John Laudun

Pulling Up Holes, Pulling Down Hills:
How People Who Actually Work the Land Understand the Landscape on Which They Work

Abstract

The American rural landscape continues to play a dominant role both in the economy of the nation as well as its imaginary, but how do farmers themselves conceive it as they move across it in a goal-oriented fashion? This paper attempts to enumerate and catalog the various ways that farmers report their experience. It attends both to the contents of the report as well as to the form, paying attention not only to the actions they report, and that have been observed, as performances, but also their reports as discursive performances in and of themselves.

Essay

Metal is the iconic medium of modernity. Unlike wood or marble, materials long dear to scholars for the resistance they offer to human will through their unpredictable cleavages and startling strengths, metal is perfectly amenable to all kinds of change so long as it is heated to the proper temperature. It and its equally malleable cousin plastic make up almost every instrument we regard as modern: cars, cell phones, computers. Both are prized by a wide range of industries for their plasticity and so we also think of metals as the stuff stamped out by factories and which, in the process, stamps the life out of the men and women who man the machines, and who are unmanned by them. But like Chaplin's *Modern Times*, such a view is largely a projection of our own ennui and anxieties onto others, who, were we to stop on the shop floor, might very well reveal themselves fully in control of their humanity by not only having more say than we think imaginable in the making of ordinary things that actually make modernity work but also, perhaps on occasion perhaps regularly, enjoy repetitive tasks that require the use of their hands as well as their minds and find our work — stuck in offices stacked with paper, straining to read under fluorescent lights, and often answering to a nebulous group of individuals known as administrators — quite debilitating.

This is, in fact, a regular response in any conversation I have with farmers and fabricators when we talk about kinds of work. While they envy my air-conditioned office on Louisiana summer days, they often state that they just couldn't do what I do, and by that they don't mean write articles and books or teach classes. They mean sit in an air-conditioned office all day and not move very much. For them, to think is to move. For farmers, it is to move around and across a landscape, constantly assessing what needs to be done and what can be done in the time one has. For fabricators moving around means moving oneself in volumetric space in order to construct three-dimensional objects with the

kind of precision which will allow them to withstand the abuse heaped upon metal machines.

On the shop floor, it is perhaps easier to turn our back on the complexities, and, yes, the absurdities of modern aesthetics, for rather the same reasons that the German philosopher Martin Heidegger turned his back, preferring instead to meditate upon a pair of boots as captured by Vincent van Gogh. In his own explorations on "The Origin of the Work of Art," Heidegger wished to set aside aesthetics, particularly the aesthetics of art, to understand the work of art. His use of the phrase "work of art" is quite intentional, playing upon the conventional meaning that describes a completed artifact. He wished to foreground the verb *work* that describes the labor that goes into the work: "In order to discover the nature of the art that really prevails in the work, let us go to the actual work and ask the work what and how it is" (18).

Proceeding in his usual "let us begin with the obvious" way, Heidegger asserts that works of art are things, or at least have a thingly character: paintings hang from walls like rifles or hats; they are shipped from one exhibit to another like coal; they are packed with us like cleaning supplies or kept secure in storerooms like potatoes. It is clear that works of art are more than rifles, hats, toothbrushes, and potatoes and that it is this "more" that constitutes the work's aesthetic nature, but what is the nature of this more, or other, that makes the work more than the thing itself, what the ancient Greeks termed *allo agoreuei* (allegory)? Heidegger observes that "in the work of art something other is brought together with the thing that is made" (20). The ancient Greeks termed this *sumballein*: the work is a symbol. Allegory and symbol are familiar to us, but such a conception, where "one element in a work ... manifests another" make it seem "almost as though the thingly element in the art work is like the substructure into and upon which the other, authentic element is built" (20). Such a notion is hardly tenable, since it deprecates the thing that is the work of art itself. If the thing is only a vacant holder of something else which it is not and which is not it, then one thing can replace another in the work of art. That is hardly a satisfactory account.

If we are to understand the relationship between thing and work, Heidegger argues, then we need to understand more clearly what things are, so that we can discern for ourselves what in the work of art is thingly: "only then can we decide whether the work is at bottom something else and not a thing at all" (20). For our present purposes, his exploration gets really interesting when he introduces a third, intermediate element into his treatment of things and works, which are, he notes, too easily reduced to matter and form, what he describes as "the conceptual schema which is used, in the greatest variety of ways, quite generally for all art theory and aesthetics" (27). Its widespread use proves nothing, except our willingness to think with, as Heidegger puts it, "hackneyed concepts." What we need is a way to re-think the relationship between thing and work and we can easily glimpse it in a pair of shoes before us: they are useful; shoes are, to quote a phrase familiar to folklorists, equipment for living.

Heidegger seizes upon equipment as possessing "a peculiar position intermediate between thing and work ... because here man himself as maker participates in the way in

which the piece of equipment comes into being" (29). The nature of equipment is so fundamental to the way we perceive, and create, our world out of the always necessarily larger universe of what is, that he suggests that "ultimately everything that is [is] to be comprehended with the help of the being of equipment" (29). The power of the equipmental quality of equipment, as he terms it, can be gleaned from equipment which is now a mere thing: "The 'mere,' after all, means the removal of the character of usefulness and of being made. The mere thing is a sort of equipment, albeit equipment denuded of its equipmental being" (30).

In south Louisiana, such equipment resides in the long grass, where it often sits until someone comes along, plucks it up, and positions it as a kind of memorial to a previous era of agriculture. Such equipment is usually encountered as debris by later equipment. To some degree, Heidegger hints that this is also the fate of much art, even great art, which is only really powerful when it is situated in context, in the world of its making and which it, in turn, makes. His examples are quite telling: peasant shoes are paired with Greek temples and with tragedies at holy festivals. All are works set in a particular world, but the temples and tragedies differ from the shoes in that, though it is a thing, the temple is capable of opening up a world where a plow, for example, "because it is determined by usefulness and its serviceability," consumes its matter. "In fabricating equipment," Heidegger argues, "[matter] is used, and used up" (46).

From this moment in the essay, Heidegger embarks upon an exploration, interestingly enough for our figurative and literal plow, of the earth. The idea of earth is an emergent one during this period of Heidegger's thinking. The earth is *what is* as that *what is* appears before consciousness. In stands in contrast to the world, or worlds, we create, within which meaning-making occurs. The relationship between the two is that one, the world, is always seeking to unconceal the other, the earth, which in turn is always drawing the world into itself and keeping it there. Elsewhere he terms this otherness from which our worlds of meaning rise "being as such." For Heidegger, the work of art is to illumine and manifest this rift, as he describes it, between world and earth. The moment in which this occurs is a lighting, the Greek term *aletheia*, of a clearing in the woods. (And it is no accident in the context of the essay that the clearing itself is there thanks in no small part to a woodcutter's handiwork.)

The truth that the work of arts makes present is the existential moment when, and where, we realize that intelligibility is always as transient as the flash of lightening itself. Works of art capture this moment by manifesting them in the struggle of the artist to create meaning out of the thingliness of the work of art. They are, then, not representations of such a struggle but the struggle itself, incarnate. In doing so, the work of art speaks not only to us but for us. But there is a problem in such speaking, such presenting of truth in a work of art: that eventually its extraordinary nature becomes ordinary, its intelligibility is stabilized. Having shattered the safety of a world to reveal the ultimately unintelligible nature of what is — some of which is captured in Heidegger's use of "the nothing" — the work of art can itself become a part of the very world it was meant to undo:

> "Thus art is: the creative preserving of truth in the work. Art then is the becoming and happening of truth. Does truth, then, arise out of nothing? It does indeed if by nothing is meant the mere not of [what is], and if we here think of [what is] as only presumptively a true being." (71)

Anyone who has stood and stared at a work of art from a previous era that caused a sensation in its own time but is now important in our world only as a testament to a previous' era's sensibilities has experienced the phenomenon that Heidegger describes here and is actually at great pains to solve. I would like to suggest that standing in a metal shop offers us an alternative, one suggested by Heidegger's own fascination with equipment.

Heidegger maintains that a tool is finished, "made ready," when its design has been made concrete or material. There's nothing more to it except to use it to perform a certain task. He contrasts this with a work of art, which is not finished when its structure is complete. The work makes present or unconceals the being of that which is presented (truth). Art is "the becoming and happening of truth" (71). But to imagine a tool as complete once it is ready for use is a failure of imagination not on the toolmaker's part but on our own. Had Heidegger spent some time with the woodcutters who cleared the paths that allowed him to revitalize human being as always immersed in the world he would have come across at least one woodcutter who found himself on occasion wondering how to make a better axe.

Standing in our metal shop it might prove just as useful to our current excursion beyond the realm of conventional aesthetics to wonder how to make a better PTO ditcher, because such a wonderment actually occurs. The PTO, or power take-off, ditcher sits directly behind the tractor and is powered, as its name suggests, by a splined driveshaft that draws energy from the engine via a gear casing. A PTO implement differs from other kinds of tools that are powered by the tractor's hydraulic systems. Ditchers are used in most row-crop applications to cut across furrows to allow for drainage from row to row. Their powered nature scoops up the dirt in their path and throws it clear of the ditch, leaving little to no ridges on the ground to impede the flow of water. Most ditchers hang vertically behind the tractor or angle diagonally from the PTO to a spot behind the right rear wheel of the tractor — the right side of the tractor most often being the working side. A centered or offset arrangement is sufficient in most applications, but they are of little use in Louisiana' rice country, where ditches must pass through a series of levees that define the working cuts of a field. A centered ditcher would need to be raised and lowered as the wheels of the tractor rise and fall across the landscape. An offset ditcher runs into the left side of the ditch, pushing dirt in even as you are trying to get dirt out.

The solution, of course, was to construct a right angle ditcher where a horizontal chain inside the machine's metal tubing fetches the power from the centered driveshaft and then delivers that power via a vertical chain to the cutting head. The vertical leg of the ditcher tracks precisely behind the tractor's right wheel, creating a neat gap in the levee.

It's a good tool, but as even this brief history makes clear, it is also an evolving tool, subject to changes in the nature of the work to be done as well as changes brought about by

particular individuals. It is, quite literally, the product of an ongoing engagement with the earth. It is not a fixed form, but a highly malleable one that reflects the particular understanding of a particular group of people at a particular point of time in a particular place. It is everything which is not the work of art as understood by modern/modernist aesthetics with their emphasis on form and universality.

Careful readers of Heidegger occasionally catch glimpses, even in the midst of some of his most radical breaks with conventional philosophical thinking, of what passes for a kind of romanticism. Towards the end of his explorations on "The Origin of the Work of Art," Martin Heidegger, provisionally accepts Hegel's famous judgment that: "Art no longer counts for us as the highest manner in which truth obtains existence for itself. ...[I]n its highest determination, vocation, and purpose [*Bestimmung*], art is and remains for us...a thing of the past" (80). In echoing Hegel, there is a hint of a longing for a golden time, of which we folklorists are well aware, occasionally making use of such rhetoric, or falling prey to it, as Regina Bendix has made clear.

I would like to suggest that Heidegger himself fell short in his own work, returning too quickly to the conventional work of art when in fact he himself believed it to be hollow and beyond recovery. My own perspective, standing in the middle of a shop with a pair of ear plugs firmly in place as men grind, cut, beat, and weld metal is that the work of art is to be found in places where people, well, are working. If we are to come to grips with aesthetics, we must attend to how people imagine and practice it in the everyday worlds we as folklorists know and observe, to aesthetics as a concept-in-use and not as a concept-in-itself. Aesthetics in the conventional sense that Heidegger dismisses occupies relatively little time and space in southwest Louisiana. It is largely housed in a few grand buildings, which are empty much of the time and what few visitors they possess are expected to speak in hushed tones about artifacts, like relics, that are put before them but have little place in their day-to-day lives. Organized, and/or institutionalized, in such a way, aesthetics has little bearing on their lives, and thus should have little interest for us. I do, however, hold out hope that we can recover aesthetics as something that lives among us and within us, but we need to spend a lot more time among the living to do so.

#

If our goal is to recover aesthetic experience from the limited geography of museums and a limited portfolio of objects, then we must refine Heidegger's inquiry based on our extended experience of being with people in the world even as they create it. Heidegger's interest in equipment, recall, is in its "having come into being through human making, [and as] a being particularly familiar to human thinking" (162). Using the Van Gogh painting as his guide, he observes that "the peasant woman wears her shoes in the field." In the field, the shoes are what they are, shoes. To his mind, the shoes disappear, and in disappearing become equipment.

But what does it mean for something to disappear, and what possibly could we learn by the particular kind of dissolution that is equipmentality in Heidegger's view? What is there in equipment that makes it prone to absconding from our active engagement? What if the

absence that marks Heidegger's considerations of these things might actually be a new kind of presence?

Equipmentality, the word itself, opens up our first view of a new horizon. To equip someone or something is to provision them with the necessary items for a particular purpose. Fortunately for us, even in common usage, the term can apply either to physical materials or mental resources. The word equip comes to us from the French *équiper*, which most likely derives from the Old Norse *skip*, meaning to man a ship. We know the person doing so today as a skipper, and he does so because the word skip also meant the boat he commanded, thus a skipper mans a skip. Multiple meanings for one word, sometimes to a confusing degree is often our first sign that we are exactly where we need to be. In south Louisiana, for example, one of the most important times of the year is Mardi Gras. In certain parts of the prairies, where the Cajun *courir de Mardi Gras* continues to be practiced, in some cases without missing a year in over a hundred years and in other cases after a lapse of a decade or more before being revived, it is not unusual for practitioners to proclaim that Mardi is "their time" of year. I once heard a man report that he had told his employer that " you can have Christmas, you can have New Year, but you can't have Mardi Gras: that's my time."

Within the space and time that is Mardi Gras in Louisiana, the day itself is really the culmination of an entire season, which may very well begin immediately after Christmas, when many courirs, or runs, begin to meet and plan for this year's event. During these planning meetings, it is quite common for previous Mardi Gras to be narrated, particular victories, e.g., the man who gave them one hundred dollars for a particularly good begging, as well as particular mishaps, e.g., the time someone tumbled into a drainage ditch and was cold, wet, and stinky for the rest of the day. What happens on the day of a run is that "the Mardi Gras", as they are known, visits a house — the subject-verb disagreement here is purposeful. The Mardi Gras is a thing and it is also all the members who make it up. An individual runner is typically hailed as "a Mardi Gras." The net effect is that during Mardi Gras, the Mardi Gras stop at a house, where individual Mardi Gras involve themselves and bystanders in an overall event that is Mardi Gras.

At the same time the Mardi Gras are circumnavigating the Louisiana prairies, farmers have begun to work the earth, preparing their fields either for rice or for soybeans. Indeed, it's not uncommon for the convoy of large farm trucks pulling livestock trailers full of Mardi Gras to ride past large tractors pulling plows. If a farmer is working in a flat field in which he planted soybeans the previous year, then he needs to pull up a levee. If he is working in a field divided into a series of cuts, as they are called, then he needs to pull down the levees to return the field to a level state. Flat, open fields are created for soybeans, which like most plants prefer good drainage. Terraced fields are created for rice, which is water tolerant and thus pumping water onto a rice field is an age-old form of weed control.

The gentle topography and relatively thin layer of topsoil of south Louisiana make it a good terrain for rice, if, unfortunately, not as good for much else. Farmers work the land to the best of their abilities, using the tools they have, many of which are hand-made in nearby

fabrication and equipment shops to their specification. One of those pieces of equipment is the water plow, a large blade pulled behind a tractor, typically one with a great deal of horsepower, to grade a field level. It is very important for the interior plane of a rice field cut to be as level as possible. Should one portion of the field be higher or lower than the rest, the field cannot be reliably flooded or drained when the time comes.

The traditional way to level a field is to water plow it. Like its name suggests, water plowing is done with the cut flooded up. With water anywhere from calf-high to thigh-high, a farmer will drive into a field with a water plow attached to his tractor. Plows run from twenty to thirty feet in width, with the larger plows now possessing wings that can be raised and lowered for transport along area roads. Once in the field, a farmer will make a few rounds to establish the overall "feel" of the cut, where it is high and where it is low. Before the arrival of the laser level, this was done entirely by feel, but now most farmers attend to the difference between a stationary laser transmitter stationed on the side of the field and spinning out an invisible, but level, plane of light and the receiver attached to the plow. A console in the cab of the tractor reveals how high or low the plow is to the norm set by the transmitter.

"Zeroed in", a farmer begins the job of leveling a field which he cannot see. Already his circuits around have muddied the water. Now he drops the water plow blade into the water and proceeds to pull it this way and that. Sometimes he moves across the width of a cut, and sometimes up and down its length. Sometimes he moves diagonally and sometimes he goes around and around. The entire time he is, yes, keeping an eye on the laser level readout, but he is also feeling his way around the field. The goal of this exercise is to "pull down" unseen hills and "pull up" unseen holes.

Like levees that are pulled up and pulled down, hills and holes within the field are pulled up and down. That everything is pulled runs counter to usual accounts of such activities. Typically, if one pulls something one way, you push it the other. Push is the necessary, and sensible, reverse of pull. So how can we account for this disuse of the obvious obverse? The answer is easily glimpsed from the tractor cab: levee plows and water plows are pulled. Were this the only dimension of this particular marriage of man and machine, then our discussion might be limited to something like instrumentality, but there is more to this matter and it has entirely to do with the "feel" of things mentioned above.

Riding in the enclosed cab of an eight-wheeled, articulated tractor one imagines that the operator is, if not quite a disembodied mind dully driving this way and that, then at least so alienated from the interaction between machine and landscape as to rely mostly on visual cues and the scant few sounds that make it past the roar of the engine and the insulation of the glass windows. Nothing could be further from the truth. Having ridden extensively both in these giant tractors while farmers plowed as well as in combines while they harvested rice or soybeans, I can safely attest to the fact of how little they actually pay attention to any and all gauges and readouts that report engine RPM, grain flow, or the height of grain in a hopper. Instead, farmers are constantly "feeling" and "listening" to the machines in which they ensconce themselves in order to get work done.

Recent research in psychology into haptic interfaces has mostly focused on how adding various kinds of vibrotactile cues can aid operators of cars or deep sea divers in processing diverse flows of information. For many, the ability to add a vibrotactile device to a car or to a watch is a way to overcome the visual overload many operators navigating complex environments feel. Ensconced within the tractor cab, we can delineate two distinct kinds of information:

The first has to do with the ground which passes underneath them unseen. Previous plowings of the field or the running of a crawfish boat in a previous season can often result in ruts being left behind. From the farmer's perspective, these ruts are undesirable in a rice field, since they can mean low spots where water may get trapped or they may, if long enough, drain the field inappropriately. In either instance, the ruts disrupt the farmer's ability to control the water level in a field with the kind of granularity preferred. These ruts are felt as small, sudden drops in the body of tractor, and their width is gauged by a concomitant jolt. Most farmers have a very acute sense of the speed of their vehicle and thus typically a fairly good idea of the distance traveled between two moments in time. (It also helps that they have had this ability to gauge distances and dimensions reinforced by knowing the width of a rut created by a crawfish boat wheel or by another kind of plow: these two kinds of information, one visual, but in memory, and one tactile, in the present, are combined in the moment of water leveling to afford them a high degree of precision.) Depending upon the depth of the rut and the overall fit of the tractor, there may be a concomitant sound made by the tractor, which might also be felt. A tractor with a somewhat loose fitting somewhere, for example, will make a distinctive clunk, which many farmers will listen for, often knowing that the clunk is only prompted by changes in depth of a certain size or kind. The sound, caused as it is by a movement within the tractor and not of the tractor in relationship to the landscape, may also be accompanied by a secondary vibrotactile cue.

The second set of vibrotactile cues, which are also accompanied by a sonic cue, are produced by the tractor's engine and reveal to the operator the degree to which the engine is under a load. Farmers typically describe this as feeling or hearing the engine strain, and it is, I confess, one of the more nuanced moments of perception that I have come across in my years of research: there is little to no obvious change in the pitch or the volume of sound these large, diesel engines make. At three hundred fifty horsepower or better, the engines in these tractors are capable of pulling a water plow through the water with relative ease, and it is not unusual for them to be doing so at extremely slow speeds. Because the plows can push so much water in front of them, farmers must work at slow speeds in order to make certain that they do not spill, or slop, water over the small levees that outline the cut. Water loss is less of a concern than topsoil loss. Thus, the larger engines are run at what almost seems an idle, heard and felt as a low rumbling. As the plow being pulled picks up water and mud, however, the engine begins to work a bit harder, and farmers listen and feel for that moment when, perhaps, the engine will need to be fed a bit more fuel.

In both instances, the farmer is highly attuned to the tractor. They described this process in two different stages. The first stage occurs when a farmer is just starting off, just learning how to farm, how to work with equipment. As a teenager working with an older family member or friend, typically fathers and sons but sometimes uncles and nephews, a farmer has to learn to "feel the seat" as one young farmer told me. It is a matter of learning how to feel the bottom of a field with the tractors' tire, the young man noted, and in doing so reached out and down with his arms and spread out his fingers, as if he were imagining himself crawling through the water, feeling with his hands to determine how the land lay.

A farmer learns these things on a particular piece of equipment, and so the second stage occurs when he transitions from one piece of equipment to another, because each piece of equipment has its own feel, not only as a piece of machinery but also as a sensing device. Another farmer who had recently purchased a John Deere tractor after using nothing but Case tractors for twenty years noted that it was going to take a great deal of getting used to, "[the John Deere] tractor runs different, works different." The same observation occurs when a farmer has gotten used to the feel of a particular brand of equipment and that manufacturer makes a significant change to the drivetrain, the suspension, or some other facet of the machine that requires the farmer to "re-calibrate" their senses.

#

The work of leveling a rice field is a discrete task in which the criterion of a successful performance is clear: the field drains evenly, with no low spots nor high spots. In this it resembles the task of navigation at sea, which has long fascinated both anthropologists and psychologists. As Charles Frake points out, psychologists have a long, historical fascination with navigation because the task is clearly defined and has easily measured goals, notably arrival at a particular destination. To be sure, there is a whole world "beyond the psychologist's laboratory, or people thinking ... [but] navigation does provide an especially nice display of cognitive performance" (255). Much of the work has focused on Micronesian navigation, and, as Frake observes:

The lesson to be drawn from these studies is that the islanders' seafaring exploits do not depend on some uncanny intuitive powers, nor on personality quirks driving people to seek danger, nor on the luck of lost sailors adrift at sea, nor even on rote-learned "local knowledge". Instead these navigational abilities depend on a profound general know- ledge of the sea, the sky and the wind; on a superb understanding of the principles of boat-building and sailing; and on cognitive devices—all in the head—for recording and processing vast quantities of ever changing information. (256)

Much the same can be said of farmers working (in) their fields. Not only is it the case that a farmer depends upon his skill to level a field, it is also the case that his skill is subject to a wider, often quite objective evaluation. Internally, a farmer who does now how to "feel the seat" spends too much time either looking at gauges in front of him or looking behind him to double-check the state of his plow. Looking at those things distracts him from seeing where he is going, resulting either in inefficient plowing or in very slow going. Externally, any field can be, and usually is, observed by other farmers. Uneven fields reveal themselves

by changes in color and height or rice. A mottled field raises questions and comments in nearby equipment sheds, in agricultural supply stores, and after church. Its opposite, a field uniform in color and height, receives appreciative nods and comments.

Such an outcome depends on a profound knowledge of the topography of the landscape, including a sense of the underlying geology, as well as a highly attuned sense of one's equipment. Mediating the relationship between the equipment and the landscape is a function of a collection of abilities and sensitivities, which someone like Frake would term "a high order of cognitive ability" that makes it possible for a farmer to know how much farther he is moving and from what unseen hill it is departing and to what unseen hole it is arriving.

In his own work, Frake extends the investigation into displays of high orders of cognitive ability by examining the navigational work of medieval sailors, who developed a rather robust system for correlating lunar with solar time in order to be able to predict the tides of the ports upon which they called. Such information was, in most instances, critical to determining when one could enter or exit a port, and what route one would need to take in order to do so. The medieval sailor was thus able to do something which modern sailors, dependent upon first tide tables and now computational devices, cannot, determine for himself, with a high degree of precision, the stages of tidal activity.

Frake offers his readers a brief refresher into the relationship between the two kinds of time which sailors once tracked simultaneously, and in relationship to each other: lunar and solar. Lunar time of course dominates sailing concerns during the Middle Ages precisely because sailing along and between coasts was the dominant concern, and would continue to be a significant concern even as sailors ventured more widely, because their successful return to a port would still be determined by their ability to navigate its channels and shoals. Much of this navigation is a function of the tide, and the foundation of the tides is the gravitational pull of the moon on the earth's oceans. Even today, most readers are aware of the fact that high tide occurs when the moon is directly overhead, which can also be described as "lunar noon," and that it also occurs when the moon is on the opposite side of the Earth, in what is known as "lunar midnight." Because the moon circumnavigates the Earth in one solar day, there are two high tides and two low tides, but because a lunar orbit is actually somewhat longer than a day, forty-eight minutes longer, the tides are about six hours and twelve minutes apart. This unit of lunar time in known simply among sailors, and people who live along a coast, as "a tide."

What is important about a tide is that it frequently determines the accessibility of a port, some ports only being navigable at particular moments of a tide, often somewhere near high tide. Remarkably, Frake notes, "medieval sailors pressed their cognitive map of directions, the compass rose, into service as a schema for representing and manipulating temporal information" (264). The compass rose was, for these sailors, both a means of determining direction as well as a means for calculating time. The rose is made up of thirty points: eight full points, eight half points, and sixteen quarter points. (See Figure.) Used directionally, the full points represent the cardinal directions of north, east, south, and west, as well as the

four ordinal points of northeast, southeast, southwest, and northwest. The half points represent the bisection of the full points, such as east northeast, usually noted as ENE, and the quarter points represent a bisection of the full and half points, usually noted with a "by" such as northeast by east (NYbE). Imagined as a twenty-four hour clock, representing the relationship of astronomical bodies to an observer at a particular location on the Earth, each of the full points represents the hours of 12am, 3am, 6am, 9am, 12pm, 3pm, 6pm, and 9pm. The half points mark the half hours of 1:30, 4:30, 7:30, and 10:30; and the quarter points mark the passage of forty-five minutes. Three hours, one and a half hours, and three-quarters of an hour seem useless until we remember that the tide runs approximately every six hours.

Like the sun, the moon bears due south for observers in the northern hemisphere, and thus another name for lunar noon is "moon bears south." Conversely, "moon bears north" describes, in effect, lunar midnight, the moment when the moon is on the opposite side of the Earth from the observer. Thinking of the moon's position in this way allows one to describe the moon as being WSW, or six compass points past south. Because each compass point equals forty-five minutes, a WSW moon occurs four and a half hours after lunar noon, which would be high tide. Such a framework allowed medieval sailors to compress a high amount of navigational information into statements like "all havens be full at WSW moon between the Start and the Lizard" (Taylor 132). Given that the tides shift by about a compass point, or forty-five minutes, every day, a sailor could then take such a known fact and, using the compass rose, calculate what he needed to know in relationship to his own moment in time. As Frake notes, "If WSW moon corresponds to 4:30 (we can now ignore am and pm) at full moon, and it is now five days past full moon, we can count five compass points past WSW to NW by W, a point which marks the solar time of 8:15" (265). High tide will occur at 8:15 in the morning and evening five days after the full moon locally. Just as important for the sailor was the ability to know, quickly, when the half and quarter tides before and after the high and low tides, since they would indicate whether one was facing am ebb or flood tide.

Why concern ourselves with medieval sailors and their compasses? Because as Frake points out, "the compass rose is not a time finding instrument [but] a very abstract model, a cognitive scheme, of the relations of direction to time, of solar time to lunar time, and of time to tide" (266). As such, it is correlational thinking embodied in an artifact, the product of "the human mind ... confronted with a task sufficiently necessary, sufficiently challenging, and sufficiently clear in outcome" (268). As such it opens up for investigation notions about where the mentality in equipmentality lies. It is neither in the instrument nor in the mind but rather spread across both.

This way of thinking about the relationship between the thinking we do and the things with which we think is described by Edwin Hutchins as "distributed cognition." An anthropologist, Hutchins has sought to bridge the gap between his own field and psychology, between culture and cognition as objects of study. Conventionally, of course, the two are considered distinct areas of inquiry, but only, as Hutchins observes, because the boundary between inside and outside have been so firmly drawn, which "creates the

impression that individual minds operate in isolation and encourages us to mistake the properties of complex sociocultural systems for the properties of individual minds" (355). Hutchins' argument is that cognitive sciences have over-allocated intelligence to the inside of human subjectivity. The problem with such a view from his, and we can now also say from Heidegger's, point of view is that it mistakes, potentially, one dimension of a larger system for the system itself.

Hutchins notes that John Searle's "Chinese Room" thought experiment offers a nice encapsulation of the larger problem. In the thought experiment, Searle sets out the following scenario: he is locked in a room where messages in Chinese are slid under a locked door. He himself has no knowledge of Chinese, but he does have a book which allows him to determine the character sequences and to respond with a correct sequence of characters that he then slips back under the locked door. The outside observer perceives a meaningful reaction, but, given Searle's role in the communicative instance, was there really any meaning? Searle's response is not, and he intends the thought experiment as a rejection of the idea that the Turing test could gauge actual intelligence.

Searle intends the thought experiment, Hutchins points out, "as a demonstration that syntax is not sufficient to produce semantics" (361). But in setting up his experiment, what Searle has done is encapsulate a "sociocultural cognitive system." On his own Searle cannot communicate but as an ensemble, he and the book in the room, can. That is, "the cognitive properties of the person person in the room are not same as the cognitive properties of the room as a whole" (362). Hutchins argues that much of the work done in artificial intelligence and in cognitive psychology consistently focuses on socio-cultural systems but mistakes them for individual minds. He concludes that the attribution to an individual mind of an entire system effects a kind of surgery in which interaction, and our chief means of interacting, our bodies, are removed.

Reduced so, the unhooking of cognition from interaction becomes clearly absurd. Hutchins responds that what we need is to study more cognition as it occurs in the world and study cognition less as a limited set of responses from an individual isolated in a laboratory. He proposes the term "cognitive ethnography." Returning to some of the language used by Frake in his own description of cognitive psychology experiments, I am struck by the occurrence of *performance*, not just the use of the word but that it is used in ways folklorists would easily recognize:

We are concerned here not with judgements about the mentality of an age or the wisdom of a culture, but with the cognitive abilities of individual human beings. For evidence we must turn away from assessments of the strangeness of a culture's beliefs or the weirdness of its symbols to an examination of performances that can be seen as displays of cognitive ability. But what counts as such a performance? Probably most things a human being does should count. The problem for the investigator, and sometimes for the performers themselves, is to know what the performance is. "What's happening?" Or, in psychologists' language: "What is the definition of the task?" (255)

Frake notes that psychologists prefer to define their own tasks and remain anxious about user-defined tasks as being vulnerable to collusion. Folklorists and others who are used to working from the inside out see this less as a vulnerability and more as a matter of openness.

Such an openness to the "task world" allows us to form different understandings of what people do with their minds. But, as we have seen, "mind" must be broadly understood. And, to my mind, we must also necessarily be more open to the disciplines with whom we collaborate. In writing that appeared in the pages of this journal almost two decades ago, Richard Bauman noted:

> that the enduring importance of the intellectual problems that the philological synthesis was forged to address constitutes a productive basis on which we as folklorists might orient ourselves to our cognate fields and disciplines. In my view, any scholar who is interested in any of the dimensions of interrelationship that link language, literature, culture, society, politics, and history together is potentially my colleague, whatever our degrees and whatever academic departments provide us a home and a living. (17)

Bauman is, of course, referring to the work that was begun as the ethnography of speaking and was later consolidated under the rubric of performance. It was, by the accounts of some of its vanguard practitioners, an attempt to take ideas and issues raised by philosophers like Heidegger and others working in the middle of the twentieth century to re-ignite the investigation of human being and to apply those insights within fields who had traditionally focused on the "other" of modernity. Forty years later, the new philology now has the opportunity to re-join philosophy as it itself has been transformed by studies of cognition across a wide range of fields.

In heeding Lee Haring's call to re-examine the aesthetic ideologies underlying and permeating the domain of folklore studies, I have not proceeded, quite obviously, to produce a straightforward critique. Rather, I began with an oblique critique of aesthetics as practiced, in my experience, within the current art world, a practice that dominates our own. Folklorists have historically cleaved to the humanities as our best bet to widen the historical record so that it can include a fuller account of the human experience. What this essay has attempted to suggest is that in the present moment we may very well be better off allying ourselves, for a time, with the human sciences.

References

Bauman, Richard. 1996. "Folklore as Transdisciplinary Dialogue." *Journal of Folklore Research* 33 (1): 15–20.

Bauman, Richard, and Charles L Briggs. 2003. *Voices of Modernity: Language Ideologies and the Politics of Inequality*. Cambridge: Cambridge University Press.

Frake, Charles O. 1985. "Cognitive Maps of Time and Tide Among Medieval Seafarers." *Man* 20 (2). New Series (June 1): 254–270.

Glassie, Henry H. 1999. *Material culture*. Bloomington [u.a.]: Indiana University Press.
Heidegger, Martin. 1971. *Poetry, Language, Thought*. New York: Harper and Row.
———. 1977. *Basic Writing*. New York: Harper and Row.
Hutchins, Edwin. 1995. *Cognition in the Wild*. Cambridge, MA, USA: MIT Press.
Latour, Bruno. 1986. "Visualization and Cognition: Thinking with Eyes and Hands." *Knowledge and Society: Studies in the Sociology of Culture Past and Present* 6: 1–40.
Marx, Leo. 1984. "On Heidegger's Conception of 'Technology' and Its Historical Validity." *The Massachusetts Review* 25 (4) (December 1): 638–652.
Rizzolatti, Giacomo, and Luciano Fadiga. 1997. "The Space Around Us." *Science* 277 (5323) (July 11): 190. doi:Article.
Waters, D. W. 1967. *The Rutters of the Sea: A Study of the First English and French Printed Sailing Directions with Facsimile Reproductions*. New Haven, CT: Yale University Press.
Young, Katharine. 2011. "Gestures, Intercorporeity, and the Fate of Phenomenology in Folklore." *Journal of American Folklore* 124 (392): 55–87.