

**VOLUME** 

U-Vult pages 1-388

# Compton's Encyclopedia

and Fact-Index

#### 1987 EDITION COMPTON'S ENCYCLOPEDIA

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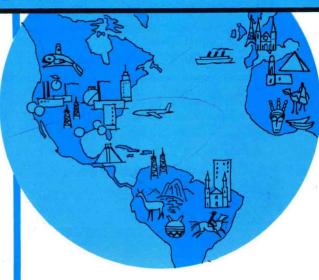


Pronunciations have been indicated in the body of this work only for words which present special difficulties.

Marked letters are sounded as in the following words: cāpe, ăt, fâr, fast, whạt, fâll; mē, yět, fērn, thêre; īce, bǐt; rōw, wòn, fôr, nŏt, dọ; cūre, bǔt, rude, full, bûrn; out;  $\ddot{u} = \text{French } u$ , German  $\ddot{u}$ ;  $\dot{g} = \text{em}$ ,  $\ddot{g}$ 0; t1, t2, t3, t4, t5, t6, t7, t8, t8, t9, t9,

# HERE AND THERE IN VOLUME 24

At odd times when you are just looking for "something interesting to read," without any special plan in mind, this list will help you. With this as a guide, you may visit faraway countries, watch people at their work and play, meet famous persons of ancient and modern times, review history's most brilliant incidents, explore the marvels of nature and science, play games—in short, find whatever suits your fancy of the moment. This list is not intended to serve as a table of contents, an index, or a study guide. For these purposes consult the Fact-Index and the Reference-Outlines.



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UBANGI RIVER. One of the chief rivers of equatorial Africa is the Ubangi (or Oubangui) River. It is a tributary of the Congo (or Zaire) River and flows past Bangui, capital of the Central African Republic. The Ubangi separates in part Zaire (formerly the Democratic Republic of the Congo) from the Central African Republic and the People's Republic of the Congo.

The Ubangi River is formed by the confluence of the Uele and Bomu (or Mbomou) rivers at Yakoma, a trading center for a cotton-growing region near the northern border of Zaire. The Uele, the Ubangi's main headstream, rises in the highlands north of Lake Albert and flows for about 700 miles before it reaches Yakoma. The length of the Ubangi proper, from Yakoma to the village of Irebu, where it joins the Congo River, is almost 700 miles.

The Ubangi is navigable from Yakoma to Banzyville. Downstream from Banzyville it flows through the Zongo (Grenfell) Rapids and is not navigable again until Bangui, a commercial and shipping center for cotton, coffee, and livestock. From Bangui downstream the river carries part of the Central African Republic's export trade to the Congo River. (See also Congo River.)

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Ubico, Jorge Ucayali River Uccello, Paolo Udaipur, India Udall, Nicholas Udall. Stewart Lee Udine, Italy Udjung Pandang, Indonesia **Uele River** Ufa, Russia



UGANDA. Snowcapped mountains, thundering waterfalls, tropical rain forests, stagnant swamps, and rolling savannas with an abundance of game animals are all typical of Uganda. This equatorial African country occupies a landlocked area of 93,981 square miles in that portion

of the East African plateau to the north of Lake Victoria. The western border is dominated by Mount Margherita (16,795 feet) in the Ruwenzori rangethe third highest mountain in Africa (see Ruwenzori). On the eastern border is Mount Elgon (14,178 feet).

The central part of the plateau, which averages 4,000 feet in height, is split by the Great Rift Valley. This valley is traversed by the Victoria Nile after it issues from Lake Victoria (see Nile River; Victoria, Lake). Uganda is bordered on the west by Zaire (formerly the Democratic Republic of the Congo), on the

east by Kenya, on the south by Tanzania and Rwanda, and on the north by Sudan.

The section of Uganda to the west of the Victoria Nile consists of rich farmlands that are worked by Bantu tribes. The tribes raise bananas, plantains, cassava, millet, corn, rice, tea, sugarcane, and pea-The chief cash crops are coffee and cotton. The drier savanna section to the east of the Victoria Nile is inhabited by Nilotic and Hamitic tribes, who raise sheep, goats, and longhorn cattle.

Copper, tin, tungsten, cobalt, and gold are among the minerals obtained, primarily from the Ruwenzori mountain range. Industrial products include cement, steel, cigarettes, textiles, tools, chemicals, and processed foods.

Claimed by both Germany and Great Britain, Uganda came under British influence as a result of an Anglo-German colonial agreement in 1890. In 1894 Uganda became a British protectorate.

Uganda won its independence in 1962. Sir Edward Mutesa II, ruler of the region of Buganda, became president in 1963. Milton Obote ousted him in 1966. A new constitution was proclaimed in 1967. In a 1971 military coup, Obote was replaced by Maj. Gen. Idi Amin. Amin's belligerence in foreign affairs and his harsh domestic rule drew criticism from many other African leaders. In 1972 he deported thousands of East Indian merchants. In retaliation for Amin's 1978 invasion of Tanzania, Tanzanian troops attacked Uganda in early 1979. Amin, who had been named president for life in 1976, fled the country.

These Ugandan Boy Scouts are beating on drums of graduated size to summon mission school students to session.





#### UGANDA

Obote's political party won the December 1980 national elections, and Obote again became president for a five-year term. In July 1985 Obote was overthrown by a military coup. Kampala was seized by soldiers under Brigadier Bazilio Olara Olsello.

Uganda became a member of the United Nations and the Commonwealth in 1962. Kampala, the capital and largest city (population, 458,423), is the seat of Makerere University. The dominant tribe is the Baganda, whose tribal state of Buganda is the largest and richest of the nation's four regions. In 1980 Obote\_returned to the presidency. Population (1985 estimate), 14,716,100.



# UKRAINIAN SOVIET SOCIALIST REPUB-

LIC. One of the most productive parts of the Soviet Union, the Ukrainian Soviet Socialist Republic extends from the Polish plains and

the Carpathian Mountains on the west to the Don Basin on the east. On the north it is flanked by the Pripyat' (Pripet) Marshes, and on the south it is washed by the Black Sea and the Sea of Azov. It covers an area of 233,100 square miles.

The republic, often called the Ukraine, lies in the southwestern part of the East European Plain. Through the republic runs a belt of rich black earth, with a steppe region to the south (see Grasslands). The Dnepr River, the fourth longest in Europe, flows through the middle of the Ukraine (see Dnepr River). The western part is drained by the Bug and Dnestr rivers (see Dnestr River). Through the eastern section

The buildings along Kiev's central avenue reflect the massive style prevailing in Soviet architecture since World War  ${\bf II}$ .



flows the Donets River, a tributary of the Don. The chief elevations are the Donets Heights in the east and the Carpathian Mountains in the west.

The Ukraine has long been the principal granary of the Soviet Union because of the variety of its grains. These grains include wheat, rye, barley, oats, corn, millet, and buckwheat. Among the other field crops are sugar beets, flax, potatoes, cotton, tobacco, hemp, soybeans, and hops. Sunflowers are cultivated for their seed oil, and the dandelion called *kok-saghyz* is grown for its rubber latex. Cattle, pigs, sheep, horses, and poultry are raised in great numbers.

Much of the industry of the Ukraine has been concentrated in the Donets Basin (*Donbas*) because of its rich deposits of coal and limestone. The Krivoy Rog section is noted for its iron mines, the Nikopol' area for its beds of manganese ore, and the Ruthenia district for its deposits of oil, salt, and natural gas.

Khar'kov, Donetsk, Makeyevka, Dnepropetrovsk, and Voroshilovgrad are noted for their production of iron and steel and heavy machinery. Kiev, the capital of the republic, is known for its flour mills, sugar refineries, textile mills, tobacco factories, and glassworks. L'vov has breweries and distilleries; Odessa, shipyards; and Zaporozh'ye, metallurgical plants and chemical works. (See also Khar'kov; Kiev; Odessa.)

The name Ukraine, meaning "borderland," was given to this region when it was a bulwark against the Mongol invaders. Its nucleus was the principality of Kiev, which had been recognized as the leading Russian state as early as the 9th century. After the fall of Kiev the Ukraine was successively held by the Tatars from 1240 to 1340 and by the Lithuanians and Poles (1340–1654). As a result of an uprising led by bands of adventurers called Cossacks, eastern Ukraine regained a certain degree of independence in the mid-17th century (see Cossacks). With the partition of Poland in the late 18th century, however, Russia acquired all the Ukraine except Eastern Galicia and Ruthenia, which went to Austria.

At the outbreak of the Bolshevik Revolution in 1917, an independent Ukrainian People's Republic was proclaimed. Later it was given the name Ukrainian Soviet Socialist Republic. It was made part of the Union of Soviet Socialist Republics in 1922.

The area of the region was enlarged after World War II, when it acquired Ruthenia from Czechoslovakia, Eastern Galicia from Poland, and parts of Bucovina and Bessarabia from Romania. The Crimea was transferred to it in 1954. In April 1986 a catastrophic nuclear reactor meltdown occurred at the Chernobyl Nuclear Power Plant, 80 miles north of Kiev. A fire, burning out of control, released radioactive materials that spread over vast sections of Europe, contaminating water, milk, and food supplies. Government secrecy surrounding the accident led to conflicting stories concerning the number of resulting deaths and the extent of the evacuation and to fears in neighboring countries of the accident's consequences. Population (1984 estimate), 50,681,000. (See also Russia; Union of Soviet Socialist Republics.)



ULAN BATOR, Mongolian People's Republic. The capital of the Mongolian People's Republic (Outer Mongolia) is Ulan Bator. Founded as a monastery town in the mid-17th century, the city, located on the north bank of the

Tola River, became an important trade center. For more than 250 years it was a junction for camel caravans on the tea route between China and Russia. Today, as the country's transportation hub, Ulan Bator is served by railroads, airports, and highways linking it with Peking, Moscow, and other cities.

The dominant feature of Ulan Bator is Sukhe Bator Square, located in the heart of the city. This vast area is surrounded by large government buildings whose architecture shows the influence of the Soviet Union. In the center of the square is an equestrian statue of Sukhe Bator, the Mongolian revolutionist who helped establish the provisional Communist regime in 1921.

Ulan Bator is the cultural and industrial center of the Mongolian People's Republic. It was made the seat of the Mongolian State University in 1942. Its manufactures range from flour and furniture to textiles, glass, leather, and felt.

When Ulan Bator was founded in 1649, it was known as Da Khure. This name, which means "Great Monastery," was later corrupted to Urga by Russian merchants. The government of Mongolia was headed by the Living Buddha, known as the Bogdo-Gegen of the Buddhist-Lamaist religion.

In 1911 Ulan Bator was the chief center of the revolt of Outer Mongolia against the Manchu emperor of China (see China, section on history). In 1912 it became the capital of an independent state under Russian protection, with the Living Buddha as ruler. When the last person to hold that office died,

in 1924, the Communists closed the temples and monasteries and stamped out Lamaism. Population (1962 census), 210,600. (See also Mongolia.)

THESE ARTICLES ARE IN THE FACT-INDEX

Ulanhot, People's Republic of China Ulanova, Galina (Sergeyevna) Ulan-Ude, Russia Ulbricht, Walter Ulcer Ulloa. Antonio de Ulloa, Francisco de Ulm, West Germany Ulnar nerve Ulsan, South Korea Ulster, Ireland Ultima Thule Ultramarine

ultraviolet radiation (rays). In 1801 a German physicist named Johann Wilhelm Ritter experimented with silver chloride and a prism. He passed a beam of sunlight through a prism, which divided the beam into the colors of the spectrum. He then placed some chloride in each color to see what would happen. The red caused little change. Deep violet, however, made the bits of chloride darken. Then Ritter tried some chloride in the lightless space just beyond the violet. The material grew much darker, almost as though it were being covered with soot. He had discovered a powerful, invisible radiation beyond the violet in the sun's spectrum.

Scientists named this radiation *ultraviolet*, meaning "beyond the violet." They found that it traveled in waves like light and at the same speed. It differed, however, in having shorter waves and higher frequency (or number of waves a second), as well as in being invisible (see Energy; Radiation).

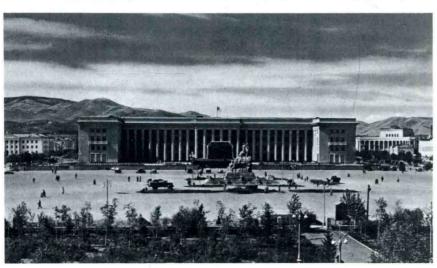
For a century, scientists used ultraviolet radiation from sunlight, electric sparks, or electric arcs. In 1901 Peter Cooper Hewitt of New York City made a much more powerful source by passing an electric current through a quartz tube filled with mercury vapor.

Prolonged study led to the discovery that ultra-

violet rays produce vitamin D in the body. The radiation acts on a fatty substance under the skin called ergosterol and changes it to vitamin D. (See also Vitamins.)

Today many foods contain man-made vitamin D. Food chemists produce it by using an ultraviolet ray lamp to irradiate the food.

Ultraviolet radiation has proved to be a powerful germ killer. A butcher's showcase may have a "green light" in it, which is coming from an ultraviolet germ-killing lamp. (The green itself is not the killing force but is produced simultaneously with invisible ultraviolet.)



SUKHE BATOR SQUARE IN OUTER MONGOLIA'S CAPITAL

This square is the scene of parades, which officials review from the platform over the

tombs of Sukhe Bator and Choibalsan, leaders of the Mongolian Communist revolution.

#### ULTRAVIOLET

Ultraviolet radiation may be used to keep air sterile in operating rooms and elsewhere in hospitals.

Photographers have found many uses for ultraviolet rays. The rays do not penetrate glass, but a quartz lens will let them through, and a photographic plate or film is very sensitive to them. Pictures can be taken in the dark by turning "black light" (radiation from an ultraviolet lamp) on the object.

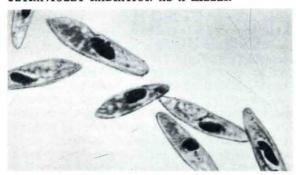
Scientists say it is possible to identify any material by the glow, or *fluorescence*, it gives off under the rays (see Fluorescence). The fluorescence occurs because high-frequency ultraviolet radiation excites the atoms of any material it hits. The atoms vibrate and send off waves. The frequency of these waves differs with each element, but it is always lower than

the frequency of ultraviolet. Because it occurs in the range of visible light, a glow is seen.

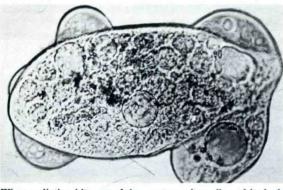
Ultraviolet fluorescence is used to detect forged documents. The different kinds of ink on the document can be distinguished by their fluorescence. Textile manufactures use the ray to identify one material from another. Gems and metals are often recognized by their ultraviolet fluorescence. Dentists can distinguish a live tooth from a dead one because live teeth give fluorescence, whereas dead ones do not.

Ultraviolet radiation from sunlamps can give benefits. The rays act like sunlight to make the skin secrete the dark pigment which tans the skin. They also change ergosterol under the skin into vitamin D.

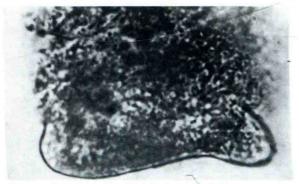
#### ULTRAVIOLET RADIATION AS A KILLER



This is a picture of normal slipper animalcules, or paramecia. They are protozoans and live in water.



When radiation hits one of the creatures, it swells and its body cracks, letting the contents exude into blisters.



A short time later, the blisters break and the paramecium crumbles to pieces, destroyed by ultraviolet radiation.

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Ulugh Muztagh Ulyanovsk Umatilla Umber Umbrella bird Umbrella plant Umbrella tree Umbria, Italy Ume River

Unalachtigo
Unalaska Island
Un-American Activities,
House Committee on
Unami
Unamuno, Miguel de
Uncas
Underground
Underground
Underwood, Oscar Wilder

UNDSET(un'sĕt), Sigrid (1882–1949). The author Sigrid Undset was noted for her writings against Nazism as well as for her novels. When the Germans invaded her native Norway in 1940, she had to flee. She went first to Sweden and then to the United States, where she remained five years.

Sigrid Undset was born on May 20, 1882, in Kalundborg, Denmark.

Her father was Dr. Ingvald Martin Undset, a renowned Norwegian archaeologist. Sigrid grew up in Christiania (now Oslo), Norway.

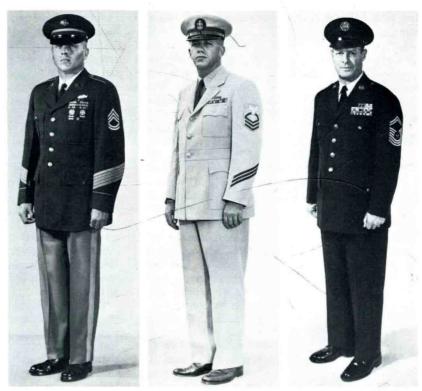
The author's greatest work was the trilogy 'Kristin Lavransdatter'. The first volume, 'The Bridal Wreath', appeared in 1920; the second, 'The Mistress of Husaby', in 1921; and the third, 'The Cross', in 1922. This work about life in the Middle Ages won world acclaim. She became a Roman Catholic convert shortly after the third novel was published. She was given the Nobel prize in literature in 1928.

Sigrid Undset married an artist, Anders Svarstad. They had three children. She died on June 10, 1949, in Lillehammer, near Oslo.

THESE ARTICLES ARE IN THE FACT-INDEX

Undulant fever Ungava, Canada Uniats Unicorn plant UNIFON

# UNIFORMS— Military Dress and Insignia



The United States Army sergeant first class (left) wears a semidress uniform of Army blue; the United States Navy chief petty

officer (center), a summer khaki uniform. The United States Air Force chief master sergeant wears the blue service uniform.

UNIFORMS AND INSIGNIA. Military uniforms have long been symbols of distinction, discipline, and tradition. At one time both dress and field uniforms were bright and colorful. The improvement of firearms late in the 19th century, however, made the wearing of conspicuous shades a hazard in combat. After the Boer War (1899–1902) nearly all armies adopted field and service uniforms of gray, brown, and green shades. Many of the dress or formal uniforms are still designed in cheerful, bright hues. These variations, however, are never worn in combat.

#### United States Army Uniforms

The United States Army adopted an olive-drab shade for winter service uniforms in 1902. In 1957 it was decided to replace it by what is called "Army green." One reason for the change was that many civilians were wearing parts of old uniforms for work clothes. The olive-drab shade thus had lost much of its distinction as a military symbol.

The basic green winter service uniform, for both officers and enlisted men, is made of wool. It includes a blouse cut somewhat like a civilian's single-breasted suit coat. For warm weather, the cotton khaki, or "Army tan," is worn. A blouse is authorized in the same shade. The standard necktie is black in summer or winter, as are shoes. For wear on military posts only, shorts and a short-sleeved shirt are usually issued. In the field, trousers are sometimes tucked into the tops of combat boots.

Army semidress and dress blue uniforms are authorized for both enlisted men and officers. Formal uniforms for officers include both a white and a blue dress uniform and white or blue mess dress. The Women's Army Corps (WAC) and nurse uniforms are generally styled after those for Army men.

Ranks of officers are indicated by insignia on shoulder loops or collars. Specialist and noncommissioned officer (NCO) rank insignia are worn on both sleeves (see illustrations, pages 8 and 9).

On or off the post either a cloth garrison cap or a visored service cap may be worn. The service-cap insignia, slightly different for officers and for enlisted men, features the United States coat of arms. The garrison cap very often carries a unit crest. In combat a steel helmet is worn, while the protective helmet liner only may be worn in nontactical training.

Official colors of branch or corps are worn on various uniform components, such as the dress aiguillette. Light blue stands for infantry; yellow for armor; scarlet for artillery; orange piped with white for signal; cobalt blue piped with golden yellow for chemical; and scarlet piped with white for the engineers.

#### Air Force Uniforms

Except for insignia, Air Force officers and airmen dress alike. The uniform is dark blue. It includes a coat, matching trousers, light-blue oxford shirt, dark-blue tie, and service cap. An optional summer uniform is tan. Some variations exist, such as shorts

and pith helmets. A lightweight blue uniform became mandatory issue in 1962 and 1963.

For semiformal functions, a blue uniform is worn with white shirt and black bow tie. There is a more formal officer's uniform with a midnight-blue tailcoat. A white dress uniform also may be worn. The Women's Air Force (WAF) uniform is of similar design.

#### Navy Uniforms

The regular service uniforms of the Navy are blue. Grades above first-class petty officers wear a double-breasted tunic with white shirt and dark tie. Naval aviation officers wear a green uniform while on flight duty. Enlisted men below the rank of chief petty officer wear dungarees for work. Summer work and service uniforms for all other Navy men are khaki. Khaki or dungarees are worn during submarine duty.

Petty officers and nonrated men wear a loose-fitting jumper with a square sailor collar. The collar and the sleeves of the dress jumper are trimmed with three stripes. The undress jumper has a plain collar. For several years the trousers had zippers, but in 1956, at the request of many sailors, the official trouser was changed back to the traditional 13button "broad fall front." For shore patrol or field duty, trousers are tucked into khaki leggings. Officers and chief petty officers wear a visored cap. First-class petty officers and lower grades wear a round white hat with a brim that turns up all around.

There are white service uniforms for both enlisted men and officers, and full-dress uniforms for officers and chief petty officers. A white dinner jacket and blue trousers may be worn. Shorts may be worn for some tropical service.

Navy ranks of commissioned and warrant officers are indicated by the number and size of gold stripes worn on the lower sleeve or on shoulder boards. The stripes are black on the naval aviation green uniform. Collar insignia, like those of the Army for equivalent rank, are worn on Navy officers' summer uniforms. Enlisted men wear marks of grade on their left sleeves (see illustrations on opposite page). Nurses' and WAVES' uniforms resemble male Navy dress.

#### Marine and Coast Guard Uniforms

The style of the Marine Corps uniforms is generally similar to that of the Army. The winter uniform consists of a forest-green wool coat, or a combat jacket, khaki shirt, and tie. The blue dress uni-

form includes a dark-blue blouse piped in red, with standing collar. Trousers are light blue, with a red stripe for noncommissioned and commissioned officers. A khaki cap is worn with the summer service uniform and a forest-green cap in win-With the blue uniform a blue cap is worn in winter and a white cap in summer. The Marine Corps emblem, worn by all marines, is a globe resting on an anchor, surmounted by an eagle. Rank and insignia are similar in design to those of the Army.

The Coast Guard wears the same uniforms and insignia of grade as the Navy, with some minor changes. A Coast Guard shield is used on officer and chief petty officer insignia where a Navy star would appear on Navy uniforms. Other variations



Marine officers and enlisted men wear this forest-green service uniform.

are in buttons, some sleeve insignia, cap devices, and shoulder marks.

#### Service Ornaments

For wounds and overseas service in World War I, members of the Army may wear wound chevrons on the right sleeve and wear service chevrons (one for each six months) on the left sleeve. An overseas service bar of gold lace may be worn horizontally on the right sleeve for each six months of overseas duty with the Army in World War II. The Army also authorized a similar bar for service in the Korean war.

Enlisted men of the Army wear a diagonal service stripe (hash mark) on the lower left sleeve for each three years of service. The Marine Corps and Navy wear a service stripe for each four years of service. (For information on decorations, service medals, and badges, see Decorations.)



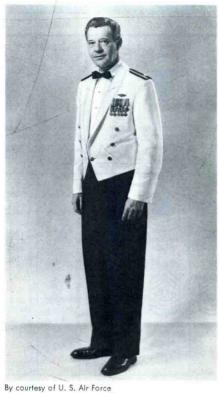


SPACE-AGE INSIGNIA OF THE UNITED STATES ARMED FORCES

At left is the Air Force astronaut wings insignia. It is worn on the left breast of the space pilot's uniform. The naval

astronaut wings, right, are worn in a similar position on the uniform by Navy, as well as Marine, astronauts.

# TYPICAL UNIFORMS OF THE UNITED STATES ARMED FORCES



Air Force officer mess dress summer uniform (left). In winter a black jacket is worn.



WAVE officer (right) in white naval summer dress. Worn for special occasions.



By courtesy of U. S. Coast Guard



Army summer duty uniform (left) with garrison cap. For company grade officers.



Coast Guard enlisted SPAR (right) in summer service uniform of gray-blue.

# **RANK INSIGNIA OF THE**

	ENLISTED MEN											WARRANT		
	E-1	E-2	E-3	E-4	E-5	E-6	E-7	E-8	E-9	E-9†	W-1	W-2		
AIR FORCE	AIRMAN	AIRMAN THIRD CLASS	AIRMAN SECOND CLASS	AIRMAN FIRST CLASS	STAFF	TECHNICAL SERGEANT	MASTER SERGEANT	SENIOR MASTER SERGEANT	CHIEF MASTER SERGEANT	CHIEF MASTER SERGEANT OF THE AIR FORCE	GOLD SKY BLUE WARRANT OFFICER W-1	SKY BLUE CHIEF WARRANT OFFICER W-2		
ARMY	PRIVATE	PRIVATE	PRIVATE FIRST CLASS	CORPORAL	SERGEANT  SPECIALIST	STAFF SERGEANT	SERGEANT FIRST CLASS	FIRST SERGEANT  MASTER SERGEANT	SERGEANT MAJOR  COMMAND SERGEANT MAJOR	SERGEANT MAJOR OF THE ARMY	BROWN  WARRANT OFFICER W-1	GOLD BROWN  CHIEF WARRANT OFFICER W-2		
MARINE CORPS	PRIVATE	PRIVATE FIRST CLASS	LANCE CORPORAL	CORPORAL	SERGEANT	STAFF SERGEANT	GUNNERY SERGEANT	FIRST SERGEANT  MASTER SERGEANT	SERGEANT MAJOR  MASTER GUNNERY SERGEANT	SERGEANT MAJOR OF THE MARINE CORPS	GOLD SCARLET WARRANT OFFICER W-1	CHIEF WARRANT OFFICER W-2		
NAVY AND COAST GUARD*	SEAMAN RECRUIT	SEAMAN APPRENTICE	SEAMAN	PETTY OFFICER THIRD CLASS	PETTY OFFICER SECOND CLASS	PETTY OFFICER FIRST CLASS	CHIEF PETTY OFFICER	SENIOR CHIEF PETTY OFFICER	MASTER CHIEF PETTY OFFICER	MASTER CHIEF PETTY OFFICER OF THE NAVY	WARRANT OFFICER W-1	GOLD BLUE CHIEF WARRANT OFFICER W-2		

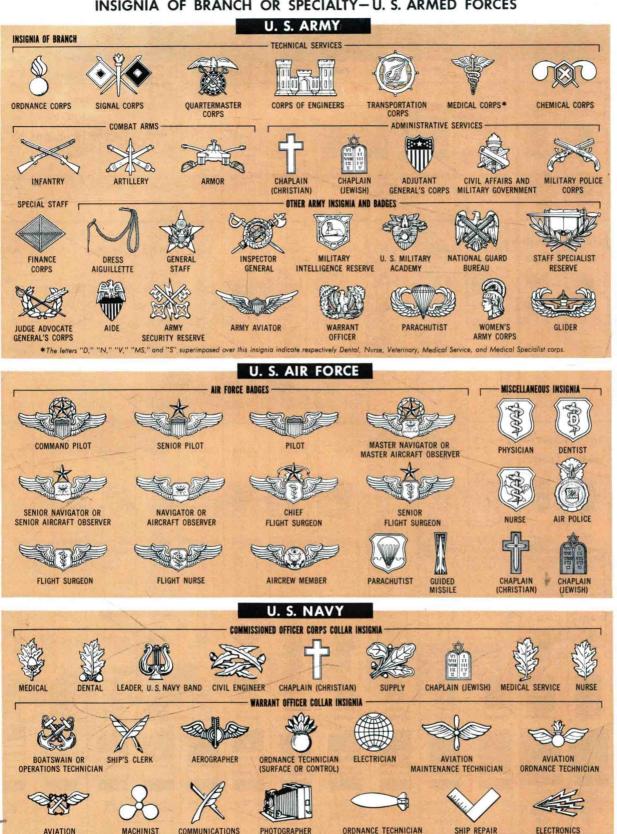
<sup>\*</sup> Rank marks of Coast Guard officers bear a shield in place of the Navy star.

<sup>†</sup> Only one person in each branch of the service holds this rank.

# **U.S. ARMED FORCES**

<b>OFFIC</b>	ERS				COM	MISSIC	NED (	OFFIC	ERS			
W-3	W-4	0-1	0-2	0-3	0-4	0-5	0-6	0-7	0-7 0-8	0-9	0-10	SPECIAL
SILVER SKY BLUE	SILVER SKY BLUE	GOLD	SILVER	SILVER	GOLD	SILVER	SILVER	SILVER	SILVER	SILVER	SILVER	SILVER
CHIEF	CHIEF	SECOND	LIEUTENANT	CAPTAIN	MAJOR	LIEUTENANT	COLONEL	BRIGADIER	MAJOR	LIEUTENANT	GENERAL	大大
WARRANT OFFICER W-3	WARRANT OFFICER W-4	LIEUTENANT		1		COLONEL		GENERAL	GENERAL	GENERAL		OF THE AIR FORCE
SILVER	SILVER	GOLD	SILVER	SILVER	GOLD	SILVER	SILVER	SILVER	SILVER	SILVER	SILVER	SILVER
								☆	大大	***	****	**
CHIEF WARRANT OFFICER W-3	CHIEF WARRANT OFFICER W-4	SECOND LIEUTENANT	FIRST LIEUTENANT	CAPTAIN	MAJOR	LIEUTENANT	COLONEL	BRIGADIER GENERAL	MAJOR GENERAL	LIEUTENANT GENERAL	GENERAL	GENERAL OF THE ARMY
											1	
SILVER	SILVER	GOLD	SILVER	SILVER	GOLD	SILVER	SILVER	SILVER	SILVER	SILVER	SILVER	ber
					器	*		*	**	***	***	
CHIEF WARRANT OFFICER W-3	CHIEF WARRANT OFFICER W-4	SECOND LIEUTENANT	FIRST LIEUTENANT	CAPTAIN	MAJOR	LIEUTENANT	COLONEL	BRIGADIER GENERAL	MAJOR GENERAL	LIEUTENANT GENERAL	GENERAL	
SILVER BLUE	SILVER	GOLD	SILVER	SILVER	GOLD	SILVER	SILVER	SILVER	SILVER	SILVER	SILVER	SILVER
					器	彩		*	**	大大大	***	**
*	**							<b>०५</b> क	○ <b>全</b>	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	<b>45</b>
×	<b>%</b>	*	*	*	*	*	*	*	*	*	*	
CHIEF WARRANT OFFICER W-3	CHIEF WARRANT OFFICER W-4	ENSIGN	LIEUTENANT JUNIOR GRADE	LIEUTENANT	LIEUTENANT COM- MANDER	COM- MANDER	CAPTAIN	COMMO- DORE	REAR ADMIRAL	VICE ADMIRAL	ADMIRAL	FLEET ADMIRAL

## INSIGNIA OF BRANCH OR SPECIALTY-U. S. ARMED FORCES



Army insignia of branch are worn on the lapels. Air Force badges are worn on the breast (see also picture of astronaut

MACHINIST

wings, page 328). Navy officer and warrant officer insignia shown on this page are worn on the collars or caps.

**TECHNICIAN** 

**ELECTRONICS** 

**TECHNICIAN** 

ORDNANCE TECHNICIAN

(MINE WARFARE OR UNDERWATER)

AVIATION

OPERATIONS TECHNICIAN

PHOTOGRAPHER

Some other warrant officer callar insignia resemble those used by commissioned officers.

COMMUNICATIONS

**TECHNICIAN**