

## IN RETROSPECT

## Between Pacific Tides

Aaron Hirsh celebrates the 75th anniversary of the marine-biology classic by Ed Ricketts, the bohemian scientist who inspired John Steinbeck.



Marine biologist Ed Ricketts holding a Humboldt squid outside his laboratory in Monterey, California.

The heroes in a number of John Steinbeck's novels look alike: they are virile yet gentle men, full-blooded but also philosophical. There is a reason for the family resemblance among these characters, from Jim Casy in *The Grapes of Wrath* to Doctor Winter in *The Moon is Down*: they are all based on a person whom Steinbeck loved and admired. His name was Ed Ricketts, and he wrote books of his own. Not novels, but works of science and philosophy.

One of them, *Between Pacific Tides*, was a guide to the marine invertebrates of North America's Pacific shore, illustrated with black-and-white photographs by Jack Calvin. And although that might sound like a rather sober and orthodox piece of work, the vital and avid personality that captivated Steinbeck also made this particular field guide unique, compelling and ultimately enduring. Even today, 75 years after the book's publication, every marine biologist knows just where to reach for his or her own dog-eared and water-warped copy.

To get a sense of Ricketts, we can look to the Steinbeck hero who comes closest to being straight biography. Doc, from the 1945 novella *Cannery Row*, dresses like a vagrant but talks like a prophet. In mind and body alike, zealous appetites are balanced by overflowing generosity. He recites with equal verve the spiritual verse of eighth-century Chinese poet Li Po and the mysterious properties of marine invertebrates: the writhing brittle stars and the ravishing nudibranchs, the flatworms and the ribbon worms, the impervious limpets and the tide-pool shrimp so transparent you can see their tiny hearts. Doc is a merchant in these exotic beings. He hires tramps to collect them, then mails the creatures off to classrooms or laboratories.

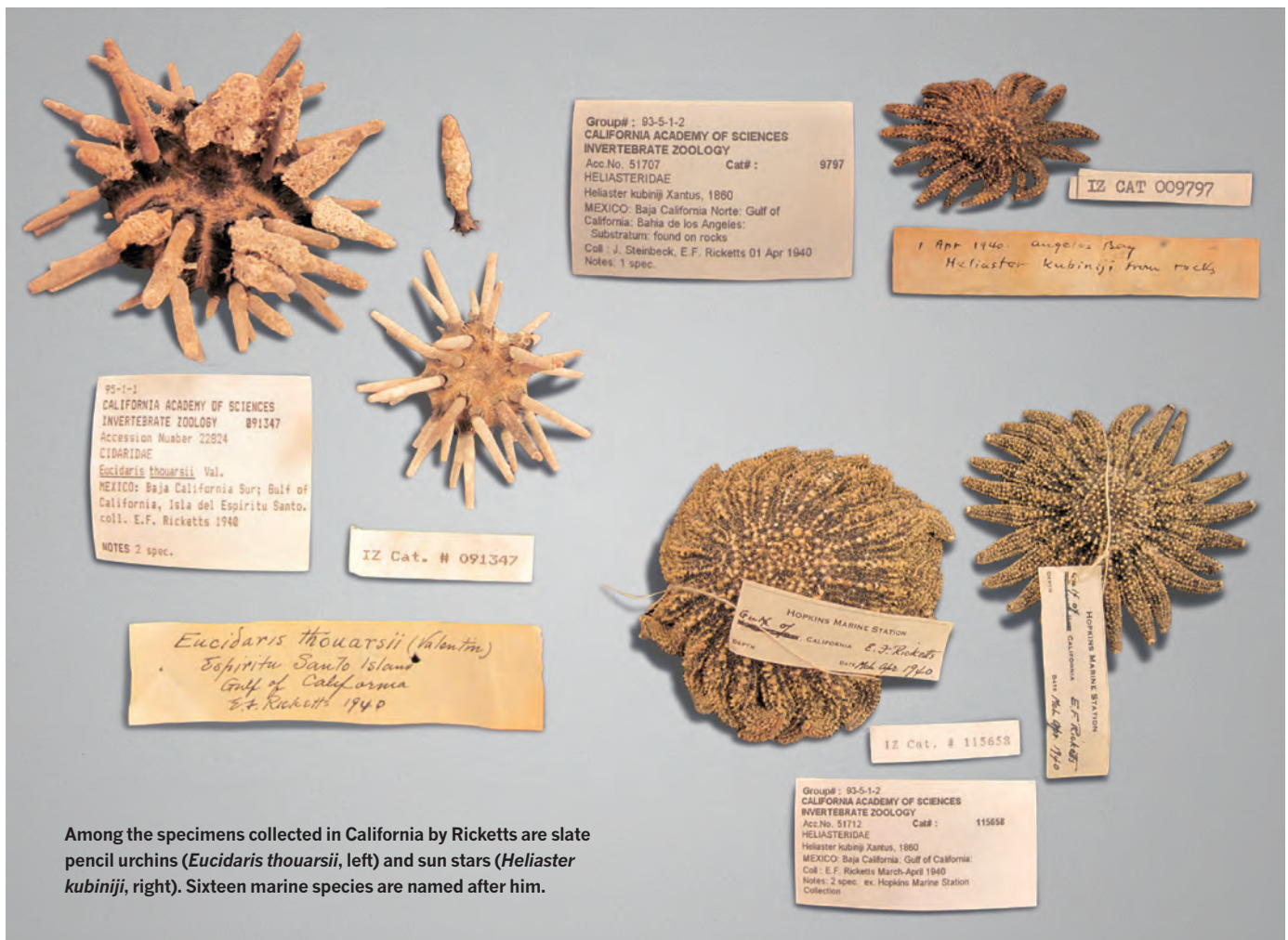
All this is an accurate depiction of Ricketts and his world. Real, too, was Doc's zoological supply company on Cannery Row in Monterey, California: a weathered wooden structure where intellectuals, prostitutes and drunks convened to discuss philosophy and art amid books, pickled animals and a

**Between Pacific Tides**  
EDWARD F. RICKETTS AND  
JACK CALVIN  
Stanford University Press:  
1939.

tank of live dog-fish. Ricketts was a Socrates to these bibulous symposia, making a profound

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Among the specimens collected in California by Ricketts are slate pencil urchins (*Eucidaris thoursii*, left) and sun stars (*Heliaster kubiniji*, right). Sixteen marine species are named after him.

impression not only on Steinbeck, but also on fellow novelist Henry Miller and the young Joseph Campbell, just finding his way into mythography.

One scene in Cannery Row points precisely to what made *Between Pacific Tides* different from the other books of its day. Doc sits on the shore with Hazel, the drifter he has hired to collect starfish. Looking at stink bugs crawling on the ground, Hazel asks, “What they got their asses up in the air for?” Doc replies: “They’re very common animals and one of the commonest things they do is put their tails up in the air. And in all the books there isn’t one mention of the fact that they put their tails up in the air or why.”

A number of writers have observed that what made *Between Pacific Tides* revolutionary was that its organization is ecological rather than taxonomic: it categorizes animals according to habitat, not phylum or family. But the organization is also what you might call subjective or experiential: the order of presentation, and the information the text offers, anticipates exactly what a novice — someone like Hazel, just arriving at the shore — would notice and wonder about.

The book begins at the uppermost zone

where a flood tide’s waves barely splash over his shoes. And the first creatures we encounter there are the ones we really would notice: the familiar things, such as periwinkles, and the teeming ones, like rock lice. Only then are our eyes directed to the rarer animals, culminating in a special reward for our sustained attention: the giant owl limpet, *Lottia gigantea*.



An expedition by John Steinbeck and Ricketts formed the core of their book *Sea of Cortez*.

So it goes in each zone, as Ricketts leads us deeper into the intertidal: common to rare; familiar to exotic; obvious to hidden. And about each animal we are told not just a Latin name, but something to grab hold of, something intriguing — that *L. gigantea*, for instance, changes sex from male to female as it grows, and that it defends a territory, pursuing and bulldozing off any invaders. (Who knew that a limpet could pursue?) The book’s perspective is subjective and experiential in another way, as well: Ricketts is unabashed about sharing his sympathetic inference of animal experience. About hermit crabs, for instance, he says: “when they are not busy scavenging or love-making, the gregarious ‘hermits’ fight with tireless enthusiasm tempered with caution”.

Love-making? Enthusiasm? These are not exactly scientific terms, so perhaps it is not surprising that the book perplexed certain academic scientists. Reviewing the pre-publication manuscript, the director of Stanford University’s Hopkins Marine Station in Pacific Grove, California, deplored the book’s organization and reminded the publisher that Ricketts, who had never taken a university degree, was not, after all,

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“a professional zoologist”.

But what made the book “unscientific” — the prioritization of subjective experience — is exactly what made it engaging and enduring. It is hard to maintain that the book was revolutionary in a scientific sense, because a lineage of ecological thinkers, from Alexander Von Humboldt to Charles Darwin to George Bird Grinnell, had already recognized that interactions between species are key determinants of abundance and geographic range. What was truly new — and a bit magical — was that Ricketts took a mind-numbing quantity of cold, hard facts, stitched them together, added the spark of his own avid experience, and something stirred to life: a tide pool, in the middle of which stands the reader, newly awake.

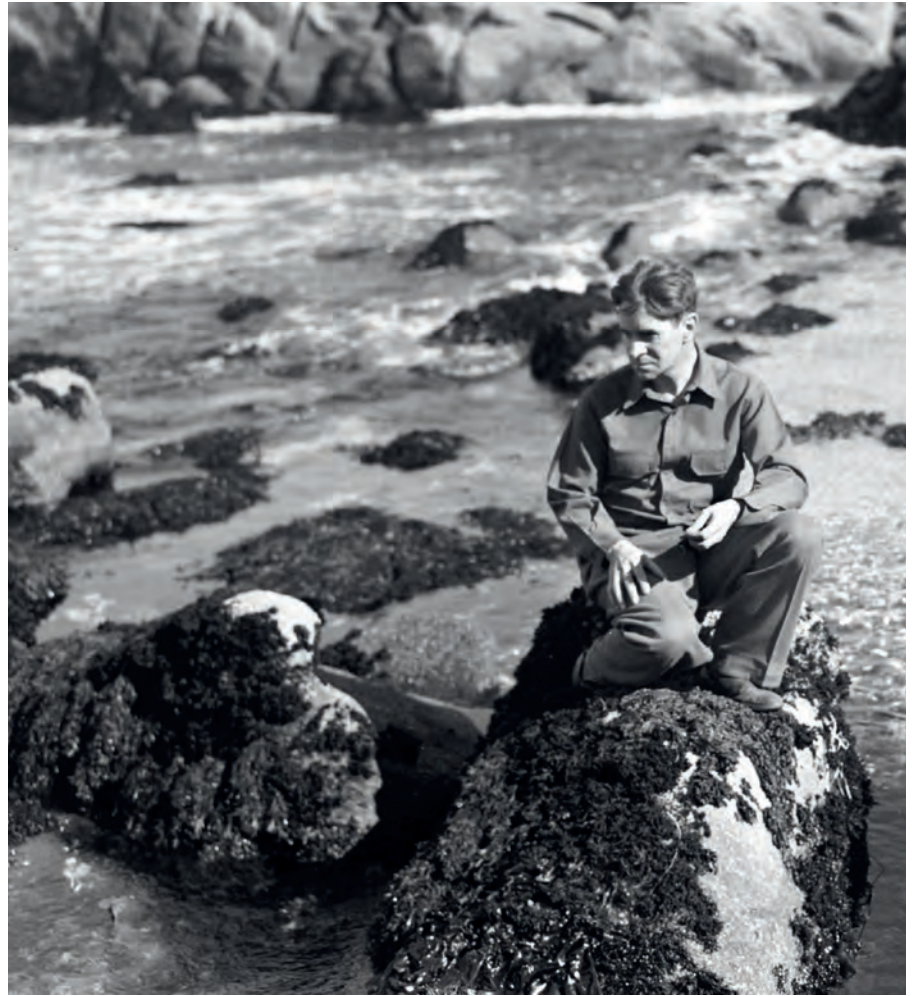
### COMMUNING WITH NATURE

In this respect, the book is a unique creation of Ricketts’ personality and passion. As interested as he was in nature, Ricketts was more concerned with what it was like to be a human being in nature. While he was working on *Between Pacific Tides*, he also wrote three essays about what he called “breaking through.” They are literary and philosophical works, and they articulate his ambition not just to study the world objectively, from a distance, but to dive in — to connect, to sympathize. Even, you could say, to commune.

This impulse shows through the pages of *Between Pacific Tides* not just in amusing inferences about animal passions, but in other ways, too: Ricketts keeps smelling things (nudibranchs smell fruity, the fish called blennies too much like defunct kelp) and tasting things (owl limpets are delicious, nudibranchs, despite the smell, noxious), and generally digging his way into life and living. Steinbeck reported that he once saw Ricketts crawl inside a rotting basking shark to retrieve the liver for study.

Ricketts’ most ambitious and explicit effort to unify his scientific investigations with his more philosophical and spiritual quest was a book he wrote in collaboration with Steinbeck. *Sea of Cortez* is a weird and intriguing amalgam of literature, philosophy and science. The first half is a narrative about Steinbeck and Ricketts’ expedition together into the Gulf of California, the second half an illustrated catalogue of the animals they collected, including notes on distribution and abundance. Decades later, the book would prove key in documenting long-term ecological changes in the gulf, but at the time of its publication, in 1941, it was a flop.

**“Steinbeck reported that he once saw Ricketts crawl inside a rotting basking shark to retrieve the liver for study.”**



Ricketts among the tide pools on California’s Pacific shore in the late 1940s.

In 1948, Ricketts was killed when his car was hit by a train. A year later, the Viking Press secured Steinbeck’s permission to excise the zoological catalogue and reissue the narrative half of the book as *The Log from the Sea of Cortez*, with Steinbeck as sole author. Ricketts’ personal journal from the expedition, as well as his three philosophical essays, were first published in 2006 as part of the collection *Breaking Through* (University of California Press). As the editor of the collection points out, the texts reveal that whole paragraphs of the narrative now published under Steinbeck’s name were in fact only edited by him. They were written by Ricketts.

One of the lovelier bits of natural history that we learn in *Between Pacific Tides* pertains to the orange-and-white nudibranch *Triopha catalinae*. The creature, Ricketts wrote, “can be seen crawling upside down suspended from the underside of the air-water surface film of pools”. The image reminds me of Ricketts himself: he moved on the surface tension between two very different realms, science on one side, literature and philosophy on the other. It is such a delicate place to live, so microscopically thin;

even small disturbances at the surface send *Triopha catalinae* sinking to the bottom.

But Ricketts’ legacy brings to mind another trick of certain invertebrates: when you cut them into pieces, each bit grows up into a being of its own. In some ways, Ricketts never received the recognition he deserved — his essays unpublished during his lifetime, his most ambitious book cut apart. Yet his ideas and identity nevertheless proliferated, in various guises, in marine ecology and in mid-century intellectual culture. When Joseph Campbell writes of the mythic hero’s connection with animal powers, or when the hero of *The Grapes of Wrath* delivers a speech on social organization, or even when Henry Miller writes of sex as transcendence, the diverse descendant lineages of Edward F. Ricketts are propagated. As Steinbeck wrote: “He taught everyone without seeming to.” ■

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