An Exhibition of Paintings by Jack J. Kunz

Live Oak
Hahnville, La.

Sugar Maple
Garrett Co., Md.

Black Cherry
Lawrence, Mich.

Southern Cypress
Weakley Co., Tenn.

Shellbark Hickory
French Lick, Ind.

Catalogue of

An Exhibition of Paintings

by Jack J. Kunz

Presented in cooperation with

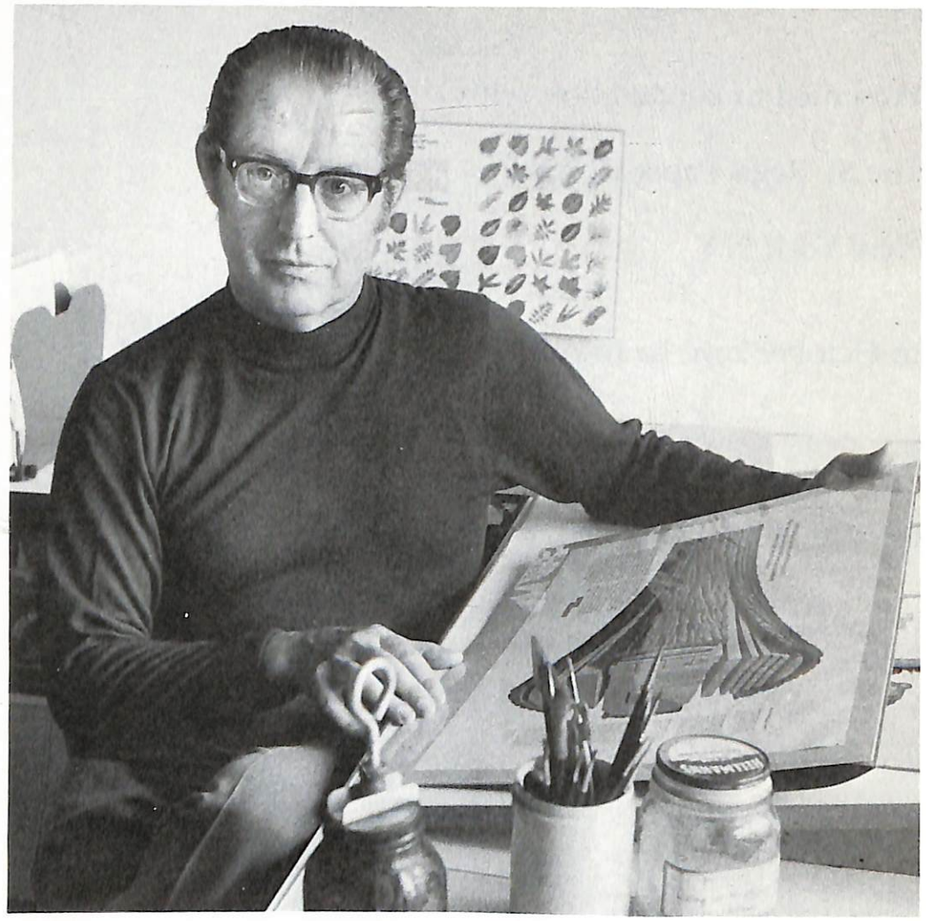
The St. Regis Paper Company

New York, N.Y.

19 October 1970 to 10 April 1971

By

George H. M. Lawrence



Foreword

ENTHUSIASTS of lens and shutter aver with honest conviction that if stark realism is one's primary objective when illustrating a scene or an object, then use the camera. The position is valid for many situations and for much of the time. But if any living person has provided us with abundant proof and incontestable evidence that there also are situations where such realism can be achieved only by the artist and his brush, it is Jack Kunz —artist, delineator, and naturalist *par excellence*. This library, with cooperation and assistance from the St. Regis Paper Company, is proud to accord recognition and honor to the man whose work it now presents: work that has been acclaimed by tens of thousands of people, but by a man who, until now, has remained virtually unknown to the public as an artist and a person.

Jack J. Kunz* was born 15 September 1919, in the village of Ebnat-Kappel, St. Gallen, a Canton of northeastern Switzerland, and where his father, Jakob Kunz, was branch manager of a textile mill. The family moved to Thalwil, a suburb of Zürich, in 1927, where Jakob Kunz opened a dry goods store. In 1935, Jack entered Zürich's Kunstgewerbe Schule. A year later he was apprenticed to the Studio, from which he received his Faehigkeits-Zeugnis (Certificate of Competence) in 1939.

For the next four years Kunz worked in the studio of the Zürich firm of Amstutz & Herdeg, publishers and advertising consultants, and since 1944 publishers of *Graphis* magazine. It was there that he did his first nature illustrations (of mushrooms and herbs) in two pocket books: *Pilz Fibel* (see No. 22) and *Heilkrauter-Fibel.* From 1943-'47 he had his own commercial art studio in Zürich. Seeking greater opportunities, he placed an ad for his services in *Graphis* magazine that led to acceptance in 1947 of an offer as art director in the St. Louis advertising agency of H. George Bloch, where he remained for two years. From that position he went to New York specializing in pharmaceutical advertising art work.

In 1950 he launched a career as a free-lance artist and illustrator. Of this period Jack said,

> It was Harvey Kahn, artist representative, who had noticed my mushroom illustrations from Switzerland . . . who urged me to make up some samples of this type of realistic illustration. My first sample was a rendering of a wrist watch on a piece of driftwood. This painting resulted in Kahn's obtaining the Hamilton Watch account for me. For about three years I did practically nothing but watch renderings. Subsequently, the Swank account (men's jewelry) replaced the watch renderings. It was this kind of mind-deadening, meticulous work that made me regret my entering into the illustration field instead of having stayed in the design field. Occasionally, I had an assignment involving nature subjects, such as insects for Ciba, fishes for *Esquire* magazine and *Sports Illustrated,* or plants for Upjohn. These were the assignments into which I could put my heart, because the subject matter interested me, and

*Christened Jakob, nicknamed "Tschägg" as a youth, he used its anglicized form, Jack, when admitted to U.S. citizenship in 1954, and retained the middle initial J. for Jakob.

I decided to push that kind of work. *Sports Afield* was one of the first magazines that gave me major assignments in the field of botanical illustration. Some other assignments which resulted in representative material for my portfolio were illustrations of insects, some in humanized form, for a series of ads for the Shell Chemical Co., through J. Walter Thompson agency.

His conscientiousness in meeting the requirements of his assignments soon earned him a reputation as one whose work was scientifically authentic and technically impeccable. It epitomized a fidelity to detail in rendering form and color rarely found in commercial art. From 1953 onward, through his agent George F. Brophy, with whom he developed a rapport that became a warm and lasting friendship, he acquired as clients some of the major concerns headquartered in New York City. The pinnacle of technical skill and excellence may have been reached in the painting, "Medals of Merit," for the Irving Trust Company, for whom he was commissioned in 1964 to paint this scintillating display of nine jewelled, ribboned medals (see No. 31). The assignment was executed in such fine detail that every turn of woof and warp shows in the colorful silk ribbons, individually do the jewels glisten, and the effect of gold and silver is achieved convincingly without recourse to foil inlay or metallic paint. Jack told me that the 235 hours devoted to this painting were such a strain as to cause him to say "Never again will I take a commission as demanding as this one." Yet, its beauty as a painting is breath-catching.

It is in the field of nature painting that Kunz will have achieved his fame. While his mark in this country was first made with illustrations for the *Life Nature Library* series, *Golden Book Encyclopedia of Natural Science,* the *World Book Encyclopedia, Scientific American,* and *National Geographic,* it is his series of 22 paintings for the St. Regis Paper Company that is his monumental achievement.

This series, commissioned for use in an extended educational campaign, was reproduced in full color in *American Forests, Business Week, Forbes Magazine, Newsweek, Time,* and others during a five-year period. The objective was to promote a better understanding of company philosophy, not so much as the great paper manufacturer that it is, but as the equally important conservator of forests, conscious of and answering to a responsibility for preserving the land while its trees serve the needs of man. Inaugurated under the imaginative direction of William R. Adams, now President of St. Regis, mothered and nurtured by William B. Bunn, Manager of Marketing Communications, the series generated a public response believed to be unparalleled by any comparable effort to create a corporate image with the public.

When speaking of this series, Jack said,

The real creators of visual format and copy approach were Nick Pappas (succeeded by Jim Hill) art director, Bob Taft who wrote the copy, and the staff artist who did the composition layouts that always were so well done; all of the advertising agency of Cunningham and Walsh. So excellent was their preliminary help that, to be perfectly frank, I always felt a little uneasy whenever I signed my name under one of these renderings for a St. Regis ad!

It is not for me to say how many additional tons of paper were sold by this program, but I do know that students and teachers—from those of elementary schools to those of forestry, botany, and biology departments in our large and small universities—clamored for color prints of those advertisements. So great, and so widespread was the demand

that the St. Regis Paper Company printed in full color, and distributed gratuitously to schools, libraries, and museums, tens of thousands of wall-hanging posters adapted from those advertisements for educational uses. As further service to its public it also repeated eight of the more popular pieces as a single 16-page spread in the April 14th, 1969, issue of *Newsweek.*

What caused this surging response? How could one advertisement generate such interest from both a primary school child and a graduate student majoring in woods and wood anatomy? Many factors contributed: the eye-catching appeal of format, simple direct narrative text, a product—the tree, a leaf, a forest denizen—that is commonly known, a relevancy to the mood of the times—conservation and a better environment. But all of these contributing factors would have been for naught had it not been for the skill of the artist. It is the accuracy of the work, his near-absolute fidelity to detail, the clarity of his presentation, and the trueness of color in these paintings by Jack J. Kunz that put this promotional program across!

Little children in two's and three's, clutching a tear-sheet of the ad "Recognize these leaves" (No. 1) would search to learn how many kinds they could find, match, and then name. College students would use that same ad to learn how many they could identify on sight by Latin and common names. Many were the home-shop workers who, seeing Kunz's painting of the exploded view of a fir trunk which showed how the log is sawn for lumber (No. 8), could visualize for the first time the relation of a board to the tree trunk from which it came.

> Executing that painting was no simple matter. A thoughtful glance is sufficient to tell one that a log had to be cut by hand, the parts reassembled, spread and wedged, and a model constructed. One does not go out and order it. The advertising agency does not supply it. The artist conceives and makes it! Then follows the painstaking draftsmanship, the establishment of lines of perspective, the correct rendering of shadows, the depiction of growth rings, the radial and tangential sections, and the wonderful warmth of encompassing, deeply furrowed bark.

Jack Kunz paints the plate "How to make the most use of a log" (see fig. on p. 11). Note model, on end, at lower left.

Every painting in this series has its story; some are of the painting while being made, some are of critics' reactions, and scores are from the responses it generated. Take No. 15, for example, which depicts the forest community. Jack Kunz searched forests and bogs of New Jersey to find just the right dead log for his need. Then he photographed it from many angles, and with permission, brought one end of it to his studio. For the red-headed woodpecker he rented skins from the American Museum of Natural History so that with one in hand as he drew, accuracy would be assured. The butterfly came from the collection of an entomologist, and he himself found each of the insects shown beside the flat rock.

How many of us, in museums or along national park forest trails, have seen a huge trunk sectioned and standing on edge, with ribbons leading to labels of historical moment, equating each "annual ring" with an event in historical time? Those things we accept as facts because we are told they are correct. What did Jack do?

He was provided the composition layout by the agency. From the Laboratory of Tree Ring Research at the University of Arizona he obtained photographs of trunk sections that showed fire scars, and growth patterns as influenced by various environmental factors. When he painted the trunk, he equated it to environmental events that affected the growth and life of that particular tree: burning by forest fire, slow growth from a drought, or rapid growth following some increase in nourishment. Through his painting the history of a tree is relived. The factors that make or ruin a tree or a forest become a reality, and the point made that these same factors can make or ruin a forest.

Similar analysis could be made of every painting in this series. While the basic idea for each, and the plan by which it would be achieved was a part of the assignment given him by the advertising agency, the assembly or construction of the models—and virtually every bit of every painting was from a model of some kind—and the execution depended on the imagination, knowledge, and skill of the artist. His preliminary sketches for every painting required approval by specialists before a finished version was commenced. This was preceded by thorough study of every aspect of the subject, both by the ad's copy writer and by Jack. Books were read, authentic illustrations studied, specialists consulted, and the accuracy of diagrams verified. Then, and only then, was he ready to put pencil and brush to paper.

Jack Kunz, the man, is a remarkable person. Any man who could paint an oak tree and show the individual leaves of its foliage with identifying detail is a man of great patience and exactitude. Any man who would spend days in the forest to find a fallen log in just the right state of decay with the mosses, fungi, and surrounding duff "just so" is a perspicacious lover of nature in the raw. The man is also humble, deprecating his knowledge as a naturalist, observing this to be a step towards being a better illustrator. Patience, understanding, and compassion are some of his qualities. But overshadowing all of these is his integrity. It is fundamental to all that he does and is. The realism of his paintings epitomizes his penchant to show it like it is, to show it with all honesty. His agent, when talking about Jack, stressed to me his loyalty and the honesty with which he maintained their association; "Jack would never take a commission on the side, he always referred a prospective client to me."

Jack is a family man in every way. In 1950 he married Julia Maria DeRosa, of Montreal, and they now have three children: Robert, aged 15, Elizabeth 13, and Maria 5. One need be in their home but for a short time to sense what kind of a man it is that heads the household, and quickly one senses that to each of the children he is a dad, not just a father. A California type-case hangs on the wall of Elizabeth's room, with some tiny object from woods or field in each compartment. The subverted case did not get there because she asked for it. Dad, the artist, sensed the utilitarian application. Handmade models, some fairly sophisticated, also revealed a dad's fine guiding hand. When a family habitually does things together as this one does, one appreciates the warmth of the man that stands at the helm.

Recognition has already been given the artist from professional groups. He was awarded the

Certificate of Merit by The Art Directors Club of New York,
45th Annual Exhibition, 1966
46th Annual Exhibition, 1967
Certificate of Merit by The Art Directors Club of New Jersey, 1968

Work as a free-lance artist has its compensations. It also has its restrictions. The work flow is ever uneven; weeks at a time with no letup, every day a working day of many hours. Except as one self-insures against hazards of health and for retirement, the income exists only while one produces. The demands for economic security can override the urge to be independent. Recognition of these and other factors caused Jack, in 1968, to accept the invitation of his friend and one-time employer, Walter Herdeg, now editor and publisher of the prestigious *Graphis* magazine, to return to Zürich to become his Assistant. Speaking of this decision, and all it meant to him and his family, Jack told me, "I consider my true apprenticeship to have been the four years I worked earlier for Walter Herdeg. In many ways it was he, a man of truly impeccable tastes, who equipped me with an attitude toward my profession that was a tremendous asset for my career." With this move, his long association with St. Regis Paper Company reluctantly came to an end. One career was closed. A new one was opened.

The St. Regis series made so successful by his work continues. Jack himself had much to do with the choice of his successor, Rudolf Freund, whose work for two decades illustrated *Life* magazine's nature articles. Mr. Freund's work on the series—he completed the paintings for five presentations—was short for, in November 1969, he died from a stroke at the age of 54. His place has been taken by Bernard Pertchick, some of whose first paintings of tropical trees done for Alcoa's *Trees of the Caribbean* (1951) are in this library's collection.

The educational influence of Jack Kunz's work is reflected in several displays provided for this exhibition by the St. Regis Paper Company, each centered on one or more of the original renderings.

The Kunz paintings of the St. Regis series are copyrighted by that company and were deposited at the Hunt Botanical Library in 1968 on indefinite loan. To extend the usefulness of these paintings, and those painted by the two successor artists, the series is now reproduced in the book *The Secret Life of the Forest*. This is produced by American Heritage

Publishing Company, in cooperation with the St. Regis Paper Company, and was written by Richard M. Ketchum, now Managing Director of the Book Division of American Heritage Publishing Company (a subsidiary of the McGraw-Hill Co.). In every respect this circle of Kunz-St. Regis-Ketchum-Hunt Botanical Library is a very happy one, for not only are the St. Regis paintings by Kunz on deposit at this library, but Richard Ketchum is a former Pittsburgher whose family long has been close friends with that of the late Roy and Rachel Hunt, founders of this library. Mr. Ketchum himself is a personal friend of long standing of their sons.

The exhibition of the Kunz paintings, and associated materials, has been prepared and staged by John V. Brindle, this library's Curator of Prints and Paintings. It was John Brindle who in 1968 first contacted Jack Kunz, and then William Bunn, in the effort to acquire for this collection a single example of a Kunz original! The special displays supplied by St. Regis Paper Company were prepared under the direction of Mr. David Tonsing. It is, however, Mr. William R. Adams and William B. Bunn, of St. Regis, to whom this library is most deeply indebted and who, more than any others, have made it possible for this exhibition to be staged. Their assistance and cooperation have been most generous, and Mr. Bunn's enthusiasm for the entire effort has been exceedingly contagious. To each I extend the gratitude of all at this library.

In June of this year it was my privilege to visit with Jack Kunz and his family in their Zürich home. Not only did he provide answers to my many questions, but he lent freely for this exhibition full size color transparencies of work he had done. For these we are most appreciative. A new and lasting friendship has resulted.

10 September 1970

GEORGE H. M. LAWRENCE
Director

Catalogue

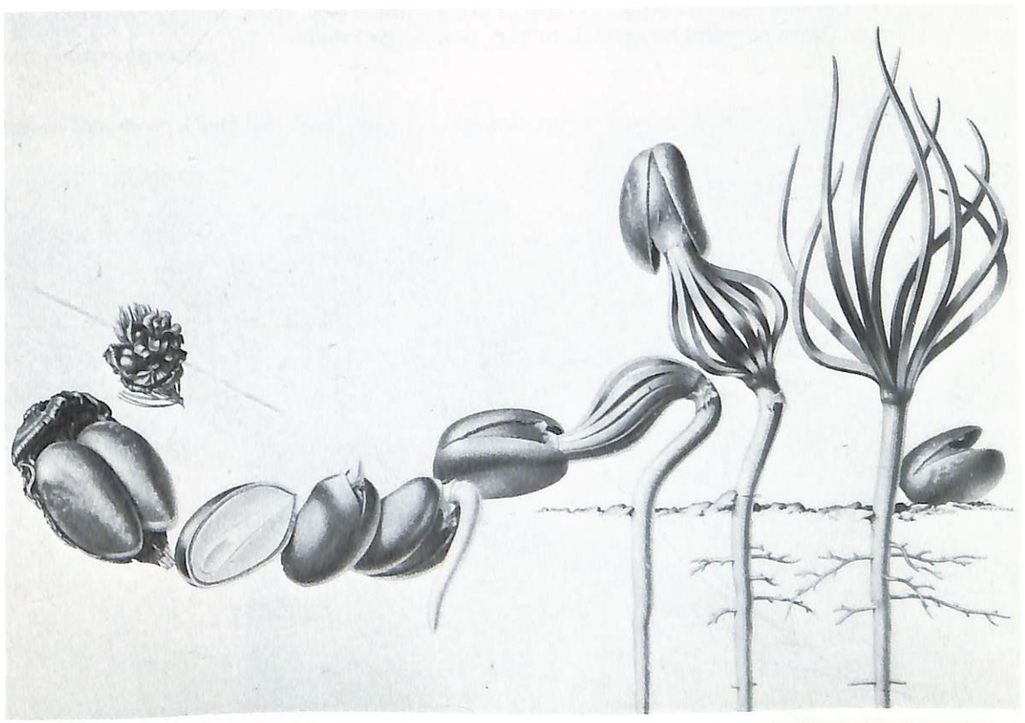
The exhibition consists of the 21 watercolors by Mr. Kunz painted for the St. Regis Paper Company's promotion series, augmented by posters reproducing 12 of these, and proof sheets of reproductions of the others. In addition there are original watercolors, full size transparencies of other watercolors, and some reproductions of other work executed by him for other clients. The presentation of these original works, with reproductions, is substantially supplemented by a series of exhibition panels designed by Mr. David Tonsing of St. Regis Paper Company to present graphically the impact and feedback generated by Mr. Kunz's paintings and the promotion campaign in which they were used.
Sizes reported for the paintings are of mat-openings, height × width.

1 Recognize these leaves? 13⅜″ × 19⅜″

The leaves of 55 kinds of trees most common in America are shown in the one watercolor. The reproduction of this painting, distributed via advertisements and tear-sheets, has stimulated tens of thousands of school children to learn the identity of the trees around them.
Shown with it is the artist's preliminary colored pencil sketch of the layout.

2 The birth of a tree. 14″ × 20″ (illustrated below)

From the cone of the Piñon Pine *(Pinus monophylla)* fall seeds, two from each fertile cone scale. Each germinates to form a new seedling with its many green cotyledons (seed leaves). The true leaves develop later.
Shown with poster adaptation



3 How big is a tree? 14″×20⅛″ (reproduced on covers)

A graphic painting of a row of ten of America's tallest known specimen trees of as many species:
Giant sequoia *(Sequoiadendron giganteum)*, Sequoia Natl. Park, Calif., 272 ft. high
Douglas-fir *(Pseudotsuga menziessi)*, Olympic Natl. Park, Wash., 221 ft. high
Ponderosa pine *(Pinus ponderosa)*, Lapine, Ore., 162 ft. high
American elm *(Ulmus americana)*, Trigonia, Tenn., 160 ft. high
Bald (Southern) cypress *(Taxodium distichum)*, Weakley Co., Tenn., 122 ft. high
Shagbark (Shellbark) hickory *(Carya ovata)*, French Lick, Ind., 122 ft. high
Sugar maple *(Acer saccharum)*, Garrett Co., Md., 116 ft. high
Black cherry *(Prunus serotina)*, Lawrence, Mich., 102 ft. high
White birch *(Betula papyrifera)*, Lake Leelanau, Mich., 96 ft. high
Live oak *(Quercus virginiana)*, Hahnville, La., 78 ft. high

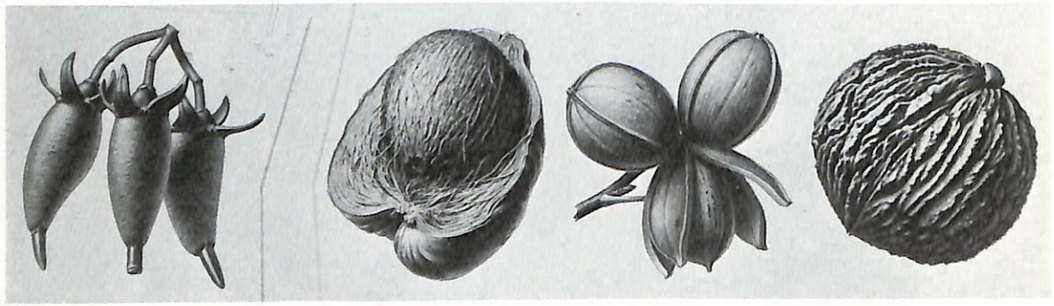
4 History of a tree. 13⅝″×17½″

Shown in this painting is the cross-section of a trunk, 62 years old, of a Loblolly pine *(Pinus taeda)*, selected to show from its growth layers (appearing as rings in cross-section) the effect of fire, drought, plague, and plenty.
Shown with poster adaptation

5 Trees travel by their seeds. 12⅝″×14″ (a portion illustrated below)

Some fly. Some float. Some hitchhike. Some so-called seeds are really fruits, whose seeds are enclosed: maple *(Acer)*, mangrove *(Rhizophora)*, coconut (*Cocos*, the nut is the seed), others fall from the fruit when mature. Airborne seeds (or fruits) that fly include the maple, pine *(Pinus)*, and willow *(Salix)*. The witch hazel seeds (*Hamamelis*, top row, right) are popped out like bullets to distances up to ten feet. Floating seeds, often borne long distances, include the mangrove, coconut, pecan *(Carya)*, and walnut *(Juglans)*. The hitchhikers are those that stick to animal pelts or are eaten and spread by birds or other animals (*e.g.*, apple, cherry, beechnuts). Acorns (of oaks *Quercus*) depend on animals to bury (and forget) them.

Seeds of mangrove (germinating), coconut (seed and husk), pecan, and walnut.



6 The bark on trees. 11⅞″×14¼″ (a portion illustrated above)

The bark of every tree has its identifying texture and color. Six distinct types are shown in this painting: Sycamore *(Platanus occidentalis)*, Red mangrove *(Rhizophora mangle)*, Shagbark hickory *(Carya orata)*, Redwood *(Sequoia sempervirens)*, Ponderosa pine *(Pinus ponderosa)*, and White paper birch *(Betula papyrifera)* [the last three are shown above]. The old outer bark of the tree is dead. The new inner bark is a vital food conductor; if one severs its minute tubes the tree will die.
Shown with poster adaptation

7 Trees drink gallons of water an hour. 13½″×19″

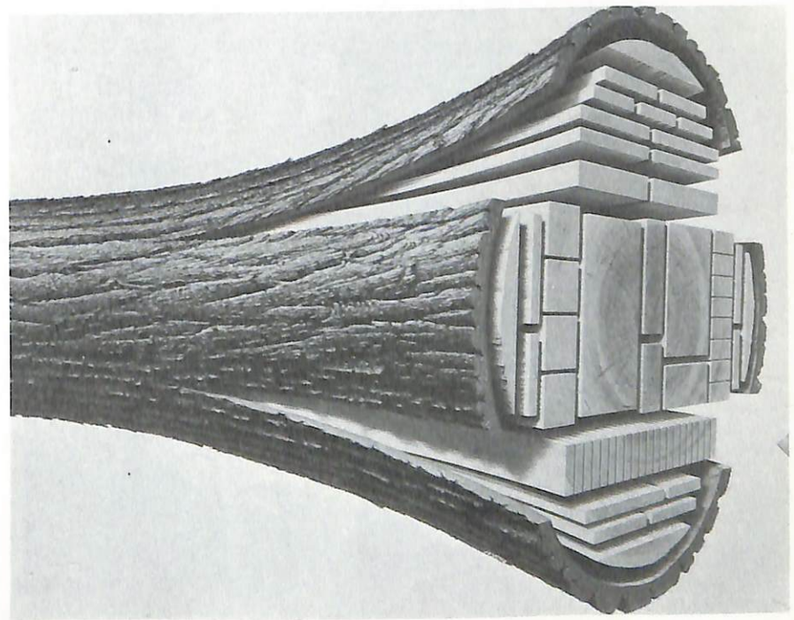
This exceptionally clear painting of an oak tree shows its root system as well as its foliage. It serves to illustrate the explanation that although it drinks up to 300 gallons of water in a day, less than one quart is used to make about 3 lbs. of wood. The rest is given off from the leaves as water vapor.

8 How to make the most use of a log. 15″×21¾″ (illustrated below)

There is no waste in any efficient sawmill. Bark from the log is used for fuel and soil mulch. The rounded slabs, sawed when "squaring" the log, are cut into chips for paper pulp. The outer boards produce the best knot-free lumber, and from the more knotty central portion come the heavier timbers.

See also page 5, for photo of the artist with scale model, at work on this painting, and the story behind the picture.

Shown with poster adaptation



9 Trees die, but forests can live forever. 13⅜″×18″ (illustrated below)

A painting showing Douglas-firs in eight stages of life. This illustrates the premise that in commercial forests the tree is harvested while vigorous and healthy: at age 7-9 years if for Christmas trees, at 30-40 years if for pulpwood, at 50-60 years if for utility poles, or at 100+ years if for plywood or lumber. Within a single forest some are harvested at each growth stage. Sturdy self-sown seedlings perpetuate the cycle. The forest lives on.

10 Autumn colors. 13¼″×15½″

The green color of a tree's foliage is due to the presence of chlorophyll, by which—in combination with light and carbon dioxide—sugars are made in the leaves. As the leaves die the attendant loss of chlorophyll reveals the yellow carotenes and the red and purple anthocyanin pigments which are responsible for the brilliant autumn coloration in some kinds of trees.
Shown with poster adaptation

11 Deciduous (hardwood) or evergreen (softwood) trees. 13⅜″×19½″ (illustrated top p. 13)

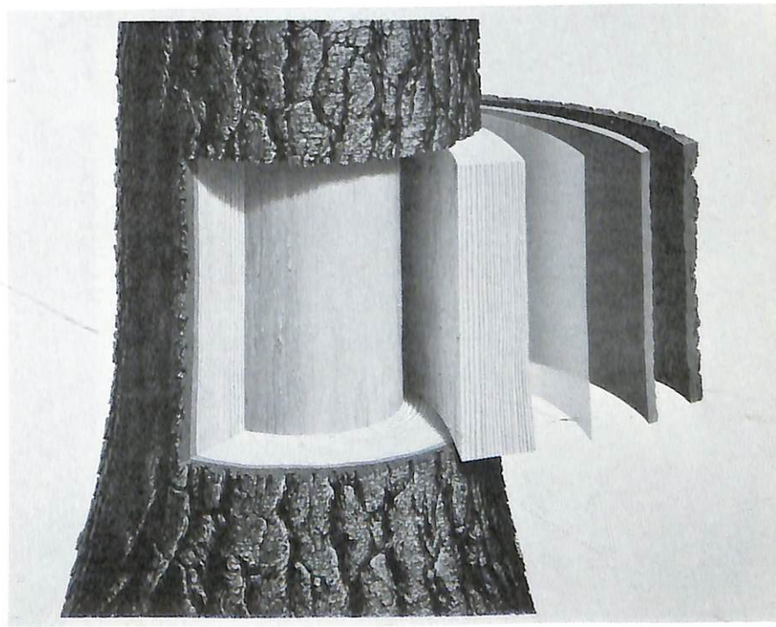
These terms, illustrated graphically in this painting of a Shagbark hickory and a pine tree, serve to identify two great groups of plants: the angiosperms (whose seeds are enclosed in the fruit), and the gymnosperms (whose seeds are borne naked, but winged, on the cone scale). Not all hardwood trees lose their leaves at the end of each growing season. Some kinds of holly or magnolia, for example, are evergreen. Not all softwoods, or even conifers, are evergreen, for the larches and swamp cypress drop their leaves each season.
The term evergreen may be used for a plant or a tree, but it is incorrect to do so for a leaf or foliage. The leaves of the evergreen tree are said to be persistent. They too fall, but usually after two or more growing seasons. The oldest ones drop each year, but the tree itself always seems to be in full leaf, hence "evergreen."

Eight stages in the life of the Douglas-fir

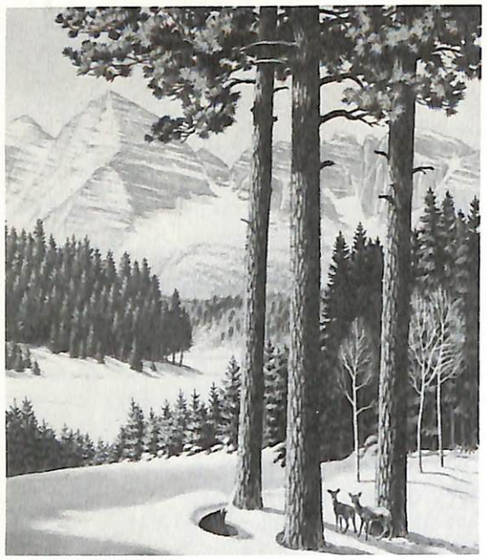
Deciduous and evergreen trees

12 The trunk of a tree. 14″×16″ (illustrated below)

Basically the trunk of most trees is composed of five zones (the outer four shown here as if peeled away): the *heartwood,* whose cells are dead but very strong; the *sapwood* (or xylem), tissues of living cells that conduct water and dissolved materials; the *cambium,* the thin membrane of living cells that on its inner face produces new sapwood and on its outer face makes new bark; the *inner bark* (or phloem), composed of living cells that conduct the food made by the leaves; the *outer bark,* made up of dead cells, often corky, that insulate the tree from heat and cold and prevent loss of moisture. Note the vertical growth layers of the sapwood; when these are shown in cross-section they are called "annual" rings. In the tropics a tree may have 2-4 growth periods (with as many layers or rings) in a year—so the term "annual" is applicable only for trees in the temperate zone.
Shown with poster adaptation



Trunk, exposed to show
central heartwood
sapwood
cambium
inner bark
outer bark

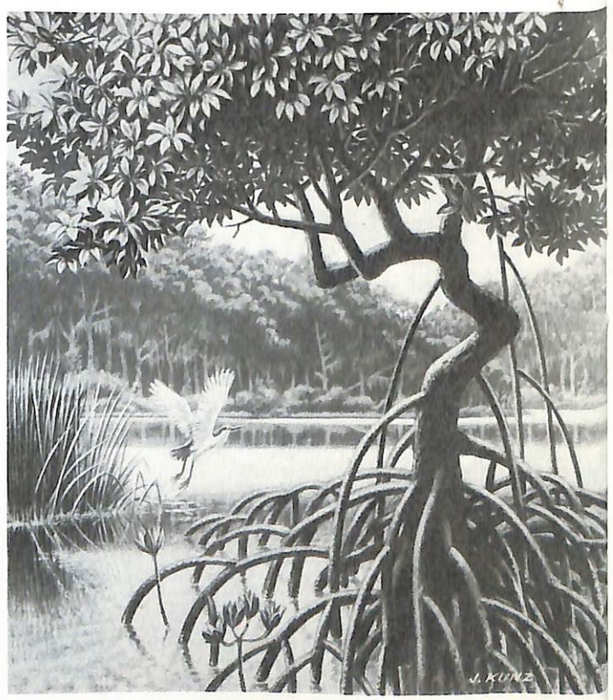


Mountain forest
With less rainfall than
West Coast forests, it has
more open spaces

13 The six major forest regions of America. 12″×19¼″ (renderings of two regions illustrated here)

Except for the central plains and prairies, much of America was once covered by forests. Agriculture has converted much tillable land into open spaces. Differences in climate and soil are largely responsible for the different types of American forest, each with their dominant kinds of trees. The six major regions are:

West Coast, facing the Pacific Ocean: conifers, predominately Douglas-fir and redwood.
Mountain, on the eastern side of the Cascades and Coast Ranges: pines, spruces, and firs.
Northern, from Minnesota to the Appalachians and parts of New England: conifers (pine, spruce, fir, hemlock) and hardwoods (maple, birch, beech).
Central, the Mississippi/Ohio basin and east of the Appalachians: some conifers (yellow pine, red cedar) but mostly hardwoods (oak, hickory, tulip-tree or yellow-poplar, black walnut).
Southern, most of the Gulf region north along the coast to Virginia: yellow pine, sweetgums, oak.
Tropical, southeastern Texas and southern Florida: a region once important for native mahogany, and whose tidal shores today are characterized in part by the red mangrove.



Tropical forest
One of six major forest regions
in America

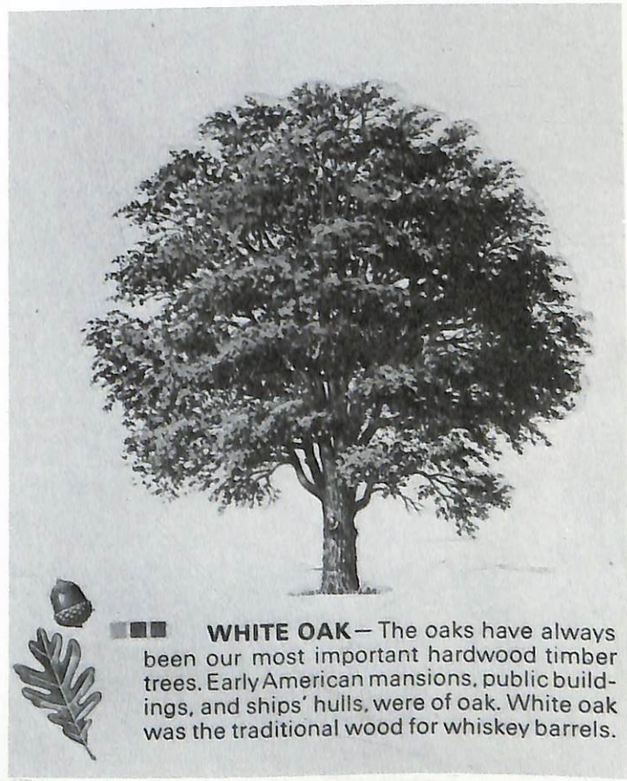
14 Twelve trees that helped build America. 15½″×20¾″ (one tree illustrated below)

These are the kinds of trees from which our homes were built, that supplied the ties on which railroads were built and the poles for power and communication lines. Many supply the pulp from which much of our paper is made.

Identified: top to bottom, left to right

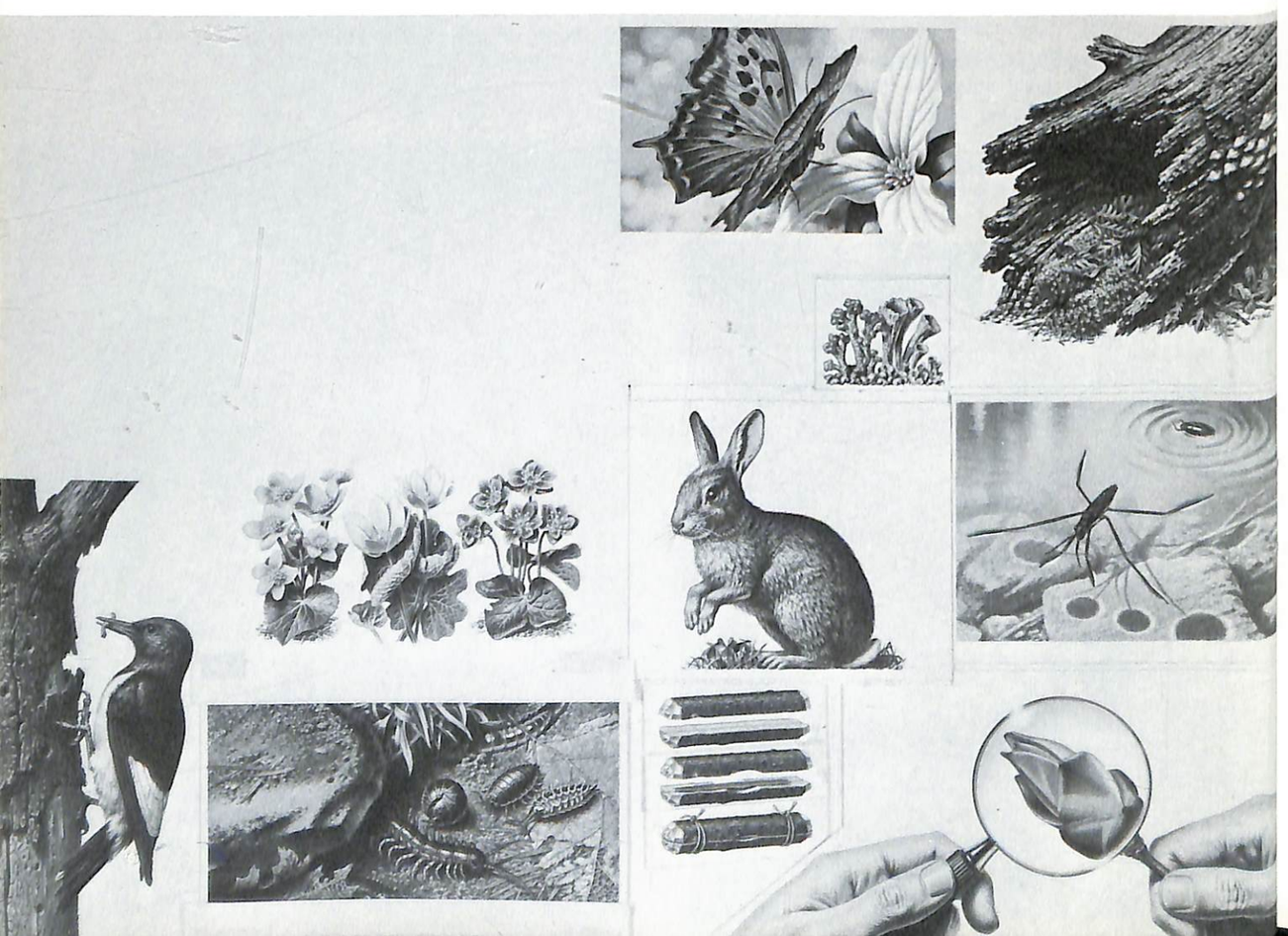
Eastern white pine *(Pinus strobus)*: once for masts and spars, now for interior trim.
Douglas-fir *(Pseudotsuga menziesii)*: lumber, plywood, telephone poles; the most important timber tree in the world.
Longleaf pine *(Pinus palustris)* of southeastern U.S.: for naval stores, yellow pine lumber.
Western hemlock *(Tsuga heterophylla)*: Mountain forests, for timber, pulpwood, tanbark.
Balsam fir *(Abies balsamifera)*: northern forests, for pulpwood, Christmas trees.
Ponderosa pine *(Pinus ponderosa)*: western U.S.: lumber, railroad ties, poles, posts.
White spruce *(Picea glauca)*: northern forests, for lumber (musical instruments).
White oak *(Quercus alba)* eastern U.S.: hardwood timber, buildings, ships, barrels.
Sweet-gum *(Liquidambar styraciflua)* eastern U.S.: furniture, pulpwood.
Shagbark hickory *(Carya ovata)* eastern U.S.: wheel spokes, tool handles, hickory smoke.
Yellow-poplar or tulip-tree *(Liriodendron tulipifera)* eastern U.S.: furniture, musical instruments.
Sugar maple *(Acer saccharum)* eastern U.S.: furniture (also the source of maple syrup).

Shown with poster adaptation, with distribution map



15 Life is everywhere in the forest. 13⅛″×19⅜″ (illustrated below)

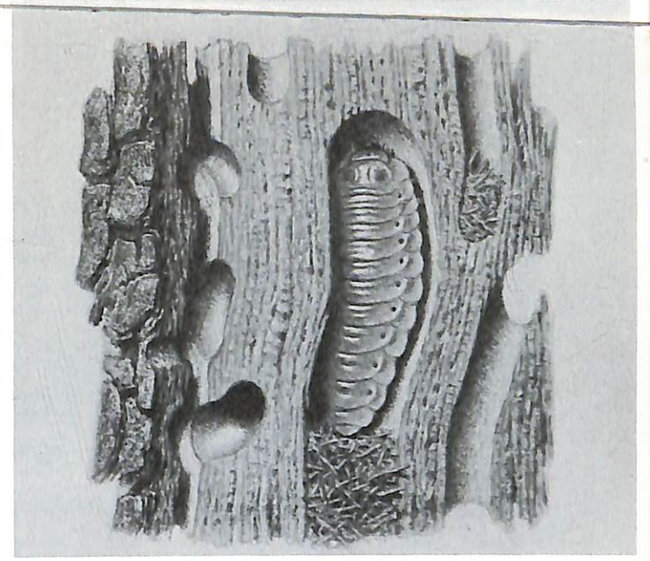
This plate is a series of ten studies, each illustrating some of the life to be seen within the forest. Collectively they, and microorganisms, form the forest. Any one of them may live at the expense of another, but the forest lives because the whole community exists.
The figures shown here were all drawn and painted from the subjects themselves; some were found in the forest, others are from specimens available in museums or other collections. See also the account of this plate given on p. 4.



16 More life in the forest. 12¼″×12½″

It is the forest as a whole that is so essential to man's environment. Trees are only one part, and for them to thrive the forest is a community of living things. Shown here from top to bottom, left to right:

Leaves make the food for the tree's growth and, with other green plants, for all animals.
The chlorophyll molecule, by which carbon dioxide and water are combined to make glucose—the primary food product of a plant.
Squirrels are animals that feed on tree seeds and contribute to seed dispersal.
Blue jays, like many forest birds, eat insects which otherwise would destroy the forests.
The red fox is one of many mammals which feeds on rodents and helps to keep nature in balance.
Insects aid in the decay of plants and animals, and are eaten by predators.
Toads feed on the smaller animal life of the forest floor.
Mushrooms and other fungi contribute to the decay of dead plants.
Tree roots have tiny hairs at their tips by which water is "imbibed."
Earthworms, one of thousands of kinds of animals on and under the forest floor which aerate the soil and facilitate passage of water.
Insect larvae (see insect above) may attack and destroy trees, speed up decay of fallen timber, and provide food for grub eaters.
Bacteria convert organic matter to its components and release them for re-use.



Above: insect larva feeds in the tree trunk. One of 12 details of "More life in the forest"

17 The trees of Christmas of the U.S.A. 13¼″×18¾″

A plate showing a branch of each of the six most popular kinds of conifer trees decorated as Christmas trees.
Scotch pine *(Pinus sylvestris).* Native of Europe. Mostly from plantation-grown areas. Holds needles well after cutting.
Douglas-fir *(Pseudotsuga menziesii).* Not a true fir, hence the hyphenated common name. Cut mostly from reforestation areas in the West. Not the best for needle retention.
Red or Norway pine *(Pinus resinosa).* Native to eastern North America. The Christmas trees are mostly from plantation-grown areas. Holds needles fairly well.
Balsam fir *(Abies balsamea).* Native to northeastern North America. The Christmas trees are mostly Canadian-grown or from northern areas. Among the best for needle retention.
Eastern red-cedar *(Juniperus virginiana).* Not a true cedar. Cut mostly from native growths. Has good needle retention but branches stiff and harsh.
Black spruce *(Picea nigra).* Mostly of Canadian or northern origin, where the species is the main source of Canada's pulp paper. Poor needle retention.

18 Famous trees in American history. 12¼″×14½″ (one tree illustrated below)

Trees, throughout the world, because of their great longevity, have served to mark and commemorate events in history. Six trees, chosen from among many, are here depicted from either the actual tree or an accepted likeness of it:

Mullan Tree (Pinus monticola), in Idaho, initialled and dated (1861) by military road builder, Capt. John Mullan.

Charter Oak (Quercus alba), near Hartford, Conn., hiding place in 1687 of the colony's charter, when demanded by James II.

Indian Trail Tree (Quercus sp.), near Evanston, Ill., bent as a sapling by Indians to mark a trading trail.

Sailor's Sycamore (Platanus occidentalis), in Santa Barbara, Calif., where since 1800 it has stood as a guide to mariners.

Daniel Boone's "Bar" Tree (Fagus grandifolia), a beech in northeastern Tennessee initialled and marked by Boone.

Dueling Oak (Quercus virginiana), in New Orleans, a Live Oak, under which duels were held in early Creole times.

19 The living parts of a tree. 8¼″×17″

It is difficult to depict the few parts of a tree that are really alive (less than one per cent of its bulk). Here the artist shows each in technical detail as a 3-dimensional extraction from the whole (shown left to right):

Root tips: only at the very tip are there living cells.

The cambium layer, and its adjoining sapwood and inner bark. It sheaths the entire tree from root tips to buds of tiniest twig.

Leaves and buds. (Flowers and seeds also contain live tissues.)

The Charter Oak
The tree was destroyed by a hurricane in 1856

20 Prehistoric forests. 13¼″×14½″

The term "fossil fuels," the world's major source of energy, is common today, because their combustion may contribute to air pollution. These are the fuels made from compacted fossilized plant materials: foliage, stems, and vast quantities of pollen—examples are coal, natural gas, and petroleum products. They are the remains of prehistoric forests.

Here the artist has painted six scenes of man's concept of what these "forests," and their inhabitants, looked like hundreds of millions of years ago. The scene of each period depicts evolutionary advancement in both plants and animals. Shown above is the artist's rendering of a forest scene of 200 million years ago.

21 Harvesting and reseeding a forest. 13¼″×17¾″

To be productive a forest must be cared for. When its trees are cut at the right time, in the right way, it will continue to reseed itself. Shown here are three kinds of cutting management (with four sequence panels for each):

Block cutting: for kinds that require full sunlight for optimum growth, as for Douglas-fir.

Seed-tree cutting: leaving isolated seed-producing "mother" trees, as for Southern yellow pines.

Selective cutting: continual removal of larger trees, as for Red spruce.

Book and other illustrations

Jack Kunz's nature paintings have illustrated many books and articles in magazines. They are included in this exhibition to indicate the breadth of his work and to reveal skills of technical mastery well beyond those required for the St. Regis series. While some of them are the original paintings, a few are published reproductions and others are full size transparencies which seem to have lost little of the original brilliance or detail. One of these, of the Medals of Merit, is outside the field of nature painting but is so exquisite and so epitomizes consummation of the artist's skills that only by its inclusion is the full scope of his capability comprehended.

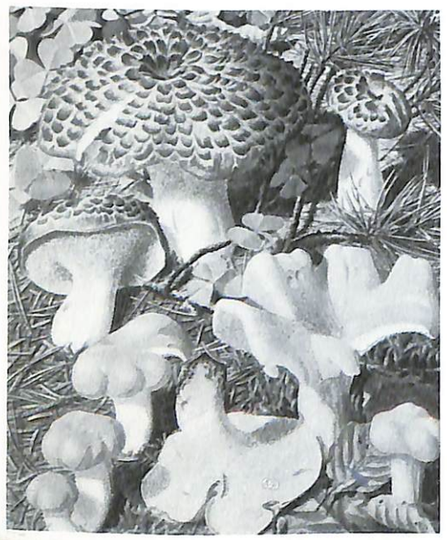
22 Mushrooms. Reproductions from the artist's portfolio. 17¼″×12¼″

In: *Pilz Fibel*. Zürich, Amstutz & Herdeg, 1943. A pocketbook production with colorplate reproductions, for field identification of central European mushrooms. These paintings were the first nature subjects by Jack Kunz, and when seen by a prospective client in New York, led to Kunz's start in a career as a realistic illustrator, "in which specialty I felt most at home when doing nature subjects."

23 Design and nature. 10″×7½″

A gouache painting executed about 1950 as a sample of commercial illustration by which Kunz convinced his agent-to-be, George F. Brophy, of his capability as a realistic illustrator of nature subjects.
In this composition he incorporated all elements:

a calligraphic initial D
a fly
an open rose with bud and foliage
a section through a nautilus-type shell
an aggregation of quartz-type crystals



Top to bottom: Hydnum imbricatum, H. repandum, H. rufescens.

Lent by Jack J. Kunz

24 Poison ivy. 13⅞″×12⅛″

Two-color reproduction of a watercolor painting, in pearl-gray and green, of a flowering and fruiting branch of Poison ivy, commissioned for *The Cyanamid Magazine* (8 (3): 16-17. 1963) and used to illustrate an article titled "The Weed that Hates You."

25 The workings of a leaf. 5⅞″×9″

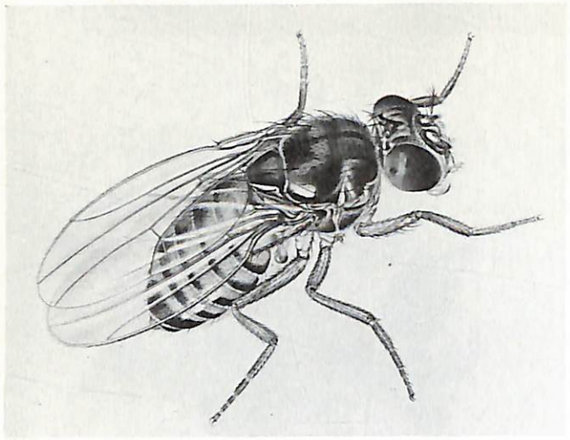
Color transparency of the watercolor painting commissioned by Time Inc. for its volume *The Forest* (Peter Farb, editor), *Life Nature Library* series (pp. 102-103). TIME-LIFE BOOKS © 1961 Time Inc.
The artist has shown a sugar maple leaf (one half green, the other with autumn coloration). With it is a very accurate magnified view of the tissues of such a leaf, showing the two epidermal layers, the plastids, the tubes for solute and water conduction, and the pores on the lower side (stomata) through which it "breathes."

26 Medicinal plants. 16⅝″×12⅛″

Watercolor. Commissioned in 1964 to illustrate an article on woody plants with medicinal properties, in *Sports Afield* where it was titled "Remedial plants from the woods."
Shown with it are fruiting branches, with foliage, of (lower left to right):

White ash *(Fraxinus americana)*
White oak *(Quercus alba)*
Flowering dogwood *(Cornus florida)*
Spiny shield fern *(Dryopteris spinulosa)*
Black alder *(Alnus glutinosa)*
Spicebush *(Benzoin aestivale)*
Elderberry *(Sambucus nigra)*
Black cherry *(Prunus serotina)*

Lent by Mr. & Mrs. Jakob Kunz
Thalwil, Switzerland



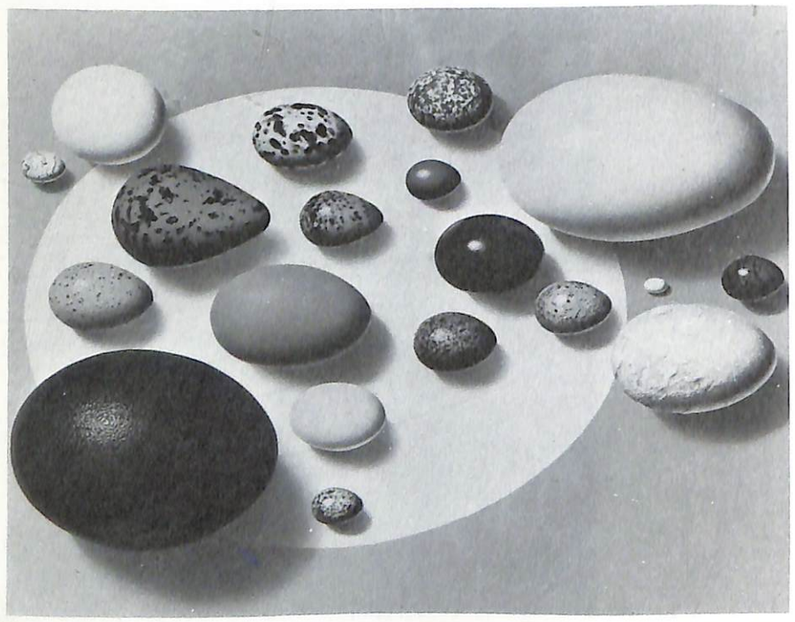
The fruit fly

27 The fruit fly *(Drosophila melanogaster)*

Color transparency of painting reproduced in *Evolution* (Ruth E. Moore, editor) of the *Life Nature Library* series (pp. 100-101). TIME-LIFE BOOKS © 1962 Time Inc.
The fruit fly is the geneticist's guinea pig, and from it man has obtained much of his initial knowledge of the role of chromosomes in heredity.
Enlarged from its natural size of about ⅛″ long, the common banana or fruit fly is depicted here with photographic accuracy.

28 The diversity of birds' eggs.

Color transparency of painting reproduced in *Birds* (Roger Tory Peterson, editor) of the *Life Nature Library* series (pp. 154-155). TIME-LIFE BOOKS © 1963 Time Inc.
The largest (top right) is of New Zealand's North Island Kiwi. Below it is the smallest egg, that of the Hummingbird, and at its left is that of the Robin. At the lower right is that of the white pelican, and at lower left that of the Emu of Australia.

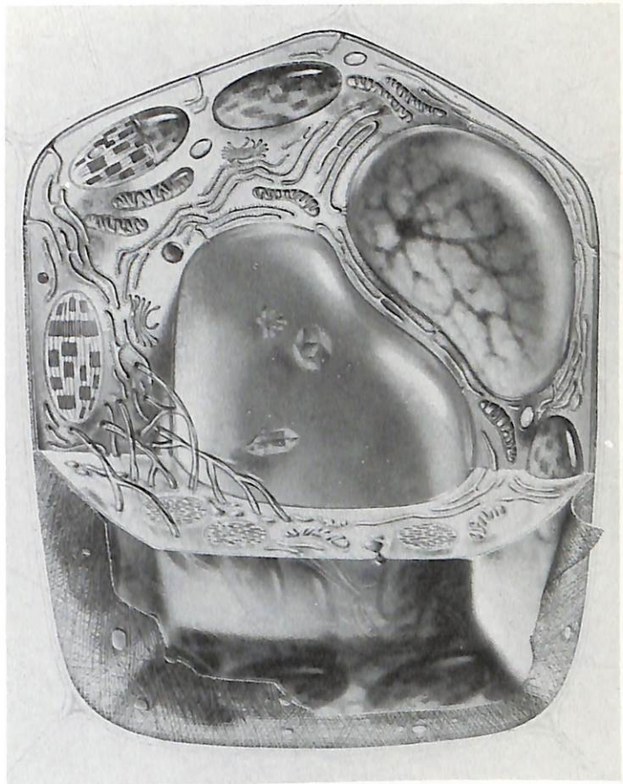


29 Spiders. 6⅞″×9¼″

Color transparency of painting reproduced in article by H. K. Wallace on "Spiders" in *World Book Encyclopedia,* vol. 17, pp. 614[e] (1968).
At the left is the silk spider with other Orb weavers. The one on its web at the right is common Orange garden spider. All were painted from actual specimens.

30 The anatomy of a plant cell.
8″×5⅜″

Color transparency of painting reproduced in *The Plants* (Frits W. Went, editor) of the *Life Nature Library* series (pp. 44-45). TIME-LIFE BOOKS © 1963 Time Inc.
In great magnification Kunz has incorporated in a single idealized cell the many components that occur in plant cells, notably the large central vacuole, the purplish nucleus (in 1 o'clock position), three green chloroplasts (in 9-12 o'clock positions) in the cytoplasm. With them are several purplish worm-like structures, the mitochondria, protein-containing food-converters.



Anatomy of a plant cell

31 Medals of Merit. 9¾″×7¼″

Transparency of a watercolor painting commissioned in 1964 by the Irving Trust Company, New York. Shown are nine medals of foreign countries comparable in part to our Congressional Medal of Honor. For discussion of this item, see p. 4.

The paper used for the text of this Catalogue is Howard 70 lb. Offset. It, and the four-color separations for the cover illustration, No. 3 of this exhibition, were contributed by the St. Regis Paper Company.


272′
221′
162′
160′
122′
116′
102′
96′
78′
Giant Sequoia
Sequoia Natl. Park, Cal.
Douglas Fir
Olympic Natl. Park, Wash.
Ponderosa Pine
Lapine, Ore.
White Birch
Lake Leelanau, Mich.
American Elm
Trigonia, Tenn.