ENCYCLOPEDIA AMERICANA

VOLUME 20

Navajo to Opium

THE ENCYCLOPEDIA AMERICANA

INTERNATIONAL EDITION

COMPLETE IN THIRTY VOLUMES

FIRST PUBLISHED IN 1829

GROLIER INCORPORATED

International Headquarters: Danbury, Connecticut 06816

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1964, 1963, 1962, 1961, 1960, 1959, 1958, 1957,
1956, 1955, 1954, 1953, 1952, 1951, 1950, 1949,
1948, 1947, 1946, 1945, 1944, 1943, 1942, 1941,
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Library of Congress Cataloging in Publication Data
Main entry under title:

The Encyclopedia Americana—International Edition
p. cm.
"First published in 1829."
Includes bibliographical references and index.
ISBN 0-7172-0122-8
1. Encyclopedias and dictionaries. I. Grolier Incorporated.
AE5.E333 1991 90-23041
031—dc20 CIP

PRINTED AND MANUFACTURED IN THE U.S.A.

NAVAJO, nav′ə-hō, the largest tribe of native Americans in the United States. Although *Navajo* is the preferred spelling adopted by the tribal government, *Navaho* is often seen. Numbering perhaps 150,000, the Diné (roughly, "The People," as they call themselves) reside on one large and three small reservation communities in the American Southwest, having a total area of about 15 million acres (6 million hectares). The principal reservation is situated primarily in northeastern Arizona but extends into northwestern New Mexico and southeastern Utah. The three small units are in northwestern New Mexico. The Navajo country is arid, and the land is chiefly desert, but mesas and mountains stand out dramatically.

Since World War II, large numbers of Navajo have moved to Los Angeles, Albuquerque, Denver, Phoenix, and other large cities. They have also gone to towns bordering Navajo land, including Gallup and Farmington, both in New Mexico, and Flagstaff, Arizona.

Arrival in the Southwest. Anthropologists classify the Navajo as an Athapaskan people, once closely affiliated with other peoples found in present-day Canada and Alaska. They believe that the Navajo migrated southward hundreds of years ago, eventually arriving in the Southwest. This relationship is especially evident in linguistic ties. The Navajo language—Diné bizaad—is considered an Apachean language and part of the general family of Na-dene languages.

The precise time of the Navajo's appearance in the Southwest is not fully agreed upon, but archaeological evidence suggests that they have been in the region for at least 500 years. The Navajo tell of emerging into this world from earlier worlds. This history may be interpreted as a tale of migrations. The place of emergence and the first events of creation occur in the area of northern New Mexico where archaeologists first place the Diné in the Southwest.

Early Agricultural Practices. Spanish observers, such as Father Alonso de Benavides in 1630, provided the first written record of the Navajo. It was Benavides who referred to the "Apaches of Navajo," appropriating for them a Tewa Indian term that meant "great planted fields." Such a name is but one indication of the integral place of farming in the early Navajo economy, along with hunting and gathering. The Navajo also adopted agricultural practices from neighboring Pueblo Indian peoples, and this probably contributed both to their economic development and their sedentary tendencies. In general, the Navajo were far less nomadic a people than has been popularly believed.

In subsequent centuries the Navajo have displayed a marked ability to incorporate aspects of other cultures into a changing, flexible, "traditional" life-style. This willingness to change may be attributed in part to the isolated environment in which most Navajo lived for centuries, a world where cultural change could be indirect rather than imposed. Although the Spanish, for example, had very limited contact with the Navajo, the arrival of Spanish culture in the Southwest eventually would have a dramatic impact on the Navajo socioeconomic structure.

The Spanish affected the Navajo most centrally through the introduction of sheep, horses, and goats. Livestock, especially sheep, became an integral part of the Navajo economy and vital to Navajo society. Sheep were valued for food, for wool to be used for weaving, and as a means of payment or exchange. Sheep often were used to pay for religious ceremonies and to feed those gathered at such occasions.

AMERICAN MUSEUM OF NATURAL HISTORY

A woman and child, about 1913, with superb examples of Navajo weaving, basketry, and ornamental design.

Rituals. The Navajo believe that the benefits derived from a particular ritual cannot be realized without such compensation to the singer or "medicine man" who conduct it. Singers occupy an important place in Navajo society. For the Diné were instructed, so they believe, by the Holy People (Navajo divinities) to follow particular ceremonies necessary to cultivate a harmonious relationship with the world, with its inhabitants, and within oneself. Navajo rituals emphasize healing. The Navajo singers may be said to be both priests and physicians in the Navajo system. To have the desired effect, a ceremony must be performed without error. Some of the elaborate rituals last for as long as nine days. In more contemporary times, Navajo boys have had greater difficulty devoting the years of apprenticeship necessary to learn a certain ceremony. The number of singers has declined, and many of them are elderly.

Weaving and Silversmithing. Concern has been expressed about the state of Navajo weaving. The best Navajo rugs are distinguished by the fineness of the yarn, the use of a variety of vegetable dyes, and bold geometric designs. For years predictions have been made that the art is about to disappear. As with the ceremonies, such fears seem premature. It may be true that the proportion of Navajo women weaving rugs, a preeminent example of native American craftsmanship, has declined. But a growing population, a greater appreciation for Navajo arts within the school system, a steady demand for the weaver's art by the American public, and a higher monetary return to the weaver all augur well for the continuance of Navajo weaving. The same fac-

tors hold true for silversmithing, which Navajo men also have elevated to a high art form. Their work is renowned for its quality and simplicity of design.

Family and Clan. Other features of Navajo culture have survived into the present. Although many residents on the reservations have built housing of frame or block construction, the traditional hogan hardly has disappeared. This six-sided log-and-mud structure, with the door facing toward the morning sun of the east, still is usually preferred in the more rural areas. In many instances a family utilizes both old and new structural forms, reserving the hogan as a place for weaving or ceremonies.

The family itself, while more flexible in its composition today, still features ties and responsibilities extending beyond the nuclear unit. Grandparents and other relatives play vital roles in raising children. Children watch the sheep, though compulsory school-attendance laws alter the age at which a child can be fully a part of the family socioeconomic unit.

The clan system may have declined in importance. Each Navajo child inherits his or her clan affiliation from the mother, but is also "born for" the father's clan. All members of both groups are considered relatives. At one time concentrated in a particular area, the clan membership is now spread widely, with the dispersal of the Navajo population. One function of the clan that is still observed by many is exogamy. One must marry outside of one's clan.

Language. The Navajo language remains dominant. It is the first language of most older Navajo, and the average Navajo schoolchild begins classwork with only a limited knowledge of English. With increasing Navajo control of their schools, Diné bizaad is utilized increasingly rather than forbidden. Although written forms of Navajo have been available for decades, and were introduced on a limited basis within some Navajo schools about 1940, only in the 1970's was an attempt begun to teach large numbers of Navajo children how to write in Navajo.

As part of a healing ceremony, medicine men create sand paintings, which are always destroyed before sunset.

DOROTHY MC LAUGHLIN, ARIZONA PHOTOGRAPHIC ASSOCIATES

HISTORY

Although they have always lived in a harsh, relatively remote region of the Southwest, the Navajo have never been fully isolated from their neighbors. In addition to borrowing from other cultures, they also raided neighboring peoples, gaining the enmity of Europeans and other Indians alike. The Navajo themselves have been attacked by the Ute, Zuni, Hopi, and others. It is misleading, however, to think of the Diné as a single tribe before the arrival of Americans and the establishment of the Navajo reservation system. While united loosely by cultural tradition, they clearly were not one political body and did not act as a single unit. A battle waged by one group would not necessarily be condoned or even known about by another. An agreement made by one group would not bind all Navajo.

Military Conflict with the Americans. After U. S. military forces occupied New Mexico in 1846, during the Mexican War, American authorities discovered to their dismay the reality of the dispersed Navajo population. Pressured by other Southwestern residents—both whites and Indians—and determined to exert American dominion over the region, U. S. officials sought to have the Navajo sign peace treaties. The Navajo, however, knew little about the Americans. They could not comprehend why the Americans would turn on them, when their conflicts had been largely with the Mexicans, whom the Americans had just defeated. A disagreement with U. S. troops in 1849 flared into sudden violence, and seven Navajo were killed. The building of Fort Defiance in Navajo country hardly restrained the Navajo, who continued their depredations. Treaties signed in 1855 and 1858 mattered little.

In 1860 approximately 1,000 Navajo almost captured Fort Defiance, and another group raided near Santa Fe. The New Mexico militia retaliated, but with the onset of the American Civil War the Navajo stepped up their raids, realizing that U. S. troops were leaving to fight elsewhere. Within a year, however, the Union forces had turned back the Confederates in New Mexico and returned to confront the Navajo.

Gen. James Carleton decided that the Navajo must be moved to a reservation and become Chistianized and generally assimilated into the American way of life. Carleton selected an area known as Bosque Redondo, on the Pecos River in eastern New Mexico, as the site of Fort Sumner and the reservation that would hold both the Navajo and the Mescalero Apache. Knowing that the Navajo would not come to Fort Sumner voluntarily, the general sent Col. Kit Carson to wage a campaign calculated to force them to go. Carson's decisive effort, begun in the fall of 1863, included the destruction of livestock, crops, and hogans. His successful march through Canyon de Chelly and the bitter winter that ensued persuaded an increasing number of Navajo to surrender. Some people in the western section of Navajo country evaded capture, but about 8,000 made the "Long Walk" to Bosque Redondo. The forced march of some 300 miles (480 km), the absence from their native land, and four years of

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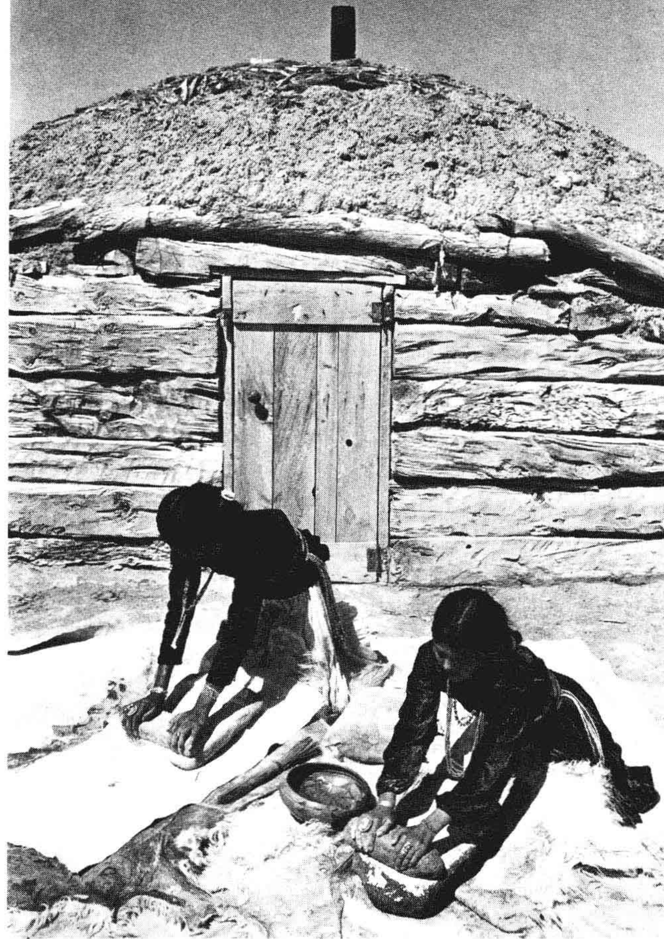


JOHN RUNNING

(*Above*) A weaver will spend hundreds of hours on a single Navajo rug, one of the greatest achievements of native American art. (*Right*) Women grind grain with stone metates in front of a traditional hogan, which always faces east toward the rising sun. These six-sided, one-room homes are still found in rural sections of the Navajo Reservation.

imprisonment at Fort Sumner are remembered bitterly to this day.

The reservation experience marked the first time the Navajo had grouped together as a political entity. But the plan failed. Conditions were miserable, and more than 2,000 Navajo died of disease. The U. S. government relented. With the signing of the Treaty of 1868, the Navajo returned to a portion of their homeland, a rectangular reservation of 3.5 million acres (1.4 million hectares) set aside for them along the Arizona–New Mexico border.

The Livestock Controversy. Unlike most other native American peoples, the Navajo prospered in the late 19th century. Their population doubled between 1870 and 1900. The United States added land to their reservation a number of times, and by 1907 it had expanded to almost its present size. The Navajo benefited from the light population of non-Indians in northern Arizona and New Mexico. Outsiders considered Navajo country as poor for farming and did not realize its great mineral wealth until the reservation had been firmly established.

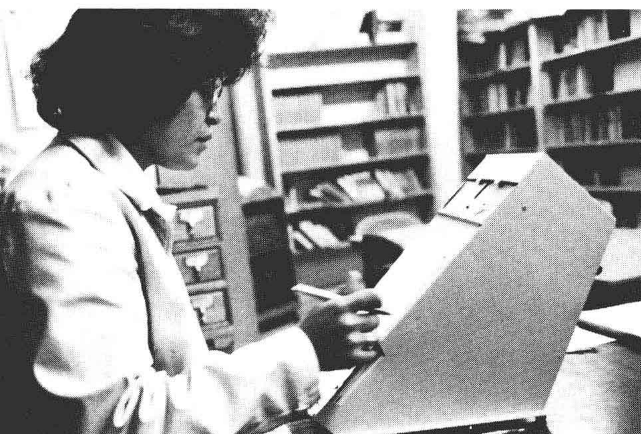
Encouraged by both government officials and operators of trading posts, the Navaio greatly increased their livestock holdings after 1868. Eventually this new demand on the land resulted in soil erosion. As early as 1894 a government agent warned that the Navajo reservation could not support all the livestock. It became steadily more difficult to add to the Navajo land base, given the growth of non-Navajo population in the region. The problem of overgrazing intensified. In the 1920's the government constructed many new wells and reservoirs, developed additional springs, urged voluntary reduction of livestock, tried to improve the breeding of sheep, and attempted to eliminate many of the wild horses. But the Navajo fiercely resisted changes in livestock practices. Given the central place of livestock, particularly sheep, in Navajo society and economy, the Diné believed that what was needed was more land and more water.

But John Collier, commissioner of Indian Affairs during President Franklin Roosevelt's administration, saw livestock reduction as a way of maintaining traditional Navajo life. The dustbowl era, the Great Depression, and declining prices for wool, goat meat, and mutton influenced Collier's determination to cut in half Navajo livestock holdings. Most Navajo had small flocks and feared that harm would result from reducing the number of animals. Moreover, they were unprepared for such a sweeping program. To those residing in the distant reaches of Navajo land, the Navajo capital, Window Rock, Ariz., seemed as far removed as Washington, D. C. The Navajo Tribal Council, inaugurated just a decade before, had had little effect on the lives of most people. Now it felt obliged to support the program, partly because Collier linked livestock reduction with extending reservation boundaries.

Ultimately, the livestock-reduction plan was carried out amid much misunderstanding and ill-feeling. Although small additions were made to the reservation in Arizona, a coalition headed by Sen. Dennis Chavez (Dem.-N. Mex.) blocked the badly needed extension and consolidation of Navajo land in New Mexico. From 1933 to 1947,

MARGARET DURRANCE, PHOTO RESEARCHERS

The Executive Committee of the Navajo Tribal Council in session. Centralized leadership for the Navajo nation has evolved only since contacts with white Americans, which led both to greater economic opportunities and to considerable social change.



MYRON WOOD, PHOTO RESEARCHERS

A student uses a reading machine. Navajos have gained greater control over the curriculums in their schools.

sheep declined from 570,000 to about 358,600, though wool production dropped only 44,000 pounds (20,000 kg). Stock reduction and land-use and breeding programs succeeded, but at a tremendous cost. Other government programs in such areas as health and education were stigmatized. Navajo vividly remember that era and continue to challenge alterations in traditional land use.

World War II to the Present. World War II signaled a turning point for the Navajo. Many left the reservation for the first time to serve in the armed forces or in war-related industries. As a group they compiled a remarkable war record. Many spoke on radio in Pacific combat areas where the Navajo language was used as the basis for a code that baffled the Japanese.

After the war the U. S. government encouraged many Navajo to move to metropolitan areas. Other members of the tribe worked for a railroad or in border towns surrounding the reservation. Congressional passage in 1950 of a rehabilitation act helped to usher in a time of building and growth. The act provided substantial funds to upgrade roads and to build schools. In addition, royalties from oil production during the late 1950's suddenly escalated, with discoveries of new fields in the Aneth, Utah, area and elsewhere. The Navajo tribal treasury in 1955 gained about $50,000 from oil royalties, which rose to about $9,750,000 by 1959. Tribal income from uranium jumped from about $66,000 in 1950 to $650,000 in 1954.

These massive infusions into the tribal economy helped to change the power of the tribal government, which has become the driving force behind what has been termed Navajo nationalism. The Navajo tribe now officially calls itself the Navajo nation.

Efforts may be seen on many fronts by Navajo trying to gain greater control over their own affairs and their own destiny. In education, Navajo teachers and administrators are being trained in record numbers elsewhere and are returning home to alter the school curriculum and environment. Navajo parents are actively engaged in school affairs for the first time, with the continuing growth of the Navajo public school network and the establishment of community-controlled schools. The Navajo government's division of education administers a scholarship program; the tribe has started an academy for gifted high school students and supports (since 1969) a community college, now fully accredited.

The tribal government has also sponsored various economic enterprises, including the successful Navajo Forest Products Industries, and has promoted Navajo entrepreneurship. With improved legal advice to both the tribal government through general counsel and to individual Navajo through a legal-assistance program called Dinebeiina Nahiilna Be Agaditaha, Navajo in the 1970's began to review the wisdom of the large mineral-leasing programs once encouraged by the Bureau of Indian Affairs. Water rights loom as a central issue of the future, as Navajo begin to press their claims to this precious Southwestern resource.

In the realm of health care, the Navajo Health Authority pushed toward the creation of an American Indian medical school, where Navajo medical personnel could be trained to take advantage of the benefits of European and American medicine without denying the value and validity of traditional Navajo practices. Given their growing numbers and their rapidly developing human and economic resources, the Navajo should play an important role in the future of the American Southwest.

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JOSEF MUENCH

Arizona's Keet Seel ruin, in a recessed cliff in Navajo National Monument, was once the home of Pueblo Indians.

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NAVAJO MOUNTAIN, nav'ə-hō, is a prominent rounded laccolith dome in southern Utah, at the Arizona border, 34 miles (55 km) west of Goulding's Trading Post. At a height of 10,416 feet (3,175 meters), it stands in isolated splendor above the Colorado Plateau and is visible from great distances. The mountain is young in geological terms, and sedimentary layers of rock still cover the igneous rock that formed it. The lower slopes are heavily eroded into steep canyons.

Navajo Mountain is sacred to the Navajo Indians, on whose reservation it stands. Early Spanish explorers heard about the Sierra Azul, the Blue Mountain, with its supposed wealth of mercury, gold, and silver, and it was first seen by white men in the 1776 Escalante expedition.

NAVAJO NATIONAL MONUMENT, nav'ə-hō, contains three of the largest and most elaborate prehistoric cliff dwellings in the United States. They were the homes of the Anasazi Indians. The monument, in northeastern Arizona, is a unit of the National Park System. It comprises three separate sections that are from 45 to 60 miles (72–96 km) northeast of Tuba City, Ariz. Established in 1909, the monument contains a total of 360 acres (146 hectares).

Betatakin ("Ledge House" in Navajo) is built on the steeply sloping floor of a natural alcove with a roof nearly 500 feet (150 meters) high. Its 135 rooms include living quarters, granaries, and one ceremonial chamber. *Keet Seel* ("broken pottery" in Navajo) has 160 rooms, accessible by a difficult 8-mile (13-km) hiking or horseback trail. *Inscription House* has about 75 rooms. The tree-ring dating of one piece of wood puts its construction at about 1274.

The Anasazi (from the Navajo, "the ancient ones") occupied northeastern Arizona and adjacent areas of Utah, Colorado, and New Mexico from about the time of Christ until 1300. Gradually, three distinct cultural centers emerged: Mesa Verde, Chaco Canyon, and Kayenta. The three cliff dwellings in Navajo National Monument, situated in canyons, represent the culmination of Anasazi culture in the Kayenta area.

This Great Pueblo period, in the 13th century, was also marked by achievement in artistic expression, including pottery, basketry, and rock art. The construction of the cliff dwellings underscored the transition of the Anasazi from hunters and gatherers to essentially sedentary farmers. Although the Anasazi flooded some areas and built ditches to transport water, the shortage of water and the erosion of soil caused the occupants to abandon their homes about 1300. It is believed that the Kayenta Anasazi moved southward to the mesas now occupied by the Hopi Indians. Despite its name and the fact that the monument is surrounded by the Navajo Indian Reservation, the Navajo are not descendants of the Anasazi.

DONALD YOUNG

Erosion by the Virgin River in Zion Canyon has exposed this towering sheet of white and pink Navajo sandstone.

NAVAJO SANDSTONE, nav'ə-hō, is a prominent rock unit in the southwestern United States formed by the solidification of eolian (wind-deposited) dunes. One of the thickest sandstone layers known, the Navajo was deposited about 175 million years ago during the Jurassic Period of the Mesozoic Era. The sandstone's quartz grains have been cemented with silica, limonite, or carbonate minerals to form a resistant stratum.

The sandstone is named for the Indian tribe on and near whose reservation the unit is found. The Navajo sandstone is most spectacular in Zion National Park, in southern Utah, where it forms the 2,000-foot (600-meter) sheets of vertical rock through which the Virgin River has cut Zion Canyon. In color, the Zion sandstone ranges from orange to pale pink to the brilliance of the Great White Throne. The Navajo also forms the impressive chain of "capitol" domes in Capitol Reef National Park. Glen Canyon on the Colorado River, now flooded by Lake Powell, was also formed in the Navajo.

Intricate cross-bedding is the distinctive feature of the Navajo. The various angles created by the slopes of these "fossil" dunes suggest the power and whimsy of the Jurassic winds. Apparently the predominant winds were from the northwest. It can be inferred that the sand was carried from mountains long since erased by erosion, the only evidence of their existence being these tapestries of motion frozen in stone.

NAVAL ACADEMY, United States. See UNITED STATES NAVAL ACADEMY.

NAVAL CONFERENCES. For nearly 15 years between World Wars I and II, the major naval powers agreed voluntarily, in a series of naval disarmament conferences, to certain limitations on their navies.

Washington Conference (1921–1922). Invitations were issued by the United States in August 1921 to Britain, Japan, France, and Italy to a conference in Washington to discuss naval limitations. There was a profound sensation when U. S. Secretary of State Charles Evans Hughes, at the opening session, proposed a naval holiday, "freezing" the navies at a strength of 525,000 tons for Britain and the United States, 315,000 for Japan, and 175,000 each for France and Italy. It was hoped that the proposed 5–5–3 ratio would extend to all categories of warships, but exceptions immediately appeared and, finally, only capital ships were affected. There was to be a ten-year period during which there was to be no new construction in capital ships except to maintain the ratios.

Geneva Conference (1927). The competition shifted to cruisers, and this led to serious misunderstandings between the British and Americans. The crux of the Anglo-American troubles lay in the U. S. preference for "light" cruisers of about 7,500 tons with 6-inch (150-mm) guns as against the British preference for "heavy," 10,000-ton ships with 8-inch (200-mm) guns. These opposing viewpoints burst out in the second naval limitation conference, summoned through President Calvin Coolidge's initiative, in Geneva in 1927. The French and Italians did not attend. The Americans sought to extend the 5–5–3 principle to all naval categories, but the British were determined not to lose their primacy. The conference failed to reach any tangible results.

First London Conference (1930). The Japanese, taking advantage of Anglo-American friction, secured a 10–10–7 ratio in cruisers and parity with the United States and Britain in submarines. Because France and Italy again refused to participate, the conference agreed to "escape" provisions to meet possible competition from nonsignatories. Finally, the ten-year building holiday agreed upon at Washington was extended to 1936.

But by the mid-1930's, the naval limitation system was beginning to crack up. A general disarmament conference in Geneva in 1932–1933 failed completely. In 1934, Adolf Hitler's Germany denounced the disarmament terms of the Versailles Treaty and secured Britain's agreement to equality in submarines and 35% of overall British naval strength. France and Italy were also increasing their navies.

Second London Conference (1935). Late in 1935 the fourth and final naval limitation conference met in London in the vain hope of continuing the principle of treaty limitation. Italy refused to participate. Japan demanded full parity with the United States and Britain in all categories of ships. When the Americans objected, Japan withdrew from the conference and announced that it would no longer participate in limitation terms after 1936. On March 25, 1936, the United States, Britain, and France signed a treaty giving recognition to the general principles of limitation, but containing so many "escalator clauses" to meet outside rivalry that it really marked the end of the 15-year effort. The limitation agreements technically came to an end on Dec. 31, 1936.

ROBERT G. ALBION*, *Professor Emeritus of Oceanic History and Affairs, Harvard University*

NAVAL OBSERVATORY, United States, an astronomical observatory headquartered in Washington, D. C., and operated by the Department of the Navy. It makes accurate determinations of time and of the positions of the stars and planets, especially for the aid of navigation at sea. The observatory determines time by measuring star positions and using atomic clocks. Time signals are transmitted continuously by radio station WWV in Washington on frequencies of 2.5, 5, 10, 15, 20, and 25 megahertz.

The Washington location evolved from the Navy's oldest scientific institution, the Depot of Charts and Instruments, which was founded in 1830. The title "U. S. Naval Observatory" dates from 1842, and the observatory's first building was completed in Washington in 1844. The present location was established in 1893.

The Washington headquarters has a 26-inch (66-cm) reflecting telescope and special telescopes called photographic zenith tubes. These instruments are used in the precise determination of time.

A branch station of the Naval Observatory near Flagstaff, Ariz., has 61-inch (155-cm) and 40-inch (102-cm) reflecting telescopes.

NAVAL RANK. See INSIGNIA OF RANK, ARMED FORCES.

NAVAL RESERVE. The U. S. Naval Reserve is a force of more than 400,000 men and women, officer and enlisted, who serve in an inactive-duty status subject to recall in the event of war or national emergency. Most reservists have completed a period of active duty with the U. S. Navy. The basic mission of the Naval Reserve is to augment the U. S. Navy when directed by the commander in chief and the Congress. Public law governs the conditions under which the various categories of naval reservists may be recalled to active duty.

Approximately 59,000 reservists are on active duty with the U. S. Navy. Additional personnel are authorized to receive pay for participation in a year-round program of inactive-duty training, which usually consists of monthly drills supplemented by two weeks of active-duty training annually. The latter category is known as the *Ready Reserve* and is the first element of the inactive-duty, Naval Reserve to be recalled to active duty, or mobilized, when national-defense considerations warrant. The size of the Ready Reserve and its annual budget are determined by the U. S. Congress.

Two other categories of inactive-duty affiliation are the *Standby Reserve* and the *Retired Reserve*. Members in these categories normally do not participate in training programs. The conditions under which they may be recalled to active duty are more limited than those governing the recall of Ready Reserve members.

The Ready Reserve has approximately 2,500 units, each one geared to a specific counterpart or functional area in the active-duty Navy. The peacetime mission of Ready Reserve units is to train for wartime mobilization and to attain a high degree of combat readiness and professional skill of the type required in the event of mobilization.

The Naval Reserve (Ready Reserve) is a significant element of U. S. total-force doctrine, wherein U. S. active-duty and reserve forces, along with the armed forces of American allies, are considered altogether as defense resources available for immediate action if required. The abolition of the draft and the high cost of maintaining a large active-duty force have resulted in increased dependence on well-trained reserve forces.

The Ready Reserve inventory includes 44 Naval Air Reserve squadrons, 30 destroyers, 22 oceangoing minesweepers, three large amphibious ships (two transport vessels and one cargo type), and more than 150 small craft. The First Reserve Naval Construction Brigade is today's reserve Seabee force. It maintains construction equipment for carrying out its mission. Numerous other units with specialized missions, such as mine warfare, telecommunications, intelligence, meteorology, supply, cargo handling, and medical support, form part of the Ready Reserve.

History. The "citizen-sailor" concept on which today's Naval Reserve is founded traces its origin back to colonial days and predates the establishment of the Continental Navy. In 1775, in one of the first naval engagements of the American Revolution, a group of local citizens armed with swords, muskets, pitchforks, and axes captured the British armed schooner H. M. S. *Margaretta* off the Maine coast and set the pattern for similar actions by other groups of volunteer naval militiamen. Not until March 3, 1915, did Congress pass legislation that formally established a federal Naval Reserve.

During World War I, approximately 330,000 naval reservists, including 30,000 officers and 12,000 "yeomanettes," or women reservists, served on active duty. Among them was a group of aviation-minded young men from Yale University who had earlier purchased their own aircraft, learned to fly at their own expense, and volunteered their services to the Navy before the United States entered the war. The "First Yale Unit," as it was known, is generally credited with pioneering the Naval Air Reserve.

By the end of World War II, the U. S. Navy had swelled to more than 3,800,000 members, 3 million of whom were reservists on active duty. During the Korean War, more than 130,000 naval reservists served with the Navy, and Naval Reserve aviators constituted a significant percentage of all Navy pilots engaged in the conflict.

In the Berlin crisis of 1961, 40 Naval Reserve ships and their reserve crews were called to active duty, along with 18 Naval Reserve air squadrons. During the war in Vietnam, political considerations and U. S. national strategy combined to limit the recall of Naval Reserve members to active duty, although one out of seven Navy personnel then in the active force was a reservist.

Only two of the reserve construction battalions (Seabees) and six reserve air squadrons were mobilized, each for one year of active duty. Inactive-duty Naval Air Reserve transport pilots contributed significantly to U. S. airlift mission requirements in Vietnam during their two-week periods of active-duty training.

NAVAL STORES are materials such as turpentine, rosin, pitch, tar, and pine oil once used in maintaining wooden sailing vessels. Such products are derived from oleoresin of pine by distillation of resinous remains of dead trees or of the gum that exudes when living pines are wounded. They are also obtained as a by-product in making paper. See also TURPENTINE.

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