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THE PANAMA CANAL REVIEW

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THE PANAMA CANAL REVIEW

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Contents

Our Cover

THE *TOKYO BAY*, THE LARGest container ship in the world and the largest ship to transit the Panama Canal, is a snug fit in Miraflores Locks with her beam of nearly 106 feet. The 950-foot-long British flag vessel, which transited April 19, 1972, is the largest to go through the Canal since the 936-foot *Bremen*, a German passenger liner, made her only transit in 1939.

The giant ship, like many other regular customers of the Canal, was designed to fit neatly into the 110-foot by 1,000-foot locks. Several years ago, the maximum size for ships using the waterway was set at approximately 800 feet for length and 102 feet for beam, but subsequent changes in ship design and improvements in Canal capacity have given shipowners and designers a bonus.

The new Cunard liner, *Queen Elizabeth II*, was built with the idea of transiting the Canal although her length is 963 feet. There was some hesitation on the part of Canal officials not long ago when the 990-foot *United States* was scheduled to transit on a cruise. She never did but the Canal has decided to give it a try on an experimental basis if she does plan a transit in the future.

More photographs and the story of the transit of the *Tokyo Bay* appear on pages 18 and 19. The cover photograph is by Melvin D. Kennedy, Jr.

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Artwork in this Issue: Toni McGrath (page 3); Peter Gurney (pages 12 and 14); Carlos Méndez (page 15); and Leslie High (page 20).

John F. Stevens, an amazing engineering genius used to the challenge of the frontier, knew there was more to digging the Canal than simply "making the dirt fly"

Stevens

By Willie K. Friar

IN THE SUMMER OF 1905, ALthough President Theodore Roosevelt was telling everyone that he was going to "make the dirt fly," privately he was admitting that things on the Isthmus were in a "hell of a mess."

John F. Wallace had just resigned as chief engineer and the President was seeking a successor. He chose John F. Stevens, a forthright leader who brought to the office a new vigor, courage and determination, which many believe saved the Canal project.

The new chief engineer arrived in Colon on July 25, 1905 and left immediately on a tour of the work. What he saw convinced him that the President had not exaggerated the difficulties. The challenge, however, did not dishearten him. In Culebra Cut (later to be named Gaillard Cut) he saw steam shovels standing idle and seven work trains derailed and lying in a ditch while workers milled about uncertain as to what they were supposed to do.

He watched two laborers lift a wheelbarrow, which they had loaded with dirt, onto the head of a third man, who balanced it precariously and solemnly marched off to the dumping area.

As he looked over the broken down undersized rolling stock of the Panama

Sandy Tompkins, art student at Balboa High School, puts finishing touches on her rendering of Stevens' Circle, which has become a favorite site for art exhibits and a meeting place for teenagers. This monument to John F. Stevens stands in a small park in the center of Balboa on the Pacific side of the Isthmus. In the background is the Administration Building of the Panama Canal.

Stevens halted all excavation and put men to work paving streets, fighting yellow fever and malaria, building piers, machine shops, hospitals, police stations, jails, churches . . .

Fumigation squads.

Typical street scene in 1905.

Laying brick at Railroad Station.

Railroad, someone pointed out proudly that there had been no collisions for some time. Stevens answered, "A collision has its good points as well as bad ones. It indicates that there is something moving on the railroad."

Stevens was 52, in 1905, when he accepted the position of chief engineer. Powerfully built and strikingly handsome, he was a man of commanding presence and considerable physical courage. He was not an "office engineer" but a pioneer accustomed to facing the challenge of the frontier. Like many other engineers of that day he had never received any formal training although he had a long career building railroads.

The Apaches

Two stories are typical of his character. In the 1870's while working on the Arizona Railroad, a construction gang was cut off by the Apaches and the foreman offered a reward of $500 to anyone who could get through to them. Stevens was the only man to volunteer. He made the trip on foot through more than a hundred miles of Apache territory and led them to safety.

Ten years later, he set out from Montana with two Indian guides and a mule to try to find a route for the Great Northern Railroad across the Rockies. The mule died and the guides deserted but Stevens pushed on alone to discover and survey the vital pass. Railroad men and mapmakers wanted to call the pass Stevens Pass, but he declined the honor.

He was used to working in the wilderness with rugged men. On one occasion, a gang of Italian laborers took a violent dislike to him because he had ordered a contractor to burn the carcass of a mule that had died of disease. The men claimed it for food and a crowd of them chased him a half mile down the railroad track waving knives and clubs and yelling wildly. Some of the irreverent thought that it was a good joke on the "old man." With these and many other similar experiences behind him, Stevens was not dismayed by the problems he faced on the Isthmus.

He was the first to realize that the Canal could not be built until certain preparations were made and he set about creating the fundamental organization under which the Canal was constructed.

He realized that the needs were sanitation, housing and feeding, transportation, and proper equipment, and he ordered a halt at once to all Canal work until a proper environment could be created and all elements necessary to the construction assembled.

Yellow Fever

He handled the problems of transportation and equipment himself. For the other fields he found the best men available and put them in charge. He recognized Gorgas for the expert that he was and put him in charge of sanitation, giving him all the supplies and men he needed to cope with malaria and yellow fever. Before this, Gorgas had met constant frustration and had been told by Adm. John G. Walker, Chairman of the First Canal Commission, "the whole idea of mosquitoes carrying fever is the veriest balderdash."

He placed housing and feeding of workers in the hands of Jackson Smith, who had worked on large construction projects in Mexico and Ecuador. One of his first steps was to build a cold storage plant, ice cream plant, bakery, coffee roaster, and a laundry.

Stevens saw the need for a commissary system on arrival when he heard of men going into the jungle for bananas or into the swamps for sugar cane because they were unable to afford to buy food from the local merchants. Eggs were selling for $1.50 a dozen. Fish prices had risen because fishermen refused to make two catches a week having discovered that with the large number of new arrivals competing for the limited supply they could make as much on one haul as on two.

No Refrigeration

There was no refrigeration service on the Isthmus so he ordered cold storage equipment installed on Panama Railroad steamers, a cold storage plant built at Colon, and refrigerator cars procured for the railroad.

Frozen products were brought from New York and deposited in cold storage at Colon and daily deliveries of perishable food and ice were made at towns across the Isthmus.

At first there were problems with delivery and Stevens once wrote to the commissary manager, "I cannot imagine why it should take so long to fill this order, and if this is the way the Chief Engineer's requests are to be handled, I cannot imagine what attention any requests from any of my subordinates would receive. I presume this can be remedied and those requisitions filled much more quickly than in this case; if not, I would like to be advised."

On another occasion he wrote, "Referring to the supplies which were ordered Friday for my house, my attention was called to the condition in which one of the cans of ham was received, which was, to say the least, terrible. This morning it was not possible to get within 5 feet of it. I wish you would kindly see that such supplies are not sent to me as it only requires returning of same to the commissary."

Between 1905 and 1907, he saw to it that all the buildings required—quarters, hospitals, school houses, churches, jails, fire and police stations—were promptly erected and put into service.

Tangles of Red Tape

Under his supervision, about 5,000 new buildings were built, old French buildings were renovated, streets paved, new harbor installations constructed, a sewage disposal plant built, and water mains put in. He installed a telephone system that made it possible for him to talk with any of the offices, however small, along the Canal route.

When Stevens arrived on the Isthmus few laborers seemed to know what they were supposed to do, and those who did had to cope with tangles of red tape. One regulation, for instance, required written permission to saw any board more than 10 feet long. Stevens began cutting away at the stream of unnecessary paperwork.

Looking over the excavation sites, he saw, at once, that more equipment was needed and soon realized that the whole procedure for purchasing had broken down. His next step was to create a machinery department to recommend the particular type of equipment needed.

Twenty-five years later, Stevens wrote: "The Department of Machinery was of the utmost importance. A quantity of construction plant, tools and machinery such as never before had been gotten together in the history of the world was planned, specified, requisitioned, purchased and delivered to the site in record time. This equipment consisted of almost every mechanical device which judgment and experience indicated was best adapted to do quickly and economically the vast work which lay ahead of the engineers.

"Detailed specifications for individual classes of machinery such as locomotives, cars, steam shovels, etc., were drawn up by the department. Cast steel was substituted for iron, copper boiler tubes for ones of iron and a like standard of excellence was insisted on for the entire list. The numbers involved were enormous. I remember, for example, purchasing on a single order 125 locomotives and 75 steam-shovels, and on another 900 Lidgerwood dumpcars. . . . Some French cars, locomotives and dredges were, it is true, reconditioned and put into service but 95 percent of the equipment used in building the canal was new; and of the immense amount ordered during my time as Chief Engineer, every single item, I am told, was well-adapted to its job. Nothing was wasted."

Stevens was one of the greatest railroad authorities of his day. From laying track in Texas, New Mexico and Arizona and finding and surveying routes in Montana, Idaho, and Wyoming, he had gone on to become president of one of the largest companies in the United States. He saw at once that the Panama Railroad, antiquated and rusty though it was, must be made into the instrument of disposal for the spoil from the digging of the Canal.

Stevens was the first man to think of using the Panama Railroad as a conveyor belt to move the soil that was dug out. One of the big problems of the French was how to transport the spoil efficiently. By the end of 1906, Stevens had rebuilt the railroad, recruited new men from the United States to run it and established a good working relationship between those who worked on the Canal and those who worked on the Railroad.

Greatest Single Factor

All material in Culebra Cut was waste and had to be disposed of, and Stevens designed a simple but extensive and flexible system of trackage which proved a success and was in use until the last yard of material had been removed from the Cut. Stevens said of the system: "This was probably the greatest single factor, in the nature of a machine, that contributed to the successful building of the Canal."

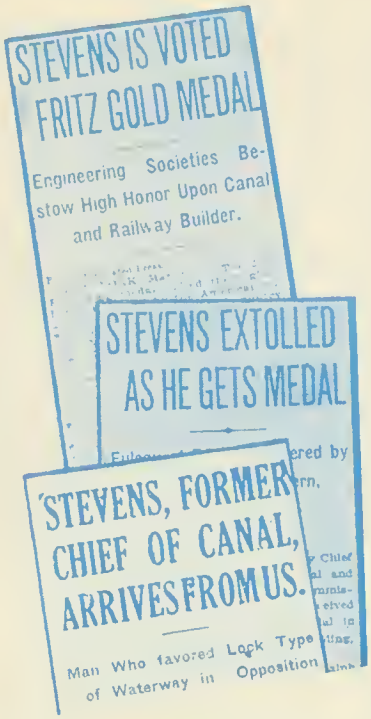
When he arrived on the Isthmus, there were only 35 locomotives, 24 coaches and 560 flatcars. When he left after 18 months, there were 293 locomotives, 52 coaches, 16 cold storage cars, and 3,915 flatcars. In place of the 73 miles of light-weight track, there were 350 miles of heavy relaid track. The new railroad was the busiest in the

Workmen cooking beside the railroad track.

One of the new mess halls at worksite.

Dining room of Tivoli Hotel.

. . . houses, hotels, schools, mess halls, a cold storage plant, bakery and laundry, and setting up a commissary system.


STEVENS IS VOTED FRITZ GOLD MEDAL

Engineering Societies Bestow High Honor Upon Canal and Railway Builder.

STEVENS EXTOLLED AS HE GETS MEDAL

'STEVENS, FORMER CHIEF OF CANAL, ARRIVES FROM US.

Man Who favored Lock Type of Waterway in Opposition

world, running up to 570 trains a day compared to 20 in the past. The trip across the Isthmus had been cut from 5½ to less than 2 hours.

Surveying the railroad system, Stevens said, "I don't mind trying to make the dirt fly, now that we have somewhere to put it."

With the proper preparations made, Stevens ordered excavation to begin in Culebra Cut in early 1906. It was now necessary to know what kind of Canal was to be built—a sea-level or a lock type. He had drawn up plans for both but was convinced that the only practical plan was a lock type. Still he was faced with the problem of convincing Congress and the Senate. A subcommittee of Congress voted in May 1906 in favor of building the Canal at sea level.

Roosevelt had doubts and summoned Stevens to Oyster Bay to get his opinion. Of the meeting, Stevens said, "I talked to Teddy like a Dutch uncle . . . and soon convinced him that a canal with locks was the only possible answer."

The President was convinced but not the Senate and Stevens was forced to argue his case before a Senate committee.

He had firsthand information of the volume and the violence of the waters of the Chagres River which had been called "the lion in the path of a sea-level canal," as well as all other problems involved in the construction of such a waterway.

He set about in a straightforward manner to convince the committee, though he hated the job of lobbyist. After he outlined his plan, which included an earth dam across the Chagres at Gatun near the Caribbean end of the Canal, one Senator was concerned about whether or not it would be absolutely safe and suggested it be reinforced with a masonry core. Stevens considered this an unnecessary expense.

The Senator did not agree and said, "I suggest you are too positive in your opinions, Mr. Stevens."

"Well, I am a positive man."

"I suggest to you that this dam ought to be made stronger."

"The dam is strong enough. This is like killing a duck; when you kill him he is dead; there is no use trying to kill him deader."

Finally Stevens' plain speaking and common sense prevailed. The Senate voted 36 to 31 for a lock canal, and the House followed suit.

Years later Stevens wrote in the Journal of the Society of Civil Engineers: "I have been privileged to do some little service to my country, and the greatest service I ever gave it was, I am sure, the part I took in preventing foreign votes from foisting a useless thing—namely a sea-level canal as proposed by the majority of the Consulting Board—upon a too credulous American people."

Roosevelt Visits

Stevens returned to the Canal Zone and the work was continuing at a steady pace when the President made his visit in November. Stevens was with him throughout his tour of the Canal construction sites. Roosevelt saw and approved the layout of the complex but elastic trackage system on different levels within the Culebra Cut, the efficient coordination of train schedules with excavation and the judicious choice of dumping sites. He was photographed in the driver's seat of a 95-ton steam shovel while he watched how well the system worked; that trains did not have to wait for their loads; and shovels did not stand idle for want of flatcars. He then singled out Stevens for special mention and commended him for "admirable results" and added that he hoped that they would continue.

Stevens Resigns

But Stevens was not to continue with the Canal. He suddenly resigned and terminated his service March 31, 1907. Why did he do it? There have been many explanations but Stevens himself refused to discuss the matter, except after many years, when he wrote: "Various reasons for my resignation were given by irresponsible scribblers. They all had points of similarity, as they were all stupid and mendacious. In one respect they were exactly alike; they were all absolutely untrue. I resigned for purely personal reasons, which were in no way, directly related to the building of the canal, or with anyone connected with it in any manner."

Stevens stayed on only long enough to transfer authority to Maj. George W. Goethals, who had been appointed by the President to replace him.

When Stevens left the Isthmus April 8, the reception at Cristobal brought together almost every American in Cristobal and as many as could be brought from the rest of the Canal Zone in a series of special trains. It was the largest crowd that had ever gathered to say bon voyage to a ship leaving Colon.

In a final ceremony at the ship, Stevens was told that the men had subscribed for some tokens of their regard. These included a silver service, a watch and a gold ring. Three gifts had been selected because the men wanted him to have something he could pass on to each of his three sons.

President Theodore Roosevelt, in white suit, is accompanied by Stevens, second from the President's left, as he tours construction sites in November 1906.

For many years, Stevens had worn a plain gold ring of which he was particularly fond. It had been stolen and the men had ordered one made up as much like it as possible. They also presented petitions signed by more than 10,000 workers. The original petition had read: "Please withdraw your resignation and remain in charge of our work. We will show our appreciation and loyalty by working for you even harder than we have up to this time." A group of foremen suggested that the wording be changed "for the men consider that they can hardly promise to work harder than they have been as each and all of them have given their entire efforts." They added however that the sentiment toward Mr. Stevens "is one of admiration and respect."

Just before he went aboard the SS *Panama*, Stevens replied to the farewell speech by W. G. Bierd. He said that 2 years before he was almost overawed by the amount of preparation and construction work required, but that conditions were now such that he felt absolutely assured the Canal would be opened by January 1915. He asked the men, as their sincere friend, to take any little differences and complaints directly to Colonel Goethals, for whom he asked the same loyalty as heretofore had been shown to himself. And in paying tribute to Colonel Gorgas he said that until he lifted the dark cloud which sanitary conditions placed over the work, he was in doubt as to success. But when this doubt had been removed he knew that the Canal would be pushed to completion.

Gen. George W. Goethals consistently made a point of emphasizing his appreciation of the work done by Stevens. Typical were these remarks made at a meeting of engineers in Portland, Oreg.

Stevens in the office which he built at Culebra overlooking the excavation of what is now Gaillard Cut. Not an "office engineer," he spent much of his time walking the Canal route and talking with the men. "There are three diseases on the Isthmus," he told them, "yellow fever, malaria, and cold feet. And the worst of these is cold feet."

The Chief Engineer on an outing with Mrs. Stevens, who influenced him to accept the Canal position, telling him that his whole career had been in preparation for this great engineering command.

(Please see page 33)

Stevens moved the headquarters of the engineering organization from Panama to a new town which he built near the Culebra excavation site.

Modish Molas

Photographs by
Arthur L. Pollack

WHAT DO PEOPLE DO WITH molas?

While the Cuna women in Panama's San Blas Islands are doing exactly what they always did with them—wearing them as blouses—mola fanciers in Panama and the Canal Zone are fashioning them into everything from purses to lampshades.

And there is no generation gap where their use is concerned. They are found on the seat of teenagers' jeans as well as the skirt of mother's party dress. Grandmother may have a mola-decorated knitting bag while her granddaughter carries a mola shoulder bag.

The traditional mola which is proving so popular with amateur as well as professional designers, is rectangular in shape and consists of three to five layers of various colored cotton cloth. The intricate designs are fashioned by cutting through the layers of cloth to the color desired and the edges of the design are sewn so that the stitching cannot be seen. The technique has been described as "reverse applique" or "cutwork stitchery."

Mrs. Sherry Holland, of Diablo, models a skirt which she designed to be worn opened up the side or the front.

The Cuna seamstress makes no preliminary drawing but starts out with a picture idea and develops the design as she goes along. A good mola may take a month or two to make.

Custom-made molas may be ordered—at a slightly higher price. Just show the inventive folk artists of the San Blas a picture or sketch of the subject you want depicted and you'll have a mola that is not only personalized, but a unique conversation piece. Of course, the results are sometimes surprising. A likeness of your family dog, for example, may be so highly stylized that he'll come out looking like a giant anteater. But no one else will have a mola like it.

Until recently molas were simply framed on a background of colored burlap and hung on a living room or den wall, but they are now being given new dimensions by imaginative people with a propensity toward individualism.

On these pages are some of the interesting ways molas are being used by Isthmian residents with a flair for fashion.

Zindy Wiggs and her colorful shoulder bag attract the attention of the Deakins twins, Tim and Tom, as she strolls down the street in Gamboa.

Viveca Kochman, Canal Zone College student, wears a brightly colored traditional mola blouse with white bell-bottomed pants.

Mrs. Earl R. McMillin, of Gamboa, models mola-covered shoes. At left is a handbag featuring the same colors as the shoes.

Mrs. Charles Griffiths, wife of the Commander of the U.S. Naval Forces Southern Command, who collects items with a turtle motif, holds a turtle made from a mola which was given to her by a friend as a souvenir of Panama. On the floor are a few others from her collection. At right: A unique piano bench cover made by Mrs. William H. Beeby, of Balboa Heights.

The Classic Cuna Costume

An attractive San Blas seamstress wears the typical everyday costume of the women of the Islands.

THE CUNAS USE TWO MOlas to a blouse, one in front and one in back, usually of the same design and color. They add sleeves and a yoke edged with borders of a blending color.

The early Cuna blouses were knee length and were decorated with a band of red at the bottom. As colored cloth became more common and as island traders brought in needles, thread and scissors, in exchange for coconuts, the women expanded their decoration, shortened the blouse to waist length, and gradually developed the technique of cutting outlines of the desired figures in the top layer of cloth allowing the next layer to show the design.

Not unlike fashion-conscious women all over the world, a San Blas lady discards a blouse when the colors get dull or when she feels the need for a change in wardrobe.

Having discovered that tourists will buy almost anything made of molas, she usually offers the used blouse for sale or rips it apart and sells the two molas separately. Serious collectors are always on the lookout for these as they know that the Indian women save the best ones for themselves and the used molas, though faded, are often superior in design and in needlework.

Quite different from the traditional Cuna blouse is this one made by Mrs. Holland. Around her waist is a mola necktie.

Thirty molas were needed to make this banquet-sized tablecloth which Capt. Julius Grigore, USNR, took with him when he left the Canal Zone following his retirement.

Anne Castles, Canal Zone College student, wears a bikini which she made from two molas.

From Platypuses to Pigeons

Funny Things Happen Along the Panama Canal

By José T. Tuñón

SUPPLYING EARTHWORMS FOR platypuses, coping with a phosphorus fire, removing a raccoon from a towing locomotive, or being chased by a barracuda, are not a part of the everyday life of the people who keep the ships moving through the Panama Canal, but these and many other such incidents illustrate that life is not always routine along the waterway.

Although transiting ships often request unusual supplies, there was a flurry of excitement in the 1950's when it became necessary to fly in 10,000 earthworms from the United States to supplement the diet of three platypuses that were being taken from Australia to a zoo in the United States.

About the same time that the earthworms were being flown to the Canal Zone an unusual fire broke out aboard a ship transiting the Canal. The ship was carrying a cargo of phosphorus which was destined to be made into matchheads. Cristobal firemen wet the cargo down, quenching the fire. A short time later, they discovered, however, that the phosphorus had gotten into cargo nets and onto docks where once it dried out, workmen walking through it were starting new fires with every step in the same way that a match ignites when struck. Finally, all the phosphorus was removed but not before some of the men had gotten a "hot foot."

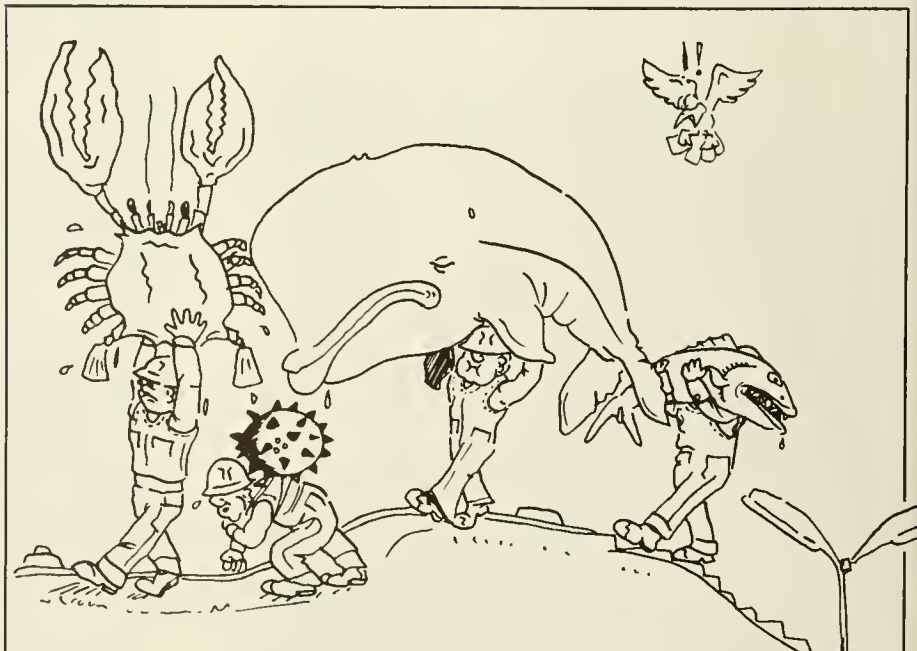
Locks Division towing locomotive operators like to tell of the time when ship traffic was stymied at Miraflores for 2 hours by a "gato solo," a small raccoon native to Central America. The animal hid out in the interior of a towing locomotive making it necessary to disconnect electrical equipment while everyone searched for him. As helping hands approached, the frightened animal crouched deeper inside the mechanism. Finally, while ships' crews stood by and visitors cheered, a fire hose was used by locks employees to dislodge their unwelcome guest.

Gatun Locks, which are located further from civilization and closer to the jungle than the locks on the Pacific side, have had more than their share of jungle visitors. There have been caimans, snakes, small jungle animals and birds. Then one day in 1952, lock employees were startled to see a deer swimming in the channel just above the locks. Linehandlers put out in a rowboat to rescue the animal but the deer drowned. The softhearted employees sadly lifted the body upon the locks wall and tried to give it artificial respiration, but in vain.

The crew of a transiting ship was surprised one sunny morning, to see a flock of pigeons taking off from the lock wall at Miraflores. Seagulls, pelicans, sea terns—yes. But pigeons—hardly. These birds were a special breed of homing pigeons that had been shipped to the Canal by their owner in the United States. The idea was to set them free at the Canal and let them find their way back to San Antonio, Tex.

The flock of 19 pigeons had arrived on Pan Am flight 401 consigned to Frank A. Baldwin, Information Officer. They were released 2 days later by Judy Frizell and Jane Holgerson, Canal employees. Whether it was the weather or the Canal that set their navigation systems awry, no one knows. But 18 of the pigeons were never seen again. The 19th turned up a few weeks later when a resident of the interior of Panama near Santiago came by the Information Office saying a pigeon had taken up with his chickens and he would like to present a bill for food to its owner.

Linehandlers, who row out to incoming ships at the locks to take on the ship's lines and connect them with the towing locomotives, usually live a fairly placid life. So imagine the surprise of two boatmen on the sea side of Gatun locks, when a huge barracuda



"It must be locks' overhaul time again."

leapt from the water with such force that it landed in the rowboat. After a few desperate attempts to kill the monster, the men left the boat to the barracuda, jumped out, and swam to shore. Later they were able to pull the boat in and kill the maneater. They found that the fish weighed more than 54 pounds and had teeth measuring 3 inches.

Although the locks were built to accommodate the largest ships in existence in 1914 and were expected to be large enough for anything that would be built for some time, it was only 14 years later that the U.S. Navy aircraft carrier *Lexington* knocked down a number of heavy concrete lampposts at Gatun and Miraflores Locks.

According to a newspaper account of the passage, the U.S.S. *Lexington* arrived in Balboa the afternoon of March 26, 1928, little the worse for the 12-hour trip through the Canal. But four of the concrete lampposts were missing from the locks and a handrail on the Pedro Miguel Locks had been smashed flat.

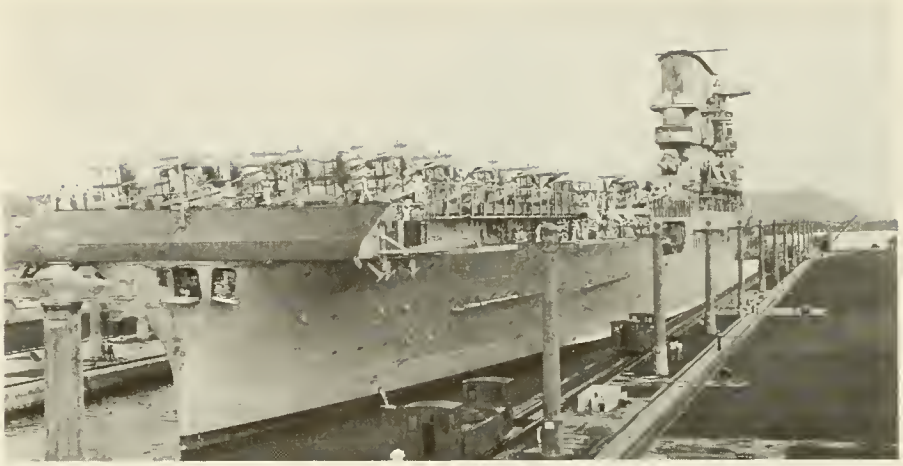
The *Lexington* took a toll of three lampposts at the Gatun Locks as she was being stepped up to the lake level and another at Pedro Miguel when the vessel became slightly turned in the channel and the prow struck the post, crumbling it into rubble.

No one had thought that the *Lexington* would be much trouble since her sister ship, the U.S.S. *Saratoga,* had made the transit a short time earlier without incident. They were the largest ever to transit the 110- by 1,000-foot locks up to that time. They were 888 feet in length and had beams of 107.9 feet.

Because of this accident, the Panama Canal removed the handsome lampposts and replaced them with metal ones located at a greater distance from the wall of the locks. These in turn were replaced by aluminum posts in the 1960's after the aircraft carrier *Valley Forge* knocked down the visitors' pavilion at Miraflores and came within inches of flattening the metal light posts.

The ornamental tops of the old lampposts were not lost to posterity however. They can still be seen these days along streets in the Canal Zone and decorating driveways and gardens in the Republic of Panama.

The wealth of fish in the locks became known to the Panama Canal employees as soon as one of the chambers was unwatered for inspection and repair not many years after the Canal was opened to commerce.



All the lampposts along the locks' wall are still in place as the U.S.S. "Saratoga" transits in March 1928, but her sister ship, the U.S.S. "Lexington," which came along shortly afterward, knocked down four of them at Miraflores and Gatun Locks.

The old lampposts were taken down and their decorative tops were used to line driveways and as traffic bumpers. One of them offers a challenge to Luis Sullivan who takes a leap while he waits for the schoolbus at Pedro Miguel.

Workmen found that the chambers acted as huge fishbowls, and, with the exception of a shark that followed a ship from the Pacific into Miraflores and died in the fresh waters of Miraflores Lake, they and transiting ships lived in peaceful coexistence.

Many a snapper and snook captured in the locks have been served at Canal Zone dinner tables. During locks overhauls, employees often are seen going home with loads of fresh fish slung over their shoulders.

Not so welcome are some of the other things that turn up or sink down in the locks.

A large rope fender of the type used on tugs was located in Miraflores Locks recently by a diver, who was called when one of the lock gates refused to close. The wayward fender held up traffic in the west lane for an hour and 47 minutes.

Recently, a truck ran off the bridge crossing the lower end of Gatun Locks. Traffic in the Canal was delayed while a locomotive crane fished it out. Then there was the boy who rode off a locks wall at Miraflores on his bicycle. The boy managed to swim to safety before traffic was disrupted and the bike was recovered a few hours later.

After a slide in Gaillard Cut September 21, 1915, this island came up from 30 feet of water. Legend has it that a dipper dredge operator promptly planted a British flag on it.

Other debris found in the Canal and the locks range from pieces of ships' keels that somehow break off from the larger vessels, logs of various sizes that float in from flood-swollen rivers, and once, a 10-ton boulder was found by a diver in the southern approach to Miraflores Locks east chamber.

It also has been necessary from time to time to fish people out of the locks, particularly at locks overhaul time when visitors, taking a look at the floor, take a misstep and end up in a sump hole.

During the early days of the Canal operation, an island suddenly appeared in the Canal channel following a slide in Gaillard Cut. Oldtimers say that a dipper tender sitting in the boom of the dredge *Paraiso* "discovered" the island and promptly placed a small British flag on its top. The flag planter, who tried to include Great Britain in the Canal operation, was identified as a native of Ireland, who said he did it in the name of the "auld country."

Cristobal harbor held much excitement in the early days of the Canal and oldtimers still remember the whale that moved into Limon Bay about 50 years ago. The 120-foot mammal, weighing 125 tons, grounded in the shallow waters east of the Canal prism and remained there until it was killed 2 days later by a group of Canal employees who planned to render its blubber at the Mount Hope abattoir.

The whale carcass was towed to Pier 6 in Cristobal but the 75-ton locomotive crane was unable to lift it from the water to the railroad flatcars assembled for transportation to Mount Hope.

When salvage efforts were abandoned shortly after, the whale was towed about 12 miles out to sea by a Panama Canal tug where it was later bombed and sunk by U.S. Navy planes from Coco Solo. Thus was eliminated the only whale ever known to menace the navigation of the Panama Canal.

Still there are people living near the Canal who remain oblivious to all of the unusual happenings. Their attitude is something like that of the old man who during the last days of the construction of the waterway was warned that the rising waters of the newly made Gatun Lake would soon flood his house, and he must move. He sat calmly beside his hut as the water began to rise around his feet and said, "I've heard that story before. The French told my father that 30 years ago."

Culinary Capers

By Fannie Hernandez

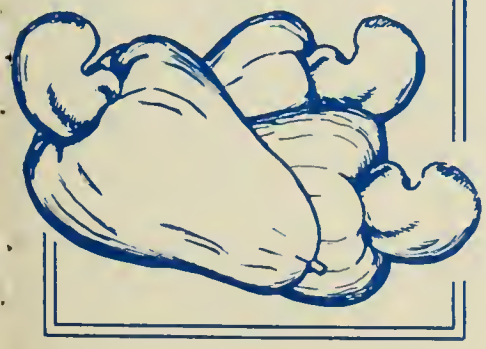
MANGO-NUT BREAD

GROSELLA SAUCE

SWEET-BITTER ORANGE MARMALADE

CRUSTY HOMEMADE BREAD

CASHEW-APPLE PRESERVES



IT IS COMMON THESE DAYS TO regard with simple awe those people who have the temerity to make their own bread and marmalade.

But it is surprisingly easy and, although it can be time consuming, the smell that comes from the kitchen when bread is baking or marmalade is cooking is only slightly short of heaven.

Show me the man who can resist a slice of warm homemade bread, dripping with creamy butter and smeared with homemade jam or marmalade and I will show you a cold-hearted Scrooge with the bah and humbug thrown in free for Christmas.

Bread can be made in a delightful variety of ways anywhere but there are few places in the world where the ingredients for easily made marmalade and preserves hang from a tree or a bush nearly all year-around as they do on the Isthmus.

Panama's citrus fruits could well hold their own anywhere in the world. Oranges, both sweet and sour varieties, tangerines, grapefruit, limes—all tree-ripened—are available the year-around and most plentiful during the citrus season from December through March. It is not unusual to see golden oranges and white orange blossoms on the trees at the same time. The same occurs with grapefruit.

Seedless Boquete oranges, about the size of grapefruit and larger, are a beautiful sight and delicious eating. The common all-purpose oranges are sweet and juicy, their natural sugar developing as they ripen on the trees.

Anyone with an orange tree on his premises may find himself with more than he can use and a good way to use up the bonanza is to make orange marmalade. Here is a recipe for a marmalade similar to the English type:

SWEET-BITTER ORANGE MARMALADE

8 oranges, quartered
2 small limes, quartered
8 cups sugar
¼ teaspoon baking soda
a dash of salt

Remove the spongy inner portion from the peel of four oranges and with a sharp knife, cut the peel into very thin strips. Do the same with the limes. Put in a cooking pot and add three cups of water, the soda and salt. Cover and simmer for 30 minutes, stirring occasionally.

Separate the pulp from all the oranges and limes, being careful to remove all the white part. Add the fruit pulp and juice to the cooked peel. Heat to a boil and stir in the sugar. Cook at a slow rolling boil until the liquid begins to thicken. This will take about an hour. Remove any scum that may form on the top. Let it set for a few minutes and stir up. Put in sterilized jars and seal with paraffin or let it cool and freeze in containers. The marmalade also may be put into sterilized jars or glasses and placed in the refrigerator. It keeps fine for months.

Cashew-Apples.

Most people who enjoy cashew nuts are not aware that the nut is found hanging from a pepper-shaped red or yellow fruit called cashew apple. Very common in Panama, cashew trees are known as the fences that grow and bear fruit in April and May. When farmers need new fences they simply plant cashew nuts, seedlings or pieces of branches of the tree and in a few years there is a fruit-bearing fence! In the tropics, most fruit trees are not difficult to grow. Simply plant a seed and let nature do the rest. They need little coaxing.

The attractive cashew-apple has a spongy pulp which contains a milky juice that is sweet with a tart aftertaste when eaten fresh. It can be used for making a delicious wine, candied, or for making preserves. Here is one way of making cashew-apple preserves that are delicious on ice cream or served with cream cheese as a dessert.

CASHEW-APPLE PRESERVES

Cut enough of the fruit into strips to make four cups. Place in cooking pot and add four cups sugar, one cup water and one tablespoon lime juice. Cook over a slow fire until the fruit is tender and the liquid thickens. Put in sterilized glasses. Keeps in the refrigerator for months.

MANGO-NUT BREAD

2½ cups diced firm ripe mangoes
1 tablespoon lime juice
2 cups flour
1½ teaspoons baking soda
1½ teaspoons cinnamon
½ teaspoon salt
¼ cup chopped nuts
½ cup raisins, soaked in brandy
1½ cups brown sugar, not packed
3 eggs
¾ cup vegetable oil

Add the lime juice to the mangoes and set aside. Sift the dry ingredients together and add the nuts and raisins. Mix lightly with a fork and then add the sugar.

In another bowl, beat the eggs, add the oil and beat to a froth. Add the mangoes and then the flour mixture, tossing lightly until it is all mixed.

Line the pans with waxed paper and grease. Bake at 325° for an hour or until done. (Test with a toothpick.)

For the cook who is not allergic to lesser known fruits in the realm of tropical cooking, we offer a few more recipes that are sure to upgrade the accomplishments of even the most versatile.

A favorite fruit of Panama is the mango that grows in various shapes—round, long, narrow and kidney-shaped. Sizes vary from a large one the size of a papaya to a small one about the size of a peach. Mangoes have a smooth skin that ranges in color from all shades of yellow to orange and red, with a pale yellow pulp running into orange. The taste has been referred to as a delicate combination of apricot and pineapple. Few items in the food world equal the exquisite flavor of a cool, ripe, sliced mango at the breakfast table.

After eating your fill and baking pies and chutney, try making something a little different. Here is a recipe for a delicious, moist, mango-nut bread that comes to Culinary Capers from Hawaii through the courtesy of Emily Bolton, president of the Balboa Women's Club, and Mrs. Joseph Lockman of Panama, who discovered the treat on a recent trip to Hawaii. Mrs. Bolton added her individual touch to the recipe by soaking the raisins in brandy, while Mrs. Lockman substituted brown sugar for the white sugar called for in the original recipe. The bread freezes beautifully and the Balboa Women's Club has been busy baking and freezing it for the annual bazaar bake sale. This recipe makes one large loaf and a small one.

GROSELLA SAUCE

For a cranberry-like sauce to be used as a relish for meats and fowl, try the fruit of the grosella tree, a small, yellowish fruit with a tiny seed and an acid juicy pulp. The fact that it turns red when it is cooked makes it a perfect substitute for cranberry sauce. Here is one way of making the grosella sauce.

Clean and sort the grosellas and place in a pan with a little water. Cook until tender, being careful they do not scorch. Put them through the ricer and measure the pulp. For each cup of pulp, add one cup of sugar. Add a little water. Cook until the sugar is dissolved and then boil rapidly until thickened, stirring constantly. Add a dash of powdered ginger. Put in sterilized glasses and seal. Also keeps fine in the refrigerator for several months.

Panama's tree-ripened fruits give an exquisite flavor to breads and preserves.

Reminiscent of Grandmother's Kitchen

For those who have the time and do not mind getting their hands in dough, here is a recipe for homemade bread that is reminiscent of grandmother's kitchen and the good fragrance of bread baking. Since the art of breadmaking requires skillful kneading and what may be considered "hard work," you might as well make three loaves as one will surely be eaten while it is still warm from the oven.

CRUSTY HOMEMADE BREAD

2 tablespoons sugar
2 tablespoons lard or shortening
3½ cups boiling water
3 teaspoons salt
2 packages dry yeast or 2 yeast cakes
1 cup lukewarm water
12 cups flour, sifted

In a large bowl, mix sugar, lard, salt, and boiling water. In a small bowl, sprinkle the yeast in lukewarm water and let it set. When the boiling water has cooled, stir up the yeast and add to the water mixture in the big bowl. Add six cups of flour and mix with a wooden spoon. Add three more cups of flour and mix. Then place the dough on a wooden board and add the remaining flour, kneading with the hands. Knead until the dough no longer sticks to the board and cover with a towel. Let it rise in a warm part of the kitchen until it doubles in bulk. Knead again and let it rise again. Divide the dough into three pieces and form into loaves. Place in greased loaf pans. Let it rise again. (About an hour should be enough.) Bake in a preheated oven at 375° for about an hour or until the loaves are golden brown and sound hollow when tapped. Turn each loaf on its side to cool. Try it with some of the orange marmalade.

Boquete oranges.

Three golden loaves of freshly baked bread and English type Bitter-Sweet Marmalade.

TOKYO BAY TOPPLES RECORDS

THE *TOKYO BAY*, THE LARGEST container ship in the world, made Canal history in April 1972 when she became the largest ship to transit the Panama Canal. She also set a new record for tolls, paying $40,045.50.

The vessel arrived at Cristobal the day before her scheduled transit and because of her size waited outside the breakwater until dawn before she could start up the Canal channel. She carried four Canal pilots.

The 950-foot container vessel was a snug fit in the Panama Canal locks with her beam of nearly 106 feet. She was the biggest thing to go through since 1939 when the 936-foot SS *Bremen*, a German passenger liner, made her only transit.

It is possible that the *Tokyo Bay*, and four similar vessels being built in Europe for the European Far East trade, will be the largest ever to go through the Canal. She and her sisters are to go on a regular schedule between European ports and the Far East and will pass through the Canal on an average of one each month.

The five container ships owned by the Overseas Containers Ltd., have a service speed of 26 knots and carry more than 2,000 containers each. They are members of the Trio Alliance, a consortium of British, German, and Japanese shipowners formed to promote container service between Europe and the Far East.

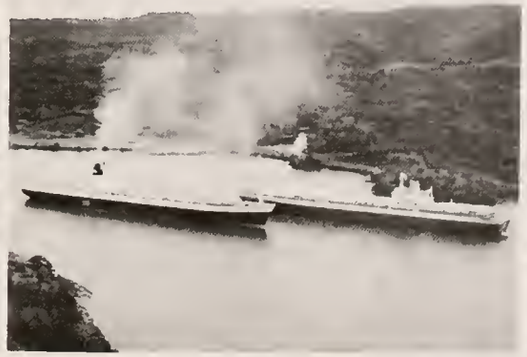
In addition to the Overseas Containers Ltd., other companies in the group include the British Ben Line with three ships; Hapag Lloyd A.G. with four ships; Mitsui-O.S.K. Lines with two; and Nippon Yusen Kaisha with three.

By coincidence, another member of the Trio Alliance transited the Canal northbound at the same time that the *Tokyo Bay* came south. She was the 882-foot *Elbe Maru* owned by Mitsui-O.S.K. Lines of Japan making her maiden voyage from the Far East to Europe. The two vessels met in Gamboa Reach. The *Elbe Maru* is a sister ship of the *Rhine Maru* which made her first transit in February 1972 and until the arrival of the *Tokyo Bay* held the record for paying the highest commercial tolls.

A LONG WAY UP—Two Panama Canal deckhands climb up the Jacob's ladder on the side of the "Tokyo Bay," which is taller than a seven-story building. The giant vessel requires 24 deckhands, two boatswains, and four Canal pilots for her trip through the Isthmian waterway.

The world's largest container ship moves through Gaillard Cut, where the 50-mile-long Canal crosses the Continental Divide.

With only slightly more than 2 feet to spare on each side and 25 feet on each end, the container ship "Tokyo Bay" enters into Gatun Locks at the beginning of her transit of the Canal. The world's largest and most powerful container ship began her transit at 4:30 a.m. and cleared Canal waters at about 4:00 p.m. In the west chamber, dwarfed by the "Tokyo Bay," is the "Monticello Victory," which is 736 feet long and has a beam of 82 feet.



Two of the largest ships ever to use the Panama Canal, the 950-foot "Tokyo Bay," and the 882-foot "Elbe Maru," pass at Gamboa Reach on their maiden transits. The "Tokyo Bay" was making a southbound transit and the "Elbe Maru" was going north. They are two of the 17 giant ships being placed in service by the Trio Alliance. Hundreds of Isthmian residents and Canal officials lined the banks of the Canal on both sides of the Isthmus to see the two big ships.

The 855-foot-long "Rhine Maru," which for a short time held the record for paying the highest commercial Panama Canal tolls, passes Contractors' Hill on a recent northbound transit. The vessel held the tolls record until the arrival, in April 1972, of the "Tokyo Bay." A member of the Trio group of container ships, the "Rhine Maru" travels between Europe and the Far East at a maximum speed of 26 knots. The ship is owned by the Mitsui-O.S.K. Lines.

MOBILE MASTERPIECES

By Vic Canel

The artwork on Panama buses and "chivas" is a colorful expression of individuality

FREE LOVE," "HOT PANTS," "Mr. Big Stuff," may sound like titles for X-rated movies, but they're not.

These, along with many proverbs, sayings and catch phrases, are names given to their vehicles by imaginative Panamanian bus operators as an expression of their individuality. Usually lettered on the rear of the bus in Old English script with fancy flourishes and capricious curlicues, the names are a part of the colorful decorations that makes Panama's buses unique.

The more elegantly decorated buses have brightly colored paintings inside and out, ball fringe on the windows, religious figurines and fanciful touches which may include gaily dressed dolls or crocheted items.

Perhaps as a tribute to Panamanian womanhood—or to womanhood in general—a girl's name is often painted on each of the side windows.

Naming buses is said to have started when the first self-propelled public conveyances made their appearances in the cities, during the second decade of the century. Those early vehicles, called "chivas" (goats) were nothing more than sedans or pickup trucks with the after end removed and replaced by a wood and tin body. They accommodated six or eight passengers on lateral benches and the entrance was at the rear.

The name "chiva" is said to be derived from the fact that the solid wheel vehicles jumped like mountain goats when driven over Panama's cobblestone streets.

Samuel Lewis, a retired Panamanian journalist and publisher, recalls that among the early pioneers of public transportation in Panama, circa 1911, was a Jamaican chiva operator who for reasons known only to himself, permitted no women aboard his rattletrap conveyance. He would drive down the street soliciting passengers and shouting: "Men Only!" But apparently his male chauvinism was no obstacle to success. Mr. Lewis says he prospered and soon bought a second chiva.

Operators gave chivas pet names to distinguish them from those of their competitors. Their efforts at originality produced some fairly spicy names and, at one point, the mayor of Panama ordered names removed from all public conveyances. The custom was later revived however and extended to the larger buses.

Some of the first chivas were chain-drive Ford pickup trucks operated by East Indians in turbans. Hindus were the principal operators of bus transportation in Panama before World War II.

In the beginning, there was no organized transportation and no large fleet operators. But enterprising individuals ran their own jitney service to take employees to work. Among the first was a Canal employee named Harry Conley who had a small bus in which he took coworkers from Ancon to the Administration Building and back during the 1920's. But a great majority of bus operators in the years that followed were East Indians.

During World War II, when the number of workers in the Zone increased with the employment of additional personnel for defense projects, concessions were granted to some 20 bus operators to provide service in the Canal Zone, including military reserva-

A bigger than life-size portrait of Franco Nero, star of Italian Western movies, peers menacingly at tailgating motorists from the rear of this Chorrera bus. The actor also is featured in the interior decorations which include a cartoon reproduction over the mirror that says "Love is . . . to travel with Franco Nero every day." The fancy sign on the rearview mirror says "I will always be for you."

Teodoro "Billy" Madriñan has specialized in painting scenes on buses since the 1940's.

tions. Most of the concessionaires and their drivers were Hindus.

Gas and tire rationing and the unavailability of spare parts combined to make this service something less than efficient. But it was not until 1952 that the services were consolidated and a single concession granted. The principal stockholder was an East Indian merchant, Gursan Singh Gill, who owned two oriental stores in Panama City, and most of the drivers, of course, were Hindus.

Eventually, Gill bought out his five partners and sold out to the present operators of the Canal Zone bus service.

The 70 or 80 chivas still seen in Panama are destined to disappear as the country streamlines its public transportation system and consolidates independent operators and cooperatives into two principal organizations, a co-

Bus paintings portray everything from comic strip characters to figures of Greek mythology. This bus, named "Prometheus in Chains," features a painting of the titan atop the Caucasus as well as a scene of Panama City's Balboa Avenue.

operative known as the Cooperativa de Transporte Metropolitano, and a corporation called Corporación Unica de Transporte.

The evolution from the eight-passenger chivas to the gaily painted 50-passenger buses of today was gradual. Chivas made from cars and pickups were used until the early thirties. Then, in 1934, a Colombian, the late Froilán Arce, got the idea of buying ½-ton chassis and motors and building the bodies locally.

Those chivas remained in service until after World War II. Then, in 1946, the first "busitos" made their appearance. These are the small, 16-passenger blue buses which at that time sold for $3,600 complete or $900 for the chassis and motor only.

In 1960, local operators began to import 24- to 30-passenger buses and, as the city grew and the demand for public transportation increased, 40- and 50-passenger buses costing $9,000-$10,000, were placed in service.

But throughout, the chiva has survived and is patronized by faithful passengers who usually ride the same one each day and know each other as well as members of a car pool.

Among the principal routes served by today's chivas—mostly of 1952 vintage—is the one extending from downtown Panama along Balhoa Avenue to the shanty town called Boca la Caja, east of Paitilla Airport. The ride to the end of the line costs 10 cents, but the chiva will take you as far as Santo Tomás Hospital for only a nickel.

One driver on this route, Juan Antonio Olivares, has been behind the wheel of chivas for 32 years. In addition to the Chiva he drives on the Boca la Caja route, he owns a small busito. As a small fleet owner—five buses or less—he belongs to an organization called El Tercer Grupo (the third group), made up of small independents who are not affiliated with either the cooperative or the corporation.

So there are basically three types of buses in Panama—the venerable chivas, the "busitos" and the larger buses. Though the earlier chivas were painted with bright and imaginative designs, most of the surviving ones are plain.

The greatest profusion of artwork is now found on the larger buses. There are paintings of pastoral scenes, religious motifs, well-known landmarks such as the bridge that spans the entrance to the Panama Canal, the ruins of Old Panama, likenesses of film and TV personalities and even comic strip characters. A random sampling of buses along busy Vía España or Central Avenue during rush hour can be an amusing pastime. One bus is named "Marshal Dilo"—phonetically honoring the character portrayed by James Arness in the TV series "Gunsmoke." Others are named "The Fugitive" and "The Untouchable." Still others bear phrases and sayings such as "Let's Forget the Past"; "God Forgives, Not I"; "Forgive Them Lord"; "It's All In The Game"; and "What You See Is What You Get." A few of the signs are in English.

Many of the buses have been lettered and decorated by Teodoro "Billy" Madriñán, a former employee of the Panama Canal Dredging Division, who began specializing in the art back in the forties.

Billy says the custom of painting scenes on buses got started when one bus operator conceived the idea and it was later noted that tourists were stopping to photograph his bus. The idea caught on quickly and soon operators were competing for originality. As they did, the decorations became more and more elaborate.

The cost of bus decorations varies according to how elaborate they are. A simple scene on the back of the bus may cost anywhere from $15 to $25. A complete job, with paintings inside and out, lettering of names, phrases and girls' names in the windows can cost up to $120.

Many Panama bus riders are likely to view with nostalgia the passing of this charming custom as the Panama Government prepares to modernize its public transportation system with shiny new buses which have large picture windows, but, alas, no expressions of individuality.

Some "chivas" do double duty. Those that come from the interior carrying produce, passengers and chickens are popularly called "Chivas Gallineras" (Chicken Chivas).

Paintings of Panama's famous flat arch bridge and its historic cathedral along with a couple in typical dress help to publicize some of the country's tourist attractions.

SOUTH AMERICA on (?) a day

MONEY, MONEY, MONEY—IT goes further in South America, so they say. But those preoccupied U.S. tourists, counting on their fingers as they wander from shop to shop in Santiago, Rio, or Buenos Aires, are probably uncertain just how far it is going for they are bewildered at trying to figure out the local exchange rate.

One tourist discovered that he was getting excellent service from almost everyone after he tipped a bellhop the equivalent of $6 for opening the windows.

It works the other way too. Try giving a tip which amounts to several U.S. cents.

Money exchange is one of the hazards of modern air travel. Visitors go from one country to another so quickly that there is no time to obtain coin of the realm let alone figure out its value in relation to the U.S. dollar.

It gives a traveler a desolate feeling to find he has purchased something, or is about to purchase something, only to discover that the money in his purse has no more value than wampum.

Of course this happens only in small shops, en route from an airport, or directly after arriving at a hotel when the hall porter or a bellboy stands around expectantly.

A Financial Wizard

In most hotels in South America, the traveler can get his money exchanged at the hotel desk. The question of how much to tip comes next and unless one is a financial wizard, there seems to be no way to figure out the problem quickly.

There are several dandy little books put out by banks and tourist agencies to help the hapless traveler on money matters. But none of them can do much for the person who tries to add up a dinner bill which includes a cover charge, a sales tax, a percentage for tips, and sometimes a donation to the local Red Cross.

Perhaps the most discouraged travelers are those who return after a shopping expedition and find that they have paid more for their purchases than they would have if they had obtained the same items in a luxury store in New York. This can happen easily when one is not only figuring the exchange rate but also sorting out "old and new money" and determining the different values of each.

In Argentina and Brazil, although new currency was issued several years ago, old bills and coins, as well as the new, are in circulation. And shopkeepers sometimes quote prices in the old currency.

The Argentines and Brazilians seem to accept it all as a matter of course, but for the new arrival it boggles the mind, especially if one is not only counting Brazilian cruzeiros but trying to figure out the difference between Portuguese and Spanish.

Money Exchanges

In most countries of South America there are regulations that money can be changed only at the official rate and at government authorized money exchanges.

But a tourist with U.S. dollars to convert may find himself surrounded with self appointed money changers who come in the form of maids, bellboys and even hotel clerks who will come to the hotel room, knock discreetly and whisper the latest exchange rate on the black market. In one country, standing outside most banks and hotels are eager looking young men carrying brief cases, who are not businessmen but "unofficial" money changers who ask "cambio?" in a discreet tone as anyone with a camera around his neck approaches.

A Burglar

After the tour is over, there is still another money problem for the tourist. What to do with all those small bills and coins that manage to hide in the bottom of pocketbooks. The problem was solved for one tourist when a burglar entered her hotel room, snatched up the accumulation and disappeared out the window. The police recovered the loot and solemnly read off the list of currency:

30 Peruvian soles; 15 Ecuadorean sucres; 20 Chilean escudos; 10 Paraguayan guaranies; 4 Brazilian cruzeiros; 5 Argentinian pesos; and 4 Italian lire (she had traveled South on an Italian ship).

Sightseeing South American style is fun. One only has to relax and enjoy it.

Traffic in most of the cities has to be experienced to be believed. A taxi ride is a wild experience and there is a fleet of Volkswagen taxis in Rio that travels at 120 kilometers an hour whose drivers could qualify for the Indianapolis Speedway.

According to the newspapers there are frequent accidents, but most residents seem to emerge unscathed after a wild ride through the center of the city with every other vehicle jockeying for position on a three-lane throughway.

Most taxi drivers speak English, or a reasonable facsimile of the language, and like cab drivers everywhere they are delighted to point out interesting landmarks. They also like to expound on local politics and their philosophy of life. Most everyone seems to have an uncle in New York, Miami, or Los Angeles through whom they have accumulated a vast store of information about the United States.

Because of the age and size of many of the taxis in some South American cities, the number of passengers per taxi is limited strictly by law. Woe unto those who think they can get a party of six into a five-passenger car. The taxi driver will usually refuse to budge. However, there was at least one case where the driver was persuaded to take a whole group when one member of the party agreed to lie on the floor of the car.

Oversize Veal Cutlet

Speaking of the floor of the car, in Chile, some of the drivers fill the floor of the passenger compartment with sawdust on rainy days to soak up the excess water that collects. It sounds like a good idea but it is rather disconcerting to discover that the last 3 or 4 inches of one's trousers are coated with a layer of the fine sawdust or that the jacket you accidentally dropped on the floor resembles an oversize breaded veal cutlet.

Rates vary according to the city but they also may change from one month to the next. In this case, the taxi driver will take the amount registered on the meter plus an additional amount, which he apparently figures out on a slide rule and then adds a percentage for a tip provided by law. (In one city, it was a matter of reading the meter and then doubling it.) He won't refuse an additional tip but then he won't stand around with his hand out either. In most cases, he is a polite fellow even when faced with a group of confused and excited visitors who aren't quite sure where they are going or occasionally even what city they are in (if they are on the "Around South America Quickie Tour"). Rio and Buenos Aires seem to be confused most frequently as demonstrated by one lady, who to the consternation of the taxi driver, asked him what the Brazilian embassy was doing in Rio as he drove through Buenos Aires pointing out the sites of interest.

Rides into the country are in comparison, pretty tame affairs. During the day the driver jogs along at an even pace and is fairly good at repairing a tire or making an ailing engine regain its health. Many motorists either are good mechanics or they have access to good mechanics as a matter of necessity since there are a large number of old cars on the road. In Uruguay there are early Model "T" Fords which qualify as classic cars in the United States.

It is at night that the automobile drivers of South America come into

their own and the North American visitors retire to the ranks reserved for the children and those not fleet of foot.

In most places, there seems to be a law that the headlights on a car are illegal and that only dims or parking lights are to be used even on the open highways. This gives most visitors the feeling that they are groping through a London fog with a candle but the local citizens have the art of night driving down to a fine point. They bolt along the country highways at a normal daylight pace and turn on their lights only when their radar warns them that a similar darkened vehicle is approaching in the other direction. This procedure blinds both drivers but they pass with room to spare and continue on in darkness.

Hundreds of Fireflies

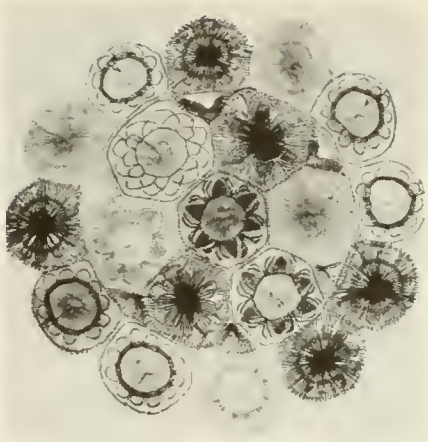
In many cities, automobiles travel with dim lights. Drivers turn on the brights only at street corners or when they apparently want to get the lay of the land. It gives an eerie impression from a high building at night with the lights of the moving vehicles blinking off and on like hundreds of restless fireflies.

Most visitors making either a leisurely tour or a fast swing by air through the hospitable lands to the south will compare notes and agree that travel is indeed broadening. Some tourists merely groan and declare they are eating their way through South America.

Whether travel is by ship or plane, there is some kind of a conspiracy to keep the passenger fat, dumb, and happy while he is aboard. Unless one boards a plane in the middle of the night, food comes at regular intervals which get closer if one passes a time zone. Food may be anything from a five-course meal to a light snack of soup and several kinds of three-layer sandwiches—with something sweet, of course.

"Medias Lunas"

After leaving the plane or ship, the tourist is introduced to the delightful South American habit of eating five or six times a day. The way South Americans manage to pack five meals into a day is easy. They are spaced throughout the day. After breakfast, which often includes tasty crusty croissants in Argentina, which they whimsically call "medias lunas" or half moons; a pre-lunch snack at 11 a.m.; lunch at 2 p.m.; tea at 5; then comes dinner up to midnight. And anyone who



Few visitors leave Paraguay without a sample of the famous ñanduti or spiderweb lace. It is made only by the women and some items of intricate design take up to 5 years to complete.

manages on less than three courses at lunch, a full-course high tea, and a five-course dinner is a piker.

Lunch and dinner are accompanied by two or three kinds of wine and may be preceded by cocktails and followed by liqueurs. Because of the high cost of imported gin or whisky, cocktails usually are the delightful pisco sours which taste innocuous but pack a wallop as one group of visitors found to their surprise. Pisco is a grape brandy, best known in Peru, although it is served in Chile, Argentina, and Uruguay.

Meat has traditionally been a staple diet in Chile, Argentina, and Uruguay—and by meat, they mean beef or beefsteak. At present there are certain meatless days, weeks, or as in Uruguay 6 meatless months, which means that during these periods beef is not served in restaurants nor can it be purchased in the public markets. Instead, the

Popular with tourists shopping in Peru are llama and alpaca rugs, both the all white and the brown and white styles, which come in a variety of designs and shapes.

visitor is offered a menu which lists such things as lamb, chicken, a wide variety of seafood, and a dozen or so other delicious dishes guaranteed to make one forget the beef.

South Americans consider these meatless days a hardship and it may be for those who have become accustomed to a daily diet of beef but visitors are happy with the substitutes and the variety of delicious ways they are prepared.

The Argentine's well-known love of beef extends to almost every part of the cow and it may come as a shock to discover exactly what that delicious little tidbit you nibbled with your drink really is. Those at all squeamish might be well advised to skip reading the English translation if there is one, because the language there appears to have been taken from a veterinarian's anatomy textbook.

Meatless Days

If it is not a meatless day, one way to tell when one has arrived in a South American beef eating country, without looking at the road signs is to stand in the main plaza and sniff. The smell of grilled beef fills the air as every resident, whether he is roasting his lunch on an open air fire or eating in a roadside restaurant, has his noon meal. The same thing happens at night and it may in the morning, if anyone gets up early enough to find out. But most South Americans are continental breakfast eaters unless they have had a close association with the British, whose influence is still felt over the land.

Up There

The French also have left their influence on the cooking of South America and any visitor who thinks that he can leave the groaning board with a cup of black coffee is mistaken. Dessert or "postre" is likely to come in the form of French pastry or ice cream tortes loaded with fresh whipped cream—none of that synthetic dietetic stuff. Most tourists make a mental note to go on a diet when they get home and proceed to dig in.

With such gustatory adventures and a very favorable rate of exchange awaiting them in South America, more and more Isthmian residents are heading that way and finding it fun, while on vacation, instead of saying "down there in the Canal Zone," to be able to say "up there in the Canal Zone."

E. R. and W. F.

Medical Sleuths

Canal Zone College in joint program with Gorgas Hospital trains medical technologists to fill growing needs of modern medicine.

Anna A. Haug, of David, is training to become a medical technologist. Here she does an analytical test to find the hydrogen-ion concentration of an unknown in chemistry class at Canal Zone College.

WHILE AN ACCIDENT VICtim lies in critical condition in Gorgas Hospital's emergency room, Cristina Quiros Bunyea swiftly analyzes a blood sample to determine the type so that the blood transfusion that may save the man's life can be administered immediately.

Since this is an emergency, she puts this particular job on her top priority list. But across the hall, Angela Scott and Diovelis Díaz can work with less urgency. While one tests blood serum for antibodies, the other grows and identifies bacteria taken from a patient's throat.

These top-level medical laboratory workers and their colleagues also analyze chemical composition of body fluids and tissues, look for parasites, examine urine specimens, run tests on toxic substances and perform numerous chemical, microscopic, bacteriological and other medical tests to help physicians diagnose and treat disease.

They are medical technologists, members of one of the newest and fastest growing associated medical professions indispensable in the practice of modern medicine. These medical sleuths work behind the scenes and have something to do with just about every patient who enters and leaves a hospital. Their services to humanity are available 24 hours a day, 365 days a year.

Excellent medical resources in the Canal Zone are available to students planning a career in medical technology. For the past several years, Canal Zone College and the Gorgas Hospital School of Medical Technology have offered a joint program in the field. The 4-year program has been approved by the Middle States Association of Colleges and Secondary Schools and the Governor of the Canal Zone, giving the college authority to grant the bachelor of science in medical technology degree. It was awarded for the first time in May 1970. Six bachelor of science in medical technology degrees were conferred the following year and eight medical technologists received their degrees last May.

The training program consists of 3 years of studies at Canal Zone College mainly in chemistry and biology, and a fourth year of internship at one of the 400 approved schools of medical technology in the Canal Zone, the United States, or Puerto Rico. The training is rigorous and demanding and due to the advanced scientific nature of the studies, a student at the end of 3 or 4 years is well prepared for professional train-

At Gorgas Hospital, Ignacio Scope, who received a bachelor of science degree in medical technology last May, works on an analysis which gives the results of six different tests at 1-minute intervals—glucose, creatinine, potassium, sodium, carbon dioxide, and chloride. A newer and more sophisticated machine at the hospital does 12 tests.

At a Coulter Counter in the Hematology section of the Gorgas Hospital Laboratory Service, Diovelis Díaz is screening for blood diseases such as anemia and leukemia. Miss Díaz is a May graduate of the Canal Zone College-Gorgas Hospital Medical Technology 4-year program.

ing in medicine, dentistry, pharmacy, optometry, nursing, veterinary science, chemistry and biology.

In addition to the general education requirements in English, social science, humanities, science, mathematics, and physical education, medical technology students are required to take zoology, anatomy, microbiology, histology and parasitology, in the biological field. In the physical sciences, they are required to complete laboratory and lecture courses in general chemistry, organic chemistry, qualitative analysis, quantitative analysis and general physics.

During the fourth year of internship, the student completes courses in hematology, clinical chemistry, clinical bacteriology, clinical parasitology, serology, blood bank, urinalysis, histopathology, mycology and clinical microscopy. At Gorgas, he receives 52 weeks of training, rotating in the different departments of the hospital's Laboratory Service.

The majority of candidates from Canal Zone College have interned at Gorgas, but since the number of quali-

A recent graduate of the Canal Zone College-Gorgas Hospital School of Medical Technology 4-year program, Ena Archibold de Mendizábal, differentiates white blood cells.

With increased emphasis on research in medicine and in industry the demand for qualified technicians far exceeds the supply

fied candidates exceeds the capacity of Gorgas, several have gone to approved hospital schools in the United States. Most of the medical technologists employed at Gorgas Hospital have been trained under the joint Canal Zone College-Gorgas Hospital School of Medical Technology Program.

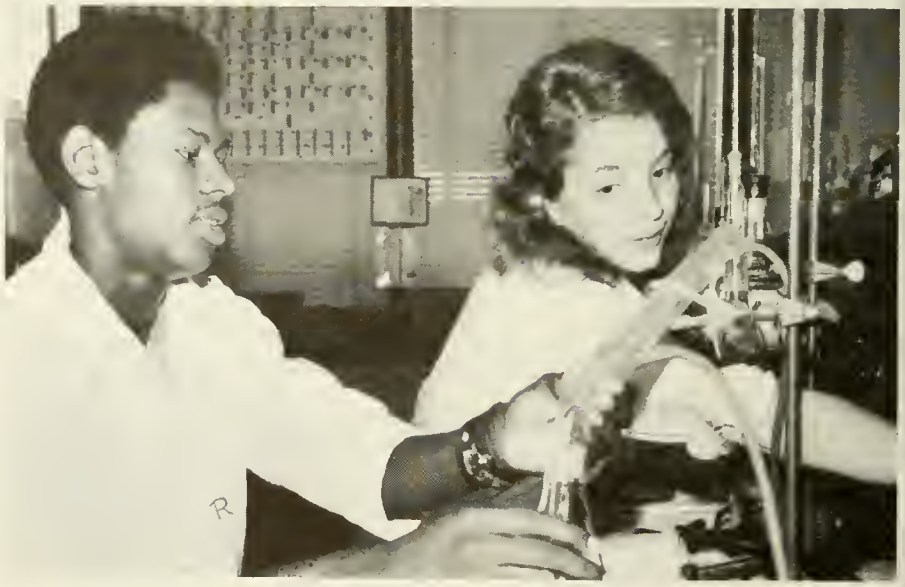
Following successful completion of the internship year, they are eligible to register for the national board examination administered by the American Society of Clinical Pathologists. Upon successful completion of the examination, they are ready for employment as registered medical technologists.

Roberto Beverly, left, and Annie Fifer are distilling water during a chemistry laboratory class at Canal Zone College.

Canal Zone College has formal agreements with Tampa General Hospital; Baptist Memorial Hospital, Jacksonville, Fla.; University of Puerto Rico Medical School; Berkshire Medical Center, Pittsfield, Mass.; Veterans Administration Hospital, and Jackson Memorial Hospital, Miami, Fla. Candidates are also eligible to apply to any of the other approved schools.

The cost of training to the student is modest. Tuition is paid for only the first 3 years and the fourth year of study is free of charge. Most of the schools of medical technology in which Canal Zone College candidates have been accepted pay the student a small stipend. Gorgas Hospital is currently providing each student with a stipend of $1,300 per year and Tampa General Hospital is paying $1,620 a year. There are no fees or charges of any kind at these two institutions. Some of the schools provide room and board and a few have additional fringe benefits.

During the current year, medical technology has been selected as the major field of study by 70 students attending Canal Zone College. High school preparation for medical technology majors should include at least 3 years of mathematics and 2 years of science.



A close working relationship exists between the Canal Zone College science faculty and the Gorgas Hospital laboratory staff. Honorary faculty rank was conferred this year on Dr. Gordon Flake, Dr. Carolina White and Dr. Jerry L. Harris, three Gorgas doctors who serve as instructors of the fourth-year classes and supervise the laboratory work of the intern students. DeWitt Myers, chairman of the science department of the Canal Zone College, is the educational advisor to the Gorgas Hospital laboratory staff. The college has a medical technology advisory committee composed of Dr. Harris Meyers, Dean Glen E. Murphy and Norman Altenberg, college registrar. Ricardo Vallarino, supervisory medical technologist at Gorgas Hospital, is the college instructor for the first year course on the introduction to medical technology.

Medical technology as a profession is said to have originated in 1896 at Johns Hopkins University in Baltimore but it was not until World War I that medical laboratory science began to be recognized as a specialty. Today, it is a highly sophisticated profession, invaluable to health specialists. Due to population growth and the increasing complexity of medical science, the demand for medical technologists is constantly expanding. More and more people are using hospitals, laboratory tests are routine in physical checkups, and more hospitals are being built. Medical technologists are needed also in industrial medical laboratories, in medical research programs, and other areas of development and research. The ever increasing emphasis on research in medicine and industry offers the medical technologist unlimited opportunities for promotion to supervisory and chief technologist positions. As the demand for qualified technicians far exceeds the supply, the outlook for employment opportunities is bright indeed. F. H.

A DIFFERENT WAY — to San José →

THE TWIST MAY BE DEAD AS a dance, but its memory lives on in Sixaola, Costa Rica.

That's the nickname for a gasoline-powered conveyance that runs on a narrow gauge railroad between this tiny town on the Panama border and Fields, Costa Rica, some 20 miles away. And if you ever ride it or watch it sway as it rumbles down the track, you'll know how it got its name.

Few Canal Zone or Panama City residents enter Costa Rica at that point. Most fly directly to San José or take the Pan-American Highway on the Pacific side of the country. But, if you like beautiful scenery and the adventures of traveling off the beaten path, take a train to San José.

The entire trip cannot be made by rail, but a good portion of it can. In fact, it combines air, bus, rail and water transportation, which makes the adventure even more interesting. And it can be done over a long weekend, if you fly back.

Shifting of holidays to Mondays will provide Panama Canal employees with no less than eight 3-day weekends in 1973 and a good opportunity to visit many of the interesting spots that lie within easy reach.

The charming Costa Rican capital, with its pleasant springlike weather, has always been a favorite destination for Isthmian residents on brief holidays. But by the circuitous route, getting there is half the fun.

The highlight of the trip is a spectacular, 6-hour train trip from Puerto Limón, Costa Rica's busy Atlantic seaport, up to San José.

Bill Hall and Al Jenkins, of the Comptrollers Office, made the trip last spring. Though they took 4 days, it can be completed within a 3-day weekend, as was done a few weeks later by a Canal Zone couple.

Hall and Jenkins started their trip at 7 a.m. with a COPA flight from Tocumen International Airport that took them first to the island capital of Bocas del Toro Province and, after a brief stop, on to Changuinola. During the hour and a quarter flight from Panama to Bocas, COPA serves the Panamanian version of a continental breakfast—coffee and a tasty empanada.

The low-level flight from Bocas to Changuinola offers a view of the seemingly endless orderly rows of banana trees and the railroad bridge over the Changuinola River.

If you are lucky, the flight to Changuinola will get you there in time to catch the passenger train that leaves each morning at 9 a.m. for the 8-mile run to Guabito, on the Costa Rican border. If you miss the train, as usually happens, a taxi will take you there for $5 over a dirt road that parallels the tracks, though not always on the same side. Hall and Jenkins had allotted one day for visiting the banana plantations. They overnighted at the Changuinola Hotel which is just a short walk from the airport. The couple who made the trip later missed the train by about 5 minutes, but beat it to Guabito in a cab.

Formalities for exiting Panama and entering Costa Rica at this point are not at all complicated. You show Panamanian officials your Canal Zone exit permit, then walk a narrow pedestrian plank across the railroad bridge that spans the Sixaola River, which marks the boundary between the two countries. At Sixaola you check in with Costa Rican immigration authorities. A simple tourist card or a visa is the only document required.

"The Twist" is a yellow truck with flanged wheels which pulls a small passenger coach and an open freight wagon along the narrow gauge track. It runs on a rather erratic schedule which bears little relationship to the official looking timetable posted in the immigration office. Speculation on arrival and departure times seems to be a popular local pastime. When the Canal Zone couple arrived in Sixaola they took note of the posted timetable and sat down to wait for the 10:30 a.m. departure. When the scheduled time had come and gone, they were told that "The Twist" had had some mechanical trouble the day before and would be delayed for an indefinite period. Shortly after noon a man walked up to them and gravely volunteered the information that "The Twist" would not operate at all that day. Five minutes later it appeared on the horizon.

An alternate means of transportation from Sixaola to Puerto Limón is provided by not one, but two (count them) air taxi services which also will take you all the way to San José should you despair and decide to forego train travel altogether. The train ride from Limón to San José should not be missed, however. And those trains do operate on a strict schedule.

Even flying from Sixaola to Limón involves a short rail trip. Transportation of passengers and luggage to the landing strip is accomplished on a small flatcar—drawn by a burro.

But those who elect to take their chances on "The Twist" will be rewarded with an interesting, scenic trip. The 20-mile ride to Fields costs 3 colones or the equivalent of 40 cents. The railway serves as main street for the towns of Daytonia, Paraiso and Margarita, and houses in these towns line both sides of the track.

All along the route the air is filled with the strong, sweet smell of fermenting cacao pods and occasionally, "The Twist" will stop at one of the many plantations to pick up a load of beans. The fruit has been harvested by independent farmers since 1969, when the fruit company withdrew from the cacao business.

Fields is the end of the line and here most travelers on this route begin to feel the need for nourishment. There is a small restaurant featuring simple native dishes. Knowledgeable visitors will stake out a table and put in their

If you tire of waiting for "The Twist" and opt for an air taxi flight from Sixaola to Limón, you are taken to the airfield in a burro-powered railcar.

At Sixaola, Costa Rica, just across the Panama border, you take "The Twist" for the 20-mile rail trip to Fields.

Expert boatmen pole passengers across the Estrella River to Penhurst, Costa Rica, to board the train to Puerto Limón.

food order as soon as possible, since a full "Twist-load" of hungry passengers frequently is more than the restaurant can handle.

The next leg of the trip, from Fields to the banks of the Estrella River, is usually made in a fairly comfortable bus. The couple who followed Hall and Jenkins made the 25-mile trip in a stake body truck, which perhaps offered an even better view of rich tropical jungle scenery as it lumbered along the hilly, dirt road. Roughly midway, at Cahuita, there is a brief rest stop with just about enough time to buy a soft drink at the general store and take a short walk down one of the town's grass-covered streets, leading down to a beautiful beach. Fare for this leg of the trip, whether by bus or truck, is 7 colones, or about 90 cents.

When passengers alight at the edge of the Estrella River, a horde of small boys swarms around them vying for the right to carry their luggage while the adult cayuco operators beckon them toward their dugouts. It costs only 1 colón, or 13 cents to cross the river into Penhurst.

If the food ran out before you got your order in back at Fields you'll probably be ready to try the candle-lit restaurant across from the Penhurst railroad station before train time.

The train for Limón leaves at 7:30 p.m. The trip takes 3 hours and costs 3 colones. There is one kerosene-lit passenger coach and a number of freight cars loaded mostly with cacao.

By the time the train arrives in Puerto Limón, one is ready to bed down for the night. There is a choice of three moderately priced hotels within walking distance of the railroad station—the Caribe, the Park, and the Lincoln, all about equal in quality and price. Rates run between $3 and $4 per person. The Caribe and the Park should by rights switch names, for the Caribe overlooks the park and the Park overlooks the Caribbean.

Puerto Limón bears a striking likeness to Colón or to practically any port city in Central America, for that matter. If you decide to tarry there, there are a few interesting sights. Among the favorite pastimes for visitors is to go to the teeming piers and watch the loading and unloading of ships. There is a well-kept park with walks shaded by West Indian laurel trees. A half hour away by bus is the Balneario Portete, where there is a small bathing beach and restaurant. The road to Portete follows the coast and offers some beautiful scenery.

But whatever you do, or however long you stay in Limón, be sure to buy your ticket for the train to Costa Rica as far in advance as possible. Seats are limited. The best train to San José is the Pacheco, which leaves (promptly) at 6:10 a.m. Get to the station early and sit on the left side to enjoy the spectacular view. The fare is $2.10 and for a few extra colones you can reserve a seat in the "carro salón."

The scenery changes rapidly as you travel toward San José. First you are going through cacao country. Early in the journey you come to a junction called La Junta, where a spur line called Línea Vieja (Old Line) comes in from the left. This was originally intended to go all the way to San José, but the route was changed when it was found it was impossible to circle around the west side of the volcanoes into the central plateau. But the spur proved useful anyway and has been in operation ever since. Here you will see many people making connection with the main line.

During most of the trip, the railroad follows the raging Reventazón River as it courses between cliffs alive with jungle growth.

En route, you will see two volcanoes, Turrialba and famed Irazú. And the scenery gets more and more spectacular as the train climbs higher. In the 30-mile stretch from the city of Turrialba to Cartago, just 12 miles out of San José, you climb 3,000 feet. The air is crisp and filled with the sweet scent of pines.

You arrive in San José shortly after noon, just in time for lunch. And you will probably be ready to eat unless you were tempted to buy some of the empanadas, hard-boiled eggs, ice cream and other offerings hawked by small boys at each of the train stops.

On the hour-long flight back to Panama one might look back on the long overland trip with the satisfaction of having experienced an adventure that the ordinary tourist does not enjoy. Once you have made the trip, you probably will never make it again, but chances are you'll never regret having made it.

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Those who have made the trip described in this article recommend that you take along a book or magazine to read, perhaps a package of cookies to nibble on, a canteen of drinking water, and, to better endure the long periods on wooden seats, an inflatable cushion.

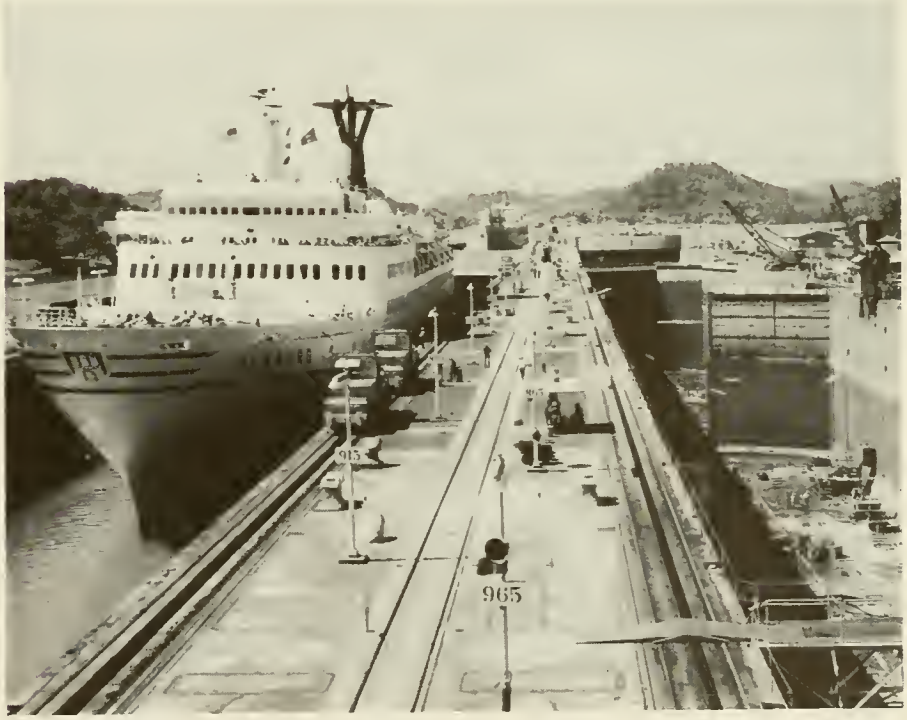
Cruise Ships

WINTER AND SUMMER CRUISES are becoming more popular than ever as travelers discover the joys of living at sea under the same luxurious conditions that they would find at a first-class hotel with such things as sightseeing tours, gourmet meals, orchestras, entertainment, and superb service thrown in for good measure.

In addition, many cruises can be combined with air or rail transportation for a more varied vacation. Tourists now 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 handsome cruise ships make regular trips through the Canal and often stop long enough to let their passengers enjoy the many interesting sights on the Isthmus.

The P & O Line luxury liner "Canberra" has been passing through the Canal since 1963. She is the biggest passenger liner to be built in England since the "Queen Elizabeth" and is one of the largest commercial liners to use the Canal. She is passing through Miraflores Locks with a few of her 1,000 passengers on top deck watching operations. While transiting the Canal, luncheon is served on deck and the P & O menu includes everything from kangaroo tail soup and cumquats to Halibut Cutlet Baron Brisse and Cromesques Toulousaine.

New in looks and new in design was the passenger liner "Southern Cross" when she made her first visit to Canal waters in April 1955. Built in Belfast, Northern Ireland, primarily for low-cost travel, she has accommodations for 1,600 passengers.



A sleek addition to the list of cruise ships passing through the Canal is the German vessel "Hamburg" which was completed in 1968 in Germany. The vessel, which is the fourth German ship to carry the name Hamburg since the beginning of the century, makes a southbound transit while the west lane at Miraflores Locks is out of service for overhaul. Known for the amount of space set aside for both public and private rooms, she has 319 spacious cabins including 20 deluxe apartments which accommodate 600 passengers.

The Holland America cruise liner "Rotterdam" enters the Panama Canal from the Pacific entrance passing under the bridge that crosses the Canal at Balboa. The big ship is escorted by two tugs and usually docks at Balboa before continuing on her cruise schedule. The "Rotterdam" is a regular visitor to the Canal during the winter cruise season. She has accommodations for 1,369 passengers.

Framed by tropical trees and plants that grow in profusion along the banks of the Panama Canal, one of the Norwegian America Line's luxury cruise ships, the SS "Sagafjord" sails majestically through Miraflores Lake after completing a southbound transit through Pedro Miguel Locks. Filled with carefree cruise passengers, the vessel is on her way from New York to the South Seas on a leisurely 3-month trip. This vessel makes several visits to the Canal each winter. During the summer she spends her time carrying passengers on tours of the North Sea and Scandinavia. She has been a Panama Canal customer since 1965.

The "Ocean Monarch," formerly the Canadian Pacific Line "Empress of England," passes through the Panama Canal on her first trip under her new name. She has accommodations for more than 1,300 passengers and a crew of 488. She made a cruise through the South Pacific recently.

PRINCIPAL COMMODITIES SHIPPED THROUGH THE CANAL

(All cargo figures in long tons)

Pacific to Atlantic

Commodity	Fiscal Year 1972	1971	5-Yr. Avg. 1961-65
Manufactures of iron and steel	7,670,401	6,390,378	1,036,394
Ores, various	4,248,594	5,909,419	1,009,694
Boards and planks	4,158,423	3,918,208	N.A.
Sugar	3,413,574	3,316,900	2,296,584
Petroleum and products	2,516,877	2,037,958	1,805,862
Fishmeal	1,873,132	1,382,121	N.A.
Food in refrigeration (excluding bananas)	1,393,292	1,407,252	898,880
Metals, various	1,385,442	1,560,293	1,187,362
Plywood and veneers	1,303.417	1,027,132	N.A.
Pulpwood	1,224,547	1,296,941	517,629
Petroleum coke	1,202,891	1,100,950	N.A.
Bananas	1,133,869	1,079,486	1,161,381
Autos, trucks, accessories and parts	849,408	567,275	17,302
Sulfur	675,864	421,434	98,508
Paper and paper products	614,945	534,226	200,958
All others	12,917,495	12,332,879	20,464,026
Total	46,582,171	44,282,852	30,694,580

Atlantic to Pacific

Commodity	Fiscal Year 1972	1971	5-Yr. Avg. 1961-65
Coal and coke	14,114,249	21,830,573	6,061,195
Petroleum and products	13,448,955	13,798,082	11,384,781
Phosphate	4,208,082	4,472,230	2,137,487
Corn	3,795,678	3,990,748	1,501,869
Soybeans	3,770,267	3,732,349	1,449,114
Ores, various	2,477,926	2,348,902	309,593
Wheat	2,049,840	1,572,287	565,795
Sugar	1,777,025	2,662,311	1,011,013
Manufactures of iron and steel	1,475,152	1,858,700	1,500,673
Metal, scrap	1,392,742	2,646,667	2,663,773
Sorghum	1,149,158	2,171,498	N.A.
Chemicals, unclassified	895,085	889,756	657,500
Fertilizers, unclassified	810,969	877,249	388,007
Paper and paper products	743,305	828,517	428,942
Rice	603,711	648,432	154,248
All others	9,939,410	10,015,753	7,204,338
Total	62,651,554	74,344,054	37,418,328

CANAL TRANSITS – COMMERCIAL AND U.S. GOVERNMENT

	Fiscal Year 1972 Atlantic to Pacific	1972 Pacific to Atlantic	1972 Total	1971 Total	Avg. No. transits 1961-65 Total
Commercial vessels:					
Oceangoing	6,955	6,811	13,766	14,020	11,335
Small [1]	451	326	777	581	547
Total Commercial	7,406	7,137	14,543	14,601	11,882
U.S. Government vessels: [2]					
Oceangoing	219	194	413	503	250
Small [1]	59	89	148	123	157
Total Commercial and U.S. Government	7,684	7,420	15,104	15,227	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.

PANAMA CANAL TRAFFIC

STATISTICS FOR FISCAL YEAR 1972

	1972	1971
TRANSITS (Oceangoing Vessels)		
Commercial	13,766	14,020
U.S. Government	413	503
Free	59	94
Total	14,238	14,617
TOLLS °		
Commercial	$98,833,373	$97,418,550
U.S. Government	2,655,316	3,147,987
Total	$101,488,689	$100,566,537
CARGO°° (Oceangoing)		
Commercial	109,271,968	118,634,184
U.S. Government	1,742,303	2,236,627
Free	62,532	139,843
Total	111,076,803	121,010,654

° Includes tolls on all vessels, oceangoing and small.
°° Cargo figures are in long tons.

(Continued from page 7)

"Do you know that there is nothing so annoying to me as the statement so generally made in my presence that I am the 'Genius of the Panama Canal.' I do not like it. Frankly, it is a fact that Stevens devised, designed, and made provision for practically every contingency connected with the construction and subsequent operation of the stupendous project and when he turned over the office of Chief Engineer to me, everything was in the very best working order or ready for the successful prosecution of the work—my effort was to see that the project, as conceived designed, laid out, and duly recorded, was carried out accordingly; submit required reports, approve expenditures, fill vacancies. It is therefore to him, much more than to me, that justly belongs the honor of being the actual 'Genius of the Panama Canal;' no; not me."

Stevens and Goethals remained good friends throughout the years and Stevens said of him, "I felt well assured that the work which had been so near my heart, had been given into competent hands, as the future proved in every way to be the case."

After returning to the United States, Stevens spent many years in active railroad administration and then 6 years as a consulting engineer and 2 as president of the Hill Lines' subsidiaries in the Pacific Northwest.

He was sent by the U.S. Government to Russia during World War I, when he was 64 years old, where the Russian government under Alexander Feodorovitch Kerensky was attempting to reorganize the country and restore order

CANAL COMMERCIAL TRAFFIC BY NATIONALITY OF VESSELS

Nationality	Fiscal Year 1972 No. of transits	1972 Tons of cargo	1971 No. of transits	1971 Tons of cargo	1961-65 Avg. No. transits	1961-65 Avg. tons of cargo
Argentine	-----	----------	21	45,167	2	1,710
Belgian	159	526,280	129	307,260	46	168,966
Brazilian	25	58,526	22	62,720	2	19,891
British	1,472	12,408,313	1,558	14,288,579	1,294	8,292,285
Chilean	127	1,239,966	156	1,463,656	120	849,621
Chinese, Nat'l	170	1,505,415	155	1,497,313	81	594,921
Colombian	249	518,991	225	539,744	256	408,588
Cypriot	106	826,646	183	1,340,478	-----	----------
Cuban	86	781,622	86	842,313	3	14,596
Danish	382	2,113,069	454	2,055,308	307	1,548,545
Ecuadorean	65	108,614	63	98,767	42	49,491
Finnish	33	214,723	45	352,262	24	107,205
French	206	913,914	259	1,023,723	144	771,293
German, West	937	4,628,907	1,069	4,918,407	1,122	3,391,774
Greek	766	8,034,968	629	7,735,546	632	6,180,888
Honduran	94	92,868	94	64,712	197	153,814
Indian	60	827,066	45	767,813	1	16,445
Israeli	45	293,796	65	413,454	65	253,130
Irish	27	431,520	20	354,363	5	55,527
Italian	273	1,670,300	237	1,395,979	190	1,126,250
Japanese	1,533	11,572,991	1,462	13,541,685	835	4,871,840
Liberian	1,700	22,453,442	1,587	25,201,391	951	9,348,846
Mexican	68	391,101	48	336,610	25	77,779
Netherlands	524	3,017,077	494	2,648,769	621	2,793,040
Nicaraguan	131	230,759	106	190,654	52	80,143
Norwegian	1,239	14,790,317	1,202	16,011,868	1,436	10,931,401
Panamanian	898	4,012,173	948	3,699,065	461	1,968,519
Peruvian	153	991,264	199	1,247,065	119	547,814
Philippine	92	654,583	105	861,164	70	310,866
Polish	24	92,117	25	109,747	-----	----------
South Korean	90	667,389	82	639,812	10	44,398
Soviet	174	985,690	126	859,443	23	164,686
Spanish	70	105,735	49	166,209	13	52,230
Swedish	410	2,795,999	479	3,366,568	336	2,157,223
Singaporean	22	103,964	28	134,779	-----	----------
United States	1,165	7,740,111	1,368	8,246,308	1,708	10,191,486
Yugoslavian	81	792,230	74	1,075,103	13	106,870
All others	110	641,279	123	723,102	129	460,828
Total	13,766	109,233,725	14,020	118,626,906	11,335	68,112,909

TRAFFIC MOVEMENT OVER PRINCIPAL TRADE ROUTES

Trade routes—(Large commercial vessels, 300 net tons or over)	Fiscal Year 1972	1971	Avg. No. transits 1961-65
United States Intercoastal (including Hawaii)	377	359	445
East coast of United States—West coast of South America	980	1,123	2,355
East coast of United States—West coast of Central America	667	732	500
East coast of United States—Far East	3,142	3,374	2,220
East coast of United States/Canada—Oceania	326	386	321
Europe—West coast of United States/Canada	909	1,040	954
Europe—West coast of South America	1,298	1,240	1,236
Europe—Oceania	518	555	397
All others	5 549	5,211	2.907
Total	13,766	14,020	11,335

MONTHLY COMMERCIAL TRAFFIC AND TOLLS

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

Month	Transits 1972	1971	Avg. No. transits 1961-65	Tolls (In thousands of dollars) 1972	1971	Average tolls 1961-65
July	1.194	1,174	960	$8,017	$8,118	$4,929
August	1,197	1,176	949	8,513	8,221	4,920
September	1,191	1,108	908	8,417	7,979	4,697
October	1,068	1,167	946	7,241	8,095	4,838
November	964	1,064	922	6,645	7,363	4,748
December	1,023	1,102	946	7,267	7,690	4,955
January	1,179	1,119	903	8,895	8,157	4,635
February	1,116	1,144	868	8,233	7,814	4,506
March	1,290	1,295	1,014	9,297	8,929	5,325
April	1,191	1,214	966	9,180	8,349	5,067
May	1,261	1,237	999	9,127	8,422	5,232
June	1,092	1,220	954	7,933	8,243	5,013
Totals for fiscal year	13,766	14,020	11,335	$98,765	$97,380	$58,865

1 Before deduction of any operating expenses.

out of the chaos following the collapse of the Czar's regime. Railway service was essential to success and the United States sent a transport board to assist the Russian officials in their efforts.

An Inter-Allied Technical Board of eight nations including China, Great Britain, France, Italy, Czechoslovakia, Japan, Russia, and the United States attempted to keep open the Trans-Siberian Railway. Stevens was the United States member and chairman. About as much tact was required to handle the Inter-Allied Board as to cope with problems of the Siberian Railway. Stevens not only was successful but achieved greatness in this position, probably the most difficult undertaking of his life. The railway contingent and the military protecting it withdrew in 1921 but Stevens, with only one or two assistants, continued in an advisory capacity until 1923.

Stevens lived to be 90 years old and his career spanned more than 58 years, including railroading in the United States; work on the Panama Canal; and his Russian service from 1917 to 1923.

He kept an active interest in all of his work and a keen sense of humor. He returned a number of times to see the Canal in operation and in 1933 when he was asked for a photograph to be placed in the Governor's office, he wrote that he was sending one taken several years before, adding "I would not like to be shown by a very recent photo which of course could only depict how age has robbed me of my former manly beauty."

The 5-Cent Stamp

Plans had been put forward to issue a 5-cent stamp honoring him but it was discovered that living persons could not be depicted on Canal Zone stamps and in 1936 a letter was written telling him this. He answered, "The old P. O. stamp matter seems to be having trouble. Well, I am sorry for it, but I am not going to willingly die to please Uncle Sam or adjust myself to his regulations."

In his "recollections" as he called them, Stevens wrote a chapter of advice to "young engineers who must carry on." It contains a revealing glimpse into his character.

He wrote: "While the rewards are not always in the shape of great material wealth as the world regards wealth, they will come in the knowledge that we can leave a good name to our posterity, and that we have contributed something to the comfort and happiness of succeeding generations."

Canal History

THE ROARING 20's WERE OFF to a good start in the Canal Zone 50 years ago. The Panama Canal had been in operation nearly 10 years and World War I, with the resulting difficulties for Canal traffic, was over. Ships were beginning to use the Canal on a peacetime basis and some of the larger passenger and cargo ships made transits.

One of the first was the steamer *Empress of Australia* owned by the Canadian Pacific Railroad, which arrived at the Canal July 1, 1922, from Hamburg and made the transit July 6 after receiving repairs at the Cristobal shops. She was conspicuous in Canal waters because of her size, according to the CANAL RECORD, and was one of the largest ships to have made the transit up to that time. She was 590 feet long with a 75-foot beam and a registered gross tonnage of 21,447 tons. The *Empress* was built in Germany as the *Tirpitz* and was on her way to enter the transpacific service.

A high record for tons of cargo carried through the Canal was set in July 1922 by the steamer *Marore* of the Ore Steamship Corp. She made the transit July 19 with 20,000 tons of iron ore bound from Cruz Grande, Chile, to New York. The previous record was set by a sister ship, the *Bethore*, making the transit in May with 19,000 tons of ore.

The Tivoli Hotel, center of the social scene in the Canal Zone, was condemned as a firetrap by the Canal Zone Fire Division. To eliminate this hazard, automatic sprinklers were installed throughout the hotel by a New York firm at a reported cost of $27,688.40.

Some people on the Isthmus were worried about flaming youth in 1922. The Star and Herald published a feature story saying that flappers were not popular in the Canal Zone. "Bobbed haired girls who powder their knees must play second fiddle to their more conservative sisters who wear their hair long and don't roll their stockings," the paper said.

25 Years Ago

AN OUTBREAK OF INFANTILE paralysis in Panama and the Canal Zone had health authorities worried both on the Isthmus and in Washington, D.C. 25 years ago. Officials of the U.S. Public Health Service and other agencies observed the epidemic closely and assured local authorities that they stood ready to do everything in their power to limit the spread of the disease.

Meanwhile it was announced in the local newspapers that a $1 million obstetrical building would be built for Gorgas Hospital as part of a long-range plan for improvement of medical facilities at this Canal Zone institution. Funds for the building were to be provided in an appropriation bill signed in August 1947 by President Truman.

A steady employment level for the next 2 years, followed by an increase in the number of Panama Canal employees, was predicted in 1947 by Canal personnel officials. The prediction was based on the fact that the Canal was approaching normal peacetime operations for the first time since 1939 and on the belief that Congress would approve some type of construction for enlargement of Canal facilities. The Canal's peak employment was reached in 1942 when construction on the third locks was in progress.

10 Years Ago

THE CANAL ZONE GUIDE SERVice, an elite corps of multilingual men and women who lecture aboard ships and escort visitors to the locks, Gaillard Cut, and other points of interest in the Canal Zone, was organized 10 years ago.

Taking a personal interest in providing information for tourists and local residents on the engineering and natural wonders of the Canal Zone, former Gov. Robert J. Fleming, Jr. was most instrumental in the formation of the service which has been popular from the start.

During the first fiscal year, 84,688 visitors took a look at the locks installations under the supervision of the Canal Zone Guide Service. By 1971, the millionth person had visited the locks since the inauguration of the service with more than 100,000 touring the locks each year. These figures do not include the hundreds of persons who took advantage of the Guide Service for tours to other points of interest.

The program also included the installation of attractive "Center of Interest" signs in both English and Spanish along the streets and highways of the Canal Zone. Similar signs were erected to mark recreation sites.

SS "Empress of Australia" in south end of Gaillard Cut near Paraiso. Equipment, at right, belonged to the Panama Canal Dredging Division, which was based at Paraiso before the construction of new headquarters in Gamboa.


830
935

Date Due

Due	Returned	Due	Returned
JAN 2 1 1987	JUL 3 0 1987		
AUG 2 6 1991	AUG 0 2 1991		