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COMPTON'S ENCYCLOPEDIA

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COMPTON
ENCYCLOPEDIA

VOLUME

12

H—Hypno
pages 1-290

Compton's Encyclopedia

and Fact-Index

E.E. Compton Company

Division of Encyclopaedia Britannica, Inc.

1980 EDITION COMPTON'S ENCYCLOPEDIA

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BY F. E. COMPTON COMPANY, DIVISION OF ENCYCLOPAEDIA BRITANNICA, INC.

Library of Congress Catalog Card Number: 78-67841

International Standard Book Number: 0-85229-350-X

Printed in U.S.A.



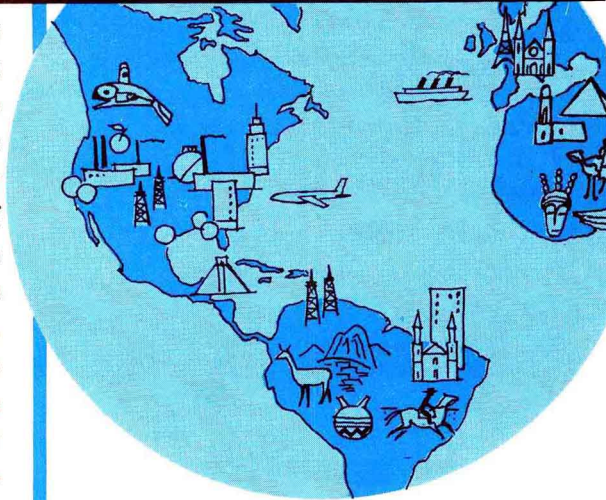
THE UNIVERSITY OF CHICAGO

COMPTON'S ENCYCLOPEDIA IS PUBLISHED WITH THE EDITORIAL ADVICE
OF THE FACULTIES OF THE UNIVERSITY OF CHICAGO

"Let knowledge grow from more to more and thus be human life enriched"

HERE AND THERE IN VOLUME 12

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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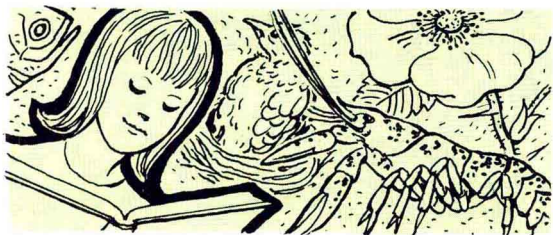
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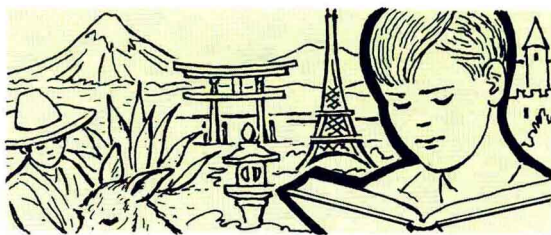
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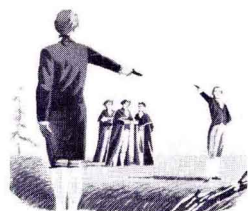
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HAAKON, Kings of Norway. Seven kings of Norway were named Haakon. From Haakon I to Haakon V they were all descendants of Harald the Fairhaired, the first king of Norway (*see* Norway).

HAAKON I, the Good (born 914?, ruled mid-10th century) was the youngest son of Harald the Fairhaired. He defeated his half brother Eric Bloodaxe, who had seized the throne. Around 960 he was killed by Eric's sons.

HAAKON II, the Broadshouldered, (born 1147, ruled 1161–1162) was the illegitimate son of Sigurd Munn. He was killed in battle at the age of 15.

HAAKON III SVERRSON (ruled 1202–1204) may have been poisoned by his stepmother Queen Margaret of Sweden.

HAAKON IV HAAKONSSON, the Old, (born 1204, ruled 1217–1263) was the illegitimate son of Haakon III. He is remembered for having brought Iceland and Greenland under the control of Norway.

HAAKON V MAGNUSSON (born 1270, ruled 1299–1319) was the last male in the line of Harald the Fairhaired. At his death the throne went to his nephew Magnus VII, who was also king of Sweden.

HAAKON VI MAGNUSSON (born 1340, ruled 1355–1380), the son of Magnus VII, married Margrethe, daughter of Valdemar IV of Denmark. As a result, Norway, Sweden, and Denmark were eventually united (*see* Denmark; Sweden).

HAAKON VII (born 1872, ruled 1906–1957) was the name assumed by Prince Carl of Denmark when he became the king of Norway in 1906, after Norway had regained its independence.

HAARLEM, Netherlands.

In the heart of the famous flower-growing region of the Netherlands is Haarlem, capital of the province of North Holland. It lies on the Spaarne River, 11 miles west of Amsterdam and about four miles from the North Sea.

The center of the city is the charming old town, threaded by narrow canals. In the great market square stands the Church of St. Bavo, called Groote Kerk (great church), completed in the 16th century.

Around the market square are other magnificent buildings, some of them 700 years old. A part of the Town Hall dates from the 13th century. The Meat Market—now used as an archive—is a beautiful Renaissance structure of the early 17th century.

Modern town planning characterizes the rapidly

expanding new sections of the city and its suburbs. The Frans Hals Museum contains works by the Dutch master, who is buried in the Groote Kerk (*see* Hals). The Teyler Museum and the Dutch Academy of Sciences are also of interest.

The nearby Kennemerduinen National Park and beach and dune resorts make Haarlem a popular vacation and tourist resort. Each year a spring flower festival draws huge crowds to enjoy the millions of tulips, daffodils, and hyacinths.

Haarlem's industrial plants turn out textiles, chemicals, machinery, ships, and cocoa and chocolate. Flower bulbs are exported to all parts of the world.

Haarlem was incorporated as a town in 1245. During the Netherlands revolt against Spain in the 16th century, the city was the scene of one of the bitterest sieges in history. When the people were starved into surrender in July 1573, the invaders slaughtered more than 2,000 citizens. In 1577 William of Orange freed Haarlem, and it joined the united Netherlands. It was occupied by the Germans in World War II. Population (1971 estimate) 172,612.

THESE ARTICLES ARE IN THE FACT-INDEX

Haast, William E.
Hába, Alois
Habakkuk

HABEAS CORPUS (*hā-bē-q-skōr'pūs*). A most important safeguard of personal liberty is the writ of habeas corpus. The term comes from the first two words of an old Latin legal form, which said "thou shalt have the person" of the accused in court at such and such a time. When a person is held prisoner, a judge may upon reasonable demand issue an order compelling the jailer or other custodian to bring the prisoner to court and explain why he is held captive. If no lawful reason is found, the prisoner must be released.

The origins of the writ are uncertain. Magna Carta (1215) laid the foundations of the present form in English-speaking nations (*see* Magna Carta). King John was forced to promise that "no free man shall be taken or imprisoned except by the lawful judgment of his peers and by the law of the land." In the Habeas Corpus Act of 1679, the British Parliament strengthened the law by imposing severe penalties upon judges and officers who refused to grant the writ of habeas corpus.

The United States Constitution (Article I, Section 9) says: "The Privilege of the Writ of Habeas Cor-



pus shall not be suspended, unless when in Cases of Rebellion or Invasion the public Safety may require it." The privilege was suspended by President Lincoln during the Civil War, at first without the sanction of Congress. In 1863 Congress voted to give the president that power. Later the Supreme Court ruled that the president does not have the power of suspension unless specifically authorized by Congress. All state governments guarantee the writ except Louisiana, which bases its legal system on the Code Napoleon. (This code makes no formal provision for such a writ. (See also Citizenship.)

THIS ARTICLE IS IN THE FACT-INDEX
Haber, Fritz

HABIT. If man were unable to form habits, such routine acts as washing, dressing, and eating would occupy all his time. By the end of the day he would be exhausted by the continuous effort of concentrating upon the petty details of his every action.

Fortunately, man learns to perform mechanical tasks so that he can repeat them without further thought. Habits governing one's daily activities are valuable. They help one follow a routine, regulating the time of rising and going to bed, the hours of work and play, and thus relieve a person of the strain of continually making decisions.

Habits begin developing in early childhood. Some are acquired by observing and copying the behavior of other people. Simple motor habits, such as buttoning one's clothes, are learned by a process of trial and error. Skill in complex patterns of activity, such as reading and writing, is acquired by doing certain acts carefully and repeatedly, without variation. After sufficient practice, each step automatically supplies the stimulus for the next in the chain. (See also Learning.)

If a person wants to acquire a new habit or break an old one, two important rules must be followed. First, he must launch himself strongly on the new course and seize the first opportunity to act on his resolution. Second, he must allow no exception to occur until the old habit is broken or the new one is firmly rooted.

In addition to everyday motor habits such as walking and talking, people also develop mental and moral habits. These are characteristic ways of thinking or acting in response to certain stimuli. The honest man does not steal even though money may be within easy reach. Through the years he has acquired the habit of honesty, and he is no longer conscious of making the decision not to steal.

Groups of people also build up similar habits. In a well-ordered democracy, citizens accept the verdict of the majority of voters in an election. On the other hand, blind obedience to a dictator or monarch is also largely a matter of habit. Such habit patterns have great influence in shaping the character of an individual and the culture of a group.

THESE ARTICLES ARE IN THE FACT-INDEX

Hablon	Hackensack River
Habutai	Hackett, Charles
Hacienda	Hackett, Francis
Hackberry	Hackett, James Keteltas
Hackensack, N. J.	Hadassah

HADDOCK. A small relative of the codfish is the haddock. The average weight is 2 to 4 pounds. It is an unusual haddock that weighs 15 pounds, though the record specimen scaled 37 pounds. The haddock has a smaller mouth than the cod and a black lateral line in place of the white line on the cod.

The haddock lives on both sides of the North Atlantic Ocean. It lives deeper than the cod and remains closer to the bottom. Spawning occurs from January to June on the offshore banks. The female lays an enormous number of eggs, which float on the surface. They hatch in two to three weeks. Haddock are caught on the same grounds and in the same ways as are cod (see Cod; Fisheries). Most of the catch is sold fresh or as packaged fillets.

Smoked haddock is known as *finnan haddie*. The process of smoking the fish originated in the 18th century at Findon, a fishing village in Scotland. Originally the product was known as "Findon haddocks." Haddock belong to the cod family, *Gadidae*. The scientific name is *Melanogrammus aeglefinus*.

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Haddonfield, N. J.
Haden, Sir Francis Seymour
Hader, Elmer Stanley

HADES (*hād'ēz*). In Greek mythology the god of the underworld was Hades. In the realm of darkness he sat enthroned with his wife, Persephone, and ruled the spirits of the dead (see Demeter). The Greeks pictured him as stern and gloomy. No temples were dedicated to him. When sacrifices were offered to him the ceremonies were dismal and only black animals were used. In later times the Greeks gave him a more kindly character and called him Pluto, "giver of wealth." They believed that he controlled all the precious minerals that lay hidden in the earth and even the grain that springs from the ground.

The term Hades came to be applied also to the abode of the dead. This was thought of as a place where the souls of the good and evil alike led a dim, shadowy existence. There also grew up the idea of Elysium, or the Elysian Fields, a paradise for those deserving special reward; and Tartarus, a deep pit under Hades where the wicked dwelt. Before entering Elysium souls drank of Lethe, the river of oblivion.

To enter Hades, the dead were ferried across the River Styx by Charon. If a body remained unburied, the shade had to wander for a hundred years before crossing. The many-headed dog Cerberus kept any who entered from returning.

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Hadfield, Sir Robert
Abbott
Hadley, Arthur Twining
Hadley, Henry Kimball
Hadley, John
Haeckel, Ernst Heinrich
Haeinsa Temple
Hafey, Charles James
(Chick)
Hafiz
Hafstad, Lawrence
R(andolph)

Hafun, Ras
Hagedorn, Hermann
Hageman, Richard
Hagen, John P(eter)
Hagen, Walter
Hagen, West Germany
Hagenbeck, Karl
Hagerstown, Md.
Hagerty, James C(ampbell)
Haggai
Haggard, Sir Henry Rider
Hagiographa



HAGUE (*hāg*), **THE**. The seat of government of the Netherlands and its third largest city is The Hague. It lies in the province of South Holland, about two miles from the North Sea. The legislature convenes at The Hague, but Amsterdam is considered to be

the capital because the constitution requires that the sovereign be crowned there.

The original Dutch name of the city, 's Gravenhage ("the count's hedge"), was shortened to "den Haag." The counts of Holland had a hunting preserve there in the 13th century.

The heart of the city is the quadrangle of government buildings known as the Binnenhof, or Inner Court. In the courtyard is the Ridderzaal (Hall of Knights), built about 1280. Every September the queen is driven in a golden carriage to the Hall of Knights to open the new session of the States-General (parliament). Behind it is the still older (11th to 12th centuries) Counts' Palace.

Immediately to the north of the Binnenhof is a charming lake, the Hofvijver. West of the Binnenhof is the Buitenhof (Outer Court). The original entrance to it was the medieval prisoners' tower and gate, now a museum. Northeast of the Binnenhof is a beautiful palace, the Mauritshuis, begun in 1633. It houses the royal art gallery, with masterpieces by Dutch and Flemish artists.

Other buildings of interest in the old part of the city are the Great Church of St. Jacob (15th to 16th

centuries), the Cloister Church (14th century), and the Town Hall (1564). In addition to the Mauritshuis there are many other cultural institutions. The Mesdag, Bredius, and Hague Municipal museums are notable. The 16th-century palace formerly occupied by the royal family is the seat of the International Institute for Social Studies. The royal family, when in The Hague, lives in the Huis ten Bosch (House in the Wood), built in 1645.

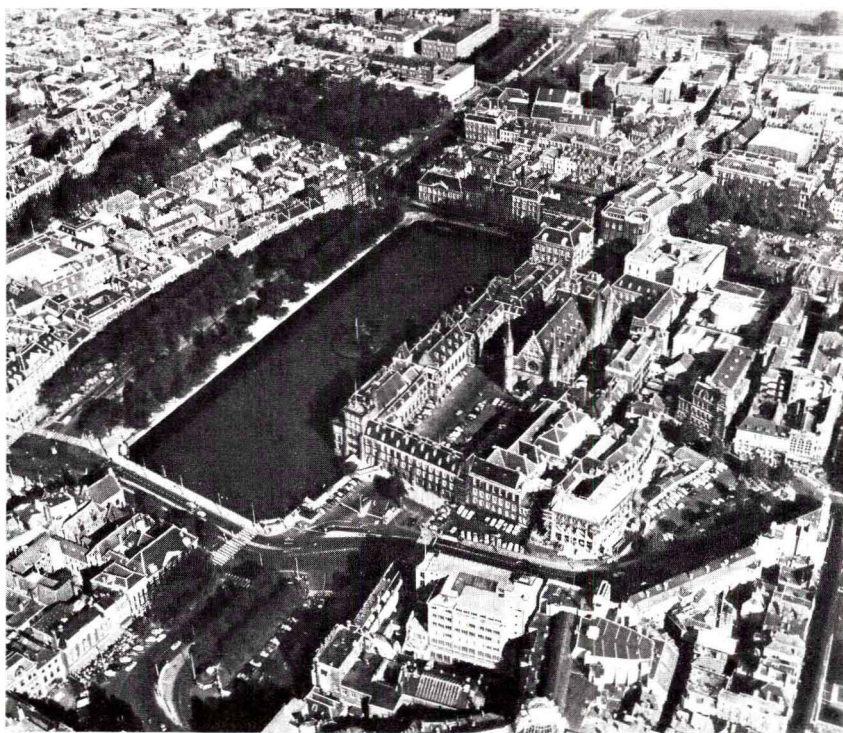
The Modern City

Northwest of the Binnenhof is the Peace Palace, completed in 1913 with funds provided by Andrew Carnegie. It is the seat of the International Court of Justice, the "supreme court" of the United Nations (see Hague Peace Conferences).

The luxurious seaside resort of Scheveningen adjoins The Hague. In a wooded park between them is the miniature town of Madurodam. Built to a scale of 1/25 actual size, it shows the evolution of Dutch architecture from the 11th to the 20th centuries.

Printing and publishing are important in The Hague, and manufacturing plants produce pottery and glass, chocolate and other food products, metal products, and chemicals. Scheveningen is the country's chief port for the herring fisheries.

The Hague grew up around the castle built by Count William II in 1248. During World War II the Germans destroyed whole sections of the city to build fortifications. Population (1971 estimate), 537,643.



Netherlands Information Service

At right, in the heart of The Hague, is the group of government buildings known as the

Binnenhof. Inside the court are the 13th-century Hall of Knights and the Counts' Palace.

HAGUE PEACE CONFERENCES

HAGUE PEACE CONFERENCES. Before World War I, the most promising movements for world peace were two conferences held at The Hague, Netherlands, in 1899 and 1907. They were called by the czar of Russia. Twenty-six countries, including the United States, were represented at the first meeting, and almost twice that number at the second.

The chief goals of the conferences were to secure an agreement for reducing or limiting national armaments and to formulate a plan for settling international disputes by arbitration. The first objective was not attained, mainly because Germany refused to limit its armaments.

Both conferences proposed agreements, or "conventions," that concerned international disputes. Included were regulations which defined the rights of neutral nations and outlawed such military tactics as the naval bombardment of undefended towns and the use of poison gases and aerial bombs. Since none of these agreements was ratified by all the participating countries, they were not considered binding. Most of the provisions of the Hague conventions were disregarded in both world wars.

The conferences also drafted a plan for optional arbitration which led to the Permanent Court of Arbitration (the "Hague Court"). This consisted of a panel of judges from the member states. When two nations quarreled—for example, over a boundary line—they could request a judge to arbitrate the dispute (see Arbitration). When the League of Nations established the Permanent Court of International Justice (the "World Court") in 1920, the older Hague Court nominated candidates to the World Court bench. Under the United Nations charter, the two older courts were virtually merged into the new International Court of Justice. (See also United Nations.)

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Hahn, Otto
Hahnemann, Samuel Christian Friedrich



HAIFA (*hī'fā*), **Israel.** The chief seaport and second largest city of Israel is Haifa. It is north of Tel Aviv-Jaffa on the Mediterranean Sea, at the south end of the Bay of Acre. Mount Carmel, within the city, is a major tourist attraction.

Until the 20th century Haifa was a small village. It owes its growth to its position as a railroad center and to the large-scale immigration of European Jews before and after World War II. Modern port facilities were built on reclaimed land after the war. Most of Israel's imports and exports go through Haifa. The city is also the center of the country's heavy industry. There are oil refineries, steel mills, and automobile-assembly plants. Other plants produce cement, chemicals, and textiles.

Haifa is a "planned" city, with industry along the



Israel Government Tourist Office

This view of Haifa looks down the slopes of Mount Carmel and across the harbor. In the center, in a beautiful Persian garden, is the golden-domed Baha'i Shrine.

harbor; the shopping, business, and theater sections halfway up Mount Carmel; and fine residential areas, museums, art galleries, parks, and hotels on the higher slopes and top of the mountain. Haifa is the seat of the Israel Institute of Technology. There are museums, a city theater, a symphony orchestra, and a recreational-cultural community center. A golden-domed white marble shrine, set in a Persian garden, is a memorial to the founder of the Baha'i religion. Population (1977 estimate), 364,800.

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Haig, Alexander Meigs, Jr.
Haig, Douglas Haig,
first Earl

Haig-Brown, Roderick
Langmere Haig

HAIL. The balls of ice which sometimes fall during a thunderstorm are hail. These *hailstones*, usually much less than an inch in diameter, are formed from ice crystals in clouds (see Clouds).

Scientists theorize that when an ice crystal falls from the subfreezing zone of a cloud into a warmer zone it gathers water droplets, forming the core of a hailstone. The hailstone grows when strong currents sweep this particle upward into supercooled rain, which freezes into a layer of ice around the core. Each time the hailstone falls and is again swept upward, new layers of ice are added. When it has grown heavy, the hailstone falls to earth.

Hail falls most often between April and June. It may destroy crops and kill animals and even men. The soft hail of winter is a form of snow. Frozen rain, sometimes mistakenly called hail, is *sleet*.

THESE ARTICLES ARE IN THE FACT-INDEX

Hailar, People's Republic
of China
Haile Selassie I
Hainan

Haines, Jesse (Joseph)
(Pop)
Hainisch, Michael
Haiphong, Vietnam

HAIR. One of the characteristics by which mammals may be distinguished from all other members of the animal kingdom is the presence of hair. Hair is an outgrowth of the skin, found only on mammals (*see* Skin). When the hairy coat of an animal is fine, soft, and dense, it is ordinarily referred to as *fur*. Thus one speaks of the fur of a cat or rabbit, but the hair of a dog. The woolly coat of sheep is called *fleece*. In hogs the hairs are stiff *bristles*; in the porcupine and hedgehog they are enlarged and toughened to form a protective coat of *quills*.

The amount of hair and where it grows vary with different mammals. The entire body of the dog, the sheep, the cow, and the horse is covered with a hairy coat. The whale and the hippopotamus have only a few hairs. In human beings no hair is found on the palms of the hands or the soles of the feet.

Microscopic examination of the cut end of a straight hair shows that it is cylindrical or oval, while a curly hair is flattened in cross section. Scientists use these differences in hair as a basis for classifying mankind into the straight-haired (Mongoloid), the wavy-haired (Caucasoid), and the woolly-haired (Negroid) races (*see* Races of Mankind).

Structure and Growth

Each hair consists of a *root*, embedded in the skin, and a *shaft*, projecting from the skin surface. The root ends in a soft, whitish enlargement, the *hair bulb*. The bulb is lodged in an elongated pit in the skin, called the *follicle*. If the hair is long, the follicle extends into the *subcutaneous fatty tissue* beneath the skin. At the base of each follicle is a conical swelling, the *papilla*. Papilla and follicle are supplied with nerves and blood vessels. Growth of a hair takes place at the junction of the follicle and the papilla. As the cells are pushed up the follicle they harden and become the horny shaft. (For picture in color, *see* Microscope.)

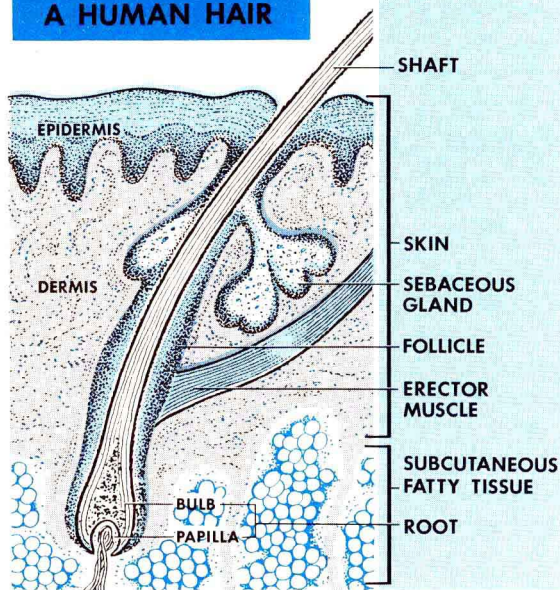
A small *erector muscle* is attached to each hair follicle. If the muscle is contracted the hair becomes more erect, and the follicle is dragged upward, producing a small bump on the surface of the skin, called "gooseflesh" (*see* Skin). *Sebaceous* (fat) *glands* attached to each hair keep it soft and pliable. The color of hair is due to a pigment in the cells. This is lacking in white hair.

All mammals except man have *tactile* hairs. These usually occur around the lips and cheeks and serve to warn the animal, especially a night prowler, of an obstruction in its path. The cat's "whiskers" are tactile hairs. Such hairs grow from specialized follicles with a rich supply of sensory nerves.

Growth of hair is not a continuous process but progresses for a period and then stops. The hair falls from the follicle, and a new hair appears. Most animals have shedding periods.

The cause of human *baldness*, or *alopecia*, is not known, but it may be hereditary. Common baldness occurs more frequently in men than in women. No cure is known. Some types of baldness show a

THE STRUCTURE OF A HUMAN HAIR



rather sudden loss of hair, in patches or over the whole head. These types may result from high fevers or from glandular or emotional disturbances. Usually the hair regrows when health is restored.

Dandruff consists of loose scales of dead cells and dried oil secreted by glands. The best treatment combines massage, brushing the hair to remove dandruff, and frequent shampoos.

The Uses of Hair

Hair serves the animal as insulation against cold. Eyelashes and hairs in the nostrils and ears protect the eyes, nose, and ears from foreign particles. Tactile hairs are useful to night-prowling animals. Such hairs as the quills of porcupines are important defensive weapons. The color and pattern of an animal's coat serve to camouflage it from enemies (*see* Protective Coloration).

The hair of many animals has economic importance. Cloth is made from the hair of sheep, goats, camels, vicuñas, and other animals. Felt for hats is made from the hair of rabbits and hares. Cow hair is used in carpet padding, gymnasium mats, and shotgun wads. The hair of horses' tails and manes is sometimes used for upholstery and for stiffening garments. Hair from squirrels, camels, badgers, and sables is used to make artists' brushes. Pig hair is used in many kinds of brushes and is sometimes employed as a filler in upholstery. Human hair is used for wigs and for hairnets. Artificial fibers such as nylon are now replacing animal hair in many products.

THIS ARTICLE IS IN THE FACT-INDEX

Haise, Fred W., Jr.



This ornate, mosquelike gateway leads to city market in Port au Prince, Haiti's capital.

HAITI (*hâi'tē*), Republic of.

The world's first Negro republic won its independence from French rule in 1804. The people of Haiti had been African slaves brought to work on the sugar plantations after the native Indian population had been wiped out. They had no training or experience in self-government. Their history since independence has been marked by repeated revolutions and a long series of despotic leaders. From 1915 to 1934 the small Latin American nation was a ward of the United States.



Location on a West Indies Island

This land of vivid beauty and tragic history occupies the western third of Hispaniola, a rugged island in the West Indies. The island lies between Cuba and Puerto Rico (for map, see West Indies). The rest of Hispaniola is occupied by the Dominican Republic. Haiti's area of 10,714 square miles, including Île de la Gonâve, Île de la Tortue, and several smaller islands, is about that of Maryland. Mountain ranges cover two thirds of Haiti. Mont La Selle (8,793 feet) in the southeast is the highest point. Several large plains cover an area totaling about 4,000 square miles. Port au Prince, the capital and largest city

of the republic, lies on a plain on the west coast.

This tropical land has year-round warmth. Rains are brought by the trade winds that blow from the northeast. Because of the mountains they drop little moisture on the central plains. Many of the valleys and alluvial plains on the windward side of the mountains, however, are well watered and fertile. In the rainy season, storms flood the short rivers, of which the most important is the Artibonite. Haiti has no large native animals. Tropical birds include pelicans, flamingos, and egrets. Bays abound in crabs, oysters, and brilliant tropical fish.

More than 90 per cent of the people are Negroes. The relatively small number of mulattoes—of French and Negro ancestry—have traditionally controlled the government. They fill the professions and are French in culture.

Most of the Negroes are farm folk who cannot read or write. They live in wattle-and-daub huts with palm-thatched roofs. Their small farms crowd the better-watered plains and valleys. Many own their tiny plots, and others rent from the state. Irrigation projects promise new land and better crops for the growing population.

Farm tools are crude and few. The recent farm instruction program introduced the plow and wheelbarrow to many farmers for the first time. They commonly clear the land with machetes and axes and till their sugar cane, corn, beans, and manioc root patches with the hoe. Abundant fruit trees—including the

banana, coconut, orange, avocado, mango, and breadfruit—thrive with little care in the fertile soil.

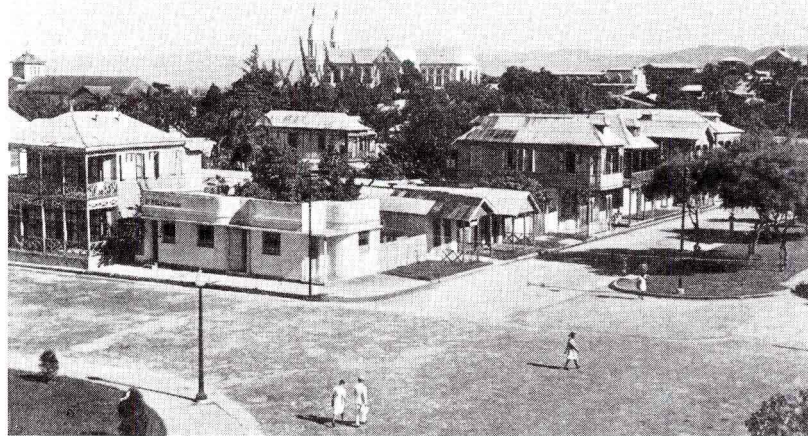
The Haitians are a picturesque people, fond of bright color and music and dancing. The chief religion is the Roman Catholic, but many upland peasants still practice African voodooism. Although Haiti's official language is French, the peasants speak a Creole patois. Education is free through all the grades.

For many years, Haiti exported only logwood and coffee, which grows wild on the mountain slopes. With the establishment of law and order, however, sugar, cotton, and sisal plantations have been encouraged. These products, with pineapples and bananas, are now valuable exports. Coffee, however, is still far in the lead, with France as the chief customer. Mineral development has been negligible, although small deposits of iron and copper have been found, with traces of gold, silver, lead, and zinc. Some salt is exported. Haiti's once thick forests of logwood, cedar, and other valuable timber are largely depleted.

The chief cities are Port au Prince, the capital, and Aux Cayes and Cap Haitien. Port au Prince, built on the fertile alluvial plain

Haiti was their word for "mountainous." Columbus named the island "La Isla Española," which later became latinized to Hispaniola, "Little Spain." He established a Spanish settlement, La Navidad (The Nativity), near the present town of Cap Haitien, and Haiti thus became the first part of the New World to be colonized by Europeans. Forced by the Spaniards to oppressive labor, the Indian population soon perished (*see* Las Casas). In 1510 the Spaniards began importing African slaves. In 1697 Spain was

OLD AND MODERN WAYS LIVE SIDE BY SIDE



In the interior of Haiti Negro natives live in African mud and grass huts (top) and carry baskets on their heads as their ancestors did. In contrast, Port au Prince (bottom) and other seacoast cities have modern West Indian adaptations of French architecture.

known as the Cul de Sac, faces one of the most beautiful bays in the world—an arm of the great Gulf of Gonaïves, which deeply indents Haiti on the west. Aux Cayes lies on the southern coast, and Cap Haitien on the northern coast.

Haiti's Bitter History

The island has had a turbulent history ever since its discovery by Columbus in 1492. It was then inhabited by Arawak Indians, who called it Quisqueya.

forced to cede (Treaty of Ryswick) the western, or Haitian, part of the island to the French, who developed vast sugar plantations and made Haiti their richest colony.

After many futile insurrections, the Negroes united in 1798 under Toussaint L'Ouverture, a freed slave. Toussaint, captured by trickery, died in a French prison; but his successor, Jean Jacques Dessalines, "The Tiger," drove out the French late in 1803. In 1804 Dessalines proclaimed the colony's independence and massacred almost all the remaining white inhabitants.

The great plantations, sugar mills, irrigation works, and roads fell into ruins. In 1806 Dessalines was assassinated. His general in chief, Henri Christophe, succeeded him. Declaring himself emperor, Christophe attempted to reconstruct the ravaged country. His ornate palace of Sans Souci near Cap Haitien, and his vast citadel, though now in ruins, are marvels of massive masonry. After Christophe's suicide, a succession of military despots seized power.

By 1915 revolutions and banditry had reduced Haiti to misery. The United States intervened under the Monroe Doctrine, and its marines remained until 1934. Haiti was a charter member of the United Nations.

In 1957 François Duvalier was elected president. He became a dictator, enforcing his reign of terror with secret police. In 1963, when he started on a second term to which he had declared himself elected in violation of the constitution, several Latin American nations broke off diplomatic relations with Haiti. In 1964 Duvalier had himself installed as president of Haiti for life. Haiti's economy deteriorated considerably during the 1960's. Extreme poverty caused unrest among the population, but Duvalier maintained control by means of terrorism and government purges. In 1971 Haitians voted to approve Duvalier's son as his successor. When François Duvalier died in April, young Jean-Claude became president for life. Population (1971 preliminary census), 4,205,755.

HAKE. Fish of the hake family (*Merlucciidae*) are found in many parts of the world. They have two back fins. The long ventral fin serves as a feeler as the fish moves over the sea bottom in search of food. Hakes are reddish or olive-brown above and white or yellowish below and on the sides of the head.

White hake (*Urophycis tenuis*) is one of the most important food fishes landed in the New England states. It is 16 to 18 inches long and weighs 5 to 8 pounds and a maximum of 30 pounds. Red, or squirrel, hake (*Urophycis chuss*) is used chiefly for oil

and fish meal. It is smaller, averaging 2 to 5 pounds. Closely related are whiting, or silver hake (*Merluccius bilinearis*), of the Atlantic coast and Pacific hake (*Merluccius productus*) of the West coast.

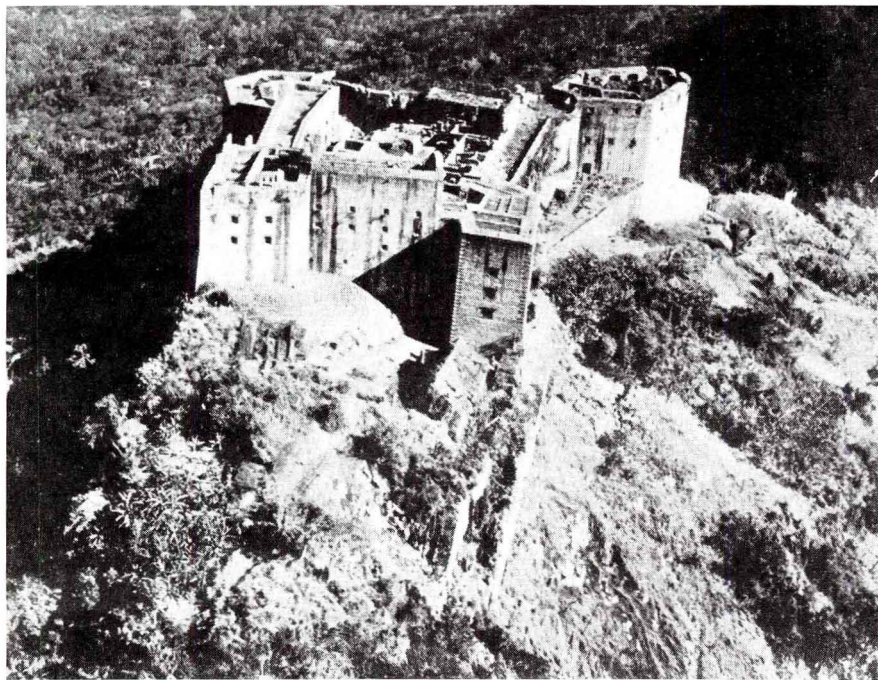
HAKLUYT, Richard (1552?-1616). When England first won glory at sea, Richard Hakluyt recorded his country's achievements. This clergyman spent much of his lifetime, during the latter years of Queen Elizabeth I and the reign of James I, gathering accounts of the voyages of the time. The result gave history an immensely rich mine of information about the stirring deeds in this age of discovery.

Richard Hakluyt was born in London about 1552. He attended school in Westminster. His cousin introduced him to "certain bookes of cosmographie" and "an universall map." Thereupon young Hakluyt determined to become a student of geography. In 1570 he entered Oxford University. There he began collecting books and manuscripts dealing with explorations and voyages to distant places. He read everything he could find in Greek, Latin, Italian, Spanish, Portuguese, French, and English. After completing his studies at Oxford he remained there for several years to lecture on geography.

Like many university graduates of his day, Hakluyt became a clergyman and received an income from the church. His first book, 'Divers Voyages touching the Discoverie of America', published in 1582, brought him to the attention of the Queen's court. He was introduced to sea captains, merchants, and mariners who gave him first-hand accounts of English voyages.

In 1583 he became chaplain to the English ambassador at Paris. During the next five years he collected information about Spanish, Portuguese, and French explorations. In 1584 he wrote 'A particular Discourse concerning Western Discoveries'. The book contained an urgent appeal to Englishmen to establish colonies in America.

Upon his return to England, he published his chief work, 'The Principall Navigations, Voiages and Discoveries of the English Nation' (1589), later revised and enlarged. Hakluyt was a promoter of the Virginia Company of London which began the settlement of Virginia.



Pan American Union

As a gesture of defiance to the French the Negro leader Henri Christophe built this huge citadel on the summit of Bishop's Bonnet Mountain,

in Haiti. All the building material and heavy cannon were hauled to the top by hand. The fortress had barracks for 10,000 troops.

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Hakodate, Japan	Haldane of Cloan, Richard
Halaby, Najeeb E(lias)	Burdon Haldane, first
Halas, George Stanley	Viscount
(Papa Bear)	Haldeman, H(arry)
Haldane, John Burdon	R(obbins)
Sanderson	Halden, Norway
Haldane, John Scott	Haldimand, Sir Frederick

HALE, Edward Everett (1822–1909). An interest in good causes influenced almost all the writings of Edward Everett Hale. He said that his best-known story—"The Man Without a Country", published in the *Atlantic Monthly* during the Civil War—was written to build "a just and true national sentiment." The story's hero, Philip Nolan, has come to symbolize a man who learns too late to love his country.

Edward Everett Hale was born April 3, 1822, in Boston, Mass. His father, Nathan Hale, was a nephew of the Revolutionary War hero of the same name. His mother, Sarah, was a sister of Edward Everett, a noted orator, clergyman, and diplomat. The father was an editor; the mother, a writer.

After attending Boston Latin School, Edward entered Harvard College when he was only 13 years old. During his student days he reported meetings of the Massachusetts legislature for his father's paper, the *Boston Daily Advertiser*.

Following his graduation from Harvard in 1839, Hale taught at the Boston Latin School while he studied, for the Unitarian ministry. He began to preach before his ordination in 1846 as minister of the Church of Unity in Worcester, Mass., where he remained ten years. His only other pastorate was of the South Congregational Church in Boston. He was married in 1852; he had eight children.

Hale's interest in bettering social conditions led him to take an active part in making Kansas a free state. During the Civil War he was a leader of the Sanitary Commission, an organization that served much as the Red Cross does today. Over the years he wrote for several magazines and edited a religious journal. Of all his books he thought 'In His Name' (1873) his best, but his 'New England Boyhood' (1893) was more popular. His best-known works include 'James Russell Lowell and His Friends' (1899) and 'Memories of a Hundred Years' (2 vols., 1902).

Hale remained at the Boston pastorate 43 years. From 1903 until his death June 10, 1909, in Boston, he served as chaplain of the United States Senate.

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Hale, George Ellery
Hale, John Parker
Hale, Lucretia Peabody

HALE, Nathan (1755–1776). During the Revolutionary War, when Nathan Hale was captured by the British and condemned to hang as a spy, he said, "I only regret that I have but one life to lose for my

country." His words still symbolize the spirit of patriotism.

Nathan Hale was one of 12 children—9 boys and 3 girls. He was born in Coventry, Conn., June 6, 1755. His father, Richard Hale, was a prosperous farmer and church deacon. Young Nathan liked to fish, wrestle, and swim. His study under a village minister prepared him to enter Yale College when he was 14 years old. There he played football, joined a literary fraternity, and engaged in political discussions. One of the plays he probably read at Yale was Joseph Addison's 'Cato'. His last words paraphrased a speech made by a character in that tragedy.

After his graduation in 1773, Nathan taught school at East Haddam, Conn. In the spring of 1774 he began teaching at New London, Conn. He was admired for his learning and athletic prowess, and for maintaining school discipline without being severe.

When news of the British-American clash at Lexington, Mass., arrived at New London, Hale made a stirring speech to urge enlistment in the patriots' army. He was commissioned a first lieutenant on July 1, 1775, and fought at Boston, Mass. Hale was promoted to captain on Jan. 1, 1776. In March the British evacuated Boston, and George Washington moved his army to New York City.

After Washington was defeated in the battle of Long Island, he needed to know the disposition of the British forces. Hale volunteered for the dangerous spy mission. Dressed as a civilian, he crossed to Long Island from Norwalk, Conn. As he secured the needed information, the British landed in New York City and drove Washington's troops to Harlem.

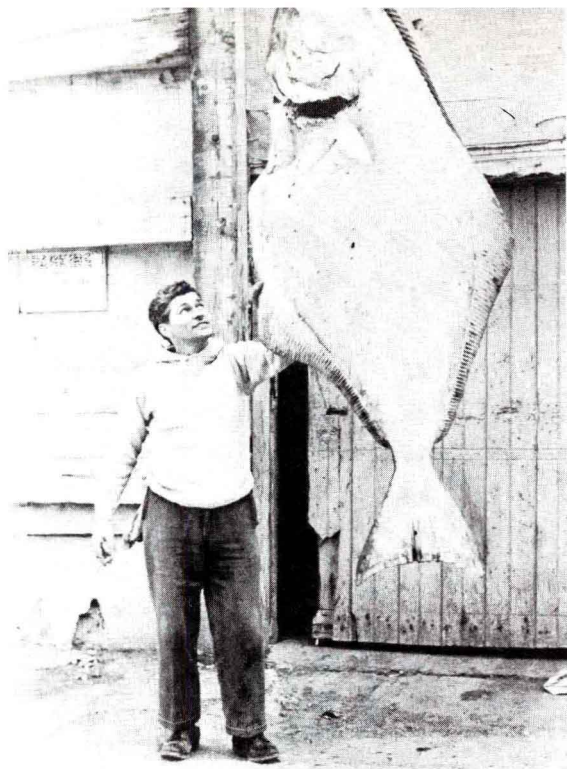
On the night of September 21, Hale was captured as he tried to return to the American lines. Taken before Gen. William Howe and faced with the notes and maps found concealed on his person, he admitted his rank and purpose. Howe ordered his execution.

While awaiting summons to the gallows the next morning, Hale was invited to spend his last hours in the tent of British Capt. John Montresor. There he wrote two letters, which were probably destroyed by the British. At 11:00 A.M. on Sept. 22, 1776, Hale mounted the gallows, uttered his famous words, and was hanged. (*See also* Revolution, American.)

THESE ARTICLES ARE IN THE FACT-INDEX

Hale, Sarah Josepha	Halévy, Ludovic
Hale, William J(ay)	Haley, Gail E.
Hales, Stephen	Haliburton, Thomas
Halévy, Jacques François	Chandler
Fromental Elie	

HALIBUT. One of the commonest fish on the menu is the halibut. Yet many persons who eat a halibut steak probably have no idea of the great size of the fish, for a whole halibut is seldom displayed in the market. Halibut caught for market are commonly from 3 to 5 feet long and weigh from 30 to 100 pounds. Some weigh 200 or 300 pounds, and specimens more than 9 feet long and weighing more than 600 pounds



Wide World

This 240-pound halibut is believed to be the largest ever landed with a rod and reel. Usually halibut are caught with hooks attached to long lines at intervals of about 13 feet.

have been caught. The female is larger than the male, which rarely weighs more than 60 pounds.

The halibut is the giant of the flatfish family (see Flatfish). It differs slightly in shape from its relatives the flounder, sole, and turbot in having a thicker and more elongated body. It lives in the cold waters of the Pacific and Atlantic on banks extending from shore to a depth of about 1,500 feet. Its southern limit in the Atlantic is New York City and Le Havre, France; in the Pacific, San Francisco, Calif. Halibut fishing along North America's Pacific coast is regulated by the United States and Canada through the International Pacific Halibut Commission, formerly the International Fisheries Commission.

In one season, a large female lays more than a million eggs, each about one eighth of an inch in diameter. The larva swims upright and has an eye on each side of the head. Soon, however, the young fish swims on its left side, and the left eye migrates to the right side of the head, where both eyes remain, leaving the left side blind. The right side of the adult is brown, and the left side is pale, almost colorless. The halibut sometimes buries itself in sand to hide from its enemies, the shark and the seal, or to lie in wait for prey. It feeds on mollusks and crustaceans, crunching them with strong teeth set in powerful jaws. It also eats skate, cod, menhaden, and mackerel.

The scientific name of the common halibut is *Hippoglossus hippoglossus*; of the arrow-toothed halibut,

Atheresthes stomias; of the Greenland halibut, *Rhinogobius hippoglossoides*. The arrow-toothed halibut ranges in the Pacific from San Francisco to Alaska; the Greenland halibut, from the Arctic parts of the Atlantic south to Finland and Grand Banks.

THESE ARTICLES ARE IN THE FACT-INDEX

Halidon Hill
Halifax, Charles
Montague, earl of

Halifax, Edward Frederick
Lindley Wood, earl of
Halifax, England

HALIFAX, N. S. The English writer Rudyard Kipling gave the name Warden of the North to Halifax, capital of Nova Scotia. Almost from its founding in 1749, Halifax was the British Empire's chief bastion and naval station in North America. Overlooking the city is the Halifax Citadel, a massive 19th-century fortress built by the British. Now a national historic park, it houses three museums. (For picture, see Canadian History.)



When the British troops were driven out of Boston, Mass., in 1776, they sailed to Halifax to reorganize. In the War of 1812 the city was the base of operations for British privateers. During the American Civil War it was a base for Confederate blockade-runners. Many United States and Canadian troops sailed from Halifax during World War I. In 1917 a munitions ship exploded after a collision in the harbor, killing about 2,000 people and razing the city's north side. Throughout World War II Halifax was one of the chief Allied bases for shipping supplies to war areas. To protect the convoys from enemy submarines, a steel net was installed in the harbor.

Nova Scotia's largest city, Halifax is situated on the southeastern coast of the province. Because of its location, it is one of Canada's major seaports and the commercial center of the Atlantic Provinces. Its year-round harbor is capable of handling the largest vessels. The port has extensive berthing facilities, large terminals, and a cold-storage plant. In 1955 the Angus L. Macdonald Bridge linked Halifax to Dartmouth on the harbor's eastern shore.

Oil refineries operate in the Halifax-Dartmouth harbor area. Industries in Halifax include the processing of West Indies sugar, fish, and other food products; shipbuilding and ship repairing; foundries; machine shops; and textile and cord factories.

Halifax is a center of education and culture. Among its institutions of higher learning are Dalhousie University, the University of King's College, St. Mary's University, Nova Scotia Technical College, a school of art, and a conservatory of music. Province House, the Capitol, is noted for its Georgian architecture. St. Paul's Church, built in 1750, is Canada's oldest Anglican church. Halifax was incorporated a city in 1842. (See also Nova Scotia.) Population of city (1971 census), 122,035; of metropolitan area, 222,637.

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Hall, Asaph
Hall, Charles Francis



HALL, Charles Martin (1863–1914). On Feb. 23, 1886, a young man of 22 stood anxiously over a complicated mass of electric wires, crucibles, and heating apparatus in a woodshed in Oberlin, Ohio. For two hours Charles Martin Hall watched as the contents of one of the crucibles grew hotter and hotter. Finally, he turned off the powerful current and poured out the molten

mass. A number of little silver-colored drops had separated and hardened into shining buttons of metal. Hall ran to the nearby campus of Oberlin College. Bursting into the office of his friend and adviser, Prof. F. F. Jewett, he cried, "Professor, I've got it!"

Hall's experiment was the foundation of a great industry, for he had discovered an inexpensive way to separate aluminum from its oxide. Pure aluminum oxide was abundant and cheap. To melt it by electrolysis required a temperature of 3,722° F. The problem was to find a substance which melts at a lower temperature and, when melted, dissolves aluminum oxide. Hall found it in cryolite. (*See also* Aluminum.)

Charles Martin Hall was born at Thompson, Ohio, Dec. 6, 1863. His father was a Congregational minister who later took his family to Oberlin to live. Even before he entered college Hall was interested in the extraction of aluminum and was determined to find a process which would be commercially profitable. At college he conducted experiments, and eight months after graduation he made his discovery.

In April of the same year a young Frenchman, Paul Louis Toussaint Héroult, was granted a French patent for the same process. Hall applied to the United States Patent Office in July 1886 for a patent on his discovery, but it was not granted until 1889.

At first Hall could not get financial backing. When production did get under way, he was sued for stealing the Héroult process. Hall won the suit in 1893.

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Hall, Chester Moore
Hall, Emmett Matthew
Hall, Glenn
Hall, G(ranville) Stanley
Hall, James Norman
Hall, Lyman
Hall, Prince
Hallam, Henry
Hallandale, Fla.
Hallé, Sir Charles

Halle, East Germany
Halleck, Charles
A(braham)
Halleck, Fitz-Greene
Halleck, Henry Wager
Haller, Albrecht von
Halley, Edmund
Halliburton, Richard
Hallidie, Andrew Smith
Hallmark

HALL OF FAME. On the campus of New York University stands the Hall of Fame for Great Americans. It is a granite colonnade 630 feet long with panels for more than 100 bronze tablets—each to be inscribed with the name of the person commemorated, the birth and death dates, and a selected quotation. A specially commissioned bronze bust of each person honored is placed above the appropriate panel.

A former university chancellor, Dr. Henry M. MacCracken, originated the idea. According to conditions

NAMES IN THE HALL OF FAME

Chosen in 1900

George Washington	Henry Clay
Abraham Lincoln	Nathaniel Hawthorne
Daniel Webster	George Peabody
Benjamin Franklin	Robert E. Lee
Ulysses S. Grant	Peter Cooper
John Marshall	Eli Whitney
Thomas Jefferson	John James Audubon
Ralph Waldo Emerson	Horace Mann
Henry Wadsworth Longfellow	Henry Ward Beecher
Robert Fulton	James Kent
Washington Irving	Joseph Story
Jonathan Edwards	John Adams
Samuel F. B. Morse	William Ellery Channing
David Glasgow Farragut	Gilbert Stuart
	Asa Gray

Names Subsequently Added

James Russell Lowell	Alice Freeman Palmer
John Greenleaf Whittier	Edwin Booth
John Quincy Adams	John Paul Jones
James Madison	Walt Whitman
Alexander Hamilton	James Monroe
William T. Sherman	James McNeill Whistler
Louis Agassiz	Simon Newcomb
Maria Mitchell	William Penn
Emma Willard	Stephen Foster
Mary Lyon	Booker T. Washington
Harriet Beecher Stowe	Thomas Paine
Oliver Wendell Holmes	Walter Reed
Edgar Allan Poe	Sidney Lanier
James Fenimore Cooper	William C. Gorgas
Phillips Brooks	Woodrow Wilson
William Cullen Bryant	Susan B. Anthony
Frances E. Willard	Alexander Graham Bell
Andrew Jackson	Theodore Roosevelt
George Bancroft	Josiah Willard Gibbs
John Lothrop Motley	George Westinghouse
Matthew Fontaine Maury	Thomas Alva Edison
Grover Cleveland	Edward A. MacDowell
Mark Hopkins	Henry David Thoreau
Francis Parkman	Orville Wright*
Elias Howe	Sylvanus Thayer
Joseph Henry	Jane Addams
Charlotte Cushman	Oliver Wendell Holmes, Jr.
Wilbur Wright	Lillian D. Wald
Thomas Jonathan	Albert Abraham
(Stonewall) Jackson	Michelson
Rufus Choate	Louis Dembitz Brandeis
Daniel Boone	George Washington Carver
Samuel L. Clemens	Franklin Delano Roosevelt
Augustus Saint-Gaudens	John Philip Sousa
James Buchanan Eads	Clara Barton
Patrick Henry	Luther Burbank
William T. G. Morton	Andrew Carnegie
Roger Williams	

*The rule that a person nominated must have been dead at least 25 years was waived in this case.