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THE PANAMA CANAL
REVIEW

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David S. Parker
Governor-President
Charles R. Clark
Lieutenant Governor
Frank A. Baldwin
Panama Canal Information Officer

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Morgan E. Goodwin, Press Officer
Publications Editors
Willie K. Friar, Tomás A. Cupas
Writers
Eunice Richard, Fannie P. Hernández,
José T. Tuñón and Luis C. Noli

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Our Cover

ALTHOUGH THEIR WOODEN carriages have rotted away and their voices long been silenced, the line of Spanish cannons still points toward the entrance to the now peaceful harbor of Portobelo.

The picturesque little watchtower is all that is left of the once formidable ramparts of Fort San Fernando which defended the town of Portobelo and the treasures from Peru that accumulated in the Customs House.

Across the sparkling blue waters of Portobelo Bay can be seen the remains of the town, the forts of Santiago and San Gerónimo, and the Spanish church of San Felipe where pilgrims can visit the sacred effigy of the Black Christ of Portobelo, which is carried through the town in a procession that draws hundreds of people each October 21.

Although the jungle has taken over much of the town and its forts, and the famous Customs House is a ruin without a roof, progress will soon reach out to the town of Portobelo. The Panama Tourist Bureau, assisted with funds from the Organization of American States, will reconstruct the town and rebuild many of the houses on the foundations of the old ruins. The Customs House will get a new roof and the forts on either side of the bay will be restored.

Perhaps then, when the tropical moon rises over the beautiful bay, the ghosts of Sir Frances Drake and the Welsh pirate Henry Morgan will walk again the battlements of the fortresses they robbed, raped, and tried to destroy.

Photograph by Arthur L. Pollack, Panama Canal Information Office photographer.



Portobelo Awakens



ONCE THE MARKET PLACE OF the Americas and the Caribbean port through which the inestimable treasure of the Incas found its outlet, Portobelo is about to awaken after a long sleep of more than two centuries.

The site of many a bloody buccaneer raid and the final resting place of Sir Francis Drake is to be restored and rebuilt at a cost of \$6.5 million through the efforts of a group of historical monument experts from the Organization of American States working with the Panama Government Tourist Bureau and AID.

Plans for the restoration of the historic old town and its system of fortifications will include the establishment of a 22,500-acre national park, according to Dr. Alfredo Castellero C., director of Historical Tourism in the Panama Tourist Bureau and director of the History Department of Panama University. Within the park area, the old town will be restored. This will include reconstruction of the old forts, churches, and public buildings and the reinforcement of the foundations of the old ruins. The work should be completed in about 4 years.

Land access to Portobelo was opened not long ago with the completion of a modern asphalt highway connecting the town with the Transisthmian Highway. For the first time in history, Isthmian residents were able to travel to the old fortress town by car instead of going by sea. Engineers from the OAS already have started their surveys and have set aside sites along the beach to the east

of Portobelo for construction of modern tourist hotels.

The history of the little town, with the magnificent harbor discovered by Columbus in 1502, has been turbulent. Founded by the Spanish more than 300 years ago as a replacement for Nombre de Dios, which was difficult to defend, it became one of the strong fortresses along the Atlantic coast and the third strongest in Spanish America. It was named originally San Felipe de Portobelo and old records say that by 1618

there were 130 houses in the main town, not counting the suburbs, "the governor's house, the king's houses, a monastery, a convent, a plaza, and a quay."

The main city will rise again, according to the restoration plans. It was well built originally of stone and brick and most of the ruins of the official buildings still remain along with the official Customs House which is nearly intact. The early town had suburbs, one of which was set aside for freed slaves. The buildings were chiefly of cane with palm



An artist's conception of the plan for the restoration of the town of Portobelo is shown by Janine Lizuain, secretary in the Historical Department of the Panama Tourist Bureau.



Maria Elena Hart, secretary in the Historical Department of the Panama Tourist Bureau, holds a picture showing how the Royal Customs House in Portobelo will look when it is restored under the plan for restoration of historical sites.



The Customs House as it appears today, roofless but with its walls still standing sturdily. It was built in 1630 and served until the end of the Spanish colonial period in 1821. It was often crammed with chests of gold and silver.

thatch, all of which disappeared long ago, without a trace, into the jungle.

Jungle Outposts

It was but an outpost in the jungle after all. No man alone dared travel the royal road from the city's gate after nightfall. In the streets, snakes, toads, and iguana were frequently seen. The native wildcat prowled in the suburbs and, besides carrying off fowls and pigs, sometimes attacked human beings.

But Portobelo was a market town as well as a fortress. It came to life at least once a year during the trading fairs which lasted from 40 to 60 days. The flood of gold that poured through the trails across the Isthmus, after Pizarro began his plunder of Peru, was traded for goods from Spain and Europe. The fair began when the fleet of merchant ships and galleons arrived in port from Cartagena and Spain loaded with goods to be traded for gold and silver. The goods were shipped to South America and even to the Philippines.

Bustle and Excitement

The town took on an air of bustle and excitement at the time of the fair. The houses were crowded with people, the square and the streets crammed with goods, the Customs House with chests of gold and silver, and the port filled with vessels. Portobelo became the emporium of the riches of the two worlds and the most important commercial depot of that period.

In the square facing the Customs House, merchants erected cane booths and tents made of sails from the ships while all available space was filled with goods. With the fleet of merchant and warships came nearly 6,000 soldiers, merchants with their clerks and porters, buyers of all nationalities and, of course, the sightseers. So crowded was the little town that it appeared to be in the possession of a mob.

The Customs House, built in 1630 during the administration of Alvaro de Quiñones, served until the end of the Spanish colonial period in 1821. The Council of the Indies had ordered the Customs House to be built in the most convenient spot with one entrance and one exit only to help prevent fraud. A royal tax collector was on hand to collect the royal fees.

Because of the wealth stored at Portobelo and its use as a trading center, its fame spread over the Spanish Main. Although Portobelo was substantially built and protected by four strong fortresses and several minor batteries, the

town was repeatedly taken by the British and other marauders. The first to attack was the English pirate William Parker in 1602, and the last was Adm. Edward Vernon of the British Navy, who captured the town in 1739. He caused the most damage when he blew up and dismantled the fortress.

The most savage of all the scores of raids was made by Sir Henry Morgan, who according to Esquemeling, the Dutch historian, attacked for the first time in 1668 and killed or wounded a majority of the inhabitants. At that time the garrison consisted of 300 soldiers and the town was inhabited by 400 families.

17-Cannon Line

The main forts, which are to be totally restored by the Tourist Bureau are La Fortaleza de Santiago and San Felipe, both dating from 1600; Fort San Gerónimo, which is located within the present town; and the famous Fort San Fernando, built about 1753, across the beautiful bay. This fort has a 17-cannon line that somehow has escaped most of the ravages of time. High above San Fernando, a second platform of cannons points toward the sea and atop an even higher crest stands Casa Fuerte, Portobelo's prime lookout and vantage point, which gives a superb view of the complex of forts below.

San Felipe, once known as Todo Fierro or the iron fort, was built in 1600 at the entrance to the bay and was partially destroyed by raiders. At the time the Panama Canal was being built, the site was turned into a quarry, and it was said that what the English pirates started to do, the Americans completed.

The fort of Santiago de la Gloria was built in 1604 within the town limits while Santiago was built on the coast road leading to the town. The Fort known as Farnese or Farnesio is on the south side of the harbor and not too far from the island where history says Drake is buried. All in all, there are about 12 fortifications to be restored.

The Parish Church

The parish church of San Felipe, which was still unfinished when it was dedicated in 1814, is one of the oldest buildings in the town still in use. It replaced a smaller church of the same name, the ruins of which still remain.

The most interesting thing about San Felipe church is that it houses the image of the Nazarene of Portobelo, a handsome effigy of Jesus bearing the cross,



One of the old Spanish cannons of Fort San Fernando, its carriage rotted away years ago, points out toward the entrance to the bay of Portobelo. Two modern yachts can be seen at anchor in the distance.



The ruins of the original church of San Felipe in Portobelo. This church, also known as the Hospital Chapel, will be rebuilt under the plans for the restoration of the town of Portobelo.



The new church of San Felipe, which houses the famous image of the Black Christ, stands stark against the brilliant blue sky of Portobelo. Services were first held here in 1814.



The Black Christ, one of the most revered images throughout Panama is surrounded by candles for the annual "Feast of the Black Christ" celebration.

hewn from wood of southern Spain more than 300 years ago. Called the "Black Christ," it has become one of the most revered images throughout Panama and the focal point of an annual church festival which draws thousands of visitors each October.

Legend has it that the image of Christ came to Portobelo aboard a sailing ship bound for Cartagena, Colombia. When the galleon sailed from Portobelo, a fierce storm sank it. The boxed image floated free and was washed up on a nearby beach. There it was found by the townspeople and taken back to Portobelo.

"Feast of the Black Christ"

The annual celebration of the "Feast of the Black Christ" began in 1821 when a cholera epidemic ravaged the Isthmus. The Portobelo residents made a vow to celebrate a feast day of the Black Christ each October 21 if the town were spared. The epidemic bypassed the town.

The present day town of Portobelo has only slightly more than 500 citizens and they have developed a personality of their own. They are descendants of the Spanish and Indians and the Spanish and African slaves, with a third group made up of people of distinct African ancestry. Dr. Dulio Arroyo, retired dean of the Faculty of Law at the University of Panama, and a native of Portobelo,

says members of this group "carry in their blood centuries of tradition." Among these traditions are primitive dances with a definite African flavor, called "congos," which they perform wearing costumes fashioned from the bark of the palm tree and decorated with multicolored feathers.

Congo Dances

The congo dances have become a part of Panama's folklore and they are presented at most typical Panama dance exhibitions. Congo dancers can be seen mainly at carnival time when "congos" from neighboring villages come to Portobelo to roam the streets and perform their lively dances.

Although there has been a slight tourist boom since the completion of the highway connecting the town with Colon and Panama, the carnival celebration and feast of the Black Christ are about the only times when present day Portobelo comes to life.

But it is only a matter of time, the Panama Tourist Bureau says. As soon as the town is rebuilt and the hotels completed, Portobelo will become a tourist mecca. Once again, Portobelo, the old market center, the scene of so much adventure and strife, will take its place on the map and help in the economic revival of the Gold Coast of the Isthmus.—E.R.



SOME ARE SHY like this kinkajou, which belongs to Vic Canel, of Ancon.

Unlikely Pets

Photographs by Arthur L. Pollack

Some like them big, some like them small. Some like them feathered, some like them furry.

But there is no shortage of animal lovers in the Canal Zone. And although the 1970 census did not include animals in residence, it is a safe bet that the number and variety of pets in the Canal Zone is greater than in most communities of comparable size.

Panama's lush tropical forests are alive with creatures of many sizes and descriptions, from the deer that come down from the hills to eat your prize petunias to the little ñeques and squirrels often seen scurrying across Canal Zone lawns.

Although there is the usual compliment of more prosaic pets—currently there are 4,400 dogs and 1,100 cats licensed—many householders have opted for the unique or exotic in their choice of pets.

Some have been successful in domesticating essentially wild animals and others, alas, have failed. And they have the scars to prove it.

On these pages are a few of the happy pets, feathered and furry.



SOME ARE BOLD like this African baboon who decided to take the head-on approach. Sambita was found in the vicinity of Miraflores Locks and is thought to have jumped ship. She was bailed out of quarantine by Sgt. Richard W. Chesson, of the Canal Zone Police, who finds her an interesting pet.



JUNGLE ANIMALS can be frustrating as well as fascinating but a number of local animal lovers have taken on the task of domesticating some of them with a certain amount of success. At left, Pingo, a soft-furred marmoset, cuddles contentedly in the arms of its owner, Roxanna Maria Chesson, whose father owns the baboon shown on page 7. Below, Louie, a beautifully coated margay, waits beside the steps for his master, Col. J. J. Caulfield, of Quarry Heights. Below right, Jimmy, a frisky coatimundi, climbs into the lavatory where he likes to sit and rub soap on his long tail. He is one of the many pets of S/Sgt. and Mrs. Stanley Whitaker, of Quarry Heights, who also own four marmosets and the Blue Jay shown on the opposite page.



TROPICAL BIRDS are popular in the Canal Zone, as they are everywhere, but there are many more unusual feathered pets. The Blue Jay, at right, was brought from Washington, D.C., by S/Sgt. and Mrs. Whitaker, who adopted him after he fell from his nest. Now that he is 5 years old, he seeks the warmth of the light bulb inside his favorite lampshade. Joey, the friendly cockatoo, at right, appears to be carrying on a lively conversation with a ceramic peacock, the head of which he often uses as a perch. He belongs to Mrs. Marlean Boggs, of Fort Clayton. Below, Ruthann Kelleher, of Fort Kohbe, turns on the sprinkler so Ping and B. G. can have their daily frolic in the water. Below right, Robert, a quail that was rescued by Robert L. Boyer, of La Boca, after he shot but only stunned it while hunting, nestles in his daughter Meredith's hair while she talks on the telephonic. It took more than a year to tame the bird.





Lounging happily in his tub, Speedy gets a bath from the McKean girls, Jeanne, left, and Christine . . .



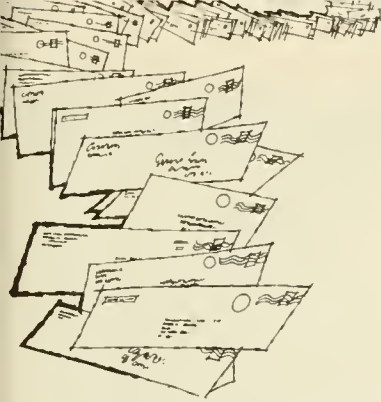
BUT THE BEST OF ALL IS THE SLOTH, according to Mrs. John S. McKean of Balboa who also has a cat, dog, bird, and monkey. In Spanish, he is called "Gato Perezoso," lazy cat, a fitting name, for the sloth moves with about the same speed as the snail. A mild-mannered affectionate animal, who likes nothing better than to curl up in someone's lap and take a nap, the three-toed sloth makes an excellent pet. Food is no problem since he dines solely on Eucalyptus leaves.



and then hangs on the clothesline to dry.



Speedy has the run of the house and sleeps under the organ in the living room, but often goes outside and hangs from his favorite tree. Above: Very good friends with the family dog and cat, Speedy watches while Christine feeds Tippy.



Letters from the Sea

By Muriel Lederer

AS THE U.S. BUREAU OF Commercial Fisheries research vessel *Undaunted* periodically steams across the Atlantic Ocean from Miami, Florida, to Africa, her crew goes through a strange routine. They throw batches of empty beer bottles overboard.

These are not ordinary bottles—they are “drift message” bottles. Each of the 10,000 bottles cast overboard thus far contains sand for ballast and a fluorescent orange card imprinted with a message in four languages—Spanish, French, Portuguese, and English. The card asks the finder to fill in details about his discovery on an attached, franked postcard addressed to TABL (Tropical Atlantic Biological Laboratory) and mail it. TABL in Miami thanks the finder upon receipt of his card and then also sends him a small chart showing the track his bottle might have followed and includes a cookbook of seafood recipes printed in Spanish and English.

Enchanting Gentlemen

About 600 of the bottles have been recovered and the messages returned so far. Many finders also send along personal messages. One arrived from Colombia with a note from a lady who sent greetings from a small fueling port. She explained she had many North American friends, all of them “enchanting gentlemen.” Another letter, from the American Embassy in Caracas, Venezuela, told of a bottle that had been found in western Venezuela (200 miles away) by a 13-year-old boy who could neither read nor write; a family friend had traveled to Caracas to deliver the drift card.

This is the latest chapter being added to the ancient and noble history of service to mankind performed by drift message bottles. The purpose of this particular program is to study patterns of surface currents in an effort to discover and develop marine food resources, especially tunafish. The hope is to collect information that will help in both the harvest and conservation of this increasingly important food fish.

One of the most enduring romances of the sea is the message sealed in a bottle and cast adrift, its destination unknown. Bottle messengers have been going to sea for over 2,200 years. Some have contained farewells from shipwrecked sailors. Others hold sermons or letters to be mailed. Many go on scientific voyages—and one even carried a secret message in code.

This particular bottle was picked up over 350 years ago, when Elizabeth I was Queen of England. It was found by a fisherman on the beach at Dover. When he opened the bottle, he was amazed to see a strange message. Puzzled, he went to the authorities with the bottle and its peculiar message. They took a hasty look at it and sped to the Queen. It was a good thing they did, too! For the bottle message contained top-secret information sent by a British spy from a passing ship. The Queen was alarmed. She realized it would never do to have just anyone open bottles and learn state secrets. So she passed a law forbidding this and appointed an official Uncorker of Ocean Bottles. A British law, which has since been repealed, then made it a penal offense for anyone but an authorized person to read bottle messages.

Long Missing Ships

Sailors and explorers, cut off from communication with the rest of the world, have in their last extremity put written notes into bottles and thrown them into the sea. This was done in the hope they would be picked up and so bring help. And bottle messages have solved the mystery of long-missing ships.

In 1902 two naval vessels searched the Atlantic for 3 months for some trace of the missing steamer *Huronian*. The search was in vain, but some 5 months later a securely corked bottle was picked up on the Nova Scotia coast. It contained a message which read: “*Huronian* turned turtle in Atlantic, Sunday night. Fourteen of us in a boat.”

The note bore no signature. It was at first thought to be a hoax, but 5 years

later its validity was confirmed when a second message was found in a bottle on a beach in Northern Ireland. The paper read: “*Huronian* sinking fast. Top heavy, one side awash. Goodby mothers and sisters—Charlie McFell, greaser.”

Study Currents

Today the most important bottle messengers are those sent to help scientists chart the currents and drifts of the seven seas. The first of these was recorded many years before Christ by Theophrastus, a Greek philosopher. He floated bottles in the Mediterranean Sea to study currents.

Centuries later Benjamin Franklin threw bottles into the Gulf Stream. They contained his name and address and asked the finders to tell him where and when they were found. By gathering this information, Franklin was able to chart the speed and direction of the Gulf Stream. His chart is little changed today.

About 1860 the British Navy began issuing printed forms for ships' officers to drop overboard in bottles. The forms gave the name of the ship, the location, and the date of dropping. Finders were asked to fill in the place and date of recovery and return the forms.

Some 30 years later the U.S. Navy adopted the same system and still uses



Crewmembers of a Government survey ship cast drift bottles into the Gulf Stream off Frying Pan Light Tower on the lower North Carolina coast.

Letters from the Sea

it. The Hydrographic Office of the U.S. Navy sends out several thousand bottles every year. These are given to captains of American ships to set afloat in different parts of the world. Each bottle contains a card on which the captain records the name of his ship, the date, longitude, and latitude. It also holds another card with instructions to the finder. These are printed in seven different languages, including Esperanto. About 350 forms come back each year. From these returns excellent current charts have been drawn.

Tens of thousands of such bottles are released into the seas of the world each year, because, despite our more sophisticated instruments, drift bottles still play a vital role in unraveling the mysteries of the seas. Drift bottles are regularly released today by government agencies across the world. They may be tossed into the sea from yachts, merchant ships, or research vessels sent out by private scientific institutions.

Drifting Mines

Finished sea charts are especially valuable after a war to locate explosive mines which have drifted into the main shipping lanes. In the Pacific following World War II, there were thousands of live and deadly mines drifting at random in the shipping lanes. Many serious casualties to ships resulted from collisions with these diabolical killers. It became imperative to know where and when these mines were likely to be encountered if ships were to be safely routed across the Pacific. A study of bottle drifts provided the answer. Even in normal times the paths of floating hazards to navigation can be forecast, or predicted with a high degree of accuracy, as a result of information gleaned from bottle drifts.

More than 156,000 corked soda-pop bottles were thrown into the Atlantic Ocean from Newfoundland to Florida from 1948 to 1962 by U.S. and Canadian research scientists.

The data accumulated from the returned cards has supplied valuable information on surface currents of the Atlantic Ocean. This comprehensive study will be used to help solve such problems as where to dispose of atomic waste materials and offshore pollution waste, as well as to learn more about the migration of fish.

For fishermen, exact knowledge of currents can be almost literally pure gold because of the increase in fishing hauls. American scientists, for example, use bottles to tip off fishermen as to where and when they can find cod and haddock. The eggs of these fish float on the surface, and bottles are cast among them as telltale floating markers. If the bottles move far out to sea, then presumably the eggs do too.

Sea charts have enabled navigators to make use of the speed of currents and drifts so their ships can avoid an opposing current and take advantage of a favorable one, thereby increasing their speed. Industry uses bottles to trace the disposal of wastes. Dumped into the water with waste material, they show whether or not certain areas or beaches are in danger of pollution.

For Her Duenna

The nautical experts who study the returned messages are in a splendid position to get first-hand information on what the people of the world think of America. The common belief is still that the streets of America are paved with gold and that certainly there must be a handsome reward for finding a bottle paper—despite the notice to the contrary printed on the form.

A Canary Islands damsel requested reimbursement for travel expenses to the seat of an American consul (where she carried the bottle paper) not only for herself but for her duenna as well—the young lady could not travel alone. One Irish colleen even asked for a husband and specified he be fat “because fat men are more jolly, generous, and romantic.”

Though bottle papers do not usually offer much of a reward to the finder, a native farm boy in the Azores Islands found a bottle on the beach that did. Inside, he discovered a note promising to pay the finder \$1,000 if the note was duly presented to a New York address. It was not a hoax. In fact, the reward was actually paid. More folding money than the boy could have earned in 10 years! As a publicity stunt the bottle was cast into the sea near the entrance to New York Harbor by the sponsor of a radio program. It worked. The bottle drifted about 2,500 miles in the North Atlantic, finally resting on the Azores Island beach.

Why are bottles particularly used?

Fragile as it may seem, a well-corked bottle is one of the world's most seaworthy objects. Bottles are strong and durable. When well sealed, they make perfect containers. During storms they

ride safely on giant waves, often 100 feet high. They resist breakage when they are hurled to the shore by pounding surf or dragged back into the sea across stones and sand.

Bottle messengers do not hurry. Twisting and turning, they meander on their way, sailing about 10 miles a day. However, bottles carried by strong currents and blown by gales have been known to travel some 80 miles in 24 hours.

Some bottles travel only a few miles, returning to shore on the rising tide. Others travel thousands of miles. One bottle messenger has been sailing the oceans for 25 years. Nicknamed the “Flying Dutchman,” it was first dropped into the North Sea by a trawler. This venerable traveler has been picked up and thrown back more times than you can count. It has been around the world several times, and most likely right at this very moment it is bobbing merrily over the waves.

In 1784 a Japanese fisherman and some companions sent a message out in a bottle while on their way to seek buried treasure. The bottle was cast up in 1935 at the very sea coast town from which they had departed. A 151-year trip!

Whiskey bottles, beer bottles, catsup bottles—all kinds of bottles are drifting on the oceans. Imagination pictures them pushed relentlessly along by winds and currents, buffeted by winds and waves but usually coming to rest on some shore to be discovered by a beachcomber with an inquiring mind. It is recorded one bottle drifted from a point southeast of Cape Horn to the west coast of North Island, New Zealand, a distance of 10,250 miles.

Contrary Behavior

Drifts of 4,000 to 6,000 miles and more are not uncommon. Not so long ago, a bottle set adrift about 800 miles east of Newfoundland was discovered 31 months later on the coast of Yucatan after drifting over 6,000 miles. It was first carried along in the eastward-moving current and wind, then southward and westward until it finally washed ashore on the remote beach in the tropics.

The speed of a drifting bottle varies, of course, according to wind and current. A bottle adrift in a quiet corner may not move a mile in a month. Another, caught up by the Gulf Stream at its raciest, may bowl along at a brisk 5 knots and do 100 miles a day.

However, nobody can predict with certainty in what direction a bottle will go. Consider the contrary behavior of identical bottles dropped at the same

time just off the Brazilian coast. The first floated east 130 days and was found on an African beach. The second went northwest 196 days, ending up in Nicaragua. Yet two other bottles thrown overboard in the mid-Atlantic landed on the same bit of French coast—mere yards apart after 350 days at sea.

There must be literally thousands of bottles bearing messages drifting on the oceans of the world at this very moment. Who can tell what outstanding news they may be carrying? During and after World War I many bottle messages set adrift by shipwrecked seamen were delivered by the sea to all parts of the world. It is reasonable to think many more such messages were entrusted to the sea in wars since then, not only by seamen, but also by airmen shot down. Probably as time goes on, some of these "letters" will be duly delivered by the seas; perhaps bringing news of the fate of sons, husbands, and fathers who went to war and did not return.

Or perhaps, there are bottles drifting about like the one tossed overboard one June a few years ago by Dr. T. R. Van Dellen and L. E. Richard of Chicago, who were on a ship off the northern coast of Maine. They stopped a steward as he was about to throw an empty whiskey bottle over the side and decided to test the odds of nature.

In pencil they wrote a note giving their names and addresses and instructing the finder to send the bottle, and they would refill it. After putting the note into the bottle they tossed it into the stormy North Atlantic.

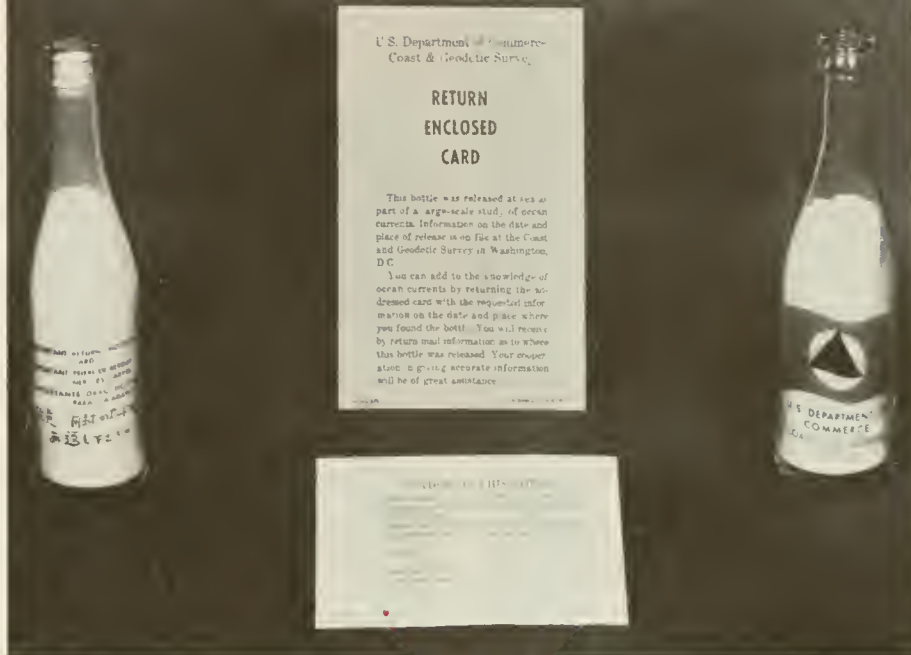
More than 2 months later they received a letter from a man in Newfoundland. He said he had found the broken bottle on a beach over 1,000 miles from where it had been tossed overboard.

"I hope you can refill another bottle in place the broken bottle," he wrote, "Wouldn't be no good (sic) to sent you but I was lucky enough to get the note and drye it. Will I am in hopes to get good succeed with it. Thank you."

Van Dellen and Richard each chipped in five dollars and sent a check to the man explaining that liquor could not be sent through the mail.

The envelope was returned unopened. Under the bottle-finder's name was printed, "Deceased."

Perhaps, too, there may be romantic bottle messages afloat like the one from a sailor who offered to marry the first pretty girl who read his seaborne message. A Sicilian girl answered. Correspondence turned rapidly to love, and they were married in 1956!



Above: Bottles released by the Coast and Geodetic Survey are weighted with sand so they float almost completely submerged. Any movement may then be attributed more to current flow than to wind. At right: Mrs. James T. Bird, of Coco Solo, holds a bottle she found on the beach at Fort Randolph, which contains a card similar to the one above. It was set adrift by the Oceanographic Institution of Woods Hole, Mass. Below: James T. Bird, an avid bottle collector, displays a Guinness Stout Bottle found in Gatun Lake, which he bought recently from another collector. It was a part of the Guinness Bottle Drop of 1959 and contained a label commemorating their Bicentenary.

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Canal Building Early Warning System for

Slides

By Eunice Richard

THE CULEBRA SLIDE POSSESSED a certain remorselessness which was not manifested by any of the other slides in quite so picturesque a way. For this slide, with apparently human malice, attacked not only the work done on the Canal proper, but like a well directed army moved on the headquarters of its foe.

"Its first manifestation appeared in the form of a wide crack in the earth at the crest of the hill on which the town of Culebra was located and directly in front of the building used by Colonel Gaillard as division headquarters for the engineers."

This was in 1913 and a construction day writer, describing the problems faced by the Canal builders, said that at this time many of the buildings, including the Culebra YMCA Clubhouse, had to be moved from the side of the Cut.

In May 1968, 55 years and several thousand ships later, Panama Canal engineers discovered that a similar problem still existed. A deep crack had suddenly opened on Hodges Hill, the present day name for Culebra. It was on a hill overlooking Culebra Reach on the west bank of the Canal.

Reactivation of the old slide that dates back to construction days came to the attention of the Canal engineers by the enlargement of enormous tension cracks high on the hill. The unexpected threat almost spelled disaster. A slide of this size could have blocked the Canal or at best slowed traffic.

Swinging into emergency action, the engineers launched a maximum effort program aimed at stabilizing the hill by any means that could be implemented quickly. At the same time, they started an intensive effort to determine the cause and nature of the problem.

The methods being used today to detect potential slides and handle them are naturally far different than those used 55 years ago since the science of soil mechanics is only 30 years old.

In the case of Hodges Hill, engineers

first took action in an effort to stabilize the slope quickly. This consisted of drilling into the slope to drain the cracks and rocks; application of large quantities of lime to help the soils and rocks release water; and construction on the surface of an effective drainage diversion system which collected the rainfall and diverted it from the cracks.

what they call the most mixed up geology in the world, have a name for the geology in Gaillard Cut—"reverse topography."

They explain the theory this way: "First of all—in the distant geological past, Panama had sedimentary formations and they were beneath the sea. Then the Isthmus rose up from the sea

"And when the clay was exposed in the sides of the Cut and the teeming rain fell on it, it dissolved into heavy sticky mud that moved and crept inexorably down and filled the excavations, covered the rail tracks, overturned and sometimes buried the trains and machines at the bottom."

Howarth in "THE GOLDEN ISTHMUS"

The movement on the slope decreased, probably as a result of the remedial action and it was decided that no grading operation would be done unless the situation worsened. Since an ounce of prevention is worth a pound of cure, the bank stability surveillance program was then started.

An intensive effort to determine the cause and nature of the slide problem progressed quickly at the same time that monitoring systems were installed and geologic exploration was undertaken in the most active area. Assisting in this program was a board of consultants headed by Wendell Johnson, former chief of the U.S. Army Engineering Division, and Dr. Arthur Casagrande, an authority in the field of soils mechanics and engineering geology.

The geology at Hodges Hill could not have changed much in the years since the Canal diggers were dodging landslides and removing dirt almost as fast as it could slide into the Canal prism. It consists of hard, heavy rocks overlying weak rocks, a basic structure of many hills in Gaillard Cut and an important factor behind many slides.

The Panama Canal geologists, who have been wringing their hands over

and the rocks were subjected to weathering and erosion so that hills and valleys were formed. Later, some intensive volcanic activity developed, and the hills and valleys of sedimentary rock were covered with igneous rocks. Some were basalts that flowed over the land as lava, and some were agglomerates which rained down on the land and then solidified.

Since the land was still above water, erosion began and on top of the hills where the igneous rocks were thinnest, the weathering progressed most rapidly. These areas started to become the new valleys. As a result, the valleys are now located where the hills used to be and the hills are located where the valleys used to be. The hills are made of hard volcanic rock with the old sedimentary rocks beneath. It is the opinion of geologists that there could hardly be a worse situation so far as slope stability is concerned.

In formulating the Bank Stability Surveillance Program, Canal engineers did not rely entirely on past experience but built flexibility into their plans for developing better methods and equipment as they went along.

They came up with an 8-year develop-



A sample of what happened to the early Canal diggers from time to time. A break in the east bank at Culebra in 1913 poured material into the bottom of the Cut tearing up railroad tracks and burying a steam shovel. Some buildings had to be moved from the side of the Cut.



Gary Guazzo, soils mechanics engineer with the Panama Canal Engineering Division, probes a crack on the side of Hodges Hill.

mental plan which when completed would provide an effective surveillance system for all bank areas in Gaillard Cut high enough and steep enough to cause a serious possible slide.

The developmental program was divided into two phases. Phase I covers areas of known instability where there is presently activity or where there has been activity in the past. Phase II covers areas where the banks are high enough for potential sliding and where the geology is not known well enough to say they are safe. This phase will be completed in 1977.

From that time on, a permanent program of surveillance will continue. This will include continued maintenance of the surveillance systems as well as reading them. There may be instruments to replace and there may be new and better instruments to install. On occasion, new areas may have to be studied and added to the system.

The engineers say that when they are through with this developmental program, about half of the steep or dangerous banks along Gaillard Cut will have been studied, instrumented and under observation. In other words, the Canal will be equipped with a "slide early warning system" which will give early detection of possible slides. The system will include the engineering plans held in readiness and kept in an up-dated condition in case remedial action of any kind should become necessary.



Concrete and sandbag lined walls and drainage ditches divert the storm runoff away from the slide area of Hodges Hill. A ship moves through the Gaillard Cut in an area where there might have been hazards to Canal traffic if preventive measures had not been taken.



The French Canal

The picks and dredges and the army of rough and tumble diggers have long been silenced. But their ghostly presence somehow can be felt as one looks over remnants of the old French canal.

By Robert L. Austin

ON THE WEST BANK OF THE Panama Canal, a mile north of Gatun Locks, a small wooden bridge crosses a narrow waterway. If you stand in the middle of the bridge and face east toward the morning sun, you can see where the still water joins the Canal a short distance away. Now and then a ship goes by, leaving a pattern of waves that break against the mangroves on the shore.

As you stand there the creaking planks give rise to a ghostly rhythm: the dull thud of absent picks, the clatter of long gone dredges, the ribald laughter of men now silent. For this narrow channel was dug by men determined to build

a "Straits of Panama." It is the last remnant of an abandoned dream—the French sea level canal.

Today little note is taken of the French canal. The old equipment has rotted away and time and the jungle have erased most of it from sight and memory. Children growing up here have only a vague idea of the French canal although part of it is still in use.

Bones and Sweat

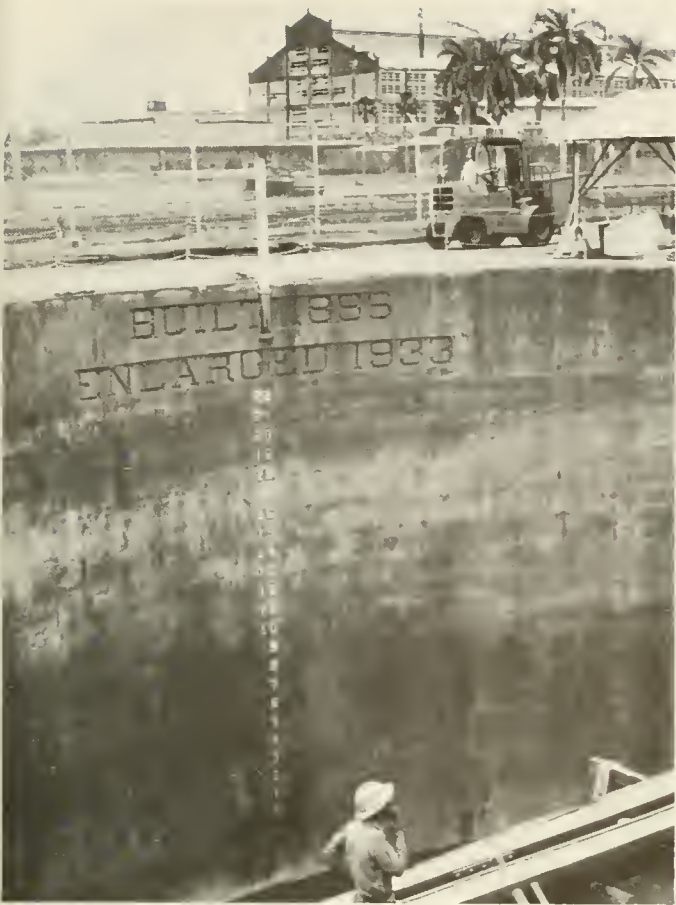
The French originally planned to dig a channel from Colon southwest along Mindi Hills to the Chagres River at Gatun. From Gatun the channel would boldly follow the Chagres as far as Gamboa then turn abruptly south through the Continental Divide. This is

the general route that the Canal follows today over the "bones and sweat" of that first effort.

The French work near Balboa and in Gaillard Cut forms part of the present Canal but is not discernable. On the Atlantic side, however, the French excavations were not used as part of the American canal and it is here that the French work can be seen.

Every visitor to Fort San Lorenzo crosses the old canal and everyone going to Gatun or Fort Davis from Margarita, Coco Solo, or Rainbow City goes along East Diversion, a small drainage channel dug by the French in the early 1880's.

The oil cargo dock on Pier 16, the



Top left: The French left their indelible mark at Mount Hope when in 1886 they built the drydock now used by the Industrial Division. Originally for small sailing ships, it was enlarged in 1933 to accommodate larger steel hulled ships. Top right: The narrow French canal enters the channel at Buoy 16 along the sea level approach to Gatun Locks. Below: An old French excavator lies partially submerged near Tabernilla after it was abandoned following the French failure. The photo was taken in 1913.





The Panama Canal Yacht Club at Cristobal is host to Atlantic side boat fans and to yachtsmen from all over the world. The club is located on the east bank of the French canal where the channel turns left into Limon Bay.

Cristobal Yacht Club, the Maintenance Division, and the Industrial Division shops at Mount Hope are all on the old French canal.

The French removed more than 4.5 million cubic yards of spoil from the Atlantic area including excavations in the ship canal, diversions, and harbor, and completed this sector almost as far as Bohio, 8 miles south of Gatun. (Later the French would select Bohio as a site for a dam and lock when the sea level canal plan was abandoned.)

Chagres River

French work was divided into three main excavations: the ship canal; West Diversion, a small channel draining water west of the Chagres River; and East Diversion, draining off water east of the Chagres into Manzanillo Bay.

The West Diversion was kept open as a temporary channel for the Chagres River until the spillway sill was completed at Gatun and the river finally closed in 1910.

After 1914 the East Diversion was not used. Now, partially hidden by second growth foliage, it has degenerated into a sluggish course that follows the road from Rainbow City, past Margarita, along Mindi to Fort Davis.

East Diversion

Many people mistake the East Diversion for the French ship canal and often taxi drivers pass on this misinformation to their tourist passengers. Others erroneously believe it is a jungle river.

Although the Americans dug a different channel, they did make temporary use of the existing French excavations. The French canal's location adjacent to the proposed lock site at Gatun made it ideal for use as a boat slip. Barges loaded with crushed rock from Portobelo and sand from Nombre de Dios were brought by sea to Cristobal and

then towed up the old channel to the cement storage docks at the huge mixing plant at Gatun.

When the locks were finished the mixing plant was no longer needed and use of this portion of the French canal was discontinued. The hustling, sprawling shops are gone and the clanking machinery is silent. The only evidence of this old bustle are the iron rails left in the jungle.

At its northern end the French canal is still alive and busy. Here the myriad facilities of the Industrial Division occupy the east shore of the old channel. This northern end of the French canal is the only part that has felt the hulls of oceangoing ships. The drydock built by the French in 1886 is used today to hold modern ships.

The Roosevelt

But here also is a trace of the old. Along the mud flats on the west bank are the rusting hulks and equipment of the French and Americans. These rotting relics recall past heroic days. The sad remains of the *Roosevelt* rest among the old dredges and barges.

(The *Roosevelt* was specially constructed to take Arctic explorer Robert E. Peary to the north polar region. The rugged little ship did her job well and on April 6, 1909, Peary planted the Stars and Stripes atop the North Pole. She was sold and resold many times and finally, in January 1937 while being operated as a tug, the *Roosevelt* was taken to the Mount Hope Shipyard to repair a leak and storm damage. But she was too far gone. The work was never started. The historic vessel was ordered beached on a mud bank of the old French canal to keep it from sinking at dockside.)

It may be too romantic to believe there's an awareness here. Somehow it

seems the old canal feels this drama with a consciousness that pulses through the channel keeping it alive and proud of the part it played.

Farther down where the French canal joins Limon Bay and the Cristobal basin are Pier 16 and the Cristobal Yacht Club.

The yacht club is host to many Atlantic side boat fans as well as yachtsmen from all over the world. Few of the transient visitors are aware of the historic significance of the busy channel and the water drifting past the mooring piers.

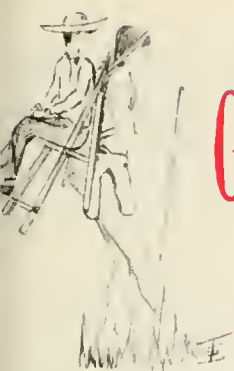
The Marine Bunkering Section's oil cargo dock on Pier 16 is an offspring of the older coaling station. As coal gave way to oil on more and more ships, the coaling station gradually shifted to marine oils exclusively. Coaling operations were finished in 1952 and many of the buildings destroyed. Currently the dock handles thousands of tons of marine oils and bunkers hundreds of foreign and American ships.

Still Alive

The spirit of the French canal is still with us even though the locks type canal ended the dream of a "Straits of Panama." Back on the west bank near Gatun Locks just a few miles from the busy industrial shops, the French canal lies quietly in the jungle. Ships of all nations pass it where the channel juts into the present day American canal at Buoy 16.

Perhaps this is the way the Chagres River once looked with Gatun nestled on its banks. The area abounds with ghosts—from the pirates and conquistadores to the French who worked and dreamed.

Robert L. Austin is an employee of the Navigation Division at Balboa.



Gold Rush Days on the Isthmus



By Willie K. Friar



Thousands took the shortcut through the jungles of Panama.

GIRLS IN RED VELVET SWINGS in the gas-lighted taverns of old San Francisco, covered wagons lurching across the vast deserts and snow covered mountains of the United States with fierce Indian braves in hot pursuit. These are the scenes that come to mind at the mention of the California Gold Rush; not malaria stricken men on recalcitrant burros jolting their way over the jungle trails of Panama or others poling their dugout canoes through the shallow reaches of the Chagres River.

Yet Panama, Las Cruces Trail, and the Chagres were very much a part of the scene during Gold Rush days, with thousands of gold seekers electing to take the "shortcut" across the Isthmus. The great throngs that joined the Rush in 1849 were to become known as the Forty-niners, a term that eventually came to mean anyone who goes in search of gold or treasure.

Before the discovery of gold in California, Panama was seldom visited except by an occasional whaler and travelers across the Isthmus were "few and far between." But when the cry of "gold" reverberated around the world, with the discovery of the lode at Sutter's Mill near Sacramento in 1848, it signaled for Panama, the beginning of another colorful chapter in its history as a route of passage.

Gold Fever

During the next two decades the Isthmian route was to become one of the world's most traveled thoroughfares. It was obvious that the shortest way to California was by way of Panama, avoiding the 10,000-mile sea voyage around the Horn or the dangerous 3,000-mile trek across the United States. And, in the frenzy of "gold fever" few gave any thought to the hazards they would face transiting the small neck of land that stood in their way.

Ships from the north first touched land at the forlorn village of Chagres

near the mouth of the Chagres River and at the height of the Gold Rush hordes of California-bound emigrants daily swarmed ashore, determined to make their way to the other side of the Isthmus without delay and there re-embark for the final dash to California.

The Isthmian crossing was made in stages, partly by river, and partly by land. First, the Forty-niners had to seek out and hire native boatmen with dugout canoes, called "bungoes," to transport them to some point in the vicinity of Cruces or Gorgona. From there, they took mules to Panama or, if they could afford it, the more expensive "silleros,"

so called because of the silla, a kind of chair which the natives lashed to their backs for carrying passengers.

The trail from Cruces was longer and rougher than that from Gorgona but had the advantage of being open in all weather. It followed the ancient Las Cruces Trail of the Spanish Conquistadores. It had once been paved with stone over its entire length and, despite centuries of neglect, enough of the stonework remained to give the mules a footing, precarious though it was during the drenching tropical rains. The Gorgona route, while shorter, became an

Drawings by Frank Brown



While reading about the Gold Rush, Trish Finn, student assistant in the Canal organization, pauses to study an oil painting which shows a party of Forty-niners, traveling by mules and "silleros," as they stop for refreshments at the Half Way House on their trip across the Isthmus. Painted in 1857 by Albertis D. O. Browehe, it now hangs in the Canal Zone Library.



impassable quagmire during tropical downpours.

The bungo boatmen were in an excellent bargaining position with hundreds of men rushing ashore and bidding against one another for passage up the river. It became a matter of survival of the fittest. The ablest at bargaining, at paying, or at forcing the natives to stick to a bargain in the face of higher bids, loaded their supplies into the boats and set off. At the beginning of the Gold Rush the fee for the first lap of the trip was about \$10 per passenger, but prices soared and bargaining became heated as the demand increased.

All travelers were anxious, with good reason, to get out of the village of Chagres. It was notorious as a breeding spot for yellow fever, cholera, and malaria, where the death rate was so high that most insurance companies included a clause in their policies stating that all benefits would be canceled automatically if the policy holder remained overnight in the village.

Yankee Doodle

It was a treacherous 60 miles from Chagres to Panama City by river and trail with the sole avenue of travel for the first 40 miles on the meandering Chagres River, which was, by turns, broad and sluggish, narrow, and turbulent.

After about an hour at the oars the boatmen routinely tied up their crafts and plunged into the water to cool off or they disappeared into the jungle and returned carrying bottles of native brandy from well hidden caches along the route. Many of the passengers, convinced that a supply of wine or stronger beverage was a necessary safeguard against the tropical diseases, joined the boatmen in passing around the bottle and it was not uncommon to encounter whole boatloads of Forty-niners following an erratic course upstream with passengers and oarsmen laughing uproariously as they sang "Oh Susanna" or "Yankee Doodle." The Spanish speaking natives often had little idea of the meaning of the words they were mispronouncing.

The clothing of the travelers and their arsenal of guns and knives were subjects of wonder and merriment to the friendly, scantily clad natives. Ill-informed concerning what to expect in Panama as

On Las Cruces Trail, still a popular hiking route, Pat Weed, Canal Zone College student, examines some of the well-worn paving stones over which thousands of gold seekers traveled in their headlong dash for California.

well as in California, the men frequently brought heavy woolen clothing best suited for Arctic conditions. As the trip progressed, these clothes were discarded and it was not long before the streets of Panama City were littered with a collection of fur hats, red flannel shirts, and woolen trousers.

Dined on Iguana

The passage up the river usually took at least 3 days with overnight stops at native villages along the way. Food was difficult to find and eating at the huts often proved an unnerving experience. Wild stories circulated and the travelers, unacquainted with the ways of the tropics, became suspicious of any food they could not immediately identify. But hunger often overcame their reservations and some later reported they were sure they had dined on iguana, snake, monkey, and other exotic animals.

One traveler wrote that he had drunk his first cup of coffee at a hut and found it so good that he ordered another. When he indicated that he would like more sugar in it, he was dismayed to see the girl serving it chew a piece of sugarcane and calmly spit the juice into the cup before she handed it to him. He decided to stick to brandy for the rest of the trip.

When the boats reached Cruces or Gorgona on finishing the first part of the journey across the Isthmus, the haggling began anew as the men paid off the boat owners before starting a new series of negotiations for mule transportation to Panama City.

Gold-finding Devices

Like the Chagres boatmen, the overland packers shrewdly fixed prices depending on the current demand for services. The distance was only 20 miles but the route was through rugged country with trails so narrow that riders were forced, in some places, to put their feet up on the mule's back to be able to pass through. The mud on the slippery trail was often knee deep.

Scores of Panama mules moved constantly over the route bearing burdens out of all proportion to their size as many of the Forty-niners had supplied themselves with all manner of outrageous Rube Goldberg-type gold-finding devices and enough provisions to last a whole year.

One guidebook of the day recommended the following as the minimum amount of supplies needed for a year in the gold fields: 1 barrel of salt pork; 10 barrels salt beef; 100 pounds of ham;

10 pounds of hard bread; 40 crocks of butter and cheese; and a goodly supply of tea, salt, sugar, and spices. How a man was to transport himself and such a store of supplies across the Isthmus and onto the ship bound for California was not explained.

Food Was Scarce

The travelers who survived the rigors of crossing the Isthmus thought first of food and lodging when they finally arrived in Panama City. More often than not, they found no room available in the overcrowded town and set up camp in the tree-covered fields outside the ancient walls of Panama City, improvising shelter from whatever material was on hand and preparing their meals over campfires.

And there the men stayed, often for months. Ship after ship continued to come in on the Atlantic side but far fewer were leaving on the Pacific side for California. And when the ships did arrive and began taking on passengers, those with through-tickets often found the ships already filled with men who had no reservations but refused to get off. During the first 6 years of the Gold Rush, demand for space on California-bound ships was so great that tickets sometimes changed hands for as much as \$1,000. Brothels, saloons, and gambling dens soon sprang up and many men lost their tickets or ticket money before they could secure passage.

Aghast at Morals

The Bishop of California, the Right Rev. William Ingraham Kip, passed through during this period and was aghast at morals and living conditions. He wrote of his accommodations in Panama City, where he was put up in a room with 200 others, "There were not only the most awful blasphemies that human ingenuity could devise, but the most foul-mouthed ribaldry that could be conceived by a perverted imagination. A party would rise from their beds, and under the dim lanterns which hung from the beams, produce their brandy-bottles, and with oaths, drink until they reeled again to their bunks. To make matters worse, next to us was a pen (I can call it nothing else) of boards about 10 feet high, intended to afford a private room for females. This happened to be occupied by some women of the baser sort whose loud ribaldry infinitely amused the kindred spirits on our side of the partition, who accordingly replied to them in the same terms. It was enough to convince one of the doctrine of total depravity."

Overcrowding and unsanitary conditions began to take their toll with diseases often reaching epidemic proportions. Thousands fell victim to dysentery, malaria, and yellow fever. An almost complete lack of medical care made mortality high. Once a disease was contracted it had to run its course. Those who died were placed in the ever-growing "American" cemeteries at one or another of the ports and the survivors either returned home or continued on to the gold fields. New crosses were erected daily which the tropical rains washed away while new shiploads of gold seekers continued to straggle past on the way to the great adventure.

Guides for Forty-niners planning to cross the Isthmus often advised against drinking alcoholic beverages and then eating tropical fruits which they said would cause "a fermentation in the bowels which no medical care seems to help."

Many survived the stay on the Isthmus only to find themselves faced with the hazards of epidemics aboard the ships. Most were overloaded, increasing chances of contracting contagious diseases. Many passengers were exposed to cholera and yellow fever before boarding the ships and there were often nu-

merous deaths before they reached San Francisco.

In August 1852, the Pacific Mail's steamship, *Golden Gate*, having taken on a full load of passengers, including several companies of the Fourth Infantry bound for the Presidio at San Francisco, was found to have several passengers with cholera. The disease spread rapidly. Before the ship cleared Panama Bay 84 soldiers had died, and there were almost daily fatalities all the way to California.

Ulysses S. Grant

One detachment of soldiers had become infected while stranded for 5 days in Cruces. Among the group was a future Commander in Chief and President of the United States, Capt. Ulysses S. Grant. A mule owner had contracted to provide baggage transportation for the Army at 11 cents a pound, but when civilian travelers offered him 16 to 20 cents, he conveniently forgot the contract. Captain Grant succeeded in secur-

Travel on the Chagres River has changed little from the time of the Gold Rush. Employees of the Meteorological and Hydrographic Branch look very much like the Forty-niners in the painting "Passing a Rapid" as they use poles and rope during a routine trip. J. Cameron painted this Chagres scene at the height of the Gold Rush.



California Gold Rush Turns the Panama Railroad into a Bonanza



All was chaos at Culebra where the railroad ended in 1854. This painting by Otis M. D. Surgeon shows work proceeding on the railroad, at left, while in the foreground California-bound travelers round up burros and mules to continue their overland trek. Crowds of stranded Forty-niners fill the balconies of the American Hotel at the far right.

ing more mules but not before 12 soldiers had died.

In the meantime, work on the trans-Isthmian railroad was going forward. The project was not, as might be assumed, inspired by the discovery of gold. It had been under consideration for more than a decade before the Rush began.

The route was surveyed as early as 1841 and in 1847 the Panama Railroad Company was organized by a small group of New York financiers. While the company's organizers were men of vision, they never dreamed in 1847, that the discovery of gold in California would assure the successful completion of the railway and a fortune for the company.

The affairs of the railroad looked very dark and its stock had taken a tumble when a climactic event changed the outlook for the enterprise.

Rough Weather

On the first day of October 1851, a train of working cars had passed over the road as far as Gatun. The next month two ships, the *Georgia* and *Philadelphia*, arrived off Chagres in rough weather with passengers en route to California. After several lives were lost in attempting to bring the ships into the customary anchorage at the mouth of the Chagres, they anchored in what is now Limon

Bay, where the railroad had its Atlantic terminal.

Discovering that the work train had made a run as far as Gatun, the anxious emigrants converged on the railroad and offered to pay any price to be transported on the train for the 7 miles. There was not a single passenger car but the railroad finally gave into their pleas and transported them to Gatun on the work train where they could take the bungoes as usual.

A Bonanza

From then on, the railroad carried passengers as far as the tracks extended. The resulting revenue was estimated at over \$1 million before the railroad was completed. For the next 15 years the railroad was a bonanza. Annual dividends were never below 12 percent and in 1868 reached 44 percent. During the first 12 years of its operations, it carried over \$750 million in gold dust, nuggets, and gold and silver coin, collecting $\frac{1}{4}$ of 1 percent on each shipment.

Hordes of Forty-niners crossed and recrossed the Isthmus on the railroad paying \$25 for a one-way fare. The company charged \$6 just to walk across the Isthmus on the roadbed.

On April 21, 1855, the *NEW YORK TIMES*, telling of the merits of the Panama route, published this story:

"The fine steamer *Illinois* sailed for Aspinwall yesterday with 715 passengers for California, another vindication of the opinion expressed a fortnight ago; that the stream of emigration is flowing Californiaward this spring with a stronger tide than ever before. Seven hundred and fifteen passengers! What a young village is here! But the vessel is large and commodious and will accommodate them all with ease; so friends who are mourning the departing ones, don't dream of them as sharers in the horrors of a 'middle passage.'

"The ease and comfort with which a trip can be made to California now by way of Aspinwall and the Panama Railroad is greatly promoting the emigration thitherward of the families of those adventurers who desire to settle on the Pacific slope. The *Illinois* carried out no less than 120 ladies and 78 children—the larger portion of them unaccompanied by gentlemen. Indeed, ladies may now make the trip to San Francisco with no more difficulty and much less fatigue than the journey to Washington would involve. The steamer upon reaching Aspinwall meets a train of railroad cars upon the wharf with steam all up ready for a start. A 3 or 4 hour's ride brings them to the Pacific coast and an hour more places them on the vessel which is to land them at San Francisco. The changes of conveyance are two only: and there are no exposures to fevers or rain or any other serious inconvenience on the way."

The *NEW YORK TIMES* added, "The ladies are beginning to understand this and California is reaping the advantage of the addition to its population of numerous families whose influence cannot fail to be most beneficial to the State."


The Opposite Sex

This was welcome news to the Forty-niners already in California where there were so few of the opposite sex that a man would often walk many miles just to look at a woman.

The Isthmian crossing continued to be a popular route to the West until 1869 when the first transcontinental railroad in the United States was completed.

Although the Gold Rush, in which the Chagres, Las Cruces Trail, and the Panama Railroad played such a significant role, passed into history, the Isthmus continued to play an important role in the development of the "Golden West" with the Panama Canal taking on the job of providing the historically vital route of passage.

Break A Bottle Over Her Bow



WHEN ANNE PARKER, DAUGHTER of Canal Zone Gov. and Mrs. David S. Parker, at a recent ceremony, smashed a bottle of champagne, against the bow of the oil recovery barge, *Lagarto*, completed by the Dredging Division in September of this year, she was performing a ritual that dates back to ancient times.

A launching ceremony is simple. There is a short speech, then the crowd quiets, and the guest of honor, always a lady, swings the gaily wrapped ceremonial wine with a sidearm motion. Months and often years of hard work by scores of highly skilled men is climaxed by the smashing of a bottle of champagne,

The launching of a ship has not always meant good cheer and champagne. The ceremony goes back thousands of years to solemn and often inhuman pagan rituals meant to appease the gods and insure safe voyages—even at the expense of human sacrifices.

Later in history a launching was preceded by a great religious ceremony and was attended by kings, queens and high priests. Thus, what was born in the pagan mind to appease the gods, and then evolved into complex religious ritual has become both a vestige of the past and a show of pride in our vessels of today.

Noah's Ark

Actual records of an offering to the gods upon completion of a ship date back more than 2,000 years before Christ. An ancient Assyrian tablet gives an account of the great flood and construction of Noah's Ark. According to

success of a vessel and bring blessings from the gods than to make a human sacrifice? The Fijians and Samoans used to sacrifice humans to their shark deities. In Tahiti it was customary to shed human blood when canoes were launched or built. According to Mariner, in his book "Tonga," there was the grisly custom of using human beings as rollers on which to launch a ship. This was similar to the ancient Norse habit of tying human victims to the launching rollers. This was known as "blun-rod" or roller-reddening.

A custom in 18th and early 19th century France was to choose a godfather and godmother, usually children. The godfather would present a bouquet to the godmother, and then both would pronounce the name chosen for the ship.

Queen Victoria

In Britain Queen Victoria originated the custom of having a religious service at the launching of the *Alexandria* in 1875. The ritual developed into a full choral service with the reading of a special prayer made up of extracts from the 107th Psalm. This was followed by a ceremony in which a bottle of wine was smashed across the ship's bow after a sponsor had named her. The custom of benedictions over British ships dates back to the 14th century when ships were blessed by priests.

Christening a ship with water is considered unlucky. The historic ship *Con-*
(Please see p. 29)

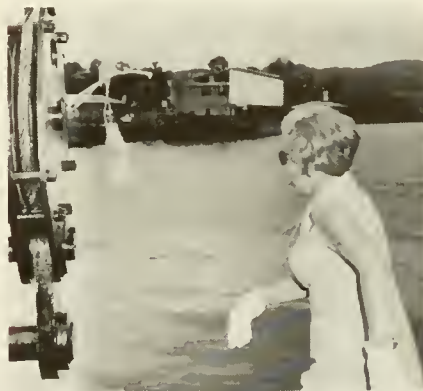


Gov. David S. Parker stands beside his daughter Anne as she christens the "Lagarto." At left is Charles Hummer, the Canal's oil pollution control officer.

usually on the vessel's bow. Meanwhile, if the vessel is a large ship, workmen have been busy laboring under her hull pounding away supports so that when the bottle sprays its liquid the vessel will start its short journey to the water. In the launching of smaller craft, a crane is often used to place them in the water.

The 19th Century

Although women now perform the ceremony of launching and naming a ship, it was a masculine prerogative until the 19th century when the Prince of Wales broke the precedent and began having women of the court act as sponsors. Because of the taboo placed on having women aboard a ship in ancient times, many sailors refused to sail on a vessel that was named by a woman.



A spirited swing by Mrs. Julian S. Hearne wife of the former chief of the Dredging Division, sends the champagne bottle smashing against the derrick barge U.S. "Goliath."

the tablet, oxen were sacrificed as part of the religious ceremony connected with the Ark's completion.

Religious zeal reached a peak in the Middle Ages when ships were named after saints and no craft was sent to sea without its shrine and idols. During the Crusades each ship of Louis IX had an altar and a priestly entourage aboard when she sailed for the Holy Land in the 13th century.

And what better way to insure the



Since it is considered bad luck for the bottle not to break on the first try, it is usually grooved so that it will smash immediately on impact with the vessel.

Culinary Capers

By Fannie P. Hernández



THE SKILLS AND STAMINA OF some of the best roadbuilders of this hemisphere will soon be put to the test in the dense jungles of the Darien Province of Panama and northwestern Colombia where construction of a 250-mile highway will supply the link now missing from the Alaska to Argentina intercontinental road system.

Culinary Capers invites REVIEW readers to go along on an armchair journey with these forgers of progress and makers of cement ribbons to savor the region's primitive nature before it is swept away by the near-magic of 20th century ingenuity.

Adventurers' tall tales of the Darien tell of headhunters who blow poison darts from the treetops, of swarming blood-sucking insects, of bottomless morasses, of ferocious jaguars, and wild boars. Let us have a look at the Choco Indians and the vital sources which have sustained them on a jungle-river-based economy.

Roadbuilders

The roadbuilders and their bulldozers will cross one of the world's largest swamp areas, jungle rivers, hills and valleys, and penetrate wilderness untouched even by Indian paths, to bring change, at last, to an area where Spanish explorers established their first mainland colony. Cutting through the dark green masses of tangled vines, creepers and a myriad of forest growths, we shall see the Choco's shelters, taste their food, and feel the pulse of their silent primeval world before they retreat deeper into the wilds or opt to join the modern age.

Defying change, we find the copper-colored Choco's living today in the wildest, most primitive existence, very much as the Spaniards found them early in the 16th century. Scattered along the banks of the many rivers that crisscross the Darien, far from the comforts and problems of civilization, they seem to be in complete harmony with their surroundings. Proud, peaceful, honest, but suspicious of outsiders, they live a day-to-day existence in which there are few economic pressures. Ignoring government procedures and regulations, Choco's usually make their own laws.

They are the Indians most often maligned in stories about the Darien. Possibly because of their savage appearance, they have stirred the imagination of the

mythmakers. They are, however, more friendly than their Cuna cousins. Both men and women go about practically nude. The male has a muscular frame, an abundance of straight black hair and wears earrings. The rest of the attire of the Choco man consists of a small G-string and a generous coating of dark body paint made from the dye of a native berry from the genip tree. They also use a red paint made from achiote, the orange-red seed pod which is commonly used to give color and flavor to Panamanian cooking.

The Kitchen

The Choco's are semi-migratory and dwell independently in small one or two family groups. They build their shelters along the banks of rivers which serve as their highways and source of livelihood. The dwelling is a platform raised on posts several feet above the ground. Overhead is a roof of thatched palms, the joints tied with vines. There are no protecting walls. To reach the Choco house, one climbs up a ladder made by cutting notches into a pole or a log. At night, the family turns the steps to the underside of the log to bar dogs and other unwanted callers. At one end of the floor, which is made of flattened-out split cane, is the "kitchen." It consists of a cement or clay platform approximately a yard square. Three logs placed spoke fashion rest on the square and the cooking pot sits over a small fire burning at the hub.

A calabash tree provides the kitchen utensils. Scooped out small calabash are for drinking and eating or used as spoons, though ordinarily the Choco's use their fingers to eat from the common kettle. Another one with a hole cut into the top and a piece of oily twisted bark stuck in the hole serves as a lamp. And still another good-sized calabash with holes punched into it is a colander. Long seed pods serve as graters.

Practically Nude

Choco women wear only a simple knee-length sarong, their ink black hair falling on copper shoulders, their breasts, bare. Both men and women have a great fondness for adornments. They wear quantities of glass beads around their necks or draped over their shoulders, and on special occasions, flowers in their hair. For additional beautification, they paint the lower part of their faces

Down in the Darien

and their bodies, often making intricate designs with different colors of paint.

Scattered about the floor and hanging from the posts of the dwelling and those supporting the roof over the "kitchen" are baskets, earthen pots, bows and arrows, spears, knives, and other hand-made hunting and fishing and household items. The baskets are made of strips from the fronds of a palm tree which are light on one side and darker on the other. The Choco women weave them turning the strips and making an attractive twill pattern. Earthen pots are slowly being replaced by "pailas," the cast aluminum or iron pots found in Panamanian kitchens.

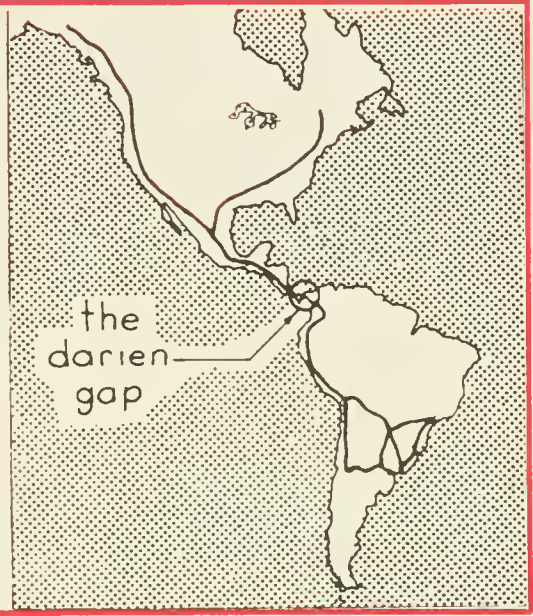
Sleep on Floor

The Chocoos sleep on the floor of the shelters. Their beds are the bark of trees which women have made soft by beating under water. There are no bed covers. A wooden block serves as a pillow. There is no protection from the excessive heat, the insects or frequent downpours, and the Darien is one of the world's rainiest regions. The shelters are easily replaced making it possible for the Chocoos to disappear deeper into the wilderness as the construction gangs near them. Navigating their long narrow dugout canoes, they will select another spot on the same river or another stream which will provide laundry and bathing facilities and also serve as the fish market and water supply.

Fish are caught with nets, spears or

The Pan-American Highway System

The circle encompasses Darien wilderness where the last 250-mile link in the Pan-American Highway system, to be constructed in the near future, will permit motorists of the 1980's to drive from Alaska to Argentina and open up what has been called "a treasure box of long hidden wealth." Fertile valleys will be revealed when the walls of the green jungle are broken by the road through this untamed stretch of land.



bows and arrows. If not consumed immediately, they are smoked and dried. The rivers also provide turtles and caiman, favorite foods of the Chocoos. They shoot the turtles with rifles or swim under water and catch them with their hands, tossing them ashore. A wooden wedge is driven between the head and shell to prevent it from getting away before it reaches the cooking pot. To save the turtle for a future meal, it is tied near the water.

The forests furnish wild game which provides the Chocoos protein food. Born hunters, they use bows and arrows to

hunt the jungle animals. The tapir, peccary, deer, armadillo, iguana, and monkey are favorite jungle fare.

Jungle trees provide balsa for making rafts and the bark of certain trees is used to make remedies for snake bite, skin ailments, malaria, etc. Other trees furnish fruit and dyes for painting their bodies. Palm fronds are used for the roofs over their shelters and the juice of the green coconuts provides "milk" for the Chocoos.

Chocoos cultivate mainly corn, rice, yucca, potatoes, yams, beans, and otee and grow plantains, bananas, pineapples,

A Choco boy and his river. Long, narrow dugout canoes transport food on the waterway which also provides drinking water, fish, and laundry and bathing facilities.





papayas, guavas, aguacates, and other fruits and nuts. Their diet is rich in vitamins and high in roughage.

Iguana Stew

A favorite dish is *Iguana Stew* and for this a gravid female is preferred and prepared in this manner:

Skin the iguana, removing the insides and saving the eggs, including the yellow ones and the heart and liver. Dismember the iguana by cutting it down the spine, dividing the halves into three pieces and the legs in two. Place the meat in a pot of heated coconut oil and brown it lightly. Drop in hot pepper and garlic to taste, and brown a little longer. In another pot, boil the eggs in their shells for half an hour with chili pepper. (Iguana eggs, boiled for 10 minutes and then sun dried have a cheese-like flavor and are relished by all Darienites.) Drain and add to the meat along with the diced liver, heart, and yellow eggs. Cook until the broth has all but disappeared. Serve with rice and beans.

Turtle Stew

Turtle is an excellent food source of the Chocoos and a typical meal may be portions of turtle fried in its own grease. However, a more savory dish is *Turtle Stew* prepared like this:

Clean and cut up the neck and legs of the turtle and steep in lemon juice, garlic, onion, green pepper, salt, and pepper for a few hours. Remove from the marinade and fry lightly. Then add the marinade and one cup coconut milk and cook until the meat is tender.

Turtle Egg Omelet

Turtle eggs are considered a delicacy in Panama and some say they are more nutritious than hen's eggs. They are eaten raw, cooked, mixed into pancakes and made into a butter-like spread. *Turtle Egg Omelet* is made much the same as the common hen egg variety, using oil for cooking.

The flesh of jungle animals and birds such as tapir, monkey, ibis, peccary, venison, and agouti are common fare in the Darien. The flesh of these is often smoked before cooking. Fresh meat, however, can be boiled, roasted, or barbecued. It also is salted and dried in the sun for several days. Monkey meat is usually smoked for 24 hours before cooking, but a Darien housewife in a hurry to feed her hungry family may simply boil the meat in salted water until it is tender.

Monkey Stew

Monkey Stew is made by frying salted, smoked monkey lightly in hot oil, adding diced onions, then water and achiote. The stew is cooked until the meat is tender and sauce has thickened.

These meat dishes are often served with rice which has been cooked in coconut juice with the addition of onion and salt, or corn rolls (bollos) made by grinding and boiling green corn which is then formed into balls and wrapped in corn husks and boiled.

Chocao de Guineo

A banana-coconut dessert may round out the meal. *Chocao de Guineo* is made by cubing six bananas and boiling them in one cup of water, adding a piece of fresh ginger root and gradually adding one cup coconut milk and a little flour for thickening. It is stirred constantly until the desired thickness is achieved. More coconut milk is added when it is served. Plantains may be used instead of bananas. (Coconut milk is made by squeezing grated coconut to which boiling water has been added.)

Most of these recipes were collected by Panamanian anthropologist, Dra. Reina Torres de Araúz, and are included in the Darienita's Dietary compiled by James A. Duke of the Battelle Memorial Institute.



Queen in her kitchen, this Choco lass stirs the contents in the cooking pot which sits at the hub of three logs placed spoke-fashion at one corner of the dwelling. Note how she has embellished her beauty by painting the lower part of her face.



Chocoos are fond of adornments. In addition to painting an elaborate design on his face, this youth wears a chain around his neck and a flower in his hair.

At right: The collection of baskets was made by the boy's mother who used strips of palm fronds which are light on one side and darker on the other. By turning the strips as she weaves them she achieves an attractive twill pattern. Below: A primitive drill made by the Chocoes proves to be an interesting toy for Patrick, left, and Richard, sons of Mr. and Mrs. Thomas W. Grimison of La Boca. They are making holes in a calabash just as the Chocoes do to make a colander.



At right: High off the ground, the Choco shelter has a split cane floor, a thatched roof and no walls. A notched tree trunk serves as steps to the dwelling. At night the trunk is turned to the underside to keep out unwanted callers, dogs, cats, and wild animals. Below: This chic Choco belle enhances her beauty by painting flowers on her cheeks, butterfly wings above her lips and an intricate design on the lower part of her face.



The tepee-like structure on the right is the chicken coop. Chocoes' protein food is mainly from the jungle where they use bows and arrows to hunt game. They also keep chickens and pigs to supplement food from the jungle and the rivers.



“ALL ABOARD—ALL ASHORE—Flight No. 248 Now Boarding.” Odd announcements such as this will be heard by lucky people taking winter vacations this year combining cruises with air travel.

While cruise ships are still the first choice of those wanting to take winter vacations, travel agencies and shipping companies are trying all kinds of variations to tempt the more sophisticated. Tourists can travel from Europe by air and return by ship or go from the U.S. east coast by train to California and catch a ship that will take them back to the east coast via coastal ports and the Caribbean Islands. Many of these ships come through the Canal.

“Princess Italia”

One of these is the SS *Princess Italia* that came through the Canal early in October and is making several more cruises during the year. On the October trip, the vessel carried members of the Pennsylvania State Grange, who had started their trip in Pennsylvania, traveled to Chicago, and caught the Santa Fe Railroad to Los Angeles. There they joined the *Princess Italia* for the voyage back to the east coast.

The *Princess Italia*, operated by the Princess Tours from the U.S. west coast, is due here on another cruise from the east coast en route to Los Angeles December 7. A second intercoastal cruise will bring her into Balboa April 29 for a northbound transit. She will return May 17 from the Caribbean and go through the Canal on her way to California.

C. Fernie & Co., who represent the *Princess Italia*, have announced that a new cruise ship, named the *Fairsea*, will arrive at Cristobal from Fort Lauderdale December 1 with approximately 450 cruise passengers bound for California. The ship is the former Cunard liner *Carinthia*, which was rebuilt in Italy for Pacific cruising, and is operated by the Sitmar Line Cruises Ltd.

Two other cruise ships on their first

visit to the Canal will be among the dozens making transits during the coming 1971-72 cruise season. They are the new Shaw Saville liner *Ocean Monarch*, due in Cristobal on a South Sea cruise November 17, and the *Lindblad Explorer*, to make her first trip through the Panama Canal in March 1972.

“Ocean Monarch”

The *Ocean Monarch* is the former *Empress of England*, converted by Cammell Ltd., of Birkenhead, England, into a one-class tourist ship capable of carrying 1,400 passengers. She will sail from Balboa November 18 and return from the South Pacific March 20 for transit.

The *Lindblad Explorer* will arrive at the Canal late in March after a visit to the Galapagos Islands and will call at the Caicos and Great Turk Islands on her way to Nassau. This unusual ship was built in Finland for the Norwegian company and chartered to Lindblad Travel, Inc., of New York. It was designed to cruise to remote places such as the Antarctic from Punta Arenas and up the Amazon River. There are accommodations for 104 passengers in outside cabins, a swimming pool, cinema, and a lido deck.

Regular Cruise Vessels

Regular cruise vessels making Caribbean voyages during the winter months this year include many old customers who have been familiar sights in the past at the docks in Cristobal and Balboa.

C. B. Fenton & Co. have announced the *Oceanic* will arrive in Cristobal from New York December 28; the *Gripsholm* January 20 on a round-South America cruise; and the *Kungsholm* January 23 from New York to the Far East and return April 15. The *Sagaffjord* is due January 10 from New York en route to the South Pacific and will return March 30. Nine Caribbean voyages are scheduled for the popular *Federico C.*, which will be making Caribbean cruises from Port Everglades. She is due in Cristobal December 30, January 25, February 8

and 22, March 7 and 21, and April 4 and 18.

Pacific Ford, agent for the *Ocean Monarch*, announced that the cruise ship *Stella Occanis* will call at Cristobal December 28, February 8, and February 29. Also scheduled is the German Atlantic liner *Hamburg* due in Cristobal January 27 to transit the next day and return to Balboa February 16. She will come back to the Canal February 28 for a southbound transit and return March 18 to transit north. The *Hamburg* makes another round trip through the Canal later with the southbound transit set for March 30 and the return trip north June 18.

The well-known *Rotterdam* of the Holland-America Line is due in Balboa April 8 and will transit the following day for Cristobal.

French Line

The French Line is agent this year for only one cruise ship. She is the Paquet Line's flagship *Renaissance* which is making a cruise around South America from Port Everglades and is scheduled to transit the Canal south January 19. The Italian Line's *Raffaello* is expected to call at Cristobal in March.

Ships of the P & O Line travel through the Canal during the year but the *Oriana* is to call in the winter on two special cruises. According to Norton Lilly, the ship will leave Vancouver on a Christmas cruise December 21 and will call on her way to Balboa at Los Angeles and Puerto Vallarta. After leaving Cristobal, she will stop at La Guaira, Barbados, Martinique, St. Thomas, and Curacao before returning to the Canal to transit for a return trip up the west coast to Vancouver.

The *Oriana* will have a similar itinerary when she makes a so-called Carnival cruise through the Canal to the Caribbean in January and February.

Other P & O ships, due between October and March, are the *Chusan*, *Iberia*, *Oransay*, *Arcadia*, *Himalaya*, and *Canberra*.

**PANAMA CANAL TRAFFIC
STATISTICS FOR 12 MONTHS OF
FISCAL YEAR 1971**

TRANSITS (Oceangoing Vessels)

	1971	1970
Commercial.....	14,020	13,658
U.S. Government.....	503	1,068
Free.....	94	103
Total.....	14,617	14,829

TOLLS *

	1971	1970
Commercial.....	\$97,418,550	\$94,688,543
U.S. Government.....	3,147,987	6,221,313
Total.....	\$100,566,537	\$100,909,856

CARGO **

	1971	1970
Commercial.....	118,634,184	114,264,010
U.S. Government.....	2,236,627	4,410,451
Free.....	139,843	234,760
Total.....	121,010,654	118,909,221

* Includes tolls on all vessels, oceangoing and small.

** Cargo figures are in long tons.

(Continued from p. 23)

stitution was christened with a bottle of water in 1797—twice. In each case, the ship got stuck and was prevented from sliding into the water. The third try was successful but this time a bottle of Old Madeira donated by Thomas Russell, a leading Boston merchant, was used.

During christening ceremonies at the Panama Canal Industrial Division it is fairly common to crack a bottle of Chagres River water over the new vessel but champagne has been used also from time to time.

Chagres water was used when Mrs. Hugh M. Arnold, wife of the Acting Governor of the Canal Zone, was sponsor for the *Mandinga*, which was launched in October 1957. Painted a brilliant red and white, the 40-foot dredge was fully dressed with signal flags for the ceremony, held in the presence of Acting Governor Arnold, and Alton White, then chief of the Dredging Division.

Before World War II, when a new tugboat was needed the Panama Canal designed, built and launched it and put it to work with an unhurried thoroughness that saw the job finished from the drawing of plans to the completion of test trials.

Launching of the tugs which the Canal built was carried out in an original manner. No launching ways were required and the operation was simple. The large drydock in Balboa was flooded and two 250-ton floating cranes, the *Hercules* and *Ajax*, were brought into position within the dock. Slings were adjusted under the keel of the launch and when all was ready, the two cranes simply lifted the completed hull from the building slip on the drydock wall,

PRINCIPAL COMMODITIES SHIPPED THROUGH THE CANAL

(All cargo figures in long tons)

Pacific to Atlantic

Commodity	Fiscal Year		
	1971	1970	5-Yr. Avg. 1961-65
Ores, various.....	5,909,419	5,573,085	1,009,694
Boards and planks.....	3,918,208	3,516,050	N.A.
Iron and steel plates, sheets and coils.....	3,644,433	3,390,818	N.A.
Sugar.....	3,316,900	2,625,819	2,296,584
Petroleum and products.....	2,037,958	2,109,215	1,805,862
Metals, various.....	1,560,293	1,421,659	1,187,362
Food in refrigeration (excluding bananas).....	1,407,252	1,371,543	898,880
Fishmeal.....	1,382,121	1,574,375	N.A.
Pulpwood.....	1,296,941	1,230,977	517,629
Petroleum coke.....	1,100,950	1,062,104	N.A.
Bananas.....	1,079,486	1,157,123	1,161,381
Plywood and veneers.....	1,027,132	913,862	N.A.
Barley.....	909,627	369,578	574,471
Iron and steel manufactures, miscellaneous.....	796,843	1,060,191	N.A.
Iron and steel wire, bars, and rods.....	665,061	642,762	N.A.
All others.....	14,230,228	12,576,434	21,242,717
Total.....	44,282,852	40,595,595	30,694,580

Atlantic to Pacific

Commodity	Fiscal Year		
	1971	1970	5-Yr. Avg. 1961-65
Coal and coke.....	21,830,573	21,306,153	6,061,195
Petroleum and products.....	13,798,082	14,302,937	11,384,781
Phosphates.....	4,472,230	3,732,353	2,137,487
Corn.....	3,990,748	5,034,785	1,501,869
Soybeans.....	3,732,349	3,291,540	1,449,114
Sugar.....	2,662,311	1,581,340	1,011,013
Metal, scrap.....	2,646,667	3,912,009	2,663,773
Ores, various.....	2,348,902	2,278,618	309,593
Sorghum.....	2,171,498	1,777,524	N.A.
Wheat.....	1,572,287	480,540	565,795
Chemicals, unclassified.....	889,756	968,629	657,500
Fertilizers, unclassified.....	877,249	781,167	388,007
Paper and paper products.....	828,517	846,231	428,942
Autos, trucks, and accessories.....	658,200	659,911	333,328
Rice.....	648,432	850,092	154,248
All others.....	11,216,253	11,857,836	8,371,683
Total.....	74,344,054	73,661,665	37,418,328

CANAL TRANSITS — COMMERCIAL AND U.S. GOVERNMENT

	Fiscal Year				
	1971		1970		Avg. No. transits 1961-65
	Atlantic to Pacific	Pacific to Atlantic	Total	Total	
Commercial vessels:					
Oceangoing.....	7,186	6,834	14,020	13,658	11,335
Small ¹	322	259	581	576	547
Total Commercial.....	7,508	7,093	14,601	14,234	11,882
U.S. Government vessels: ²					
Oceangoing.....	262	241	503	1,068	250
Small ¹	54	69	123	90	157
Total commercial and U.S. Government.....	7,824	7,403	15,227	15,392	12,289

¹ Vessels under 300 net tons or 500 displacement tons.

² Vessels on which tolls are credited. Prior to July 1, 1951, Government-operated ships transited free

swung it into position between them and lowered it gently into the flooded chamber.

U.S. Gatun

When the tug U.S. *Gatun* was thus launched on May 11, 1937, she was christened by Mrs. C. S. Ridley, wife of the then Governor of the Canal Zone.

In recent years, most of the Canal's

new floating equipment has been constructed in the United States under contract and is either christened at the shipbuilding yard or brought to the Canal Zone for the ceremony.

The last tug to be christened officially here was the U.S. *Joseph C. Mehaffey* in December 1970. Mrs. W. P. Leber, wife of former Governor Leber, broke a bottle of champagne over the stern bit

CANAL COMMERCIAL TRAFFIC BY NATIONALITY OF VESSELS

Fiscal Year

Nationality	1971		1970		1961-65	
	No. of transits	Tons of cargo	No. of transits	Tons of cargo	Avg. No. transits	Avg. tons of cargo
Argentine	21	45,167	15	27,738	2	1,710
Belgian	129	307,260	131	433,121	46	168,966
Brazilian	22	62,720	22	39,804	2	19,891
British	1,558	14,288,579	1,591	13,478,056	1,294	8,292,285
Chilean	156	1,463,656	118	762,241	120	849,621
Chinese (Nat'l.)	155	1,497,313	147	1,226,237	81	594,921
Colombian	225	539,744	214	610,739	256	408,588
Cuban	86	842,313	75	687,944	3	14,596
Cypriot	183	1,340,478	74	630,259		
Danish	454	2,055,308	434	2,152,529	307	1,548,545
Ecuadorian	63	98,767	66	99,477	42	49,491
Finnish	45	352,262	66	454,388	24	107,205
French	259	1,023,723	247	852,585	144	771,293
German, East	29	40,756	17	24,561		
German, West	1,069	4,918,407	1,108	4,992,218	1,122	3,391,774
Greek	629	7,735,546	568	7,178,925	632	6,180,888
Honduran	94	64,712	166	100,151	197	153,814
Indian	45	767,813	38	973,632	1	16,445
Israeli	65	413,454	82	467,822	65	253,130
Irish	20	354,363	29	223,072	5	55,527
Italian	237	1,395,979	266	1,425,909	190	1,126,250
Japanese	1,462	13,541,685	1,178	11,072,736	835	4,871,840
Liberian	1,587	25,201,391	1,601	25,811,218	951	9,348,846
Mexican	48	336,610	69	450,071	25	77,779
Netherlands	494	2,648,769	493	2,820,010	621	2,793,040
Nicaraguan	106	190,654	34	73,953	52	80,143
Norwegian	1,202	16,011,868	1,324	16,540,983	1,436	10,931,401
Panamanian	948	3,699,065	799	4,368,970	461	1,968,519
Peruvian	199	1,247,065	180	957,763	119	547,814
Philippine	105	861,164	112	759,471	70	310,866
Polish	25	109,747	28	206,147		
Singaporean	28	134,779	14	65,448		
South Korean	82	639,812	77	771,836	10	44,398
Soviet	126	859,443	104	741,086	23	164,686
Spanish	49	166,209	66	201,392	13	52,230
Swedish	479	3,366,568	462	3,477,640	336	2,157,223
United States	1,368	8,246,308	1,519	7,942,683	1,708	10,191,486
Yugoslavian	74	1,075,103	42	659,644	13	106,870
All Others	94	682,346	82	494,801	129	460,828
Total	14,020	118,626,906	13,658	114,257,260	11,335	68,112,909

TRAFFIC MOVEMENT OVER MAIN TRADE ROUTES

Fiscal Year

Trade routes—(Large commercial vessels, 300 net tons or over)	1971		1970		1961-65	
	No. of transits	Tons of cargo	No. of transits	Tons of cargo	Avg. No. transits	Avg. tons of cargo
United States Intercoastal		315		358		520
East coast United States and South America		1,123		1,262		2,355
East coast United States and Central America		732		609		500
East coast United States and Far East		3,374		3,363		2,220
East coast United States/Canada and Australasia		386		396		321
Europe and west coast of U.S./Canada		1,040		1,024		1,009
Europe and South America		1,240		1,298		1,236
Europe and Australasia		555		490		397
All other routes		5,255		4,858		2,777
Total traffic		14,020		13,658		11,335

MONTHLY COMMERCIAL TRAFFIC AND TOLLS

Vessels of 300 net tons or over—(Fiscal years)

Month	Transits			Tolls (In thousands of dollars)		
	1971	1970	Avg. No. transits 1961-65	1971	1970	Average tolls 1961-65
July	1,174	1,137	960	8,118	7,787	4,929
August	1,176	1,186	949	8,221	8,135	4,920
September	1,108	1,133	908	7,979	7,870	4,697
October	1,167	1,089	946	8,095	7,771	4,838
November	1,064	1,060	922	7,363	7,401	4,748
December	1,102	1,155	946	7,690	8,059	4,955
January	1,119	1,088	903	8,157	7,503	4,635
February	1,144	1,080	868	7,814	7,479	4,506
March	1,295	1,223	1,014	8,929	8,350	5,325
April	1,214	1,179	966	8,349	8,228	5,067
May	1,237	1,170	999	8,422	7,963	5,232
June	1,220	1,158	954	8,243	8,108	5,013
Totals for fiscal year	14,020	13,658	11,335	97,380	94,654	58,865

1 Before deduction of any operating expenses.

of the new vessel to highlight a formal ceremony marking the tug's arrival in Cristobal from Slidell, La., where it was constructed by the Southern Shipbuilding Co.

Mrs. Julian S. Hearne, wife of the former chief of the Dredging Division also used champagne in February 1970 when she christened the Dredging Division's new derrick barge U.S. *Goliath* in a ceremony held at the dock in Gamboa. The bottle of champagne was smashed over the prow of the barge by Mrs. Hearne in the presence of former Gov. W. P. Leber, her husband, and officials from the Dredging Division.

Sure to Bring Bad Luck

To launch a ship on Friday or to put her in the water without a bottle being broken over her is, according to the superstitions of the sea, sure to bring bad luck. A Grand Banks fisherman once launched a boat "dry," and according to an old sailor, before a year was out the boat ran aground twice, "stove her stem in, busted her garboards . . . broke her rudder off" and was promptly hauled out of the water for repairs and a proper christening.

If the bottle does not break when it is thrown it is thought to be a bad omen, and to prevent this calamity it is generally suspended from the forecandle on a rope bedecked with ribbons and a bottlecatcher, other than the sponsor, is on hand in case the lady misses. In many shipyards, there is an official jinx-buster, a kind of pinch-hitter, in case a woman, through lack of strength or jittery nerves or a wild swing, drives the bottle wide of the mark.

Jinx-buster

The jinx-buster stations himself under the official platform where he can break the bottle against the ship's bow. Since bottles sometimes go wild and hit someone it is usually encased in a mesh holder with yards and yards of ribbon woven around so that the shape of the bottle is kept intact and to prevent glass from flying and cutting the sponsor or onlookers.

Some people insist that a ship is named and not "christened" saying that the meaning of the word "christen" is to make a person a Christian; only persons can be christened and not ships.

Even today, many seamen will not work on a boat launched on Friday or one that has not been formally launched and for this reason, most seagoing craft carry a securely placed metal plate stating when, where, and by whom the vessel was launched.

CANAL HISTORY

50 Years Ago

THERE ARE ONLY A FEW OLD-timers still living on the Isthmus who remember the whale that invaded Cristobal harbor 50 years ago. But in November 1921 it was the talk of the Isthmus. The 120-foot mammal, weighing approximately 125 tons, sailed through the Cristobal breakwater and grounded in the shallow waters east of the Canal prism about a quarter of a mile south of the Cristobal coaling plant. The whale remained there, with the top of its head and most of its back above water, until it was killed 2 days later by a group of Canal employees who planned to render its blubber at the Mount Hope abattoir.

Cristobal Harbor - 1921

"Thar She Blows"



The whale carcass was towed to Pier 6 in Cristobal but, alas, the 75-ton locomotive crane was unable to lift it from the water to the railroad flat cars assembled for transportation to Mount Hope. Salvage efforts were abandoned shortly after and the whale was towed about 12 miles out to sea where it was later bombed by U.S. Navy planes from Coco Solo.

The sailing vessel *Carnegie*, on a magnetic survey of the earth for the Carnegie Institution in Washington, D.C., arrived at Balboa October 7, 1921, on a 74-day voyage from Apia, Samoa. The vessel went into drydock in Balboa for renewal of her rudderpost, cleaning, and painting. This was the vessel's third trip through the Canal and the PANAMA CANAL RECORD noted that since her previous trip she had been equipped with electric lights.

25 Years Ago

THE WAR WAS OVER 25 YEARS ago and the Canal Zone along with the rest of the world was trying to put its house in order. The Panama Canal Personnel Bureau, Employment and Training Section said that it was following its policy of reduction in force and that 1,000 employees had left the Canal service in the past year. A 14-percent pay increase for classified Federal employees carried a requirement that the costs of the increase must be absorbed by reduction in the number of employees.

The late Dwight D. Eisenhower, then Chief of Staff of the U.S. Army, was among the prominent visitors to the Canal Zone in 1946. He and Mrs. Eisenhower traveled from Brazil in a four-engined C-54 military plane and were met 200 miles out by two squadrons of U.S. Army planes from the Canal Zone. Eisenhower was greeted by Gov. Joseph D. MehaFFEY and other Canal Zone officials. He later toured the Canal Zone and Panama and was received in Panama by the late President Enrique JiméNEZ. Along Central Avenue, school children dressed in white waved Panama and United States flags.

Another visitor was the late Adm. William F. "Bull" Halsey, one of the best known U.S. Navy heroes of World War II. He came here for a 4-day visit, shortly after the departure of Eisenhower, and toured both sides of the Isthmus.

The Panama liner *Panama* was the first of the three Panama Line ships to be placed back in service after the war. Her scheduled departure from New York early in September was delayed 2 weeks by a shipping strike but she finally sailed for Cristobal September 22.

10 Years Ago

AN INCREASE IN MEDICAL AS-sistance for disability relief annuitants of the Panama Canal was approved by the Canal Board of Directors 10 years ago. The plan called for expanding visiting nurse service, furnishing drugs free of cost when ordered by physicians, and the employment of two part-time doctors.

Preliminary work was started on a \$927,000 contract providing for the

construction of 100 quarters in the town-site of Pedro Miguel. The housing units were part of the replacement housing to be built in the Canal Zone as part of the Nine-Point Program of Benefits to Panama. The contract had been awarded in September 1961 to the W. B. Uhlhom Construction Co. of Texas.

Plans were being made in November 1961 for receiving the first three of the Panama Canal's new streamlined towing locomotives which were nearing completion in Japan. Two veteran lock operators visited Japan, watched the mules in operation, and familiarized themselves with the controls and functioning of the machines. They returned to the Canal Zone to serve as instructors when the new locomotives arrived.

Bids were opened in December for the construction of a central chilled water air-conditioning system in the Pacific Terminal area. This was the first major step in a long range plan to provide air-conditioning to the Canal's public buildings by means of a single-pipe loop system through which water is pumped from a central plant.

One Year Ago

GOV. W. P. LEBER CUT THE RIB-bon last November to mark the formal opening of Gorgas Hospital's recently renovated Section O, the final step of a multimillion dollar hospital rehabilitation program started in the early 1960's. The governor said that this was a major step in bringing Canal Zone hospital facilities up to modern standards. Section O houses the pediatric ward, the new pulmonary disease section, and the medical library. It was remodeled by the E. O. Hauke Co., of Colon.

All non-U.S.-citizen employees of Federal agencies in the Canal Zone became eligible last year for enrollment in the Federal Employees' Group Life Insurance and Federal Employees' Health Benefits Insurance plans. These new benefits were the result of legislation approved by President Nixon on September 25, 1970, which provided for an increase to a maximum of 40 percent in U.S. Government contributing health insurance premium payments effective January 1, 1971.





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