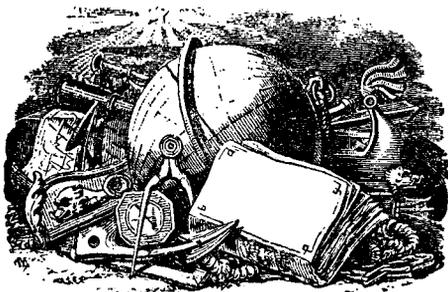


# World Makers



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BY ROBERT M. HYATT

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CHICAGO, Indianapolis and Bryan, Ohio, have one thing in common. They are the only United States cities where the “world makers” live and pursue their unique calling. This highly skilled group of men and women, working in seven busy factories, produces several thousand globes each day — from tiny six-inchers to monsters more than four feet in diameter and weighing 750 pounds. They range in price from about \$2 to just under \$1,000.

To visit any one of these seven American globe manufacturers is a fascinating experience. In a sort of “cosmic mill” atmosphere of terrestrial charts and maps, spheres and gluepots, you watch worlds in the making, beginning with the initial map drawing, coloring, forming of spheres, right down to the finished product, spinning on its axis.

Globe making, one of the most ancient of industries, burgeons on world strife, war causing sales to shoot up, and peacetime bringing a slump. Before World War I, globes were considered mainly as tools for

scientists and scholars and for school use. Few homes owned one. The American public simply was not interested in doings outside its borders. War headlines caused a mild globe consciousness — but when America eventually became drawn in, sales zoomed.

Peace brought a slump. But with the attack on Pearl Harbor, there was an unprecedented demand for globes, which manufacturers had difficulty filling. Many buyers had a personal stake in the activities of troops, the victories and repulses of allied forces, because loved ones were involved. The Korean war brought another rush to buy. Sporadic flare-ups all over the Far East have kept sales steady.

There is another factor responsible for the healthy growth of globe sales: the use of the globe as a travel consultant. More and more Americans, once content with a vacation trek of a few hundred miles, are visiting far distant lands.

Planning a foreign trip, you don't drag out domestic road maps. You open the atlas — and are promptly led astray. Flat maps, such as appear in atlases and touring folders, are misleading. They distort geographical locations and contours of countries, shrink land and water masses. Only the globe shows authentic sizes and shapes and distances — because the globe is a miniature model of the earth itself.

Plotting your proposed route on the hemispherical map gives you knowledge you never possessed. Take the time dial. With it you learn that when it is 10 A.M. in Los Angeles, it is midnight in Bombay. There are always *two days* going on at the same time on earth. In long-distance travel, going west you advance a day. Going east you go back one. Your globe is marked with the International Date Line, usually a mystery to non-travelers. On a junket to Australia, for example, your ship reaches the mythical line on a Tuesday. Steam across it, and it is Wednesday. If the direction of travel is east from Australia, Tuesday becomes Monday. We listen to tomorrow's newscast from Formosa *today!*

On your globe, you find that the earth is divided into 24 time zones, each an area of 15 degrees of longitude apart. We gain or lose an hour each time we travel a distance equal to 15 degrees of longitude.

Yes, that gaudy map ball is intriguing. On fairly large models

you'll find much information that makes contemplation of the trip almost as interesting as the trip itself. Air and ship routes are there, with all ports of call. Railroads of every country are shown. So are mountain ranges, famous parks, glaciers, even ocean currents.

Using the globe to plot your vacation trip is fascinating and educational; but watching worlds in the making is a real treat. First, you go to the cartographers' department, where globe maps are drawn. This is a highly skilled art. The cartographer, planning a new globe map, must spend weeks studying books and existing maps from ours and all other governments. Each new model of globe contains more information than the last because history advances at high speed these days.

**L**IKE many other scientists, cartographers work overtime during and after wars. Mostly it's a matter of erasing old boundaries, drawing in new, and emphasizing place names under the news spotlight. For example, World War II globes prominently mention Corregidor, Bataan, Iwo Jima, etc. Currently manufactured globes have a liberal sprinkling of Indo-Chinese place names.

The globe map is drawn and lithographed in long elliptical strips called "gores" — usually 12 to a globe. Printed globe maps have been made since 1507, and the method of applying them to the ball has changed little in four centuries.

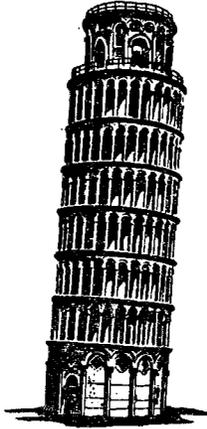
VISITORS to a globe factory always want to know, "How do they get the map on the ball?" This is the most exacting task of all. Globe coverers, who usually spend at least two years learning their trade, paste the gores on one at a time. The 12 strips must fit perfectly, or the globe is discarded. Top craftsmen will cover about ten 12-inch or eight 16-inch globes a day.

The spheres are made of pressed steel, aluminum, strawboard (paper), wood and glass. The latter are often illuminated with an electric light inside. The giant 50-inch globe made by Weber Costello of Chicago is constructed of small pieces of cherry wood, glued and doweled together. It weighs 750 pounds. This model, built to special order for the Office of Strategic Services, required ten months of exacting full-time efforts of cartographers and platemakers.

After the gores are pasted on, the globe is sprayed with lacquer and ends up in the final assembly department, where the steel axis rod is inserted, and it is hung in its meridian at an angle of  $23\frac{1}{2}$  degrees — the angle at which the earth tilts as it spins around the sun.

The visitor is always astounded at the precision that goes into globe making, much of it minute handwork. His real amazement comes

when he learns something of the dramatic history behind that very modern looking map ball. It began back in 150 B.C. when a Greek grammarian named Crates made the first known world globe, which was ten feet in diameter. Probably before Crates' time, Egyptian and Chinese astronomers, who knew the world was round, were using celestial globes of their own manufacture.



From the very earliest times, globes have appealed vividly to the imagination. Kings and aristocrats, interested in the arts and sciences, started many a globe maker on the road to fame. Even the immortal Leonardo da Vinci felt the romance of copying the

world in miniature and drew a set of globe maps for a friend. From the remotest beginnings there appears to have been keen competition among globe makers to create the biggest and most elaborate globes. A Venetian monk named Vincenzo Coronelli made a pair of globes for King Louis XIV of France. These huge balls, each 15 feet in diameter, had a doorway and could accommodate 30 courtiers at a time inside.

No record exists of many of the early globe makers, nor examples of their craftsmanship. One 20-incher, said to be the oldest yet remaining, was made by Martin Behaim of Nuremberg. He finished it the same

year that Columbus headed his caravels westward.

Not long after Martin Behaim's achievement, James Ferguson, a Scotch physicist and astronomer, made a number of small portable globes, among them a tiny pocket model. One of these midgets, barely three inches in diameter, is owned by the Adler Planetarium in Chicago. Its inner surface bears an engraved map of the celestial sphere.

The finest example of modern "inside-out" world is the 30-foot Mapparium at the Christian Science Publishing Company in Boston. This magnificent creation of glass panels, with painted maps and illuminated with 300 hidden electric lights, gives the spectator a startling view of the world as seen from its core.

The first globe that showed America as one large continent instead of being broken up into many islands — the early cartographers' misconception — was one made by Johann Schoner of Nuremberg in 1523.

UNTIL the 19th century, all globes in the United States were imported from Europe. In 1810, James Wilson, an unschooled farmer and blacksmith of Bradford, Vermont, launched the domestic globe industry after he'd seen a pair of spheres on display at Dartmouth College. Wilson hurried home, sold his livestock for \$130 and bought an armload of books on astronomy and geography. After studying his books for several months, he walked nearly

300 miles to New Haven, Connecticut, and paid for tuition in a map making course offered by the eminent cartographer, James Doolittle.

Wilson had acquired the know-how to make a globe, but nothing else. Broke, he set to work making his own ink, glue, varnish, press and even a remarkable lathe. And one day he exhibited his first globes. Surprisingly, they sold readily and orders came in for more. Wilson later opened a factory in Albany and for many years produced America's total output of globes.

More than a half century passed, however, before other American globe makers got into the business. The "world makers" today are Rand-McNally, Weber Costello, L. I. Replogle, Denoyer-Geppert and A. J. Nystrom, all of Chicago; George Cram of Indianapolis; and the Ohio Art Company in Bryan, Ohio.

Most of these firms turn out globes printed in foreign languages, French and Spanish predominating. And some of them build unusual globes on special order.

The past uncertain years have made America so globe conscious that she will continue to support the industry.

Then there's the new crop of travelers to boost sales, too. With flights to far-off lands taking only hours, and costing little more than motor tours across country, vacationists are saying, "Get out the globe."

# MISADVENTURES OF

## *Famous Paintings*

BY RUTH P. COLLINS



SOME PAINTINGS owe their fame perhaps almost as much to their misadventures as to their merit. Recently in London art lovers gave a banquet to celebrate the restoration of a portrait which had been the

center of a famous lawsuit some years ago. Augustus John and Lord Leverhulme were the ones who took part in this art duel. The wealthy industrialist had hacked part of his body out of the portrait the artist had done of him.

"It was mine. I paid for it so could do as I pleased with it," the businessman claimed. But the world thought otherwise. Leverhulme found himself deluged with letters and cables from all over the world. Art lovers, from America to Japan, staged parades carrying derisive placards and insulting cartoons. In Hyde Park students carried a big headless figure with a message of scorn. In Italy the whole art colony, including models, painters and framers, went on strike and burnt a gigantic effigy of Leverhulme, made of soap, in the public square.