First direction names taught.—[Mastamho] said again: "Now we are here in this house: all will know and hear it. Now when I mean here," and he pointed his hand to the north, "all say: 'Amaihayame.'" But they did not do so: they kept their hands against their bodies; they wanted another name; they did not like that word. Then he said: "And there is Amai-hakyeme; all say that!" And he pointed south. But again all sat still: they did not want to call it that. He said again: "Well, there is another: there is the way the night goes. I do not know where its end is, but when we follow the darkness that is called Amai-hayime." He said that, but none of the Mohave said a word: they sat with their hands against the body. Then Mastamho said once more: "You see the dark coming. I do not know where it comes from: I did not make it. But where darkness comes from, I call that Amai-hayike." Again they sat still and did not point.

Final direction names taught.—Then Mastamho said once more: "I have named all the directions but you have not answered. Well, there are other names. Listen: I call this (the north) Mathak. Can you say that?" Then all said, "Yes," and stood up, and pointed north, and said, "Mathak." He said again: "This (to the south) I call Kaveik. Can you say it?" Then all said, "Yes," and pointed and called the name and clapped their hands and laughed. He said again: "I told you that the night went in that direction. I gave it a name, but you did not say it. There is another way to call it: Inyohavek. All of you say that!" Then they all said: "Yes, we can say that. We can call it Inyohavek," and all pointed as he directed them. He said again: "Where the dark comes from, you did not call that as I told you to. There is another way to call it: Anyak." Then all said: "Anyak," and pointed east and clapped their hands and laughed. Then Masthamo said: "That is all."

—A.L. Kroeber, *Seven Mohave Myths*, p. 60

4

Upriver, Downriver:
The Vocabulary of Direction

Having introduced California languages through song and story telling, we now go to what might be thought of as a more basic and mundane function of language—that of referring to and describing the world around us.

I finished writing this essay on the day of the vernal equinox, when the sun rises due east and sets due west. The perception of this basic fact about the solar system is shared by everyone in the world: no matter where one is on earth, the sun rises due east on the equinox, and sets due west. And while the precise location of the sun varies on other days, it nonetheless rises and sets in the general vicinity of the east and west all the time. Because this is part of all human experience, words for east and west are extremely common (though not quite universal, as we shall see) in the languages of the world. In some languages the terms for east and west would translate literally as "place where the sun rises" and "place where the sun sets." Note, on the other hand, that in the Mojave tale that introduced this chapter, the creator explained east and west as being where the *dark* comes from and goes!

Most languages also have words for north and south. This may of course be due simply to the logical need to talk about directions other than east and west, and that may be coupled with an innate sense of geometry that leads humans to set up lines at right angles to each other. But also, just as with the words for east and west, there are natural phenomena that lead to the establishment of the terms for north and south. Many animals—birds, for instance—have a sense of direction based on ability to perceive the magnetic field of the earth, which means they perceive north and south directly through this sense. Geophysicists are now trying to determine whether or not humans also have this magnetic sense. And whether we do or not, humans all over the world see birds migrate every year from north to south, and then south to

north. Native Californians have a long tradition of astronomy as well, and anyone who often sleeps under the stars knows the North Star (Polaris, the Pole Star), that always stays in the same place while all the constellations wheel around it.

Directions in relation to the land and water

The importance in many California languages of words showing direction of movement is demonstrated by this brief excerpt from a Wintu tale:

> They went to the east side of the house, they went around to the east side, and after that they went up the hill to the north, following him running. They went northward at a running pace over the north flat, wishing to see the man who had gone down the hill northward. And the man was not there but there lay his tracks going forward. And they ran, they went at a running pace, they went rapidly. And at the South-slope-climb, when they came in full view of the north, they looked northward but they did not see him. (Lee 1959, 139)

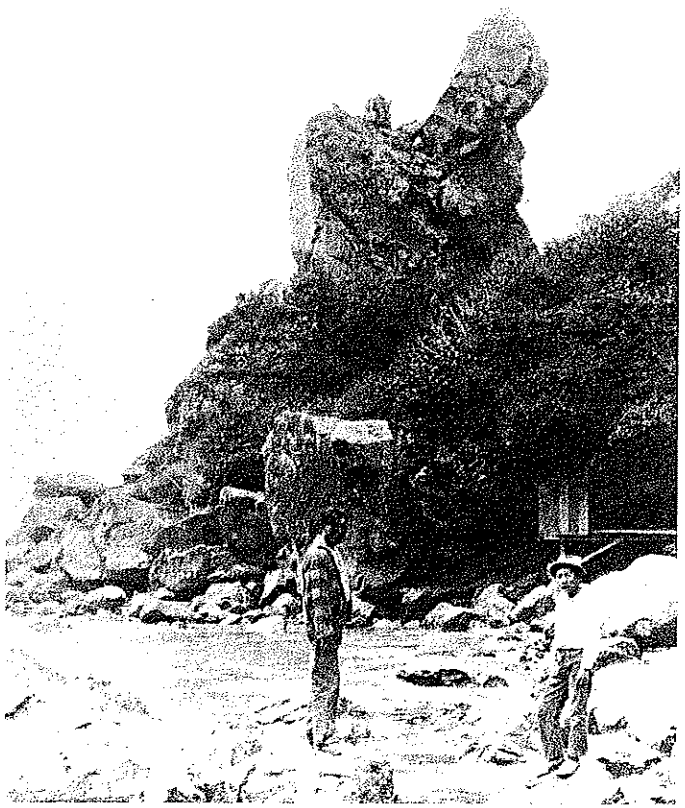
While the cardinal directions are used with great frequency in this passage, it also contains many words that talk about direction with regard to features of the landscape instead—"up the hill," "down the hill," and "over the flat," for example. For many languages of California, direction words are not based on the sun, but rather on geographical features, and the direction of flow of the watercourses. The use of riverine direction words is mainly the case in northern California, and during a recent trip to Hupa, Yurok and Karuk country, the reason for this was borne home to me clearly. The mountains are innumerable, steep-sided and high, ranging from difficult to downright dangerous to climb. The river terraces are the only places where towns can be built, and the only way to get anywhere is and always has been to travel in or along the river. People used to travel in boats and on foot; now winding roads along the watercourses add cars to the same routes. On our trip, we travelled upriver or downriver. Whether we went east or west or north or south at any given moment was fleeting and irrelevant to our general direction.

A.L. Kroeber explained the riverine direction terminology very well, and I quote him at length here.

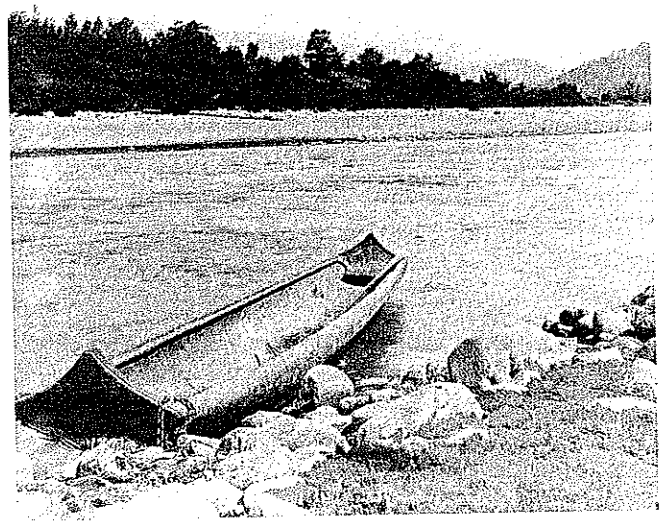
The Yurok, and with them their neighbors, know no cardinal directions, but think in terms of the flow of water. Thus **pul** is the radical meaning downstream; **pets**, upstream; **hiko**, across the stream; **won**, up hill, that is, away from the stream on one's own side; **wohpe**, across the ocean, and so on. Such terms are also combined with one another. If a Yurok says "east" he regards this as an English word for upstream, or whatever may be the run of the water where he is. The name Yurok itself—which in its origin is anything but an ethnic designation—means "downstream" in the adjacent Karok language. The degree to which native speech is affected by this manner of thought is remarkable. A house has its door not at its "western" but its "downstream" corner. A man is told to pick up a thing that lies "upstream" from him, not on his "left." The basis of this reckoning is so intensely local, like everything Yurok, that it may become ambiguous or contradictory in the usage of our broader outlook. A Yurok coming from O'men to Rekwoi has two "upstreams" before him: south along the coast, and south-southeast, though with many turns, along the Klamath. When he arrives at Weitspus, the Trinity stretches ahead in the same direction in the same system of valley and ridges; but being a tributary, its direction is "up a side stream," and the direction "upstream" along the Klamath suddenly turns north, or a little east of north, for many miles. Beyond their Karok neighbors the Yurok seem to have a sense that the stream comes from the east. At least they point in that direction when they refer to the end of the world at the head of the Klamath.

This plan of orientation is characteristic of all the northwestern tribes, and is followed in some degree in central California. The Yokuts terms of direction, in the far-away San Joaquin Valley, are at least shifted from the cardinal points in accord with the flow of water, if indeed they do not refer to it. The cognate Maidu words are said to have the same meaning as our own. But it is possible that the Maidu have given a sun-determined meaning to original drainage terms under the ritualizing influence of the Kuksu cult. This may also be what has happened among southern Wintun, Pomo, and Yuki, who constantly use words like "north," while the central Wintun think in terms of waterflow. It has been customary among inquirers to assume that Pomo **yo** means "south" because a group consistently uses it for that direction; which, of course, is no proof. In any event it is likely that exact south, when they knew a south, was

determined for most California tribes by the prevailing direction of their streams as much as by the meridian of the sun. The rectangular and parallel disposition of drainage in the greater part of the State must have contributed to this attitude. Only in southern California, where water runs far apart and intermittently, and the ceremonializing symbolism of the southwestern tribes is a near influence, is it certain that we encounter true terms of solar orientation. (Kroeber 1925, 15–16)



Along rivers with innumerable bends and curves, landmarks can be a better reference than cardinal directions. Here, the rock Oregos, at the village of Requa at the mouth of the Klamath River. Courtesy of Phoebe Apperson Hearst Museum of Anthropology.



A redwood dugout canoe, probably Hupa, on the Trinity River. 1902 photo by P.E. Goddard, courtesy of Phoebe Apperson Hearst Museum of Anthropology.

My friend Jean Perry says that she learned a good lesson in the Yurok river-oriented directionals one day when she was staying with Florence Shaughnessy in her lovely home near the mouth of the Klamath River. Jean was trying to cook dinner on a stove that was still unfamiliar to her, and was having a hard time figuring out which way to turn the knobs to reduce the flame. Florence finally clarified it for her by saying, "It's like this: you turn it down by turning the knob 'downriver', and up 'upriver.'"

The use of landmarks instead of cardinal directions makes perfect sense in a country like northern California, where there are rivers and mountains everywhere, where people follow watercourses in their journeys, and where travelling in a straight line is simply impossible. But in fact, speakers of northern California languages still must have had the concepts of the cardinal directions, at least with regard to movement of celestial bodies, because they have a strong tradition of astronomy. Nancy Richardson pointed out to me that, in the following Karuk tale where Coyote kicks dirt in four directions to celebrate arriving home, he kicks dirt in the four *cardinal* directions—but the directions are named for landmarks.

And Coyote jumped up. And he said, "My country!" And he kicked earth out towards the river. And he kicked it out from tishánniik [a village-site at Camp Creek, below Orleans]. He kicked it out from káttiphirak [a village site across-stream from Camp Creek]. He kicked it out from túuyvuk [a village-site at Ullathorne Creek, below Camp Creek]. Coyote was so happy, when he came back to his country. That's why he kicked it out. (Bright 1957, 169)

Kunpiip, "Xâatik 'áppap yúruk 'uvuunúpahitih, káru 'áppap káruk 'uvuunôovutih.
(The gods) said, "Let (the river) flow downstream on one side, and flow upstream on the other side.

Xâatik vaa 'ukupitih."
Let it do that."

Kári xás "chémmi."
Then (they said), "All right."

Vaa 'uum vúra payúruk tá kunvíitrup tuthívruuhrup yúruk.
When they traveled downstream by boat, they floated downstream.

Ithyáru k'na 'úpviitrooveesh, 'uthívruuhrooveesh káru, káruk 'uvuunôovahiti pa'íshshaha.
They would travel back upstream on the other side, they would float upstream also, the water was flowing upstream.

Kári xás pihnêefich 'uppiip, "Pûuhara.
Then Coyote said, "No.

Xáyfaat vaa 'ukupitih.
Let it not do that.

Kôovúra yúruk kámvuunupahitih.
Let it all flow downstream.

Vaa 'uum vúra káan 'ifmaaráppiit kamíktaatroovutih, káruk 'uvítroovutih."
Let the new married man push his way upstream there, (when) he is traveling upstream."

—Bright, *The Karok Language*, pp. 200-201

Directional affixes

To the English speaker, one of the most amazing aspects of the grammar of most California languages is how much can be said in a single word. Verbs, especially, through processes of affixation, are incredibly rich in meaning. Directional affixes are part of this complex verb structure in many languages. For example, in Yana, directionals are obligatory on verbs of motion. One cannot simply say that someone is "going" without saying which direction he or she is going in. So in Yahi (Ishi's language, a variety of Yana), there is a full set of suffixes that go on verbs of motion, one set for going in a cardinal direction, and another for coming *from* a cardinal direction. And these are also different from the independent words for the cardinal directions.

tʰéndji "west"
-pdji "to the west, in the west"
-haucu "from the west"

Doors of traditional Karuk houses are on the upriver side of the house facing the river. Yurok doors are at the downstream corner of the house. Photo of Karuk house at Kat'im'ïin courtesy of California State Parks.

t^{h}é:nauna "east"
-hau, -au "to the east, in the east"
-t'k^{h}i "from the east"
t^{h}éndjam "north"
-sdjam, -djam "to the north, in the north"
-gam "from the north"

Directional suffixes in Karuk

-mu thither
-rupu hence downriverward
-unih down from a considerable height; hence downhillward
-uraa up to a considerable height; hence uphillward
-rôovu hence upriverward
-sip(riv) up to the height of a man or less
-kath hence across a body of water
-kara horizontally away from the center of a body of water
-kara into one's mouth
-rámnih into a container
-vara in through a tubular space
-rúprih in through a solid
-fúruk into an enclosed space
-vrin in opposite directions
-várayva here and there within an enclosed space

-raa hither; hither from downriver; hither from downhill
-faku hither from uphill
-varak hither from upriver
-ish(rih) down from the height of a man or less
-rina hither from across a body of water
-rípaa horizontally toward the center of a body of water
-rúpaa out of one's mouth
-ríshuk out of a container
-kiv out through a tubular space
-rúprav out through a solid
-rúpuk out of an enclosed space
-tunva toward each other
-thuna here and there in an open area

—Bright, *The Karok Language*, p. 95

t^{h}ént^{h}p^{h}a "south"
-t^{h}p^{h}a "to the south, in the south"
-wacu "from the south"

Like the Yurok language, Yahi also has many directional affixes that are in reference to landmarks rather than the cardinal directions. But Yahi, unlike Yurok and Karuk, combines the landmark directionals with the cardinal directionals. Here are a few examples out of hundreds that can be found in texts:

bah-du-wíl-gam'
(run-back-across stream-to north)
He ran back north across the stream.

bi:-lo-t^{h}p^{h}a-'anti'
(go-up on mountain-south-then)
Then they went south up on the mountain.

néh-du-ri-hau'
(walk-back-down hill-east)
He went back east down hill.

djé:-ye:mai-c^{h}it'-gam
(came dancing-in midst-off-from north)
He came dancing into their midst from the north.

Directional prefixes or directional suffixes take up pages of description in grammars of California languages. In the box on the previous page is a rich set of such affixes from Karuk. As in the other languages of northern California, the directional affixes of Karuk tend to refer to landmarks such as rivers and hills, and to other types of objects that movement occurs in reference to. So for example, **path** means 'throw'; **pathfaku** 'to throw down from uphill', **pathfuruk** 'to throw into the house', etc.

Egocentric directionals

> It was interesting to see that he was aware of the differences due to tones, but of course he had no idea of arranging tones in a sequence or scale. And *my* conception of a tone as "low" and another as "high" was extremely puzzling to him. "Why don't you say that one is to the right and the other to the left?" he asked. I had no answer, of course. (de Angulo 1932, 24)

In English, besides our words for cardinal directions and all our prepositions, we have the words "left" and "right," which refer to the two sides of our own bodies. These are used as direction words as well, so that we can tell people to look left, or turn right at the third stoplight. Unlike all the other directionals we have mentioned here, "left" and "right" are egocentric terms: they are about orientation on the human body rather than environment. The problem comes when we are talking face to face with someone—our left is his right and vice versa. The order "Look left!" confuses conversational participants. My left or yours?

Some languages of Native California don't talk about right and left hands at all; they talk about east and west hands, or north and south hands, or upriver and downriver hands. So the hands change names depending on which way someone is facing. As Dorothy Lee eloquently states it in *Freedom and Culture*:

> The Wintu use of *left* and *right*, as compared with ours, shows again the difference in orientation. When we go for a walk, the hills are to our right, the river to our left; when we return, the hills change and the river, while we remain the same, since we are the pivot, the focus. Now the hills have pivoted to the left of me. This has been English practice for many years, since at least the fourteenth century. To the Wintu, the terms left and right refer to inextricable aspects of his body, and are very rarely used. I think that only once the term left occurs in my texts, referring to a left-handed mythical hero; I cannot remember any occurrence of the term for the right. When the Wintu goes up the river, the hills are to the west, the river to the east; and a mosquito bites him on the west arm. When he returns, the hills are still to the west, but, when he scratches his mosquito bite, he scratches his east arm. The geography has remained unchanged, and the self has had to be reoriented in relation to it.* (Lee 1959, 139)

* My father recently pointed out to me that in baseball parlance, a naming reminiscent of Lee's description has developed: a left-handed pitcher is called a "southpaw." This is due to the old practice of putting home plate on the west end of the field, thus decreeing automatically that a pitcher's left hand will always be to the south. The name still holds nowadays even though, in some of the modern indoor fields, home plate is put somewhere other than in the west.

Most Native American languages do have constant names for their hands, but as Lee says, these are not directional names. The Havasupais call the right hand **sal gahána**, the "good hand," thus revealing the tendency for right-hand preference common to all human societies, and the left hand is **sal gathát**, "Coyote hand." But a Havasupai would never tell somebody to turn "Coyote" or "good" at the corner! I bet the long-ago Europeans who first named their hands thousands of years ago didn't say "go right" or "go left" either when they were giving travel directions (after all, "right" means "good," just as in Havasupai). Using these words as directionals probably only came about when people started losing their sense of closeness to the land, so that movement oriented to their own bodies became easier to understand than movement oriented to natural features. Maybe it was the development of city streets laid out as grid lines, often ignoring both the cardinal directions and the land forms, that led to this use of body orientation for directionals.