in the industrial area centering on Sofiya and the intensive agricultural, marketing, and manufacturing area near Plovdiv. The cultivated plains and hills have moderately dense concentrations of people. The hills and mountains have sparse concentrations of cultural features, usually only mines, power dams, and resorts. The high mountains and marshes have very few cultural features. Settlements throughout Bulgaria have a similar pattern of tile-roofed masonry buildings radiating from a central park with public buildings or a church. In the cities, buildings are two to 10 stories high with modern apartments and hotels supplanting old sections (Figure 94). In towns, buildings are two to four stories; industrial buildings are on the outskirts. Collective farm headquarters of new modern brick buildings are conspicuous features at the edge of some villages. The main streets of the cities and towns are paved, and most streets are straight, with a radial-circular or rectangular pattern in the cities and irregular patterns in the suburbs, towns, and villages.

##### b. CLIMATE

Bulgaria has a continental climate that is controlled primarily by the large, semipermanent pressure system over Asia and the North Atlantic, but modified to some extent by maritime influences from the Mediterranean Sea and the effects of mountainous terrain within and adjacent to the country. Winters (December through February) are fairly cold, cloudy, and humid, with frequent fog and occasional snowfall. Most day-to-day changes in weather conditions from September through May are related to migratory pressure systems and fronts. Summers (June through August) are moderate, with warm to hot afternoons and cool nights, scattered cumulus clouds, frequent showers, and occasional thunderstorms.

Precipitation in general is light to moderate, ranging mostly from 20 to 40 inches per year, with the greatest amounts occurring in the mountains (Figure 95). Precipitation occurs throughout the year, with a slight maximum at most locations in May through July. The light precipitation in winter is often in the form of snow, especially at the higher elevations, where snow accumulation may be significant. In general, visibility is best in summer and poorest in winter. At many locations, visibility is less than 2½ miles on more than one-third of the days during the winter; fog is the chief restriction.



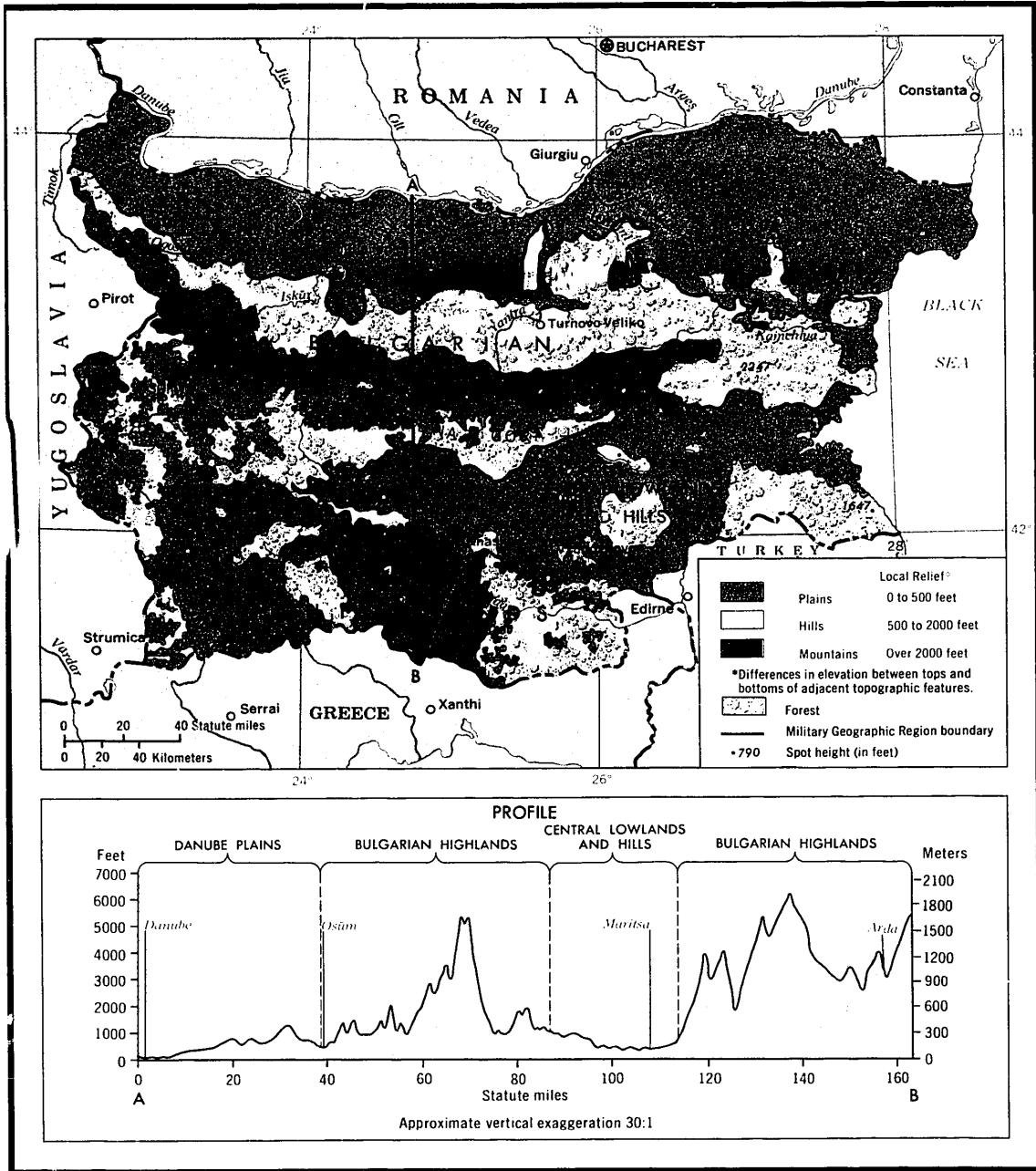


FIGURE 93. Military geographic regions and terrain (C)



FIGURE 94. Georgi Dimitrov Boulevard, Sofiya, with Sofiya Museum in center (S)

Surface winds are mostly light and variable, but strong winds often accompany thunderstorms and migratory pressure systems and fronts.

## 2. Military geographic regions (C)

Differences in topographic conditions are the basis for dividing Bulgaria into three military geographic regions—the Danube Plains, the Central Lowlands and Hills, and the Bulgarian Highlands (Figure 93). The combination of environmental conditions within a region would have a relatively uniform effect on military operations, but there would be marked differences between regions.

### a. DANUBE PLAINS

Paralleling the Danube River, this region consists of a gently undulating, mostly unforested, loess-covered plain which ranges in width from 20 to 80 miles and slopes gently northward from the foothills of the Balkan Mountains in central Bulgaria and terminates in low bluffs along the Danube. Except for several swampy or marshy areas along the river, the region is relatively well drained and covered by fields of low-growing grains, meadows, and scattered groves of broadleaf deciduous trees. Numerous northward-flowing tributaries of the Danube, which divide the plain into segments about 25 to 30 miles wide, meander across the plain in narrow valleys. Differences in elevations are generally less than 300 feet from valley bottoms to the drainage divides, and slopes are commonly under 5%. Beginning in August, the width and depth of the streams are reduced considerably. From early April to early May, melting snow and rains quickly raise water levels, often by 15 feet or more, and cause fairly extensive flooding. Most of the cities and towns are located in stream valleys or along the roads and railroads which crisscross the region.

Terrain conditions in this region are generally favorable for large-scale ground operations. Local or seasonal factors influence the predominantly favorable conditions for cross-country movement of men and vehicles. Practically all of the region is open, nearly flat, and relatively dry and the few steep slopes and patches of permanently wet ground could be bypassed easily. The

road and rail network would facilitate year-round military movement. Alternate routes are available for nearly all the cities and towns. Most of the area is well suited for road construction, but alignments would be restricted in dissected areas, mainly in the eastern half. Although the relatively flat surface of the plain is favorable for ground operations, the streams are major obstacles during the high-water period. From mid-December to mid-April and following the short but heavy spring and summer rainstorms (usually from early May through July), miry soils would also slow offroad movement. Scattered forests afford only limited concealment. Caves in the extreme east and steep streambanks throughout the region afford natural cover from flat-trajectory fire. Deep soils provide many sites for bunker-type installations.

Airmobile and airborne operations could be executed with little difficulty on the Danube Plains. The area is widely cultivated, providing many sites suitable for parachute landings and some scattered sites are available on the dissected areas of the plains. Helicopter landing sizes are numerous in the western half of the plains, but are fewer and scattered in the eastern half because of forested areas. Except for the dissected areas of the plains, sites for airfield construction are numerous and only minor construction problems would be encountered.

The coast of the Danube Plains region is mostly unsuited for amphibious operations because of partly obstructed nearshore approaches, the prevalence of low cliffs, bluffs, and marshes near the shore, and poor exits inland. The most suitable area for large-scale landings is northeast of Varna.

The Danube Plains provide fair to unsuitable conditions for operations by irregular forces. Small elements of foot troops would have few opportunities for cover and concealment on the sparsely forested, generally flat, nondissected plains between Ruse and Lom. Elsewhere, operations would be favored by more extensive forest coverage and by surface irregularities such as bluffs, cliffs, and levees associated with streambeds on the dissected plains. There are also some large caves in limestone, particularly in the vicinity of the contact between the Danube Plains and the Bulgarian Highlands. The urban areas are predominantly situated along rivers and streams emptying into the Danube and are connected by the most dense network of roads in the country. Food is readily available because this region is the agricultural center of the country. However, much of the food and water is biologically contaminated.

### b. CENTRAL LOWLANDS AND HILLS

Stretching approximately 200 miles east-west and about 70 miles north-south at its widest point, this region consists of slightly dissected lowlands, scattered patches of low hills, and a concentration of rugged hills along the eastern half of the Turkey border. Local relief in the lowlands is mostly less than 325 feet; slopes generally are less than 10%. The rugged hills have slopes ranging from 25% to over 45%. Several large rivers and a number of small streams cross these lowlands between the scattered

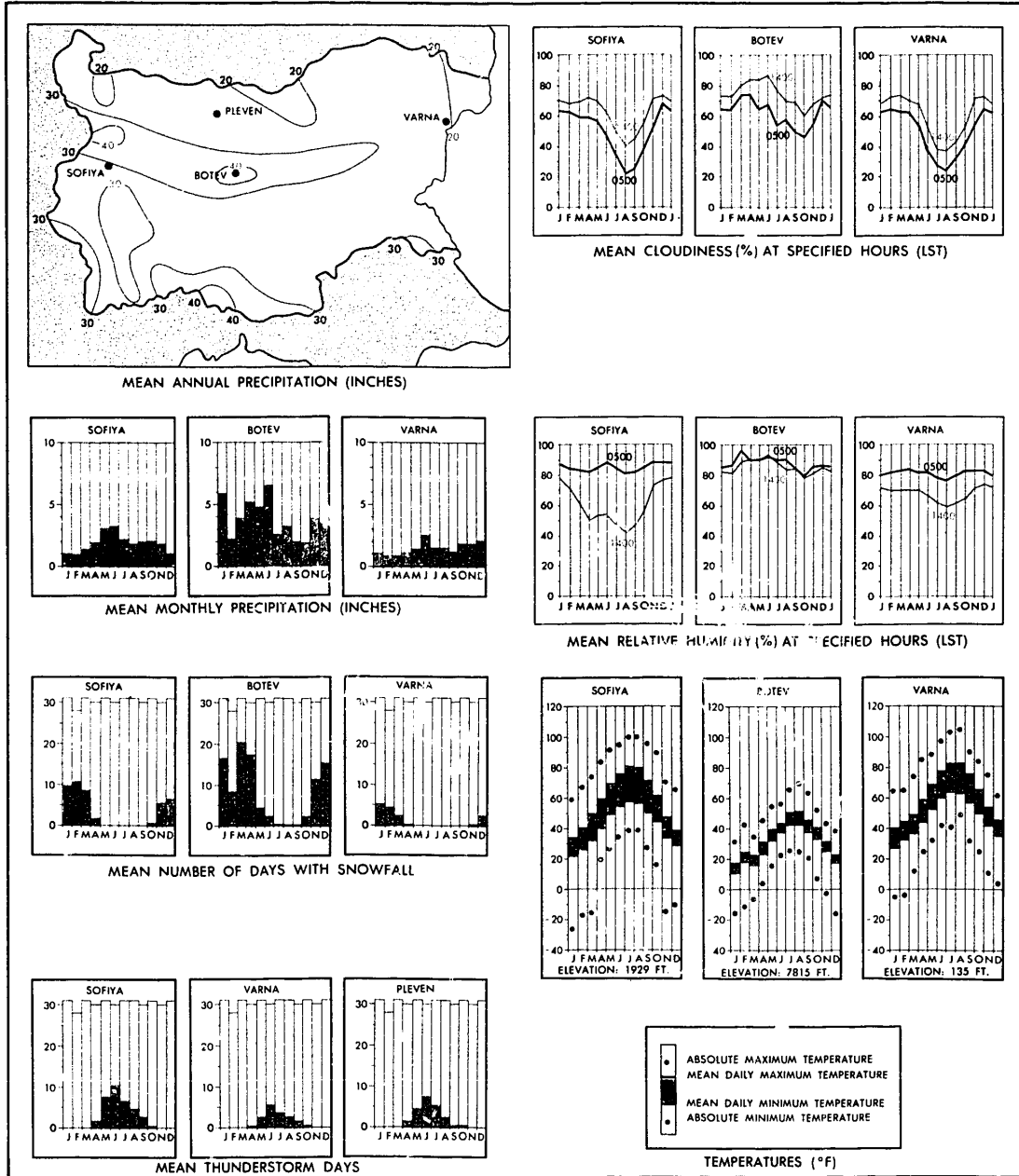


FIGURE 9. Precipitation, snowfall, thunderstorm days, cloudiness, relative humidity, and temperatures (U/OU)

hills; stretches of marshy lowlands, which are generally flooded during the spring thaw, border the principal rivers, the Tundzha and Maritsa. Concentrations of population are significant both inland, along rivers, roads, and railroads, and on the coast. These include such major cities as Plovdiv, Burgas, and Stara Zagora. Numerous agricultural towns and villages dot the fertile lowlands of this region. Brush, scrub, and scattered patches of deciduous forests cover about 60% of the region, and about 40% is covered by cultivated fields planted in low-growing grains, vegetables, orchards, and vineyards. Most farms in Bulgaria are collectivized and include large buildings and sheds which form the core of the farm headquarters (Figure 96).

The lowlands and hills are moderately suited for conventional ground operations. Most of the open, slightly dissected lowlands and the scattered, gently rolling hills are fair for rapid cross-country movement of ground forces; but, between mid-December and mid-April and after heavy rains, movement would be impeded by miry ground and swollen rivers. The road network is in fair to good condition, but the railroads have relatively low capacities. The best transportation route is the highway and railroad through the Maritsa River valley. Cross-country movement is restricted in the southern half of the region because of steep slopes, brush, scattered stands of forest, and deep snow in winter. Off-road dispersal is generally good, but it is hindered in places by steep slopes in the south and by miry ground between mid-December and mid-April and after heavy rains. Conditions for road construction are favorable in the northern half, where alignments would be normally unrestricted and only minor construction problems would be encountered. Populated places provide the best cover and concealment; the deciduous forests in the hills furnish the only effective natural concealment. The high hills along the Turkey border offer the best sites for

tunnel-type installations, and numerous sites for bunker-type installations are available in the deep soils of the lowlands.

Good sites for airmobile and airborne operations are restricted to the cultivated, flat to rolling plains. There are many sites for parachute drops and helicopter landings. The hills and dissected plains in the southern half provide sites of fair suitability. The areas north of Plovdiv, southeast of Stara Zagora, and west of Burgas are especially favorable for the construction of airfields and also serve as sites for most existing airfields.

The coast of this region is generally unsuited for large-scale amphibious landings because most stretches of sandy shore have partly obstructed nearshore approaches and poor exits. The only suitable site, northeast of Burgas, has generally clear offshore and nearshore approaches. Exits from most stretches of shore are by tracks and trails and are generally poor.

Natural conditions for operations by irregular forces are poor to fair in the greater part of the Central Lowlands and Hills. The directional trend of this region favors east-west movement. The steeper, thickly forested slopes in the more dissected terrain in the north and south are the best suited areas for undetected movement by small units of foot troops. Nearly half of this region consists of flat to rolling, cultivated plains which provide little or no cover and concealment. Many areas are subject to flooding in the spring months. The heavily forested hills in the south provide good concealment from ground and air observation and, locally, good cover. Extensive ricefields, mulberry groves, and vineyards offer a good seasonal source of food in the Maritsa River valley, although biological contamination of food and water supplies is a hazard in many areas. Timber for shelter and fuel is scarce or lacking in the cultivated areas. Existing airfields, evenly dispersed in this region, could be used in air-supply operations. The hilly and rugged coastal terrain would hinder supply operations by sea.

C. BULGARIAN HIGHLANDS

This rugged region, covering approximately half of Bulgaria, consists of two mountain chains. From a topographically complex juncture in the west, one chain (the Balkan Mountains) extends eastward, ending in cliffs along the Black Sea, and the other (the Rhodope Mountains) extends southeastward and continues into Greece. The mountains are generally low and rounded in the east and southeast and relatively sharp and rugged in the west and southwest (Figure 97). Elevations in the east for the most part do not exceed 2,500 feet; in the west, particularly in the area south of Sofiya, elevations between 7,500 and 9,600 feet are common. In the east, near the Black Sea, local relief is mostly less than 2,000 feet, and slopes are commonly between 10% and 30%. In the more rugged section to the west, differences in elevation between ridge crests and valley bottoms are commonly more than 2,000 feet and slopes generally exceed 30%. Most of these mountains are heavily forested. Coniferous trees predominate from elevations of



FIGURE 95. Collective farm near Plovdiv on the plains in the Central Lowlands and Hills Region (U/OU)



**FIGURE 97.** Rugged mountains in southwest Bulgaria, where steep slopes, high elevations, and sparse population density would provide good conditions for operations by irregular forces (U/OU)

3,200 to 6,700 feet, and deciduous trees, principally dense stands of oak and beech, are characteristic of the lower slopes and valleys. Brush and scrub cover most of the higher elevations. Cropland is most extensive in the area around Sofiya; elsewhere, cultivated areas are small, widely scattered, and mostly in the wider stream valleys. Most of the inhabitants and the relatively sparse transportation facilities of the region are in these stream valleys and the few basins. The largest population concentration is the Sofiya area.

Terrain conditions preclude large-scale ground operations. Steep slopes, narrow valleys, brush and forests, and deep snow in winter combine to render movement in this region difficult for both foot troops and vehicles. Movement along existing transportation routes would be retarded by narrow roads, steep grades, sharp curves, narrow or low-capacity bridges, and snow and ice in passes. Off-road dispersal along many roads would be very difficult because of steep, forested slopes. Although construction materials are generally available, the rugged terrain presents major problems for roadbuilding. Seasonal concealment from air and ground observation is provided by deciduous forest. Coniferous forests found mainly in the southwest provide local areas of good year-round concealment. Surface irregularities afford cover in most places in the mountains. Tunnel-type installations could be constructed in hard rock in most of the region; in the basins, where soils are deep, bunker-type installations could be easily constructed.

Steep slopes, high elevations, and extensive forest cover greatly restrict airmobile and airborne operations. Scattered, flat to rolling, cultivated or brush-covered plains in the vicinity of Sofiya and along the Struma River valley contain numerous sites for parachute drops and helicopter landings. There are also several large airfields. The plains and a few low hills of the Bulgarian Highlands region are generally suited for the construction of small airfields, but only the east-west trending plain containing Sofiya is suited for large airfields.

The 15-mile length of Black Sea coast within this region is mostly unsuitable for large-scale amphibious operations because of partly obstructed nearshore approaches, rugged coastal terrain, and poor exits inland. Much of the coast is fronted by cliffs or closely backed by steep, forested slopes of hills. Few stretches of shore are suitable for landings, and the number of routes affording exit inland from the beaches are limited.

The Bulgarian Highlands region is well suited for operations by irregular forces. The rugged mountain terrain and generally dense forest vegetation favor the undetected movement of small units of foot troops. In most of the region there are few roads and railroads, but good roads radiate from the basin containing Sofiya to the borders of the four countries adjoining Bulgaria and to the coast. Floods in spring render most of the roads in mountain valleys hazardous. Scattered patches of coniferous forest, mostly concentrated in the Rhodope Mountains, afford year-round concealment, and natural cover is abundant throughout the region. Population concentrations, cultivated areas, and the few airfields in the region are generally in basins and along major river valleys. The Struma and Tundzha River valleys and the basin containing Sofiya are the best areas for obtaining food supplies; procurement of food in the rugged parts of the region would be difficult. Biological contamination of food and water supplies is a hazard everywhere. Shelter and natural fuel are most plentiful in the forests.

### 3. Strategic areas (C)

There are four strategic areas in Bulgaria—Sofiya, Plovdiv, Varna, and Burgas (Figure 98). They are significant as transportation, industrial, and agricultural centers and as sites of military installations.

#### a. SOFIYA

Sofiya, the capital and largest city (1971 population 879,000) in Bulgaria, is one of the principal urban complexes on the Balkan Peninsula (Figure 99). The city (Figures 27 and 94) is a major junction of international transportation lines; it is situated on a rail route linking western Europe to Istanbul, Turkey, and is on the rail line extending through the Struma River valley to Greece. It is one of the major road and rail centers in the country, especially for routes extending westward from the ports of Varna and Burgas, and nearby airfields serve both military and civilian traffic. The city also contains national and international telecommunication facilities.

Sofiya is the primary industrial center of the country, accounting for one-fifth of the national output, principally based on nearby sources of coal, iron ore, and

hydroelectric power. Among the city's many industries are large locomotive and railroad car repair shops, metalworking and machine shops, food-processing plants, and facilities for the manufacture of textiles, rubber products, electrical and communication equipment, pharmaceuticals, and chemicals. The two largest steel mills in the country are located in this strategic area, at Kremikovtsi and Pernik. In addition, the largest and most important uranium mines in Bulgaria are northeast of Kremikovtsi; the associated ore-processing plant is one of the largest in the Communist Eastern European countries. Sofiya is also the control center of the Bulgarian armed forces; military installations within the strategic area include numerous barracks and several military schools. Petroleum storage facilities have a capacity of about 490,000 barrels.

**b. PLOVDIV**

Plovdiv (Figure 100), the transportation center of southern Bulgaria, is the second largest city (1971 population 245,000) and of considerable economic importance as an industrial and agricultural center. Chemicals, metallurgy, and food processing are important industries; and textiles, leather footwear, and electrical equipment are manufactured in the city. A plant located southwest of Krumovo is the country's principal producer of lead and zinc. Plovdiv contains an army headquarters and is the site of several military installations. Storage facilities for refined petroleum products have a capacity of approximately 98,000 barrels. There are four large airfields in the strategic area.

**c. VARNA**

Varna (Figure 101), the largest port and the third largest city (1971 population 217,000), is the principal naval base and center for shipbuilding and ship repairs in the country. Military facilities include naval mine and torpedo storage depots, a seaplane base, and two airfields. Significant industries are textiles, cement, industrial chemicals, and petroleum products. Refined petroleum products storage facilities have a capacity of about 850,000 barrels.

**d. BURGAS**

Burgas (Figure 102) is the second-ranking port and the fifth largest city in Bulgaria (1971 population 140,000). The strategic area accounts for two-thirds of the country's petroleum refining capacity; a pipeline extends from the port to the refinery and petrochemical combine near Kameno. Storage capacity for refined petroleum is about 1.8 million barrels. Freight-car production, shipbuilding, ship repair, flour milling, and salt processing are other important industries. A naval base, two airfields, military headquarters, and several storage depots are located in the strategic area.

**c. OTHER SIGNIFICANT AREAS**

A total of three urbanized areas which are of varying degrees of importance as military, industrial, and transportation centers and may, under special circumstances, become strategic, are described in Figure 103.

**4. Internal routes (C)**

The selected internal routes (Figure 98) are the easiest avenues of movement between the land approaches and strategic areas, between strategic areas, and, in places, are connecting links between routes. All contain improved roads and most contain railroads over at least a part of their length. Conditions for offroad dispersal and cross-country movement range from unsuited in areas of high hills and mountains to fair to good in low hills and plains. On most of the plains, however, conditions may be unsuited for extended periods between mid-December and mid-April because of miry soils or swollen streams. Detailed information on the selected routes is supplied in Figure 104.

**5. Approaches**

The perimeter of Bulgaria consists of 220 miles of coastline and about 1,170 miles of land boundaries (Figure 105). Bulgaria claims territorial jurisdiction for 12 nautical miles offshore. (U/OU)

**a. LAND (C)**

Southern and western land approaches to Bulgaria are generally along valleys in mountains and high hills (Figure 107). Approaches from the north extend across the Danube Plains and generally terminate near the Danube River. The condition of the approach routes is variable, their courses extending across mountainous terrain except in the north. Most of the routes contain both roads and railroads, and cross-country movement would be seasonally good along the valleys and on the plains. Directional restrictions are exerted by the mountains on the western and southern borders and by areas of swamp north of the Danube River. The approaches shown in Figure 98 and described in Figure 108 are the best means of land access to Bulgaria.

**b. SEA (S)**

Sea approaches to the coast of Bulgaria are from the Mediterranean via the Dardanelles, the Sea of Marmara, the Bosphorus, and the Black Sea. A passage 825 yards wide restricts the entrance to the Black Sea from the Bosphorus. In the Black Sea the offshore approaches are clear except for a few widely scattered obstructions such as rocks and shoals but the nearshore approaches are partly obstructed by shoals, rocks, shifting sandbars, and other local obstacles such as wrecks. Surf 4 feet or higher may occur up to 25% of the time on exposed coastal stretches. The tidal range in the Black Sea is negligible, and ice forms along the coast only during unusually cold winters, mostly in January and February. Nearshore bottom materials are mostly sand, with varying amounts of shell, gravel, rock, and mud. Stretches of shore suitable for landing are numerous and fairly well distributed along the coast, but rugged coastal terrain would seriously hamper inland movement in many places; exits are mainly by tracks and trails or cross-country movement. Elsewhere, cliffs, especially along the central

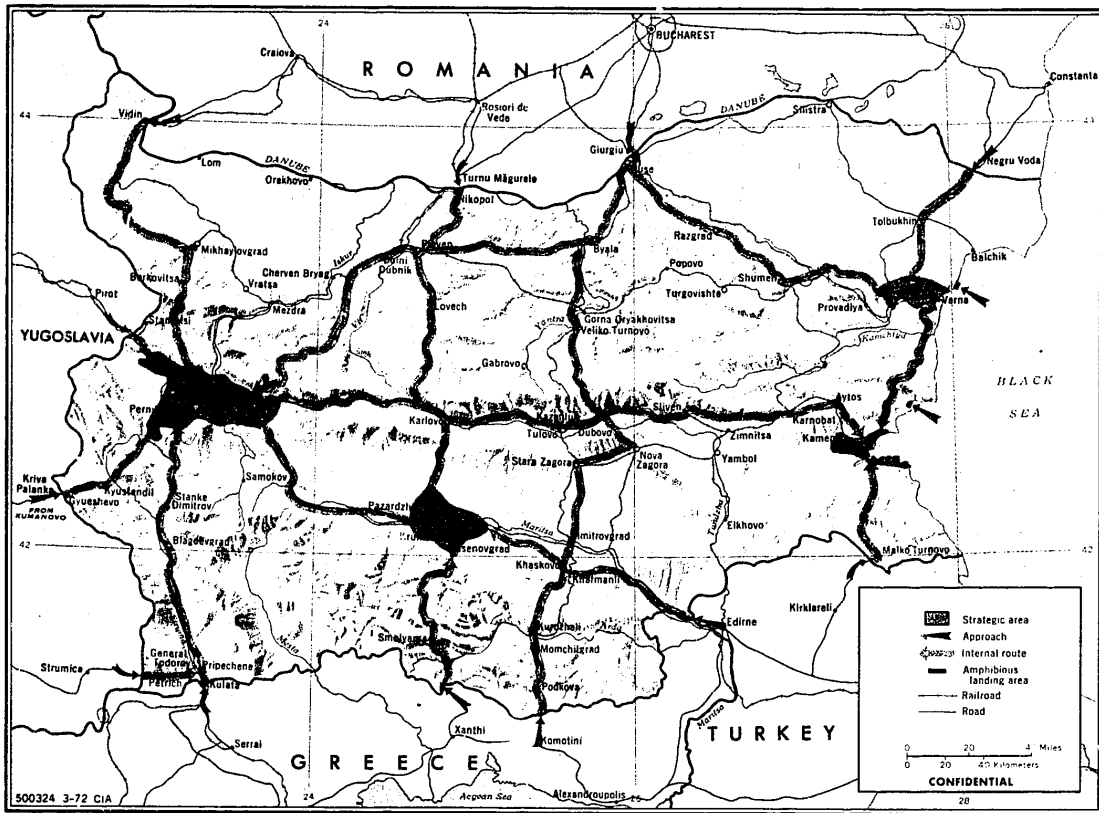


FIGURE 98. Strategic areas, internal routes, and approaches (C)

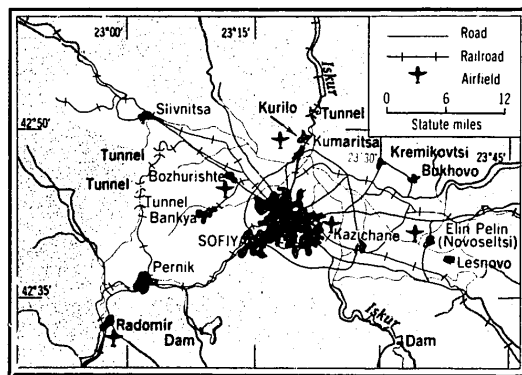


FIGURE 99. Sofiya strategic area (C)

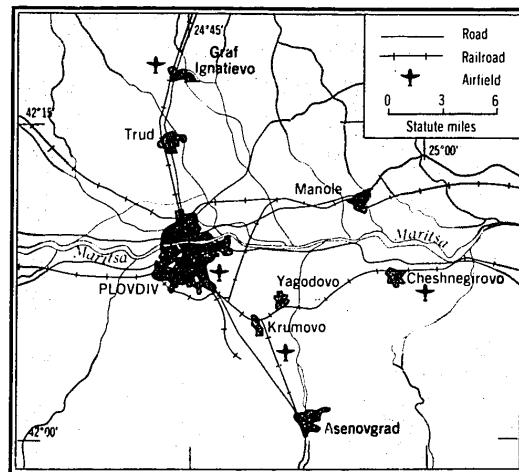


FIGURE 100. Plovdiv strategic area (C)

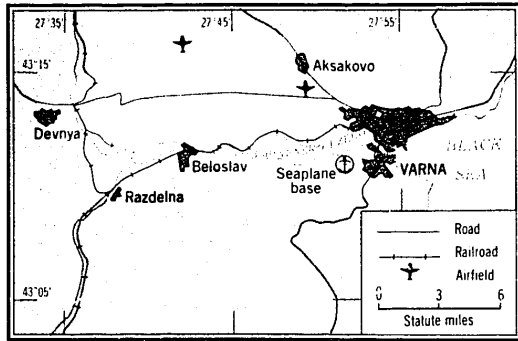


FIGURE 101. Varna strategic area (C)

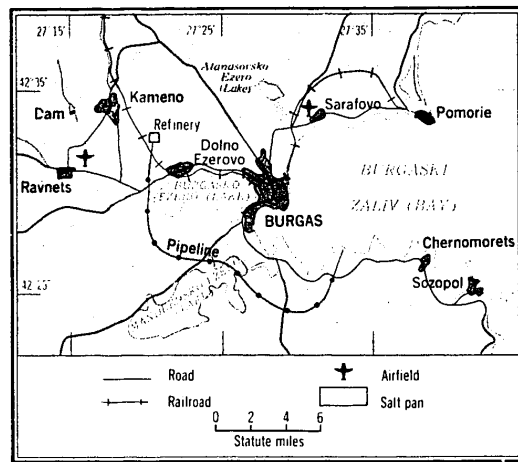


FIGURE 102. Burgas strategic area (C)

coast, would seriously limit landing possibilities. Two amphibious landing areas provide access to internal routes leading to strategic areas (Figure 98).

The best amphibious landing area is a 3-mile stretch of beach northeast of Burgas and centered 2½ miles northwest of Nesebur, near the northern end of the Central Lowlands and Hills region. The beach is 3 miles long, 25 to 30 yards wide, and all usable except for an 80-yard stretch in the southern part. The offshore and nearshore approaches are essentially clear, and surf 4 feet or higher is uncommon in all months. In the nearshore, bottom slopes are mild to gentle, and bottom materials are sand, mud, and shell. The beach has a moderate gradient and is composed of fine sand which is firm in the wet area and soft where dry. Immediately behind the beach is a sandy area with dunes, which extends 300 to 1,500 yards inland to a nearly level to undulating plain. Exits from the beach are by numerous roads and streets leading to a hard-surface road 425 yards to 1,000 yards inland.

The other area suitable for large-scale amphibious landings is a beach centered 13 miles northeast of Varna. The beach is 1,200 yards long, 15 to 30 yards wide and all usable. The offshore approaches are clear but in the

FIGURE 103. OTHER SIGNIFICANT AREAS (C)

NAME	LOCATION	POPULATION (1971)	IMPORTANCE
Dimitrovgrad	42°03'N., 25°36'E.	44,000	Manufacturing and mining center; largest chemical combine in Bulgaria; main center of brown-coal mining; important electric power producer; junction on Sofiya-Istanbul, Turkey, and Ruse-Kurdzhali rail lines; city rapidly expanding.
Kazanluk	42°37'N., 25°21'E.	52,000	Large garrison and army division headquarters at important mountain pass to northern Bulgaria; principal army materiel plants, producing Soviet-type small arms, antitank weapons, ammunition for small arms, artillery, and mortars, and explosives.
Ruse	43°50'N., 25°57'E.	155,000	Largest Bulgarian port on Danube; important point on rail and road routes, also only bridge across Danube to Romania; largest inland shipbuilding center; important manufacturing center, producing agricultural machinery and communication equipment.

nearshore the approaches are partly obstructed by a bar approximately 100 yards off the mean waterline and by submerged and exposed rocks off the south end of the beach. Surf 4 feet or higher never occurs more than 7% of the time in any month. Nearshore bottom materials are sand and mud, and nearshore bottom slopes are mild. The beach is backed by a nearly level to undulating plain extending 150 to 200 yards to cliffs bordering a high wooded ridge in the central and southern parts. In the northern part, the beach extends 1½ to 2 miles up a valley to wooded hills. Exits are by tracks and trails which lead from the beach to a hard-surface road 600 to 1,200 yards inland.

c. AIR (U/OU)

Air approaches<sup>12</sup> to Bulgaria are partly over water and partly over land. Throughout the year weather conditions are usually better over water areas than over land areas. Weather conditions in all approaches are generally most favorable for air operations in June through September, when cloudiness is at a minimum (20% to 50%) and visibility is best, and least favorable in November through March or April, when cloudiness is at a maximum.

Migratory pressure centers and their associated frontal systems frequently affect all approaches in October through April but are most frequent in winter. Widespread multilayered cloudiness is usually associated with these frontal systems. Mean cloudiness in winter is about 50% to 80% in the north and only slightly less in the south. In summer, frontal systems are rare and cloudiness is usually scattered cumulus, with occasional strong vertical development. Thunderstorms are

<sup>12</sup>The discussion zone for air approaches extends approximately 300 nautical miles beyond the borders of Bulgaria.



FIGURE 104. INTERNAL ROUTES (C)

ROUTE AND TERRAIN	ROAD	RAILROAD	OFFROAD DISPERSAL AND CROSS-COUNTRY MOVEMENT
Romania border at Vidin to Sofiya strategic area. Forested, dissected plains near Vidin, brush- and forest-covered hills and mountains, nearly flat to rolling, cultivated plain containing Sofiya.	Two-lane, bituminous surface, good condition. Some short stretches of stoneblock.	Railroad parallels road for approximately first 30 miles. 4'8 1/2" gage; single track to Mezdra; double track Mezdra to Sofiya.	Cross-country movement fair on plains and exceedingly difficult on steeply sloped and forested mountains. Offroad dispersal poor.
Yugoslavia border near Pirot, Yugoslavia, to Sofiya strategic area. High hills and dissected plains, sparsely to densely covered by shrub and brush. Moderate grades and curves.	Two-lane, cobblestone, good condition.	Single track 4'8 1/2" gage to point 4 miles west of Sofiya, double track to Sofiya. Rail parallels road.	Fair on plains, unsuited in high hills (Figure 107).
Extends from Kriva Palanka, Yugoslavia, approach to Sofiya strategic area. Mostly mountainous; three small, relatively flat basins and dissected plains along route.	Two-lane, gravel, good condition.	Single track 4'8 1/2" gage.	Unsuited in hills and mountains. Conditions fair in basins; unsuited during miry period.
Yugoslavia border near Strumica, Yugoslavia, to internal route between Kulata and Sofiya strategic area. Nearly flat to rolling, cultivated and orchard-covered plains; shrub- and forest-covered slopes of high hills and mountains to the north and south.	One- to two-lane, crushed stone, fair condition.	Single track 4'8 1/2" gage from Petrich to General Todorov.	Few hindrances to cross-country movement and offroad dispersal along route. Unsuited in bordering high hills and mountains.
Greece border near Kulata to Sofiya strategic area. Generally flat river valley in south, mountainous near Blagoevgrad. Series of small basins and some hills precede entrance into large, nearly flat basin containing Sofiya. Terrain sparsely to densely covered by brush, shrubs, and small trees.	Two-lane, bituminous surface, good condition, 4 miles north of Blagoevgrad steep grades and curves for 2-mile stretch. Steel girder bridge over Struma River, 8.6 miles south of Blagoevgrad, capacity 22 tons.	Single track 4'8 1/2" gage.	Unsuited in mountains and near periphery of basins. Fair in basins except during miry period.
Greece border near Xanthi, Greece, to Plovdiv strategic area. Route crosses Rhodope Mountains; deciduous forest predominant.	Two-lane, bituminous surface, good condition. Several sharp curves and 10% to 20% grades in mountains.	None.	Unsuited for cross-country movement; offroad dispersal poor in narrow river valleys.
Greece border near Komotini, Greece, to internal route between Sofiya strategic area and Romania border near Ruse. Route passes through mountains and hills to the Danube Plains region. Route crosses two east-west internal routes.	One- to two-lane, bituminous surface. Steep grades and sharp curves in mountains south of Veliko Turnovo and hills south of Monchilgrad.	Single track 4'8 1/2" gage north of Podkova, generally parallel to road; electrified north of Gorna Oryakhovitsa.	Unsuited in high hills and mountains, fair in plains except for extended periods during miry season.
Turkey border near Edirne, Turkey, to Sofiya strategic area. Generally flat to rolling plains along Maritsa River valley; high hills southeast of Sofiya. Route passes through Plovdiv strategic area.	Two-lane, bituminous, concrete, and cobblestone surfaces, good condition. Concrete, masonry arch bridge over Maritsa River at Plovdiv. Concrete bridge over Maritsa River at Pazardzhik, capacity 33 tons.	Single track 4'8 1/2" gage, electrified west of Plovdiv. Railroad parallels road most of length.	Fair in most of plains except during miry period. Unsuited throughout year in high hills and permanently wet areas west of Plovdiv.
Connects approach from Kirklareli, Turkey, to Burgas strategic area. Forested hills near border; nearly flat to rolling plains near Burgas.	Two-lane, bituminous surface.	None.	Cross-country movement hindered by forests and sparse to dense brush in high hills; fair on plains. Offroad dispersal fair.
Burgas strategic area to Sofiya strategic area. Generally flat to rolling plains and intermontane basins. Several hilly and mountainous areas west of Kazanluk.	Two-lane, bituminous surface, good condition. Sharp curves and steep grades in high hills and mountains.	Single track 4'8 1/2" gage except for 11 miles double track Burgas Kameno, 22 miles double track Karnobat-Zimnitsa, 6 miles double track Dubovo-Tulovo. Single track electrified Tulovo-Sofiya (106 miles).	Offroad dispersal and cross-country movement conditions good in basins, unsuited in high hills and mountains. Fair conditions prevail during miry period in lowlands west of Burgas.

Burgas strategic area to Varna strategic area. Nearly flat to rolling plains, mostly cultivated, and hills covered by deciduous forest or brush.	Two-lane, bituminous surface; drawbridge at Varna.	None.....	Unsuited in high hills and in marshes adjacent to streams; fair in most of nearly flat to rolling plains except during miry period.
Romania border near Negru Voda, Romania, to Varna strategic area. Mostly flat to rolling, cultivated plains.	.....do.....	Single track 4'8 <sup>1</sup> / <sub>2</sub> " gage between Tolbukhin and Romania border.	Good north of Tolbukhin; fair to poor elsewhere because of scattered forests and moderate stream dissection.
Romania border near Ruse to Varna strategic area. Nearly flat to rolling, cultivated fields and plains with small patches of scrub and brush.	Two-lane, bituminous surface, except for 6-mile stretch of stoneblock between Ruse and Razgrad. Condition: bituminous good, stoneblock fair.	Single track 4'8 <sup>1</sup> / <sub>2</sub> " gage parallel to but generally 10 miles from road. Double track for about 20 miles from Varna.	Offroad dispersal good. Cross-country movement moderately hindered by stream dissection and patches of forest.
Romania border near Ruse to Sofiya strategic area. Nearly flat to rolling, cultivated plains as far as Dolni Dubnik; forest- and scrub-covered hills and mountains thereafter.	Two-lane, bituminous surface, good condition. Two-lane, stoneblock surface from Ruse to Byala in good condition. Stoneblock or cobblestone surface through towns and villages.	Road and rail line parallel as far as Byala and from Pleven to near Cherven Bryag. Single track 4'8 <sup>1</sup> / <sub>2</sub> " gage, electrified as far as Mezdra.	Conditions for offroad dispersal and cross-country movement range from unsuited in mountains to fair in plains except during miry period.
Romania border at Nikopol to Plovdiv strategic area. Nearly flat to rolling, cultivated plains and forest- and scrub-covered hills and mountains. Route crosses Ruse-Sofiya and Burgas-Sofiya internal routes.	Two-lane, bituminous surface, good condition. Several sharp curves and 10% to 20% grades in mountains.	Single track 4'8 <sup>1</sup> / <sub>2</sub> " gage from Nikopol to Pleven runs parallel to, and west of, internal route. Single track 4'8 <sup>1</sup> / <sub>2</sub> " gage between Karlovo and Plovdiv.	Unsuited in high hills and mountains; fair in plains except for extended periods during miry season.

FIGURE 105. BOUNDARIES (C)

BOUNDARY	LENGTH	STATUS	TERRAIN
Romania.....	380	Demarcated, undisputed. No fortifications of significance.	Boundary follows thalweg of Danube River to Silistra. Low, cultivated, loess-covered plains bordering Danube River as far as Silistra; flat to gently rolling plains and hills between Silistra and Black Sea.
Yugoslavia.....	335	Demarcated, undisputed. Scattered light fortifications.	Hills and mountains; shrub vegetation predominant (Figure 106). Cultivated plains in north and along Nishava river.
Greece.....	305	.....do.....	Forest- and shrub-covered high hills and low mountains.
Turkey.....	150	.....do.....	Forest-covered mountains and high hills in eastern half. Most of hill country shrub-covered. Few treeless peaks and cultivated valleys. Barren, nearly flat to rolling plains in western half.
Black Sea coastline.....	220	Territorial waters claimed for 12 nautical miles offshore. Defenses scattered; greatest concentrations around Varna and Burgas.	Some beaches, many cliffs, and rugged terrain; foothills of Balkan Mountains.

sometimes associated with cold fronts moving through the approaches and occur most often in the south; activity reaches a maximum in June through September with storms on 8 to 10 days a month at some locations. Severe turbulence and aircraft icing may occur in thunderstorms and at times in frontal systems in winter. The mean height of the freezing level is lowest in the north and highest in the south. It varies from the surface to about 12,000 feet in the winter and from about 5,000 to 16,000 feet in summer. Winds aloft are predominantly westerly in all approaches throughout the year. Mean speeds usually increase with height and reach a maximum of about 50 to 60 knots in winter in the south at about 40,000 to 45,000 feet.

**B. Strategic mobility (S)**

The capability of the transportation systems to support major military operations is limited by a variety of factors, principally the following: the high proportion of single-track rail lines; a lack of alternate routes, especially for north-south highway movement; poor alignments on mountain routes; narrow roads and bridges; and many inferior road-surface conditions. Because Bulgaria forms the southern boundary of the Warsaw Pact area and borders NATO-oriented Greece and Turkey, the north-south routes are militarily important; but they are of comparatively low capacity, and, because of the terrain traversed, alternate routes and bypasses would be difficult to construct. As a principal transport artery, the Bulgarian portion of the Danube is suitable for large-scale east-west movements of military supplies and equipment.

The 84 Bulgarian cargo ships have a combined lift capability of about 567,500 long tons of cargo, and units of the coastal fleet could transport another 5,500 tons. The 18 tankers could transport about 2 million barrels of petroleum products. Deployed armed forces could be supplied by these units of the fleet, and the heavy-lift/large-hatch ships could deliver all known Communist military hardware.

With respect to transporting military personnel, the six passenger ships would be able to transport about 5,500 troops under emergency conditions. The 25 fishing vessels could be adapted to transport about 8,600 additional troops.

Bulgarian civil aviation maintains a close relationship with the military establishment. Virtually all aircrew members have reserve status in the Bulgarian air force, and it is presumed that plans have been formulated for their mobilization in the event of a national emergency. Many skilled ground personnel are also reservists. The status of the BALKAN organization as a government-controlled enterprise and the military experience of its personnel render it readily available for military operations. The major transport aircraft of the civil fleet could significantly supplement Bulgaria's troop and cargo airlift capability. In addition, the light aircraft of the agricultural and airtaxi fleets could be used in a militarily supportive role, providing such services as aerial reconnaissance and the transporting of medical supplies and injured persons.

The airfield system appears to be somewhat more than adequate for military requirements. The consistent improvement of the air bases, primary dispersal facilities, and civil airfields since 1968 has provided the air force an excellent network of facilities well suited to either offensive or defensive operations.

**C. Armed Forces**

**I. General**

The regular armed forces of Bulgaria consist of ground, naval, and air and air defense elements known collectively as the Bulgarian People's Army. They constitute a single, highly unified military force controlled by the Minister of National Defense, a ground forces general. Total personnel strength is 157,100, including 131,000 in the ground forces, 8,500 in the navy, and 17,600 in the air force. Major combat elements include eight ground forces divisions, five tank brigades, three Scud brigades, 61 combatant ships, two naval



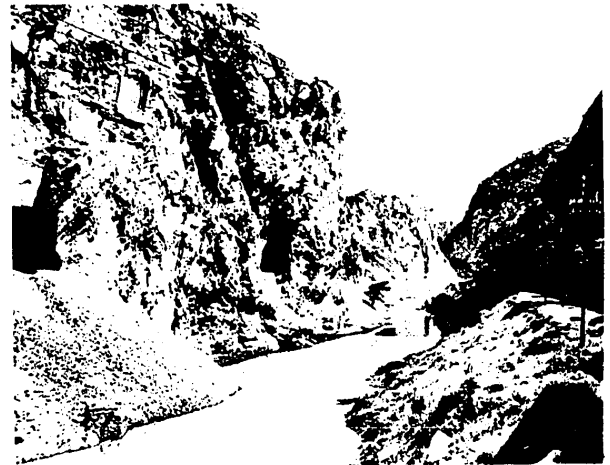
FIGURE 106. Yugoslavia-Bulgaria border near Kalotina, Bulgaria. View is toward Bulgaria. Approximate location 42°59'N., 22°52'E., 1960. (C)

coastal defense missile independent battalions, about 360 aircraft, and five surface-to-air missile regiments. The regular forces are supplemented by about 14,500 frontier troops subordinate to the Ministry of National Defense. A Maritime Frontier Guard with 500 personnel is administratively subordinate to Frontier Troops but operationally integrated in the navy. It operates 33 patrol-type craft. (S)

The mission of the armed forces includes offensive and defensive actions on the Balkan Peninsula, in consonance with Warsaw Pact objectives, and the maintenance of border and coastal security of the Bulgarian homeland. For purposes of regional administration of the armed forces, the country is divided into three army areas. Units of the ground forces are distributed among these three areas, generally near the larger cities, but they are capable of rapid deployment to the strategic Yugoslav, Greek, and Turkish borders. Most of the naval forces are concentrated in the Varna and Burgas areas on the Black Sea. The navy mission is to provide for the defense and security of home waters and coastal lines of communication. The primary mission of the air force, in conjunction with the ground forces elements of the Air and Air Defense Forces Command, is to provide air defense of the homeland and its coastal waters; the secondary mission is air support of the ground forces. Air units and surface-to-air missile units are deployed generally along the frontiers of Yugoslavia, Greece, and Turkey, and the Black Sea. (S)

The armed forces are organized, trained, and equipped largely along Soviet lines; however, they lag significantly behind Soviet standards in modern equipment. The Bulgarian forces have received at least a few of most post-World War II items of Soviet design, but the delivery of weapons and equipment to Bulgaria has been somewhat slower than Soviet deliveries made to East Germany and Poland. Despite the time lag in modernization, the armed forces compare favorably with forces they probably would oppose in wartime. They are capable of significant though limited offensive and defensive actions on the Balkan Peninsula, either independently or as a part of a

FIGURE 107. High, steep slopes along the gorge on route from Piro, Yugoslavia, to Sofiya would restrict offroad dispersal and cross-country movement (C)



larger force under the Warsaw Pact Command. Large-scale mobilization and sustained combat would require extensive Soviet logistic support. (S)

Bulgaria is bordered on the north by its Communist neighbor Romania, on the west by Communist but nonaligned Yugoslavia, and on the south and southeast by NATO-allied Greece and Turkey. Because of Bulgaria's location, its military forces are the primary Warsaw Pact force oriented against NATO troops in Greek and Turkish Thrace, and they constitute an important sector of the outer air defense perimeter for the Warsaw Pact countries. (C)

The fact that Bulgarian armed forces have participated with Soviet and Romanian air, ground, and naval units in a number of Warsaw Pact and combined exercises in the Balkan area and naval exercises in the Mediterranean Sea in recent years strongly suggests that Soviet contingency planning for war on this southern Balkan front calls for a combined effort instead of independent Bulgarian action. (S)

FIGURE 108. LAND APPROACHES (C)

APPROACH	ROAD	RAILROAD	OFFROAD DISPERSAL AND CROSS-COUNTRY MOVEMENT
From Craiova, Romania. Nearly flat plains, mostly cultivated.	Two-lane, bituminous-treated surface, good condition.	Single track 4'8 1/2" gage. 48-car rail-road ferry crosses Danube River to Vidin, Bulgaria.	Good to poor. Wet ground and northwest-south-east oriented dunes restrict direction of movement.
From Pirot, Yugoslavia. Nearly flat to gently rolling, cultivated valley floor.	Two-lane, bituminous surface, good condition.	Single track 4'8 1/2" gage.	Restricted by high, steep slopes bordering Nishava river and miry ground December to mid-April.
From Kumanovo, Yugoslavia. Shrub-covered hills with bordering steep mountain slopes.	Two-lane, bituminous surface, good condition to Kriva Palanka, Yugoslavia; 1-lane, crushed stone or gravel, fair to good condition, from Kriva Palanka to border. Serious snow blockage.	None.	Poor to unsuited. Locally feasible in narrow river valley.
From Strumica, Yugoslavia. Cultivated and shrub-covered, nearly flat to gently rolling plains.	One- to 2-lane, crushed stone, fair condition.	None.	Fair most of year. Poor to unsuited December to mid-April because of miry or flooded ground.
From Serrai, Greece. Cultivated fields on river plain north of Serrai, forest- and scrub-covered hills and mountains in border zone.	One- to 2-lane, bituminous and crushed-stone surfaces, fair to good condition.	Single track 4'8 1/2" gage.	Generally fair on plains. Cross-country movement slowed in winter by soft ground. Hills and mountains unsuited.
From Xanthi, Greece. Forested high hills and low mountains.	One- to 2-lane, bituminous and gravel surfaces, fair to good condition.	None.	Unsuited because of steep slopes. Some movement possible along stream valley.
From Komotini, Greece. Forested high hills and low mountains.	One- to 2-lane, crushed stone, poor condition.	None.	Unsuited because of steep slopes.
From Edirne, Turkey. Nearly flat to rolling, cultivated plains along Maritsa river.	Two-lane, bituminous-treated surface, good condition.	Single track 4'8 1/2" gage.	Generally good. Unsuited November to May because of soft and miry ground.
From Kırklareli, Turkey. Hills and low mountains, mostly forested.	Two-lane, gravel and crushed-stone surfaces, fair to good condition.	None.	Poor to unsuited on steep hills and highly dissected uplands. Unsuited on mountains.
From Negru Voda, Romania. Nearly flat to rolling plains, mostly cultivated.	Two-lane, bituminous surface, good condition.	Single track 4'8 1/2" gage.	Fair to good. Moderate hindrance from stream dissection. Ground miry March through April.
From Bucharest, Romania. Nearly flat to rolling plains, mostly cultivated.	do.	Single track 4'8 1/2" gage. Combination rail and road bridge, 1.4 miles long, across Danube River to Ruse.	Good to fair. Scattered marshes and woods main hindrance.
From Rosiori de Vede, Romania. Nearly flat plains, mostly cultivated.	Two-lane, crushed stone or gravel surfaces, fair condition.	Single track 4'8 1/2" gage. No bridge or ferry across Danube River.	Generally good. Wet depressions slight hindrance in March.

a. HISTORICAL (S)

Bulgaria's strategic position on the Balkan Peninsula, which has been a center of strife for centuries, has provided the Bulgarian people with a military tradition dating back to the Middle Ages. Themes of war and of military folk heroes derived from the period of the Bulgarian kingdom in the ninth century and from the long series of struggles against Turkish rule beginning in the 15th century dominate Bulgarian folk legends and songs. The Bulgarians have not forgotten that the Russians freed them from Turkish rule in 1878; ties of friendship have sustained good relations between Bulgaria and the Soviet Union. Since the signing of the Treaty of San Stefano in 1878, following the Russo-Turkish War which made Bulgaria an autonomous principality, the nation has maintained a relatively large and efficient military organization. Militaristic traditions, along with Bulgaria's territorial ambitions in the Balkan area, have been reflected in numerous local disputes and in ill-fated alliances with Germany during both World Wars.

The rivalry between neighboring states over disputed territory led Serbia to attack Bulgaria in 1885 and induced Bulgaria to participate in both Balkan wars of 1912-13. Revisionist claims also motivated the Bulgarians to side with Germany in World War I. Although this alliance resulted in losses of territory for Bulgaria, the army performed well during the campaign. The Bulgarians drove the Serbian Army out of Macedonia and kept the Allied expeditionary force at Thessaloniki bottled up until the last months of the war.

As a result of agreements between the Bulgarian and Nazi governments, the Bulgarian Army was organized into a 25-division force and partly reequipped along German lines during the 1930's. Bulgaria joined the Axis powers in 1941; the country was occupied by German forces and became an important base for their operations in the Balkans. When the Russians invaded and the Communist-dominated Fatherland Front seized power in September 1944, Bulgaria declared war on Germany and fought alongside the Red Army in the Yugoslav, Austrian, and Hungarian campaigns. The quality of the Bulgarian Army was demonstrated again during this period, particularly in the battle of the Drava River, when the Bulgarians were instrumental in preventing the Germans from turning the Soviet flank.

Following a pattern familiar throughout the Communist countries of Eastern Europe after World War II, the army was gradually inactivated, politically unreliable officers were purged, and by 1948 it had been reduced to a small, ineffective force. The military establishment was then rapidly rebuilt with Soviet guidance and assistance. Displacement of German influence and reorganization of the army were accomplished by assignment of Bulgarian Communists to posts of command. These men were well trained, experienced, and politically reliable; all had served as officers in the Soviet Red Army. Soviet officers from units stationed in Bulgaria, until their departure in 1948,

supervised the development of the new Bulgarian People's Army; they were replaced by a large Soviet mission which continued supervision of the reorganization.

By 1950 the basic combat units of the ground forces had been substantially reorganized and reequipped to resemble their Soviet counterparts. Nevertheless, the ground forces still suffered from inherent weaknesses, notably a lack of homogeneity of equipment and a shortage of trained field-grade officers. Shortages of specialized technical equipment and a lack of trained mechanics and technicians were also apparent. These defects were overcome gradually over a number of years by building up the Bulgarian military school system and through imports of new equipment from the U.S.S.R.

In the late 1950's a further reorganization of Bulgarian tactical ground units and improvement in logistic capabilities became apparent. This modernization has been continuous and has resulted in the transformation of the ground elements into a modern, mobile force with considerably increased firepower. Former rifle, mountain rifle, and tank units, comparable to Soviet units of the early 1950's, have been reorganized and equipped as modern motorized rifle divisions and tank brigades, but with some modification in types and quantities of equipment.

Aside from some notable motor torpedo boat exploits during the Balkan wars, the navy has never distinguished itself. Long a rather neglected branch of the armed forces, it has, nevertheless, developed under Soviet guidance since World War II to become the most significant naval force in the history of the country. The pattern of transition for the navy, under Communist rule, which had been a very gradual process of improvement and modernization, was changed noticeably in 1970 with the acquisition of about 10 fairly modern naval ships.

The air force was formed under the influence of the German *Luftwaffe* in 1938. In March 1941 the air force had some 300 aircraft, half of which were modern German types. When Germany invaded the U.S.S.R. in 1941, Bulgaria, for reasons of close, historic ties with the Russians, did not declare war against that country. In fact, apart from having a few aircraft based in Yugoslavia for a short period during the first years after Bulgaria's entry into the war, the air force role was confined principally to home defense. Since most of the war was fought well away from Bulgarian territory, there was little opportunity to join in combat until the Allied raids on Sofiya and the Romanian oilfields began in November 1943. After the war, a basic reorganization of the air force was effected under Soviet guidance and along Soviet lines. Soviet equipment began to replace German types, and by 1946 a new Bulgarian air arm had emerged. By 1950, aircraft strength had reached a total of 425, all of which were piston-engine fighters and light bombers. The first jet fighters, 10 FLOBA (Yak 23), appeared in Bulgaria in 1951. By 1956, FRESCO (MiG-17) aircraft, including 10 FRESCO D all-weather models, had been introduced increasing the jet fighter strength from 150 to 215. With

the introduction of jet aircraft, and the subsequent phasing out of obsolete conventional models, total combat aircraft strength decreased gradually until it reached its present level of approximately 360.

Improvements also have been made in shipping, handling, storage, and maintenance capabilities to support the modernization of ground, naval, and air materiel inventories.

**b. DEFENSE ORGANIZATION (S)**

Soviet control of the armed forces is achieved through the interrelationship of the Bulgarian Government and the Soviet-dominated Bulgarian Communist Party. However, the only formal instruments of Soviet military direction are the unified command under the Warsaw Pact and the Soviet Military Mission to Bulgaria.

The military administrative organization within the government, modeled after that of the Soviet Ministry of Defense, provides for top control of the armed forces (Figure 109). The Minister of National Defense exercises full administrative and operational control over the armed forces in accordance with military policy formulated by the Council of Ministers and the State Committee for Defense. He is assisted by a First Deputy Minister, who is also the Chief of the General Staff, and by six deputies. The high command has a general staff and various administrative, political, logistic, training, and branch directorates. The organization of the high command facilitates a centralized control of all military activity and achieves a high degree of service unification.

The function of the General Staff is to accomplish the military planning, coordinating, and consultative work of the Minister of National Defense. The Chief of the General Staff is a ground forces officer. Deputy Chiefs of the General Staff, who are senior ground, naval, and air officers, advise him on matters related to their respective services. The Chief of the General Staff has no command authority over the tactical units; the chain of command passes directly from the Minister of National Defense to the three army headquarters, the naval headquarters, and the headquarters of the air and air defense forces.

The navy is one segment of a highly integrated armed forces structure; however, the location of naval

headquarters at Varna, geographically separates the center of military control in Sofiya, gives the navy a degree of autonomy. Continuing naval representation at the Ministry of National Defense level is provided by small naval liaison groups in the General Staff and directorates which support and supervise all branches of the armed forces. Coordination of these naval elements in Sofiya is exercised by the navy's Deputy Chief of the General Staff.

The air force units are part of the Air and Air Defense Forces Command, which also includes those units of surface-to-air missiles (SAM), antiaircraft artillery (AAA), and air control and warning (ACW) radar troops that are assigned to the territorial air defense mission. The Commander of the Air and Air Defense Forces Command, a ground forces colonel general, is directly subordinate to the Minister of National Defense.

The Frontier Troops, which as auxiliary ground troops represent a potential augmentation of ground forces strength in wartime, are controlled by the Minister of National Defense.

**c. MILITARY MANPOWER AND MORALE (S)**

(1) *Manpower*—There are an estimated 2,263,000 males between the ages of 15 and 49, of whom about 1,885,000 are considered fit for military service. It is estimated that an average of about 68,000 males will reach military age (19) annually during the period 1972-76.

Manpower distribution by 5-year age groups, as of 1 January 1972, was as follows:

AGE	TOTAL MALES	MAXIMUM NUMBER FIT FOR MILITARY SERVICE
15-19	342,000	330,000
20-24	359,000	335,000
25-29	303,000	275,000
30-34	282,000	245,000
35-39	319,000	255,000
40-44	327,000	235,000
45-49	331,000	210,000
<b>Total, 15-49</b>	<b>2,263,000</b>	<b>1,885,000</b>

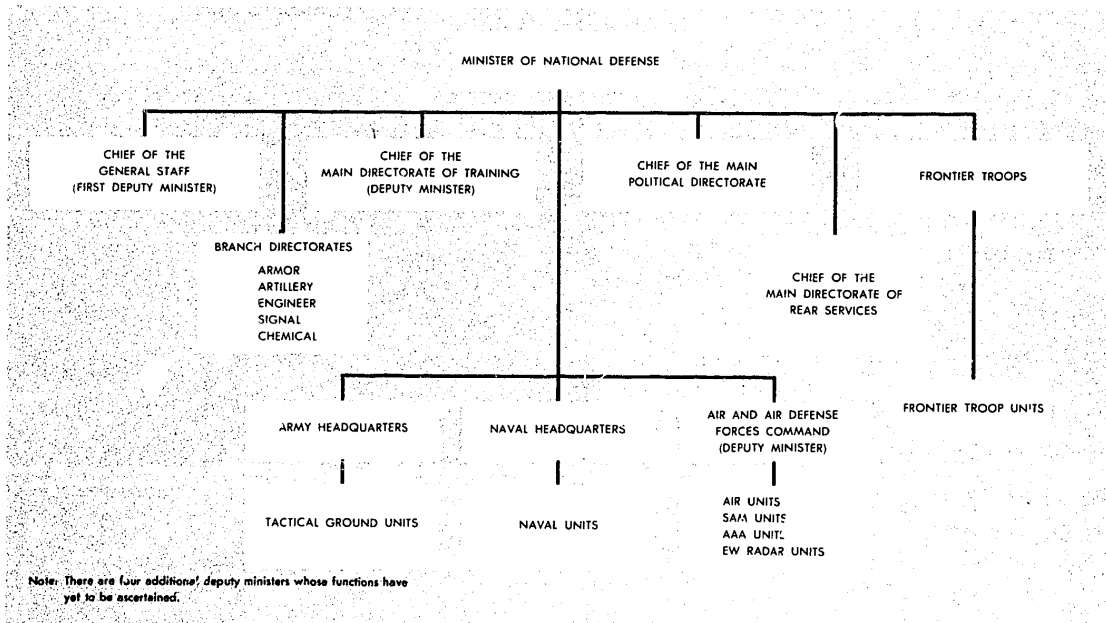


FIGURE 109. Armed forces high command (S)

The armed forces are supported by a form of compulsory service comparable to that employed in all Warsaw Pact countries. Conscription is governed by the 18 July 1958 Law on Universal Military Service, as amended. All males register for military service in the year of their 17th birthday and are inducted in the year of their 19th birthday. In July 1970 the government decreed that all male citizens would fulfill their military obligation before being admitted to higher educational institutions. At the same time, occupational deferments were terminated. This change should provide more conscripts of higher quality, who can more easily grasp the operation of the increasingly complex equipment being introduced into the armed forces.

Over 48,000 men are inducted annually; of these, about 40,000 are taken into the ground forces, 800 into the naval forces, 2,600 into the air force, and 5,000 into Frontier Troops. Bulgaria continues to conduct a single annual induction of conscripts regularly during the first 2 weeks of October. The basic term of service is 2 years, although certain technical and aviation specialists and naval personnel serving afloat are retained for a period of 3 years.

The quality of Bulgarian military manpower compares favorably with that of other Communist armed forces in Eastern Europe. The Bulgarian soldier is noted for his physical stamina and adaptability to the disciplines and rigors of military life. Most conscripts are of peasant stock and have little education. A small but increasing percentage of the population has acquired technical skills and capabilities, however, as a result of accelerated Bulgarian industrial and technological development, and this provides a source from which new military operational and logistic specialties may be obtained. Although selection standards are high for some ground forces specialties, personnel selected for naval, air, and militarized security forces are generally better educated and of greater dependability than those selected for the ground forces.

Bulgaria has a well-practiced and effective mobilization system. A highly detailed mobilization plan is maintained which provides for the rapid mustering, assignment, and movement of all persons liable for wartime service. Under the Bulgarian reserve system, the conscript released from active service passes into the reserve where he remains eligible for recall until age 55. There are more than 720,000 reservists available for callup who have served in the armed forces. Of these, over 250,000 have completed active military service during the previous 5 years: 190,000 in the ground forces, 15,200 in the naval forces, 5,100 in the air force, and 40,000 in the Frontier Troops.

(2) *Morale*—The armed forces are considered to be among the more loyal of the Eastern European Communist forces. The capable corps of officers and noncommissioned officers evinces a high degree of reliability, and the individual soldier is well disciplined and politically indoctrinated. A long history of friendly relations with the Russians and a traditional hostility

toward the Turks and Greeks would contribute to the significance of Bulgarian military support of the Communist cause in any future conflict in the Balkans.

#### d. STRENGTH TRENDS (S)

As part of the general deterioration of the Bulgarian military establishment following World War II, the strength of the armed forces was reduced from a high of some 500,000 in 1944 to around 50,000 by 1947. This trend was reversed when the Soviets began rebuilding the Bulgarian People's Army, which reached a high point during the 1952-55 period. Under the influence of events during the Korean war, the total strength reached a peak of almost 189,000. Another downward trend was initiated in 1955, when the normal term of service for conscripts was reduced from 3 to 2 years. Some increase in strength has been observed during the 1960's, due to international tension over the Berlin and Cuban crises.

Strength trends for the navy do not closely reflect the fluctuations in the overall figures. The navy, with only a limited defensive mission in the Soviet-dominated Black Sea, showed a gradual and continuing expansion through 1963. The abolition of the Danube River Flotilla in 1964 and of the Naval Infantry force in 1966 resulted in reductions of 1,000 and 2,000 men, respectively. In 1967 the trend again turned upward, with the addition of coastal defense missile and fleet support elements ashore.

Personnel strength of the air force has remained fairly constant at a level of approximately 12,000 since 1962.<sup>13</sup> As piston-engine aircraft were replaced by jets, pilot and ground crew training was accelerated to keep pace with the improved capability of the equipment. This training trend is expected to continue as aircraft numbers gradually decrease with the introduction of improved-performance models.

Estimated armed forces strength figures for selected years are shown in Figure 110.

#### e. TRAINING (S)

Training is based on the Soviet system. All training activities are under the direction of the Main Directorate of Training in the Ministry of National Defense and are supervised by the army area, naval, and air and air defense headquarters. Guidance in shaping the military training program is provided by the Soviet Military Mission, and the Bulgarian training schedule is coordinated with the overall Warsaw Pact plan for combined training.

Schools for officers, officer candidates, reservists, and specialists are maintained by the arms and services under the supervision of the Main Directorate of Training. In addition to a number of specialized branch schools for officer candidates, instruction for field-grade officers of all services is provided by a command and staff-type college—the G. S. Rakovski People's Military Academy in Sofiya. The N. Y. Vaptsarov Higher People's Naval School, in addition to training regular naval officers,

<sup>13</sup>The figure 17,600 for 1971 includes 5,600 in air defense—SAM, AAA, and ACW radar—who had formerly been accounted for in the ground forces.



FIGURE 110. ESTIMATED ARMED FORCES PERSONNEL STRENGTHS (S)

YEAR*	GROUND FORCES	NAVY	AIR FORCE	TOTAL	SECURITY FORCES
1949.....	80,000	2,300	7,500	89,800	12,000
1950.....	90,000	2,400	5,200	97,600	23,500
1951.....	115,000	3,000	6,500	151,500	25,500
1952.....	170,000	3,500	6,500	180,000	30,000
1953.....	170,000	4,900	8,500	183,400	40,000
1954.....	170,000	4,900	11,000	188,900	40,000
1955.....	160,000	5,100	11,000	179,100	40,000
1956.....	130,000	5,100	17,000	152,100	35,000
1957-58.....	110,000	6,200	16,000	132,200	30,000
1959.....	110,000	6,200	10,000	126,200	30,000
1960.....	110,000	7,000	10,500	127,500	35,000
1961.....	110,000	8,000	11,000	129,000	35,000
1962.....	125,000	8,000	11,500	144,500	20,000
1963.....	125,000	9,000	12,000	146,000	20,000
1964-65.....	125,000	8,000	12,000	145,000	17,000
1966.....	125,000	6,000	12,000	143,000	17,000
1967.....	125,000	7,000	12,000	144,000	16,000
1968-70.....	125,000	7,000	12,000	144,000	15,000
1971.....	131,000	**8,500	***17,600	157,100	**14,500

\*Strength figures are as of January of the year indicated.  
 \*\*The 500 maritime frontier troops are included in regular navy strength.  
 \*\*\*Includes 5,600 personnel formerly included in ground forces assigned to SAM, AAA, and ACW radar.

educates officers of the merchant marine who receive naval reserve commissions. The primary facility for preoperational flight training and pilot training is the Georgi Benkovski Military Air Academy, located at the airfield near Dolna Mitropoliya. Advanced pilot training is conducted at Kamenets Airfield.

Joint air-ground training exercises, in which ground units are provided tactical air support, are frequently conducted. Helicopters are used extensively in conjunction with field exercises of ground and naval forces, and fighter aircraft units emphasize interdiction, air cover, and close support in their ground-attack training. Naval units engage in annual Mediterranean exercises with, and independent of, Soviet naval forces. Bulgarian armed forces have participated in several Warsaw Pact training exercises with Soviet and Romanian forces. The most recent combined training was a joint ground-sea-air exercise in August 1967. Bulgarian troops participating in this exercise included ground, naval, and air personnel.

f. ECONOMIC SUPPORT AND MILITARY BUDGET (S)

(1) *Economic support*—Bulgaria is able to provide only partial materiel support to its armed forces. The predominantly agricultural country is self-sufficient in food, but its industrial capability is not sufficient to meet military requirements. Most military equipment must be imported.

Bulgaria produces small arms, antitank weapons, ammunition, and explosives. Naval ship construction has been limited to minesweepers, landing craft, and small service and auxiliary units. There is no aircraft or guided missile industry.

Most of Bulgaria's military equipment is imported from the Soviet Union; however, some materiel is

supplied by other Warsaw Pact countries. Bulgaria has obtained ground force and naval materiel, aircraft, and guided missiles valued at US\$680 million from Communist countries during the period 1955-70 of which \$615 million has come from the Soviet Union.

(2) *Military budget*—The military budget is drafted within the Ministry of National Defense and reviewed by the State Committee for Defense. It is then submitted to the Minister of Finance for incorporation into the national budget. The announced defense budgets for 1967-70 are noted in Figure 111.

Some defense expenditures may be included in other national budget categories, although these would probably not be significant in the case of Bulgaria.

g. LOGISTICS (S)

Procurement, distribution, and issue of supplies and equipment for the armed forces are managed by the Main Directorate of Rear Services for common-use items and by staff elements within the individual branch directorates for specialized items. The most recent phase of modernization of the ground forces has been accompanied by improvements in logistic capabilities, particularly with respect to the handling, distribution, and maintenance of equipment. Large materiel-handling

FIGURE 111. ANNOUNCED DEFENSE BUDGETS (C)  
 (Millions of leva)

	1967	1968	1969	1970
Defense budget.....	247	264	306	321
Defense budget as percent of total budget.....	6.0	6.0	6.0	6.2
Defense budget as percent of estimated GNP.....	3.0	3.0	3.3	3.3

and storage facilities are located at Ruse and Vratsa to accomplish the distribution of items received from the U.S.S.R., Czechoslovakia, and Poland. A general headquarters-type maintenance regiment in Vratsa conducts depot-level maintenance on tanks and other vehicles, and an ordnance and signal maintenance facility, located at Bozhurishte, repairs various types of artillery, radar, and telecommunication equipment. Evidence that logistic capabilities of the military forces have kept pace with progress in the modernization of the organization and equipment of these forces is provided by the existence of specialized repair units within the individual branches and services.

#### h. UNIFORMS AND INSIGNIA (U/OU)

(1) *Uniforms*—Personnel of the ground forces wear the same uniform for both service and field duty. Officers are authorized blue dress uniforms; enlisted personnel wear their basic uniform for all occasions. Winter uniforms are made from wool, summer uniforms from cotton. The standard color is olive-drab, with the exception of the winter uniform for enlisted personnel, which is brown. Generally, the uniforms of officers are of finer quality materials and tailoring than those of enlisted personnel. Officers have two types of service coats—a single-breasted coat with closed collar and a single-breasted coat having an open collar with lapels.

Naval forces personnel wear uniforms which are navy-blue. Officers have dress and service uniforms in this color for winter wear. Both come in a white version for summer use. Career noncommissioned officers wear uniforms similar to those of commissioned officers. Other personnel wear the traditional sailor uniform which consists of navy-blue jumper and trousers, blue and white striped jersey, and heavy black leather belt with buckle. A white version of this uniform is available for summer use.

The air force uniforms are similar to those of the ground forces except for the use of blue piping instead of red on various parts of the uniform and a light-blue cap band on the service cap.

Master sergeants and senior sergeants of the ground forces and air force wear the same style field-service uniforms as officers.

(2) *Insignia*—Insignia of rank in the ground and air forces is displayed either on shoulderboards or shoulderloops of all uniforms. Ranks of officers are indicated by varying numbers and sizes of stars and stripes. Ranks of enlisted personnel are indicated by horizontal stripes—gold for the combat and support branches, and silver for the technical and administrative services. The rank of master sergeant is shown by a longitudinal stripe in addition to a horizontal stripe.

Insignia of rank in the naval forces, except for the senior chief petty officer, are identical to those worn by their counterparts in the ground and air forces. Officers also wear sleeve stripes on certain uniforms.

The various branches of the ground forces are identified by the use of silver metallic, or plastic, devices worn on collar tabs. In addition, there is red piping on

shoulderboards, service caps and, for officers only, on the sleeve cuffs and on the outer seams of trousers and breeches.

Air force personnel wear a wings and propeller device on collar tabs, use blue piping instead of the ground forces red, and have a light-blue cap band on the service cap.

Uniforms and insignia for officers are shown in Figure 112; for enlisted personnel in Figure 113.

## 2. Ground forces (S)

The ground forces, with a strength of about 131,000, have been modeled after the Soviet ground forces in organization, training, and equipment. Much has been accomplished in a new phase of modernization of the tactical units to give them a degree of the mobility and firepower of modern Soviet rifle and tank divisions. Although manning levels range between 35% to 95% of authorized strengths, the eight motorized rifle divisions and the five tank and three SCUD brigades are considered to be ready for early commitment. In addition, plans call for creating three additional motorized rifle divisions from reserve personnel in case of hostilities. The receipt of new items of equipment necessary to a modern force as well as the participation in combined training exercises with Soviet and Romanian troops have considerably enhanced the capabilities of the Bulgarian ground forces and increased the Warsaw Pact strength in southeastern Europe.

### a. ORGANIZATION

The ground forces are controlled directly by the Ministry of National Defense. For purposes of regional administration, the country is divided into three army areas, whose headquarters function like the military district headquarters in the Soviet Union. The army headquarters are responsible for administrative, logistic, and training matters within their respective territories; they serve as tactical commands as well. Other territorial headquarters, in locations selected on a basis of civil administrative organization, participate in the operation of the military reserve and mobilization system.

The motorized rifle division, the basic combat unit, is a well-balanced combined arms force. The division contains, as major units, three motorized rifle regiments, one medium tank regiment, and one artillery regiment. Organizational structure of the Bulgarian motorized rifle division is patterned after the Soviet model.

The major components of the Bulgarian tank brigade consist of five battalions—four tank and one motorized rifle. These brigades are believed to be completely equipped with T-54 and T-55 tanks (Figure 114).

### b. STRENGTH, COMPOSITION, AND DISPOSITION<sup>14</sup>

The strength of the ground forces is now estimated to be 131,000. Major combat units consist of eight motorized rifle divisions, five tank brigades, and three

<sup>14</sup>As of 1 April 1972. For current information, see *Order of Battle Summary, Foreign Ground Forces* (DIA-220-1-4-Yr-INT.) published by the Defense Intelligence Agency.

SS-1) tactical missile brigades (Figure 115). Ground forces tactical units appear to be deployed generally opposing Yugoslav forces in the west and the NATO strongholds in the south and southeast. In addition, individual regiments are positioned in a logical strategic relationship to their divisional headquarters and to each other to insure a constant readiness posture against these potential foes.

#### c. TRAINING

The ground forces achieved a combat capability by 1950, and corps-level maneuvers were held by 1953. Tactical training is based on the annual cycle traditional in Eastern Europe for many years. This training cycle was designed to achieve the highest level of combat readiness of the forces in the fall. Bulgaria still follows this cycle, which is supported by a single induction of conscripts annually. From their induction in early October until approximately 1 January the conscripts are engaged in individual training (Figure 116). Unit training begins in January and progresses through battalion level by March, when troops take to the field for 2 months of spring training. The summer training period begins in May. During this phase, units rotate periodically from garrisons to field training areas and conduct exercises, often of a joint forces and combined arms nature. Large-scale maneuvers occur in the fall when the maximum level of proficiency of the force is reached. Normally, large-scale maneuvers are conducted in southern Bulgaria in the territory between Burgas, on the Black Sea, Kurdzhali, and the Greek border.

Some deviations from this training cycle have been observed in recent years. Field training exercises and command post exercises have been held during January and February at a time when formerly only low-level unit training at close-in areas was conducted. This trend, noted elsewhere in the Warsaw Pact countries, is believed to represent an attempt to maintain a higher state of readiness during the winter months.

The ground forces conduct a well-organized school system, which includes military high schools, branch officer candidate schools, noncommissioned officer schools, and basic and advanced officer schools. Ground forces officers may attend the G.S. Rakovski People's Military Academy. Selected ground forces officers also attend military academies and schools in the Soviet Union.

Between 30,000 and 50,000 reservists receive refresher training each year; several callups take place annually between April and September. There are no reserve units in the armed forces, and reservists train in existing regular units. The program for school training of reservists has been expanded and improved. The Khristo Botev Reserve Officers School, located in Pleven, provides realistic tactical training to reserve officer candidates, officers, and noncommissioned officers. A motorized rifle regiment is garrisoned in Pleven with the mission of providing support to this school.

#### d. LOGISTICS

The Chief of the Main Directorate of Rear Services is responsible for the procurement, storage, and issue of general supplies for the ground forces and for the coordination of all armed forces supply activities as well. Each branch directorate has, however, a separate staff element directly responsible for the procurement and distribution of specialized supplies and equipment for the branch. Major central supply depots are maintained at ministry and army area levels. Reserve stocks of equipment and ammunition are located with each tactical unit down to battalion. In addition, tactical units maintain some separate mobilization reserve stocks of new equipment or used items in good repair. Provisions for wartime supply and movement are based on Soviet planning, and Bulgaria's logistic contingency plan is part of an overall logistic plan for Warsaw Pact forces.

#### 3. Navy (S)

The mission of the navy is to provide for the defense and security of home waters and coastal lines of communication. Currently available forces are adequate for this task under routine circumstances in the Soviet-dominated Black Sea. Special emphasis in naval development after 1963 was on improvement of antisubmarine warfare (ASW) capabilities. During 1970, special attention was given to amphibious capabilities. Bulgaria is strategically located with respect to the Turkish straits, the sole entrance to the Black Sea. Bulgarian naval ASW forces include both surface ships and helicopters. Against a serious hostile threat, the Bulgarians would require immediate and extensive support from the Soviet Navy. The only real offensive capability of the navy rests in its two submarines and small, but improving, amphibious force. Only the submarines are capable of unsupported operations outside home waters. Over the years the capabilities of the navy have been improved gradually, but continuously, through the acquisition of more modern equipment. Bulgarian ships have exercised in the Mediterranean together with Soviet naval forces. They have also aided in the surveillance of U.S. destroyers in the Black Sea.

#### a. ORGANIZATION

Direct operational and administrative control over the navy is exercised by the Commander of the Navy, with headquarters at Varna, although ultimate authority is vested in the Minister of National Defense. Assisting the Commander of the Navy is the Deputy Commander for General Affairs, who is responsible for the shore establishment; the Chief of Main Navy Staff, who directs the operating forces; the Deputy Commander for Political Affairs, who is responsible for political reliability; and the Chief of Navy Rear Services, who supervises logistics and support activities.

The submarines are subordinate directly to the Commander of the Navy. The destroyer escorts, two large submarine chasers, two of the utility landing craft, two

### GROUND FORCES



FIELD-SERVICE UNIFORM



ARMY GENERAL



COLONEL GENERAL



LIEUTENANT GENERAL



MAJOR GENERAL



CAP INSIGNIA



COLONEL



LIEUTENANT COLONEL



MAJOR



CAPTAIN



SENIOR LIEUTENANT



LIEUTENANT



JUNIOR LIEUTENANT

### NAVAL FORCES



SERVICE UNIFORM



ADMIRAL



VICE ADMIRAL



REAR ADMIRAL



CAPTAIN 1ST RANK



CAP INSIGNIA



CAPTAIN 2D RANK



CAPTAIN 3D RANK



CAPTAIN LIEUTENANT



SENIOR LIEUTENANT



LIEUTENANT



JUNIOR LIEUTENANT

### AIR FORCE



FIELD-SERVICE UNIFORM



COLONEL



LIEUTENANT GENERAL



MAJOR GENERAL



CAP INSIGNIA



COLONEL



LIEUTENANT COLONEL



MAJOR



CAPTAIN



SENIOR LIEUTENANT



LIEUTENANT



JUNIOR LIEUTENANT

FIGURE 112. Officers' uniforms and insignia (U/OU)

GROUND FORCES



FIELD-SERVICE UNIFORM



MASTER SERGEANT



SENIOR SERGEANT



SERGEANT



JUNIOR SERGEANT



PRIVATE 1ST CLASS



PRIVATE



CAP INSIGNIA

NAVAL FORCES



SERVICE UNIFORM CHIEF PETTY OFFICERS



SENIOR CHIEF PETTY OFFICER



CHIEF PETTY OFFICER



PETTY OFFICER 1ST CLASS



PETTY OFFICER 2D CLASS



SENIOR SEAMAN



SEAMAN



CAP INSIGNIA CHIEF PETTY OFFICERS



CAP INSIGNIA JUNIOR PETTY OFFICERS AND SEAMEN



SERVICE UNIFORM JUNIOR PETTY OFFICERS AND SEAMEN

AIR FORCE



FIELD-SERVICE UNIFORM



MASTER SERGEANT



SENIOR SERGEANT



SERGEANT



JUNIOR SERGEANT



PRIVATE 1ST CLASS



PRIVATE



CAP INSIGNIA

FIGURE 113. Enlisted men's uniforms and insignia (U/OU)

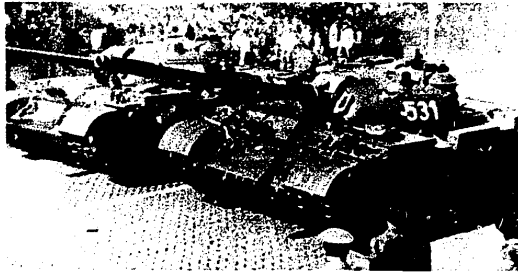


FIGURE 114. Bulgarian army's T-55 tanks. Main armament is the 100-mm gun. Armor brigades are equipped with this tank, the T-54 which is much like it, and the older T-34—all Soviet-built medium tanks. (S)

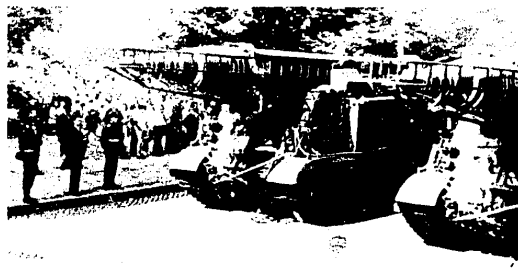


FIGURE 115. Bulgarian army's Soviet-built SCUD-A tactical missiles, mounted on heavy tank chassis. Missile is about 34 feet long and weighs 5 tons; its range is about 100 miles. (S)

coastal minesweepers, and most of the auxiliaries and service craft normally report through the Varna Naval Base Command. The remaining minesweepers, submarine chasers, and landing craft are controlled by the Burgas Naval Base Command. All the fast patrol boats, motor torpedo boats, and large guided missile boats are organized into a separate brigade reporting to the naval commander. Coastal artillery elements, coastal defense missile batteries, and coastal observation stations report to the appropriate local naval base commands.

b. STRENGTH, COMPOSITION, AND DISPOSITION<sup>15</sup>

The navy consists of approximately 8,500 officers and enlisted men, including 3,000 serving afloat and 5,500 ashore—2,400 in fleet support assignments, 1,000 in coastal artillery batteries, 400 in coastal defense missile batteries, 600 in coastal observation stations, 200 in the helicopter service, 100 frogmen, and 800 trainees. Personnel, both afloat and ashore, are divided fairly evenly between the Varna and Burgas naval base commands. Perhaps one-third of the Burgas command personnel are stationed at Sozopol and one-fourth at Nos

<sup>15</sup>As of 1 April 1972. For current information see *Automated Naval Order of Battle (Ships)*, Volume II, DIA-230-3-4-Yr-INT., published by the Defense Intelligence Agency. For detailed characteristics of ships see *Naval Ships Characteristics, Eastern Europe*, ST-HB-08-43-69-INT., published by the Naval Scientific and Technical Intelligence Center.



FIGURE 116. Reconnaissance troops conducting surveillance (U/OU)

Atiya. Another 500 quasi-naval personnel serve in the Maritime Frontier Guard (250 afloat, 200 ashore, 50 trainees).

The principal combatants of the navy—two destroyer escorts (Figure 117) and two submarines—are based at Varna. Also at Varna are two large submarine chasers, two coastal minesweepers (MSC) (Figure 118), two utility landing craft (LCU), and most of the auxiliaries and service craft. Two fleet minesweepers (MSF), four medium minesweepers (MSM), six minesweeping boats (MSB), 13 LCU, two auxiliaries, and some service craft are based at Burgas. Six small submarine chasers, four fast patrol boats (PTF) (Figure 119), four motor torpedo boats (PT), and six MSB are at Sozopol. Another four PT and two MSB operate out of Nos Atiya. There are Maritime Frontier Guard activities in these areas and at Michurin, Balchik, and Nesebur. The eight HOUND helicopters which serve the navy are believed to be based at Chayka, on the southern shore of Varnensko Ezero.

Except for the newly acquired PTF, MSC, and LCU (Figure 120), few ships of the navy are modern by present-day standards, but all are adequate to the needs of the navy. The PTF and MSC have been built since 1960 and the LCU since the mid-1960's. Most of the other naval units are of post-World War II construction and, because of continuing preventive maintenance, material condition ranges from good to excellent.

c. TRAINING

Training in the navy is patterned after that of the Soviet Navy and is generally adequate to the needs of the service. Regular naval officers, both line and engineering, are educated at the N.Y. Vaptsarov Higher People's Naval School. This academy also trains prospective merchant marine officers who receive commissions in the



FIGURE 117. Bulgarian Navy Riga class destroyer escort Smeli (C)

FIGURE 118. Soviet Vanya class coastal minesweeper. The Bulgarian Navy in 1970 became the first naval force to acquire this class minesweeper from the U.S.S.R. (S)

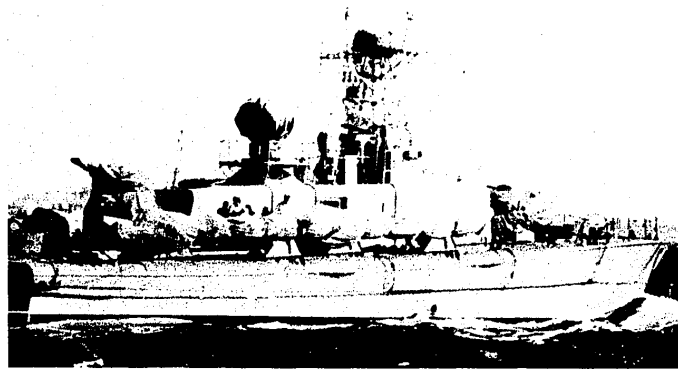
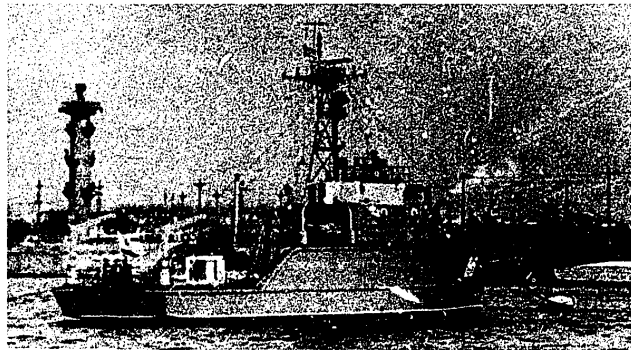
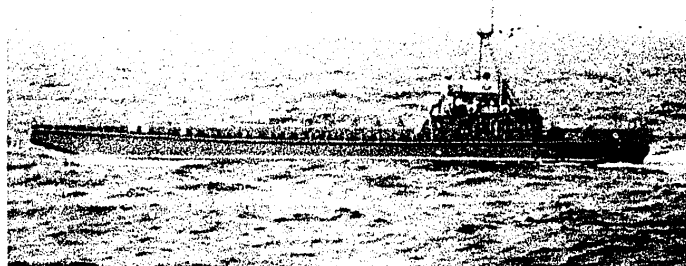


FIGURE 119. In 1970 the Bulgarian Navy received four units similar to the Soviet Shershen class fast patrol boat shown here (S)

FIGURE 120. Soviet Navy Vydra class utility landing craft similar to those transferred to the Bulgarian Navy in 1970 (S)



naval reserve. Training at this school includes 2 months' training afloat annually. Officers for the coastal defense missile and coastal artillery forces probably are drawn from ground forces schools. Selected naval officers, who are to be assigned to staff and high-level technical billets, attend the C.S. Rakovski People's Military Academy in Sofiya. Some naval officers also receive advanced and special training in the U.S.S.R. Naval officers, prior to assignment as commanding officers, undergo mandatory training at Soviet Navy schools. Correspondence courses also are offered.

Recruit training for enlisted personnel is conducted in three schools, located at Varna, Sozopol, and Nos Atiya. This is followed by from 6 to 8 months of specialty training in ship handling, communications, and weapons proficiency at Varna; technical specialties at Sozopol; or minesweeping and coastal observation specialties at Nos Atiya. Enlisted personnel return to these schools for more advanced training at regular stages in their careers.

#### d. LOGISTICS

The largest concentration of support facilities for the navy is at Varna. Other facilities and stores are maintained at Burgas and Sozopol. Logistic support available at Nos Atiya is negligible. When the extensive construction currently in progress at Nos Atiya has been completed, it is expected that most of the naval facilities and stores at Burgas will be transferred. Burgas is slated to become solely a commercial port. Minor stores are procured directly by the navy. Other materiel must be obtained through centralized military supply channels at Sofiya.

Naval ship construction in Bulgaria has been limited to patrol launches, minesweeping boats, and landing craft. The navy is almost entirely dependent upon the U.S.S.R. for other types of naval ships. It is expected that this dependence on the U.S.S.R. will continue.

Repairs to most naval ships are accomplished at the Varna Naval Base Shipyard, adjacent to the Georgi Dimitrov Shipyard. Adequate facilities exist at this yard for extensive repair activity. These facilities include shops for machine and engine repair, for ordnance work on mines and torpedoes, and for boiler repair. Underwater repairs for large naval units are performed at the port's commercial graving dock. Underwater repairs can also be carried out on the marine railway at the naval shipyard (200 tons maximum capacity).

Minor ship repairs can be undertaken at the naval bases at Ruse and Burgas. In addition, there is a naval repair and construction yard at the western end of Varnesko Ezero. Its facilities, generally unknown, include a small floating drydock.

#### 4. Air and air defense forces (S)

The air force is an integral part of the Air and Air Defense Forces Command, a joint command which includes personnel assigned to surface-to-air missile (SAM), antiaircraft artillery (AAA), and air control and

warning (ACW) radar units associated with the territorial air defense mission. This command is similar to the air defense (PVO *Strany*) organization in the U.S.S.R., except that all air units, tactical as well as air defense, are assigned to it.

The air force is the largest air force of the Balkan or southern tier of Eastern European Warsaw Pact forces. It constitutes the southernmost protective segment of the Soviet-Eastern European Communist buffer zone which extends from the Baltic Sea to the Greek and Turkish borders.

National air defense remains the primary mission of the air force, but increasing emphasis is being placed on providing close support to the ground forces.

Air force performance is limited by the small number of late-model, high-performance aircraft in the inventory, that is, the FISHBED (MiG-21) in the fighter role, and by the absence of FITTER (Su-7) aircraft in the ground-attack role. However, the force contains a proportionately larger number of FARMER's (MiG-19) than any of the other Warsaw Pact-participating Eastern European air forces, and since these aircraft have been assigned since 1958, proficiency in their operation is believed to be at a high level. Air personnel receive a high standard of training, and they are, in general, tough, dedicated, and well disciplined. Thus the force is capable of putting on a good performance by day and in good weather in the air defense role, and it is competent to support ground forces under favorable conditions. At night and in bad weather, its capability is somewhat limited due to the obsolescence of most of the aircraft equipped with airborne interception radar. However, nearly 45% of the fighter aircraft assigned to the air defense role are all-weather variants. As more FISHBED D and F aircraft are added, the all-weather capability will improve. Some FISHBED H are employed in a reconnaissance role (Figure 121).

SAM, AAA, and ACW radar effectiveness is good but limited to some extent by the use of conventional communication equipment and unsophisticated data-processing equipment. SAM and AAA weapons, largely obtained from the U.S.S.R., are adequately maintained.

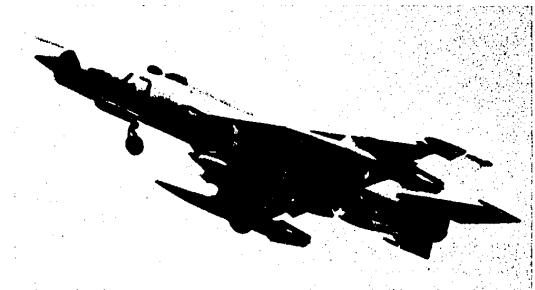
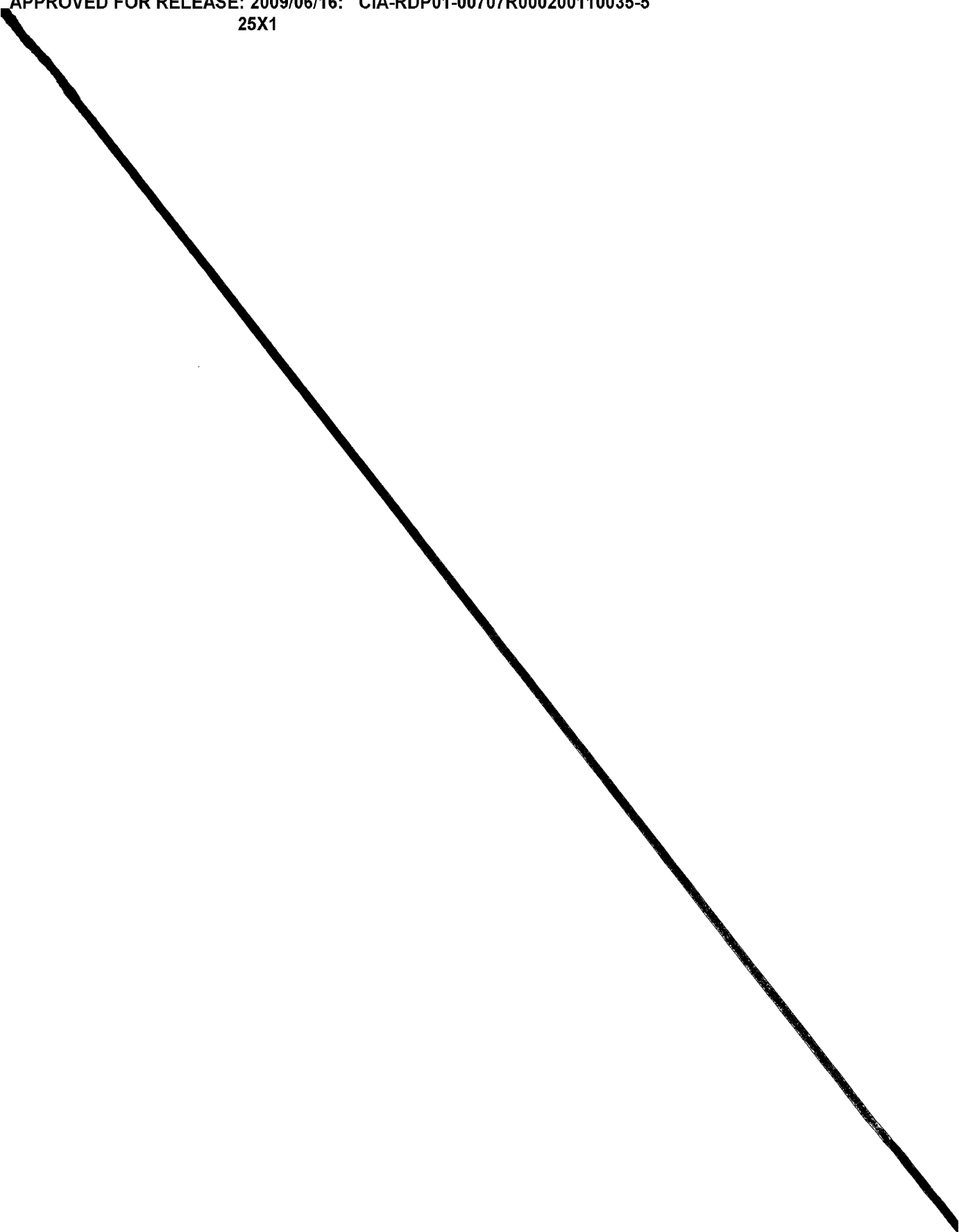


FIGURE 121. FISHBED H aircraft similar to those in Bulgaria (C)



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25X1



APPROVED FOR RELEASE: 2009/06/16: CIA-RDP01-00707R000200110035-5  
25X1

for technicians and officer pilots, respectively. The general curriculum is as follows:

- 1st year ..... General instructions for all specialties (materiel specifications and mathematics, Russian language, political indoctrination, physical training).
- 2d year ..... Specialized training. Pilots begin basic flight training on light aircraft.
- 3d year ..... Continued specialized training. Pilot candidates are transferred from Dolna Mitropoliya to Kamenets Airfield for instruction of advanced types of aircraft. Successful completion of the course to this stage earns a commission as junior lieutenant. Pilots and technicians are graduated at this stage and assigned to active units.
- 4th and 5th years .... Advanced specialized training. Pilot-engineers are returned to Dolna Mitropoliya for intense academic training.

In addition to the Benkovskiy school, a flight training institution in Pleven trains helicopter pilots, and another in Graf Ignatievo produces aviation technicians and mechanics. Mechanics are also trained for the Air and Air Defense Forces Command in the various technical schools and noncommissioned officer academies of the Ministry of National Defense.

Reportedly, selected Bulgarian pilots receive training in advanced aircraft and weapons at Krasnodar in the U.S.S.R.

Aircraft utilized by the training school at Dolna Mitropoliya, and also at its primary training branch at Telish, are the FRESKO and MAYA (I-29). Training at Kamenets also includes flying in FISHBED aircraft. Piston-engine aircraft have disappeared from the training picture.

(3) *Operational training*—Pilots in combat units are graded into three classes: Class One pilots are proficient in all-weather and night flying; Class Two pilots qualify for clear air mass flying by both day and night; and Class Three pilots fly only by day in clear air mass conditions. Regrading of pilots takes place annually.

Operational training includes ground-controlled interception sometimes with the use of airborne-interception radar. A few FARMER aircraft, and probably also FISHBED's are equipped with air-to-air missiles, and presumably some air-to-air missile training is practiced. Night flying has increased in recent years, and mobility exercises are featured in airfield familiarization training. These exercises include deployment to auxiliary airfields.

Air defense exercises are held, sometimes in conjunction with Soviet or Romanian elements, or with both together, and Soviet aircraft have been reported in Bulgaria during these occasions. The tactical role of the air force was highlighted during the autumn of 1964 when FRESKO and FARMER aircraft were observed practicing low-altitude bombing techniques with a fair degree of proficiency.

Training for officer candidates in the missile field is conducted at the army artillery and missile school. The 5-year course, which includes all phases of the SA-2 missile system, is conducted by Soviet-trained officers. Graduates are commissioned 2d lieutenants and are assigned a specific SAM specialty.

SAM unit live-firing training is believed to take place at the Soviet Ashuluk SAM firing range located on the desert north of Astrakhan, U.S.S.R. SAM units also participate in air defense exercises with other Warsaw Pact countries.

d. LOGISTICS

The air force is equipped with Soviet aircraft and support equipment. Bulgaria depends upon the Soviets for replacement engines and spare parts, but some simpler kinds of parts may be domestically produced. The supply system is patterned after the Soviet system, and Soviet officers monitor the rear services organizations of the air force. Common-use items are stocked by and drawn from the ground forces, while air technical supplies are handled by rear services units of the aviation components. Air technical battalions provide the supply and housekeeping services on airfields required to keep both the airfields and the air regiment occupants in a state of combat readiness.

The aircraft maintenance system is estimated to be capable of maintaining peacetime serviceability rates ranging from 55% for jet all-weather fighters to 75% for jet day fighters. It is estimated that, following a stand-down for approximately 10 days, the air force could achieve an initial combat serviceability of 80% for jet all-weather and jet day fighters. Under sustained combat conditions, however, serviceability rates of 45% for jet all-weather fighters and 55% for jet day fighters would probably be the maximum attainable.

SAM logistic support is patterned after the Soviet system. Each SAM regiment has an organic technical support battalion which provides all missile resupply and maintenance. All SAM missiles and associated equipment are provided by the Soviet Union.

5. Militarized security forces (S)

The militarized security force consists of the Frontier Troops, which are subordinate to the Ministry of National Defense. The basic mission of the Frontier Troops is to defend the borders against small-scale illegal penetrations in peacetime and to serve as a forward screening force for the tactical ground forces units during a major invasion of Bulgarian territory by a hostile force.

The Frontier Troops number about 14,500 and are organized into 16 *otryads*, which are equivalent to understrength regiments. The *otryads* are located along the borders, especially the Yugoslav, Greek, and Turkish frontiers. The Frontier Troops are organized, trained, and equipped much like ground forces troops; they are garrisoned in army-type barracks and wear the same basic uniform.

The Maritime Frontier Guard, administratively subordinate to the Frontier Troops, numbers about 500

men. Burgas is the main headquarters, from which port are controlled afloat coastal operations of the 300-man Black Sea element. The Danube River unit of 200 personnel has headquarters at Ruse and sails from that port to Vidin in the west and Silistra in the east. The

Maritime Frontier Guard operates five patrol boats and 28 river/roadstead patrol types. The Maritime Frontier Guard is operationally integrated into the regular navy and its strengths are included in the regular navy strengths.

SECRET

## AREA BRIEF

## LAND (U/OU)

Area: 42,800 square miles; 54.3% agricultural land (37.5% cultivated, 3.6% orchards and vineyards, and 13.2% pastures and meadows), 33.1% forest, 12.6% other

## PEOPLE (U/OU)

Population: 8,601,000, average annual growth rate 0.9%; males 15-49, 2,263,000; 1,885,000 fit for military service; about 68,000 reach military age (19) annually

Ethnic divisions: 85.3% Bulgarians, 8.5% Turks, 2.6% Gypsies, 2.5% Macedonians, 0.3% Armenians, 0.2% Russians, 0.6% other

Religion: Regime promotes atheism; religious background of population is 85% Bulgarian Orthodox, 13% Muslim, 0.8% Jewish, 0.7% Roman Catholic, 0.5% Protestant, Gregorian-Armenian, and other

Language: Bulgarian; secondary languages closely correspond to ethnic breakdown

Literacy: 95%

Labor force: 4.4 million (July 1970); 37% agriculture, 33% industry, 30% other

## GOVERNMENT (U/OU)

Communist dictatorship patterned after the U.S.S.R., ruled by Bulgarian Communist Party; Todor Zhivkov, Chairman, State Council; Stanko Todorov, Premier

Principal Political parties: Bulgarian Communist Party and its puppet, the Bulgarian National Agrarian Union

Member of: CEMA, GATT, IAEA, ICAO, ILO, IMCO, ITU, U.N., UNESCO, UPU, WHO, WMO, Seabeds Committee, Warsaw Pact, International Organization of Journalists, International Medical Association, International Radio and Television Organization

## ECONOMY (S)

GNP: US\$11.1 billion, 1970 (estimated, in 1969 prices); \$1,305 per capita

Food: Basically self-sufficient

Major industries: Agricultural processing, machinery and equipment, textiles, mining and ore processing

Electric power: Installed capacity, 4 million kw. (1970); production, 19.5 billion kw.-hr., 2,295 kw.-hr. per capita (1970)

Exports: Agricultural products, machinery and equipment, textiles and clothing

Imports: Machinery and equipment, hard coal and coke, petroleum, chemicals

Currency: In commodity trade transactions, 1.17 leva=US\$1.00; for noncommercial transactions and tourist use,

the exchange rate is 1.99 leva=US\$1.00. The purchasing power of the lev is generally lower than these rates indicate, especially for high-grade consumer goods and most investment goods

## COMMUNICATIONS (C)

Railroads: 2,650 route miles; 2,470 miles standard gage (4'8½"), 180 miles 2'6" narrow gage; 127 miles double track (all standard gage); 477 miles electrified lines; government owned

Highways: 20,700 miles (estimated); 7,900 miles paved (bituminous, bituminous surface treatment, concrete, stone block, cobblestone); 8,100 miles crushed stone, gravel; 4,700 miles earth including tracks

Inland waterways: About 300 miles (Danube River)

Pipeline: 73 miles total; 41 miles crude, 3 miles refined, 29 miles natural gas. New lines under construction total 690 miles: 210 miles crude, 160 miles refined, 320 miles natural gas

Ports: 2 major (Varna, Burgas), 10 minor

Merchant marine: 107 ships (1,000 g.r.t. and over) totaling 658,311 g.r.t. and 950,386 d.w.t.; consists of 55 dry cargo, 28 bulk cargo, 1 refrigerator cargo, 17 tanker, 1 combination ore/oil, 5 passenger

Civil air: 30 major transport aircraft (estimated)

Airfields: 81 airfields having runways at least 2,000 feet long; 14 have runways 8,000-11,999 feet; and 24 have runways 4,000-7,999 feet; 1 seaplane station

Telecommunications: Inferior to most European countries; meets only minimum requirements of government and public; radiobroadcasts and wired broadcasts available to most of population; about 2,000,000 radio receivers; 1,200,000 TV sets; 415,000 telephones; 8 AM and 4 FM stations; 6 TV transmitters plus 80 TV relay stations

## DEFENSE FORCES (S)

Personnel: Ground forces, 131,000; navy, 8,500; air force, 17,600; militarized security forces, 14,500

Ground force units: 8 motorized rifle divisions, 5 tank brigades, 3 Scud brigades, 7 regiments (4 artillery, 3 anti-aircraft artillery), 3 battalions (reconnaissance, mountain assault, airborne)

Ships: 2 destroyer escorts, 2 submarines, 25 coastal patrol ships, 28 river/roadstead patrol types, 22 minesweepers, 15 landing craft, 8 auxiliaries, 59 service craft

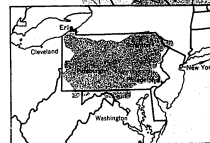
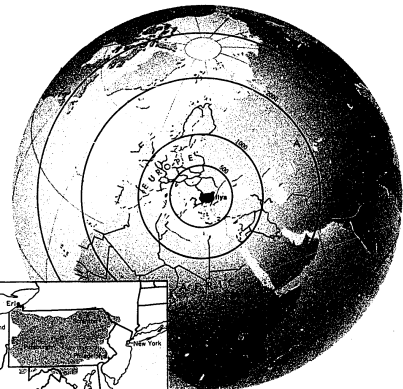
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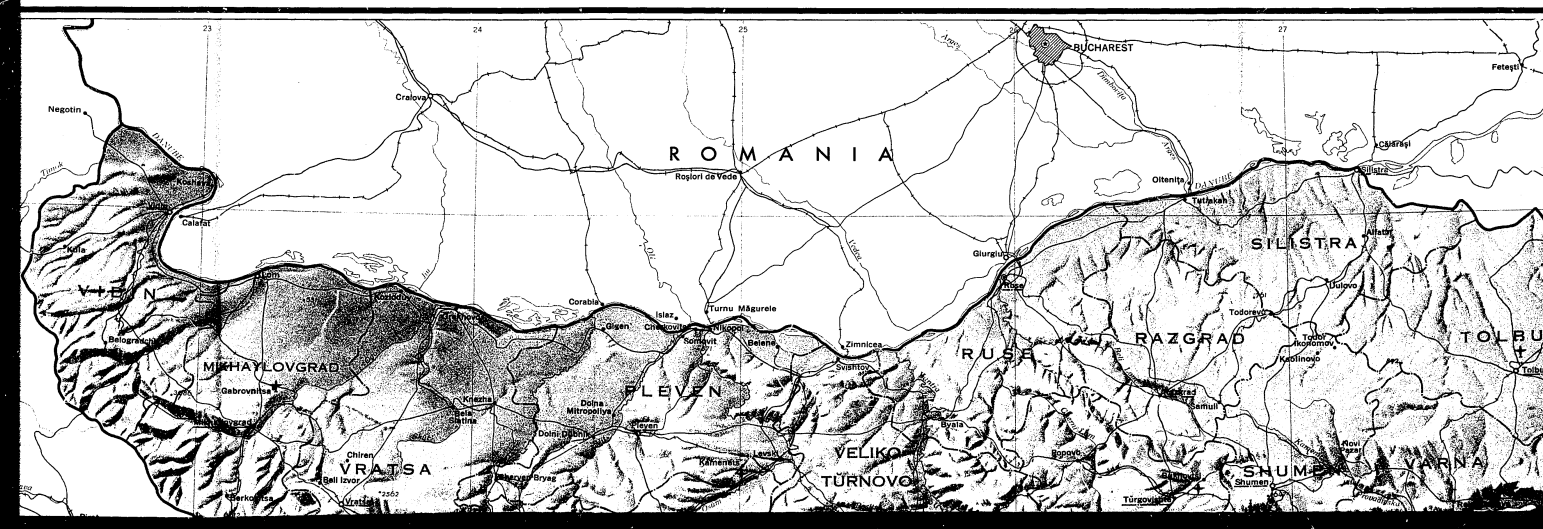
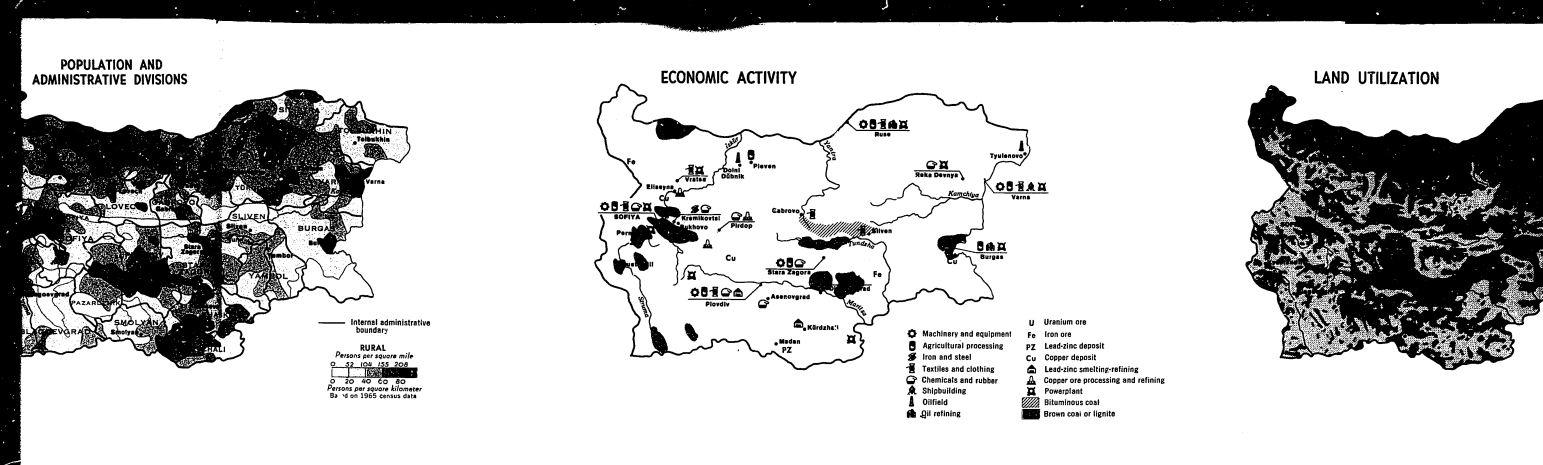
SAM sites: 19 (all SA-2)

Supply: Dependent primarily on U.S.S.R.; domestic production of small arms, antitank weapons, ammunition, and explosives

PLACES AND FEATURES REFERRED TO IN TEXT (U/OU)

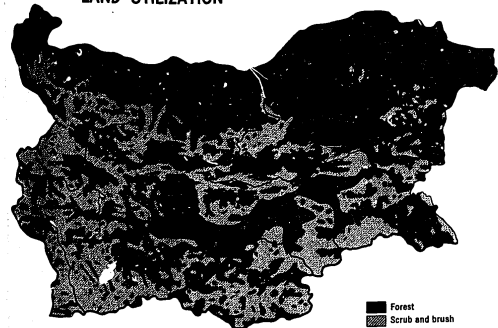
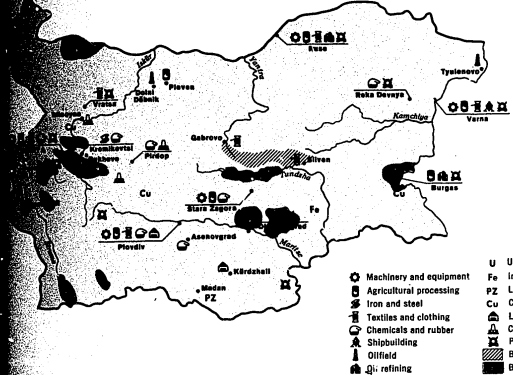
	COORDINATES		COORDINATES
	° 'N ° 'E		° 'N ° 'E
Akhtopol.....	42 06 27 57	Nes Chukala (cape).....	42 27 27 32
Arda River (stra).....	41 39 26 29	Odessa, U.S.S.R.....	46 28 30 44
Astrakhan', U.S.S.R.....	46 21 48 03	Orehovo.....	43 44 23 58
Atiya, Nos (pt).....	42 28 27 35	Panggyurichte.....	42 30 24 11
Balehik.....	43 25 28 10	Pazardzhik.....	42 12 24 20
Balkan Mountains (mts).....	43 15 25 00	Pehlivanbey, Turkey.....	41 21 26 55
Balkan Peninsula (peninsula).....	44 00 23 00	Pernik.....	42 36 23 02
Bell Izvor.....	43 16 23 28	Petrich.....	41 24 23 13
Beloslav.....	43 11 27 42	Pirlep.....	42 42 24 11
Black Sea (sea).....	43 00 35 00	Pirin (mts).....	41 40 23 30
Blagoevgrad.....	42 01 23 08	Pirov, Yugoslavia.....	43 09 22 36





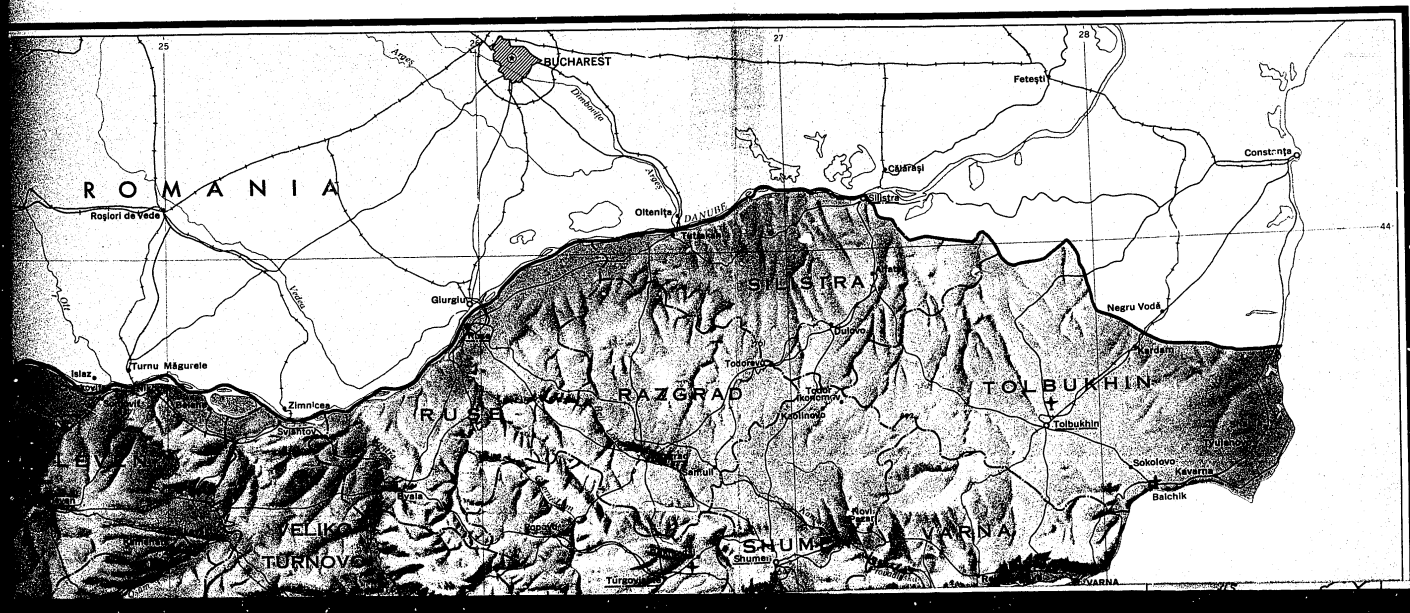
**ECONOMIC ACTIVITY**

**LAND UTILIZATION**



- |   |   |
|---|---|
| <ul style="list-style-type: none"> <li>⊙ Machinery and equipment</li> <li>⊠ Agricultural processing</li> <li>⊡ Iron and steel</li> <li>⊢ Textiles and clothing</li> <li>⊣ Chemicals and rubber</li> <li>⊤ Shipbuilding</li> <li>⊥ Oilfield</li> <li>⊦ refining</li> </ul> | <ul style="list-style-type: none"> <li>U Uranium o.s.</li> <li>Fe Iron ore</li> <li>PZ Lead-zinc deposit</li> <li>Cu Copper deposit</li> <li>⊠ Lead-zinc smelting-refining</li> <li>⊡ Copper ore processing and refining</li> <li>⊢ Powerplant</li> <li>⊣ Bituminous coal</li> <li>⊤ Brown coal or lignite</li> </ul> |
|---|---|

- Forest
- ▨ Scrub and brush
- ▩ Cultivated fields and grasslands



Balkan Peninsula (peninsula)	44 00	23 00
Beli Izvor	43 16	23 28
Beloslav	43 11	27 42
Black Sea (sea)	43 00	35 00
Blagoegrad	42 01	23 06
Bobov Dol	42 22	23 00
Botev (mt)	42 43	24 55
Botevgrad	42 54	23 47
Bozhurishte	42 45	23 12
Bucharest, Romania	44 26	26 06
Bukhovo	42 46	23 34
Burgas	42 30	27 28
Burgaski Zaliv (bay)	42 30	27 33
Byala	43 27	25 44
Calafat, Romania	43 59	22 56
Chayka	43 05	27 26
Chernomorets	42 27	27 39
Cherven Bryag	43 16	24 08
Chiren	43 20	23 35
Chirpan	42 12	25 20
Chukula, Nos (pt)	42 27	27 32
Crailova, Romania	44 19	23 48
Danube (strm)	45 20	29 40
Devetaki	43 13	24 54
Dimitrovgrad	42 03	25 36
Dimitrovgrad, Yugoslavia	43 01	22 47
Dolna Mitropoliya	42 28	24 32
Dolni Dabnik	43 24	24 26
Dragoman Pass (pass)	42 58	22 58
Drava	45 33	18 55
Dryanovo	42 58	25 28
Dubovo	42 26	25 39
Edirne, Turkey	41 40	26 34
Eliseyna	43 05	23 29
Gabrovo	42 52	23 19
General Todorov (r sta)	41 28	23 16
Giurgiu, Romania	43 53	25 58
Golemo Pashkovo	43 19	23 44
Gorna Orlyakhovitsa	43 07	25 41
Gorni Dabnik	43 23	24 21
Gorno Devnensko Ezero (lake)	43 11	27 41
Gotse Delchev	41 34	23 44
Grav Ignatievo	42 17	24 45
Isktr (strm)	43 44	24 27
Istanbul, Turkey	41 01	28 58
Kalotina	42 59	22 52
Kamchiya (strm)	43 02	27 53
Kamennets	43 20	25 09
Kas. no.	42 54	27 18
Kardam	43 45	28 06
Karlovo	42 38	24 48
Karnobat	42 39	26 59
Kavarna	43 25	26 20
Kasanklik	42 37	25 24
Khaskovo	41 56	29 33
Kirklareli, Turkey	41 44	27 12
Klisura	42 42	24 27
Komotini, Greece	41 07	25 24
Konoludiy	43 47	25 44
Krasnodar, U.S.S.R.	45 02	39 00
Kremikovtsi	42 47	23 30
Kriva Palanka, Yugoslavia	42 12	22 21
Krumovo	42 05	24 49
Kulata	41 23	23 22
Kumanovo, Yugoslavia	42 08	21 43
Kurdzhali	41 39	26 22
Kurilo	42 49	23 21
Kyustendil	42 17	22 41
Lobosh	42 30	22 49
Lozn	43 49	25 14
Lovech	43 08	24 43
Maritsa (strm)	40 52	26 12
Mexdra	43 09	23 42
Micburin	42 10	27 51
Mikhalovgrad	43 25	23 13
Momchilgrad	41 32	25 25
Musala, Vrhkh (mt)	42 11	23 34
Negru Vod, Romania	43 49	28 12
Nesebur	42 39	27 44
Nesebur, Nos (pt)	42 59	27 45
Nikopol	43 42	24 54
Nihava (strm)	43 22	21 46
Panagyurov, Turkey	42 36	23 02
Patrik	41 24	23 13
Pirdop	42 42	24 11
Pirin (mt)	41 40	23 30
Pirov, Yugoslavia	43 04	22 36
Pleven	43 25	24 37
Plodiv	42 09	24 45
Podkova	41 24	25 24
Pomorje	42 33	27 39
Preslav	43 10	26 49
Prizrenko	42 16	27 46
Razgrad	43 32	26 31
Rhodope Mountains (mt)	41 30	24 30
Rila (mt)	42 08	23 33
Rilski Monastery	42 08	22 20
Rojori de Vede, Romania	44 07	24 59
Ruse	43 50	25 57
Samokov	42 20	23 33
Samuil	43 31	26 45
San Stefano	42 31	26 53
Sarral, Greece	41 03	23 33
Sestrimo	42 13	23 55
Shabla	43 32	28 32
Shumen	43 16	26 55
Silistra	44 07	27 16
Simeonovo	42 37	23 20
Silven	42 40	26 19
Sofiya	42 41	23 19
Somovit	43 41	24 46
Sozopol	42 25	27 42
Stanke Dimitrov	42 16	23 07
Stara Zagora	42 25	25 38
Stara Orlyakhovo	42 59	27 48
Struma (strm)	40 47	23 51
Strumica, Yugoslavia	41 26	22 39
Studena, Yazovir (reservoir)	42 32	23 09
Svilengrad	41 46	26 12
Svirshov	43 19	24 44
Svoje	42 58	23 21
Telish	43 20	24 16
Thessaloniki, Greece	40 38	22 56
Thrace (region)	41 20	26 45
Tolbukhin	43 34	27 29
Troyan	42 35	24 43
Tulovo	42 35	25 33
Tundzha (strm)	41 40	26 54
Tutrakan	44 03	26 37
Tyulenovo	43 29	26 35
Yakarc	42 33	23 43
Varna	43 13	27 55
Varnenski Zaliv (bay)	43 11	27 56
Varnensko Ezero (lagoon)	45 11	27 50
Valko Turnovo	43 04	25 39
Vidin	43 59	22 52
Vitoshka (mt)	42 33	23 15
Vratsa	43 12	23 33
Vrazhdebna	42 42	23 25
Vucha (strm)	42 09	24 37
Vushkilo	42 15	27 23
Xanthi, Greece	41 08	24 53
Yambol	42 09	26 30
Yaana Polyana	42 17	27 37
Yovkovtsi	42 57	25 46
Zimnitsa	42 35	26 36



SELECTED AIRFIELDS

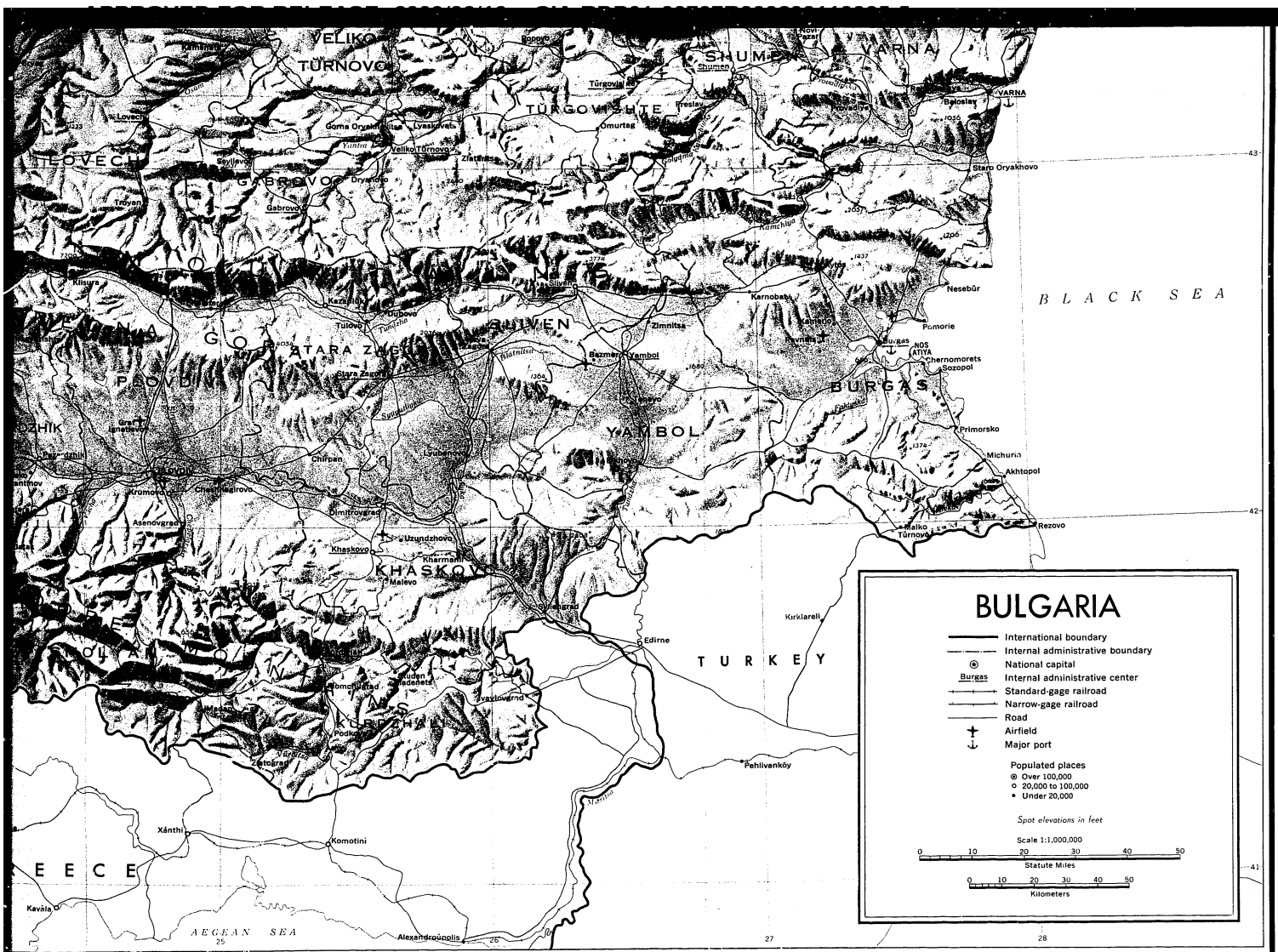
Balchik	43 26	28 11
Bermer	42 27	26 21
Burgas	42 34	27 31
Chebnegirovo	42 07	25 00
Gabrovnitsa	43 33	23 16
Graf Ignatievo	42 18	24 43
Kamennets	43 20	25 00
Plodiv	42 08	24 47
Ravnetsa	42 32	27 16
Sofia/Kumaritsa	42 49	23 18
Sofia/Vrazhdebna	42 42	23 24
Tolbukhin	43 37	27 50
Turgovitshe/Bukhovitsa	43 18	26 42
Urundzhovo	41 59	25 35
Varna/Topoli	43 14	27 50





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Summary Map Figure 122

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