PENGUIN CLASSICS

JOHN STEINBECK

The Log from the Sea of Cortez

1

How does one organize an expedition: what equipment is taken, what sources read; what are the little dangers and the large ones? No one has ever written this. The information is not available. The design is simple, as simple as the design of a well-written book. Your expedition will be enclosed in the physical framework of start, direction, ports of call, and return. These you can forecast with some accuracy; and in the better-known parts of the world it is possible to a degree to know what the weather will be in a given season, how high and low the tides, and the hours of their occurrence. One can know within reason what kind of boat to take, how much food will be necessary for a given crew for a given time, what medicines are usually needed—all this subject to accident, of course.

We had read what books were available about the Gulf and they were few and in many cases confused. The *Coast Pilot* had not been adequately corrected for some years. A few naturalists with specialties had gone into the Gulf and, in the way of specialists, had seen nothing they hadn't wanted to. Clavigero, a Jesuit of the eighteenth century, had seen more than most and reported what he saw with more accuracy than most. There were some romantic accounts by young people who had gone into the Gulf looking for adventure and, of course, had found it. The same romantic drive aimed at the stockyards would not be disappointed. From the information available, a few facts did emerge. The Sea of Cortez, or the Gulf of California, is a long, narrow, highly dangerous body of water. It is subject to sudden and vicious storms of great intensity. The months of March and April are usually quite calm and dependable and the March–April tides of 1940 were particularly good for collecting in the littoral.

The maps of the region were self-possessed and confident about headlands, coastlines, and depth, but at the edge of the Coast they become apologetic—laid in lagoons with dotted lines, supposed and presumed their boundaries. The *Coast Pilot* spoke as heatedly as it

ever does about mirage and treachery of light. Going back from the *Coast Pilot* to Clavigero, we found more visual warnings in his accounts of ships broken up and scattered, of wrecks and wayward currents; of fifty miles of sea more dreaded than any other. The *Coast Pilot*, like an elderly scientist, cautious and restrained, on one side—and the old monk, setting down ships and men lost, and starvation on the inhospitable coasts.

In time of peace in the modern world, if one is thoughtful and careful, it is rather more difficult to be killed or maimed in the outland places of the globe than it is in the streets of our great cities, but the atavistic urge toward danger persists and its satisfaction is called adventure. However, your adventurer feels no gratification in crossing Market Street in San Francisco against the traffic. Instead he will go to a good deal of trouble and expense to get himself killed in the South Seas. In reputedly rough water, he will go in a canoe; he will invade deserts without adequate food and he will expose his tolerant and uninoculated blood to strange viruses. This is adventure. It is possible that his ancestor, wearying of the humdrum attacks of the saber-tooth, longed for the good old days of pterodactyl and triceratops.

We had no urge toward adventure. We planned to collect marine animals in a remote place on certain days and at certain hours indicated on the tide charts. To do this we had, in so far as we were able, to avoid adventure. Our plans, supplies, and equipment had to be more, not less, than adequate; and none of us was possessed of the curious boredom within ourselves which makes adventurers or bridge-players.

Our first problem was to charter a boat. It had to be sturdy and big enough to go to sea, comfortable enough to live on for six weeks, roomy enough to work on, and shallow enough so that little bays could be entered. The purse-seiners of Monterey were ideal for the purpose. They are dependable work boats with comfortable quarters and ample storage room. Furthermore, in March and April the sardine season is over and they are tied up. It would be easy, we thought, to charter such a boat; there must have been nearly a hundred of them anchored in back of the breakwater. We went to the pier and spread the word that we were looking for such a boat for charter. The word spread all right, but we were not overwhelmed with offers. In fact, no boat was offered. Only gradually

did we discover the state of mind of the boat owners. They were uneasy about our project. Italians, Slavs, and some Japanese, they were primarily sardine fishers. They didn't even approve of fishermen who fished for other kinds of fish. They frankly didn't believe in the activities of the land—road-building and manufacturing and brick-laying. This was not a matter of ignorance on their part, but of intensity. All the directionalism of thought and emotion that man was capable of went into sardine-fishing; there wasn't room for anything else. An example of this occurred later when we were at sea. Hitler was invading Denmark and moving up towards Norway; there was no telling when the invasion of England might begin; our radio was full of static and the world was going to hell. Finally in all the crackle and noise of the short-wave one of our men made contact with another boat. The conversation went like this:

"This is the *Western Flyer*. Is that you, Johnny?"

"Yeah, that you, Sparky?"

"Yeah, this is Sparky. How much fish you got?"

"Only fifteen tons; we lost a school today. How much fish you got?"

"We're not fishing."

"Why not?"

"Aw, we're going down in the Gulf to collect starfish and bugs and stuff like that."

"Oh, yeah? Well, O.K., Sparky, I'll clear the wave length."

"Wait, Johnny. You say you only got fifteen tons?"

"That's right. If you talk to my cousin, tell him, will you?"

"Yeah, I will, Johnny. *Western Flyer's* all clear now."

Hitler marched into Denmark and into Norway, France had fallen, the Maginot Line was lost—we didn't know it, but we knew the daily catch of every boat within four hundred miles. It was simply a directional thing; a man has only so much. And so it was with the chartering of a boat. The owners were not distrustful of us; they didn't even listen to us because they couldn't quite believe we existed. We were obviously ridiculous.

Now the time was growing short and we began to worry. Finally one boat owner who was in financial difficulty offered his boat at a reasonable price and we were ready to accept when suddenly he raised the price out of question and bolted. He was horrified at

what he had done. He raised the price, not to cheat us, but to get out of going.

The boat problem was growing serious when Anthony Berry sailed into Monterey Bay on the *Western Flyer*. The idea was no shock to Tony Berry; he had chartered to the government for salmon tagging in Alaskan waters and was used to nonsense. Besides, he was an intelligent and tolerant man. He knew that he had idiosyncrasies and that some of his friends had. He was willing to let us do any crazy thing that we wanted so long as we (1) paid a fair price, (2) told him where to go, (3) did not insist that he endanger the boat, (4) got back on time, and (5) didn't mix him up in our nonsense. His boat was not busy and he was willing to go. He was a quiet young man, very serious and a good master. He knew some navigation—a rare thing in the fishing fleet—and he had a natural caution which we admired. His boat was new and comfortable and clean, the engines in fine condition. We took the *Western Flyer* on charter.

She was seventy-six feet long with a twenty-five-foot beam; her engine, a hundred and sixty-five horsepower direct reversible Diesel, drove her at ten knots. Her deckhouse had a wheel forward, then combination master's room and radio room, then bunkroom, very comfortable, and behind that the galley. After the galley, a large hatch gave into the fish-hold, and after the hatch were the big turn-table and roller of the purse-seiner. She carried a twenty-foot skiff and a ten-foot skiff. Her engine was a thing of joy, spotlessly clean, the moving surfaces shining and damp with oil and the green paint fresh and new on the housings. The engine-room floor was clean and all the tools polished and hung in their places. One look into the engine-room inspired confidence in the master. We had seen other engines in the fishing fleet and this perfection on the *Western Flyer* was by no means a general thing.

As crew we signed Tex Travis, engineer, and Sparky Enea and Tiny Colletto, seamen. All three were a little reluctant to go, for the whole thing was crazy. None of us had been into the Gulf, although the master had been as far as Cape San Lucas, and the Gulf has a really bad name. It was a thoughtful crew who agreed to go with us.

We could never tell when the change of attitude toward us came, but it came very rapidly. Perhaps it was because Tony Berry was

known as a cautious man who would not indulge in nonsense, or perhaps it was pure relief that at last it had been settled. All of a sudden we were overwhelmed with help. We had offers from men to go with us without pay. Sparky was offered a certain price for his job that was more than he would get from us. All he had to do was turn over his job and sit in Monterey and spend the money. But Sparky refused. Our project had become honorable. We had more help than we could use and advice enough to move the navies of the world.

We did not know what our crew thought of the expedition but later, in the field, they became good collectors—a little emotional sometimes, as when Tiny, in outrage at being pinched, declared a war of extermination on the whole Sally Lightfoot species, but on the whole collectors of taste and quickness.

The charter was signed with dignity and reverence. It is impossible to be light-hearted in the face of a ship's charter, for the law has foreseen or remembered the most doleful and arbitrary acts of God and has set them down as possibilities, but in the tone of inevitabilities. Thus, you read what you or the others must do in the case of wreck, or sunken rocks; of death at sea in its most painful and astonishing aspects; of injury to plank and keel; of water shortage and mutiny. Next to marriage settlement or sentence of death, a ship's charter is as portentous a document as has ever been written. Penalties are set down against both parties, and if on some morning the rising sun should find your ship in the middle of the Mojave Desert you have only to look again at the charter to find the blame assigned and the penalty indicated. It took us several hours to get over the solemn feeling the charter put on us. We thought we might live better lives and pay our debts, and one at least of us contemplated for one holy, horrified moment a vow of chastity.

But the charter was signed and food began to move into the *Western Flyer*. It is amazing how much food seven people need to exist for six weeks. Cases of spaghetti, cases and cases of peaches and pineapple, of tomatoes, whole Romano cheeses, canned milk in coveys, flour and cornmeal, gallons of olive oil, tomato paste, crackers, cans of butter and jam, catsup and rice, beans and bacon and canned meats, vegetables and soups in cans; truckloads of food. And all this food was stored eagerly and happily by the crew. It

disappeared into cupboards, under little hatches in the galley floor, and many cases went below.

We had done a good deal of collecting, but largely in temperate zones. The equipment for collecting, preserving, and storing specimens was selected on the basis of experience in other waters and of anticipation of difficulties imposed by a hot humid country. In some cases we were right, in others very wrong.

In a small boat, the library should be compact and available. We had constructed a strong, steel-reinforced wooden case, the front of which hinged down to form a desk. This case holds about twenty large volumes and has two filing cases, one for separates (scientific reprints) and one for letters; a small metal box holds pens, pencils, erasers, clips, steel tape, scissors, labels, pins, rubber bands, and so forth. Another compartment contains a three-by-five-inch card file. There are cubby-holes for envelopes, large separates, small separates, typewriter paper, carbon, a box for India ink and glue. The construction of the front makes room for a portable typewriter, drawing board, and T-square. There is a long narrow space for rolled charts and maps. Closed, this compact and complete box is forty-four inches long by eighteen by eighteen; loaded, it weighs between three and four hundred pounds. It was designed to rest on a low table or in an unused bunk. Its main value is compactness, completeness, and accessibility. We took it aboard the *Western Flyer*. There was no table for it to rest on. It did not fit in a bunk. It could not be put on the deck because of moisture. It ended up lashed to the rail on top of the deckhouse, covered with several layers of tarpaulin and roped on. Because of the roll of the boat it had to be tied down at all times. It took about ten minutes to remove the tarpaulin, untie the lashing line, open the cover, squeeze down between two crates of oranges, read the title of the wanted book upside down, remove it, close and lash and cover the box again. But if there had been a low table or a large bunk, it would have been perfect.

For many little errors like this, we have concluded that all collecting trips to fairly unknown regions should be made twice; once to make mistakes and once to correct them. Some of the greatest difficulty lies in the fact that previous collectors have never set down the equipment taken and its success or failure. We propose to rectify this in our account.

The library contained all the separates then available on the Panamic and Gulf fauna. Primary volumes such as Johnson and Snook, Ricketts and Calvin, Russell and Yonge, Flattely and Walton, Keep's *West Coast Shells*, Fisher's three-volume starfish monograph, the Rathbun brachyuran monograph, Schmitt's *Marine Decapod Crustacea of California*, Fraser's *Hydroids*, Barnhart's *Marine Fishes of Southern California*, *Coast Pilots* for the whole Pacific Coast; charts, both large and small scale, of the whole region to be covered.

The camera equipment was more than adequate, for it was never used. It included a fine German reflex and an 8-mm. movie camera with tripod, light meters, and everything. But we had no cameraman. During low tides we all collected; there was no time to dry hands and photograph at the collecting scene. Later, the anesthetizing, killing, preserving, and labeling of specimens were so important that we still took no pictures. It was an error in personnel. There should be a camera-man who does nothing but take pictures.

Our collecting material at least was good. Shovels, wrecking- and abalone-bars, nets, long-handled dip-nets, wooden fish-kits, and a number of seven-cell flashlights for night collecting were taken. Containers seemed to go endlessly into the hold of the *Western Flyer*. Wooden fish-kits with heads; twenty hard-fir barrels with galvanized hoops in fifteen- and thirty-gallon sizes; cases of gallon jars, quart, pint, eight-ounce, five-ounce, and two-ounce screw-cap jars; several gross of corked vials in four chief sizes, 100×33 mm., six-dram, four-dram, and two-dram sizes. There were eight two-and-a-half-gallon jars with screw caps. And with all these we ran short of containers, and before we were through had to crowd those we had. This was unfortunate, since many delicate animals should be preserved separately to prevent injury.

Of chemicals, we put into the boat a fifteen-gallon barrel of U.S.P. formaldehyde and a fifteen-gallon barrel of denatured alcohol. This was not nearly enough alcohol. The stock had to be replenished at Guaymas, where we bought ten gallons of pure sugar alcohol. We took two gallons of Epsom salts for anesthetization and again ran out and had to buy more in Guaymas. Menthol, chromic acid, and novocain, all for relaxing animals, were included in the chemical kit. Of preparing equipment, there were glass chiton plates and string, lots of rubber gloves, graduates, forceps, and scal-

pels. Our binocular microscope, Bausch & Lomb A.K.W., was fitted with a twelve-volt light, but on the rolling boat the light was so difficult to handle that we used a spot flashlight instead. We had galvanized iron nested trays of fifteen- to twenty-gallon capacity for gross hardening and preservation. We had enameled and glass trays for the laying out of specimens, and one small examination aquarium.

The medical kit had been given a good deal of thought. There were nembutal, butesin picrate for sunburn, a thousand two-grain quinine capsules, two-percent mercuric oxide salve for barnacle cuts, cathartics, ammonia, mercurochrome, iodine, alcaroid, and, last, some whisky for medicinal purposes. This did not survive our leave-taking, but since no one was ill on the whole trip, it may have done its job very well.

2

What little time we were not on lists and equipment or in grudging sleep we went to the pier and looked at boats, watched them tied to their buoys behind the breakwater—the dirty boats and the clean painted boats, each one stamped with the personality of its owner. Here, where the discipline was as individual as the owners, every boat was different from every other one. If the stays were rusting and the deck unwashed, paint scraped off and lines piled carelessly, there was no need to see the master; we knew him. And if the lines were coiled and the cables greased and the little luxury of deer horns nailed to the crow's-nest, there was no need to see that owner either. There were deer horns on many of the crow's-nests, and when we asked why, we were told they brought good luck. Out of some ancient time, they brought good luck to these people, most of them out of Sicily, the horns grown sturdily on the structure of their race. If you ask, "Where does the idea come from?" the owner will say, "It brings good luck, we always put them on." And a thousand years ago the horns were on the masts and brought good luck, and probably when the ships of Carthage and Tyre put into the harbors of Sicily, the horns were on the mastheads and brought good luck and no one knew why. Out of some essential race soul the horns come, and not only the horns, but the boats themselves, so that to a man, to nearly all men, a boat more than any other tool he uses is a little representation of an archetype. There is an "idea" boat that is an emotion, and because the emotion is so strong it is probable that no other tool is made with so much honesty as a boat. Bad boats are built, surely, but not many of them. It can be argued that a bad boat cannot survive tide and wave and hence is not worth building, but the same might be said of a bad automobile on a rough road. Apparently the builder of a boat acts under a compulsion greater than himself. Ribs are strong by definition and feeling. Keels are sound, planking truly chosen and set. A man builds the best of himself into a boat—builds many of the unconscious memories of his ancestors. Once, passing the boat depart-