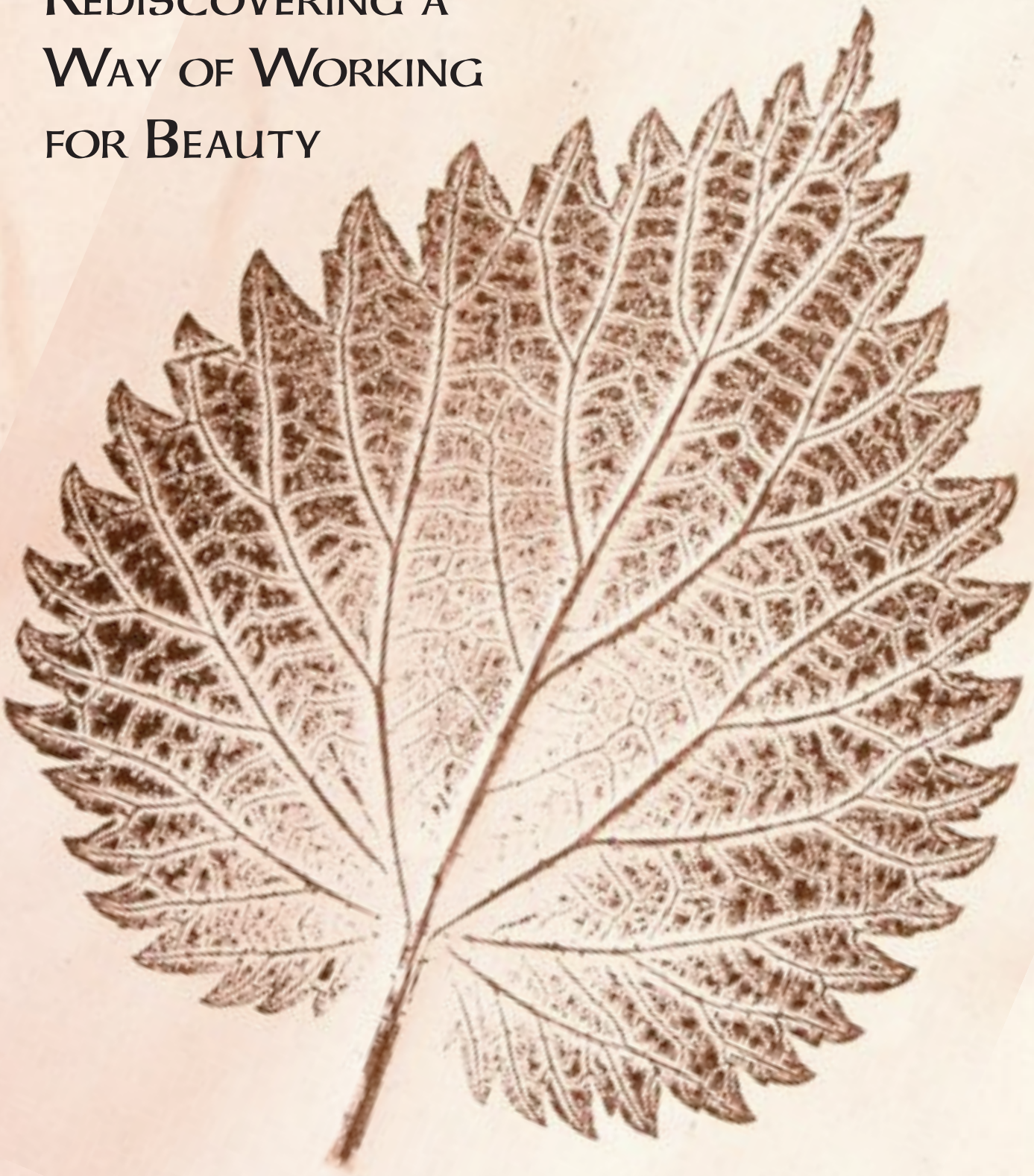
A WORK OF ART

Rediscovering a Way of Working for Beauty



by Kiko Denzer

"How has the war on terrorism affected your art or you as an artist?"

War
Is about death
Not beauty;
About money
Not value;
About
Vision, life, joy,
Wasted.

What has changed?
If we want money
More than beauty;
If we want things
More than life;
Then, nothing.

If we want life
More than death,
To see and to know;
To say and to celebrate,
Then,
Everything.

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by Kiko Denzer
working draft

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An elementary school student in Oregon, painting a temporary "hug hut" made of twigs and mud. The colors are mud too – local soils mixed with water.

Foreword

Nearly twenty years ago, I left my day job to make sculpture. Money was, and usually is the first question we're taught to ask about such an endeavor, but whatever answers I found, when they came, were about much more than money. Slowly, I've begun to make some sense of what I've been learning – about art, about myself, about teaching art, about education, about design, and about work.

I've spent a fair bit of the past fifteen years as a teaching artist doing projects in Oregon schools, as well as running workshops on how to build with earth ("adobe" or "cob"). The results have included everything from ovens, to play ground art, murals, ornamental work, garden walls, small buildings, and a couple of how-to books. Of course, any time you make something, especially when you make it with other people, you have to talk about what it should look like. This combination of making and talking has been, I think, a better education about art than anything I could have gotten in school.

Art means fitting things together, a process that begins with observation, then collection and assembly of materials, then (and always) play, and revision, and the pursuit of new perspectives. Eventually, you reach the limits of your idea, your material, or your time – and the piece is finished, and you have to say goodbye, and start over. A French Quaker, who had served in the underground during WWII, once told me that "chaque adieu c'est un petit mort" – "every goodbye is a little death." So with art, and any other job – when you're done, when the process ends, the work dies, and if you're still alive, you have to begin again, from scratch. But "scratch" isn't nothing. It's what you have on hand, and as you work, every finished piece, every job, every dead idea makes more material for the next one. It builds up, like compost, and fertilizes the life that comes after it.

You don't just make compost in order to put it in bags and store it away – it has to be spread, given back to the soil that it came from, shared. New seeds will sprout. Rains will wash it to the sea, where it may feed salmon that will come back inland to spawn. Compost takes faith – and it happens whether we decide to participate or not. But it seems to me that willing and joyful participation – our singing, our writing, all our works and art – makes for richer compost, stronger seeds, and greater beauty.

Jesus Vazquez, Woodburn High, Oregon, with work done in earthen plaster and finished with native pigments.

Introduction: Beauty & discipline

Men are born soft and supple;
dead, they are stiff and hard.
Plants are born tender and pliant;
dead, they are brittle and dry.
Thus, whoever is stiff and inflexible
is a disciple of death.
Whoever is soft and yielding
is a disciple of life.
— Lao-Tze, *Tao Te Ching,* verse 76

When I was about four, I learned to ride a bike and delightedly followed my older cousins to the beach. Every summer, daily and weekly, for years, I pedaled down a 2 mile stretch of road looking forward to the day I would be able to upgrade from bike to car. I didn't make my way to the beach by foot until I took up distance running in high school — after I started driving. But it was only by foot that I began to learn the actual route to the beach. The wheel had taught me only speed; it defined my relationship to the land by the narrow terms of a paved road that limited my knowledge to a single beginning and a single end linked by a narrow track. My feet taught me about another world in which "home" stretched the full 2 miles between my bed and the beach. I left the road and walked through fields. I spent nights on the beach, sleeping on sand and waking when the sun broke the horizon. I started to understand where I lived in terms of where I stood, not in terms of how fast I wanted to get there.

We can't live in the moment – much less become native to our places – when we're always departing for another destination. Wheels and roads limit our understanding: we see life in terms of gas, goals, and itineraries; destinations, 5-year plans, and achievement that always draws us out and away. We have literally re-drawn the entire planet and reduced it to a roadmap – not only on the ground, but in the air as well. Our thinking has shrunk to fit.

Thoreau said he "traveled widely in Concord," which probably seemed provincial to his more mobile peers, who were enjoying easy access to Europe on new coal-fired steamers – but one consequence of limiting your physical range is that you can grow to fill your space. Thoreau's knowledge did just that. He could walk into his woods, look at which plants were in bloom, and tell you the date. When you've filled your space that way, the energies of growth shift, as plants shift from adding leaves and stem, to setting and ripening fruit and

seeds. Thoreau could have spent his energies following the powerful and exciting coal-fired technologies that carried his more "modern" contemporaries back and forth to Europe. Instead, he stayed home, and left work to inspire Gandhi, Martin Luther King, and armies of others around the world. No matter how fast or strong we may be in our prime, it is only by our fruits that we shall be known and live on.

Choosing to use the tools and materials at hand and underfoot radically re-shapes the world we live in. Tools make beauty: hands and feet, hammers and chisels, swords and plows, spoons and bowls, pens and pencils, math and physics, philosophy and aesthetics, machines and procedures. Tools and how we wield them determine results – all the various qualities of the marks we make on the earth. When you walk, your feet leave marks completely and utterly different than tire tracks. Compare the tire's continuous trail to the prints of individual feet. Compare the kinds of surfaces on which you can travel, the hills you can climb, the things you can see and feel. Wheel marks have completely and utterly transformed our world, in the span of just a few lifetimes – hardly a moment when compared to the millennia in which we marked out all our ways, literally, by hand and foot.

Now we give children wheels before they can walk – sometimes before they can even crawl! How does this effect their minds? Which tools will best insure our future? Wheels and computers? Books and screens? Or hands and feet? Which will best assure that our children understand the world they've been given into?

One way to answer that question is simply to choose only what we can make and do by hand and human power. While I might prefer that option, I know, by my own experience, that a hand-made life requires many more hands than my own, and a level of social and cultural organization that even the Amish are hard pressed to achieve or maintain. What about those of us who can only take gradual steps toward those beauties that, like nature, grow slowly and well? For those of us raised on bikes, roads, books, and screens, it will take time and many choices before we can restore ourselves to the ways of beauty.

There are still some remnants of hand-made, human scale cultures, but for most those are available only in photos of traditional cultures and their craft, or in the artifacts they leave behind, which we can learn a little about by going to museums and by walking through old cities and villages. But how can we know when our own design decisions are natural? How can we assess the decisions we have to make between two industrialized options, to know which one might tend more towards beauty?

Nature, of course, offers the original curriculum in the way of beauty, and we all share common origins and a common source in nature's own beauty. Wouldn't it make sense if we shared a common aesthetic, a common source and expression of common feeling? In *The Phenomenon of Life,* Christopher Alexander presents the results of his own empirical

approach to this question. Over years, he has asked people to consider two objects and choose one over the other. As criterium for the choice, he asks "which has more life?" Of course, this is a difficult question, but he is, essentially, looking for that common aesthetic core. Another way he gets at it is to ask "which object would best represent *you* – your best, most integrated sense of your own self, not just as you are, but as you might be." He typically offers choices between simple, common things like bottles, chairs, tools, cups, and the like.

He is not opposed to varying the phrasing of the question in whatever way would keep people in the realm of feeling as opposed to function or practicality. Sometimes he asks people to forget what they "like" in favor of what they "feel" (the word *aesthetic* comes from the Greek, *aesthesis*, meaning *to feel)*.

T.J., lashing roof boards for a yurt. 2009. Photo Beth Davis photo.

Alexander finds that aesthetic agreement often exceeds a two-thirds majority, and is sometimes almost unanimous, even independent of culture and age. He describes one conference where he asked 100 people to choose between how they felt about a wooden bench versus an industrial steel and masonite stool. The one person who chose the stool spent a long time explaining and defending his choice, quite passionately. Two weeks later, he changed his mind and sent Alexander a letter describing how the choice between bench and stool had first distracted him from, and then changed his perception of the world he lived in:

[what] I took away from the workshop [was] a fundamental and profound change in the way I perceive things. What surprised me is the potency of emotions that has accompanied this transformation. For days now, as I think back over the workshop, I am acutely moved, as if a very deep part of me is recognizing some long lost elemental truths. [1]

One might explain such unanimity as an example of "group-think," where an eager audience all seek to please a revered master, but I've tried the same experiment on a smaller scale and gotten similar results – as well as some really interesting explanations of how and

1 Christopher Alexander, *The Phenomenon of Life*, chapter 8, "The Mirror of the Self," p 312 ff. See also Alexander's note on page 78.

why the same object can elicit such wide varieties of feeling. Alexander's experiments include other kinds of choices that include other compelling factors. One concerned a proposed 10-14-storey housing development in Japan. Alexander's proposed a competing design of small cottages just 2-1/2 stories high that would have housed as many families for the same cost. To facilitate a decision, his team proposed a survey asking people which design "had more life." The hi-rise, of course, offered bigger profits to the developers and their public backers, who reacted to the moral simplicity of the survey with hostility and tried to derail the survey.

Alexander's aesthetic, *felt* choice can be reduced to a choice between beauty and ugly or it can be expanded to a moral choice, but achieving beauty or morality requires more than choice. It requires work. And discipline. *Discipline,* of course, comes from the same source as *disciple*. A disciple puts self under a teacher's authority (literally, *sub-mettere)*. So Christian disciples work under the umbrella of Christian principles and Muslims under Mohammed's. In Latin, however, *discere* means "to learn."[2] In the opening quote, Lao Tzu suggests that the tracks of our learning lead either to Life or to Death. From a distance, the divide seems obvious, but in the intimate context of daily life, discipline often seems to come in the form of rigid rules demanding strict obedience, to prevent loss of control and death. Kathleen Norris, a poet, writer, and lay member of a monastic order, defines obedience as "an active form of listening." From this perspective, to disobey, to stop listening, would be to abandon reality, and that is what truly leads us into the dangers of unawareness.

Listening, of course, is the writer's practice. Where the writer listens for a Truth to please ear, mind, and heart, the visual artist uses mind, heart, and eye to recognize shape, volume, line, color, etc. Truth speaks in many languages, but all follow the same discipline, the same rules of awareness and attention.

2 The latter half of the word, *-iple,* relates to *pupil*. In Latin, *boy* or *youth is puer*; *pil* apparently shares a root with nipple and pap, signifying the mother's breast, the original source. Every mammalian mother makes milk for her children, but only the child itself can transform that milk into their own esh, bone, and blood.

A wooden dustpan, hand-carved, and inspired by a Shaker grain shovel. Unlike the plastic kind, when this one reaches the end of its useful life, it will rot or burn.

Zak enjoying the fruits of shared labor, at the end of a two week yurt building workshop with William Coperthwaite, 2009. Ann Sayre Wiseman, photo.

Don't Be An Artist

[Art] must have begun as nature — not as an imitation of nature, not as a formalized representation of it, but as the relationship between humans and the natural world, from which we can't be separated despite our attempts to set up a technological superstructure to destroy it.

— Lucy R. Lippard, in *Art in America,* 11/81

My mother filled our home with beautiful and useful things that she made: hooked tapestries that told stories and covered naked walls or oors; finely jointed boxes full of shells and carvings in owing black and white beach sands that shifted like miniature dunes; knotted necklaces, clothes, bread, furniture, and tools. I drew a lot, and started carving stone at 10, working with a penknife on bits of soft soapstone. In high school, I found a piece of marble at a demolition site, learned to forge and temper old files into chisels, and carved an oversize portrait of my own fist. One summer, I picked up a piece of granite off the beach and pecked it into a recognizable figure. My New Yorker mother took me to major museums and little galleries. I loved Michelangelo and Brancusi, but found much modern art confusing and unrelated to the world. Art seemed both expensive and common. At a gallery in our town, I saw and fell in love with a small soapstone sculpture made by an unknown Inuit. The forty dollar price tag seemed huge (I was ten), but I saved my money and bought it. It remains my first and only gallery purchase.

That year I also learned to use a potter's wheel, and started to shape wet clay into bowls, cups, and a horn I could play. A year or two later, I learned to take and develop photographs, and started to use the camera to share with others the beauties I saw in shadows, shapes, and pattern. I drew. I looked for beauty in clay and light and line, volume and texture – I measured my results by comparison to what I saw and felt around me: the feathers and form of a dead gull I found on the beach; the patterns of light and shadow in sand dunes and grasses that I photographed; the swelling forms of bowls and cups I saw or used; the shape and colors of fish that I caught and drew, or sculpted. It seemed important to see and to celebrate.

Outside home and a few galleries and museums, however, I saw little celebration. My mother didn't sell much of her art, and complained that the only way an artist could make a living was by teaching. And while teaching was good, the beauty it added to the world seemed small and private ("idiotikos" in Greek). I wanted beauty large, useful, and public. I wanted to work in a world where anyone and everyone could see and celebrate all beauties. I looked at pictures of Michelangelo's stone figures and Sistine murals and loved that popes and royals had commissioned him to fill public squares and churches with beautiful figures from great

stories – and I loved that Italians seemed to love Michelangelo as much as I and my hockey buddies loved Gordie Howe or Wayne Gretzky (who will remember them 5 centuries from now?)

By contrast, at the rink and at school, I learned to measure myself on standardized scales: goals made, grades or wages earned, all scored on a simple numerical scale. None of my teachers taught beauty as a subject, nor suggested it as a goal or a measure. Even my art teachers evaluated us according to technical standards reducible to number alone. Beauty was a simple thing, a matter of personal preference rather than a source of common wealth or a unifying force greater than our small, human selves, theories, and knowledge.

All my teachers worked within this modern world view, in which each human is whole unto himself, rather than an equal participant sharing responsibility for maintaining the world as a whole. So rather than seeking ways in which each of us might express and celebrate a common beauty, they divided and sorted us like merchandise: "A" students on top, worthy of high esteem, high price, and high wages, and the "B," "C," "D," and "F" students below, ready sorted to uphold neither the beauty nor goodness of all, but rather the status of the few.

While individual teachers may have felt and acted differently, the overall result required us to strive against everyone else; it also denied the beauty around us all. How could I pursue (much less know) this beauty if the pursuit required me to deny it to others? How could I be worthy of that common beauty if someone else was not? I see this clearly enough now, but at the time I just wanted to fit in. When people asked me "what do you want to be?" I chose "artist" but I couldn't see how I would get there, nor what it would look like when I arrived.

After college, my peers chose careers according to various criteria, went to graduate school according to grades and finances, got jobs and wages according to their evaluations, married or made progress, and set about either teaching or raising more professionals. I chose a seemingly random path, from art to community organizing to carpentry to bureaucracy to writing and publishing to teaching. It was a bit confusing, to others and myself. When my mother asked when I intended to return to "my art," I got angry.

Thirty years later, my life revolves around the arts of sculpture, writing, and building, but if I tell people "I'm an artist," the next question is almost invariably, "And you make a living at it?" Then I know it will be a long time before we can talk about art. Often I take an oblique tack, and tell them what I've actually been doing – making stuff, working in the office, digging in the garden, or picking mushrooms in the woods – no titles, career categories, or credentials – but it seems to make normal professionals uncomfortable. Perhaps the alternative – talking about what we actually *do* – might force them to admit that their job bores them, or makes them feel small? Perhaps the daily details of what they love doing are too intimate or complex? One state senator I met at a party just said "I'm a public servant." Perhaps humility

Female walrus, soapstone, presumably Inuit, mark on the bottom reads: "ALEY E.9." Acquired by the author circa 1969-70. Anthropologist Edmund Carpenter, who lived with northern tribespeople, described the winter activity of carving as one ingredient of story-teling. When the story was finished and spring arrived, sculptures were abandoned along with winter shelters. Significance comes not from the object itself, but from an exchange between different elements of life — shared.

kept him from claiming the status of his title? He certainly looked uncomfortable. Maybe we're all afraid of being misunderstood! I suspect it's a combination of all this and more. Labels are so *easy*.

Imagine, on the other hand, actually knowing each other by our daily work, not just our titles. If you doctor me, I call you *Doctor John*. If you shoe my horse or make my bread, I might call you *John the Smith* or *Jack the Baker*. When I worked as a bureaucrat for the City of Boston, they called me a *contract administrator* in the Department of Employment and Training, but what I actually *did* was talk, type, and sit at a desk. I never trained or employed anyone, and the "office culture" had nothing to do with how any of us lived at home. Later, I worked in construction, but rarely called myself a "carpenter" because I'd never spent enough time with one good carpenter to get what seemed like real training or discipline, much less mastery. I learned to swing a hammer by swinging a hammer. I spent another ten years working with community groups on projects ranging from selling food, to building houses for poor and working people, to running a community newspaper. In professional circles, this kind of work has become a "field," so when I moved to Oregon, I got a job where they called me a "community developer." My duties included things like "facilitation" and "coordination" -— terms which, if they meant anything to the people I worked with, meant that the government was coming to tell them what to do, or that I had money and power and might share it if they would cooperate with me. The biggest part of my job description was "building relationships and trust," but I was a stranger to everyone I met, and no matter how well I did, when our three-year grant ended, career and profession would require me to abandon relationships to seek another paycheck.

I worked out of a little one-man office in a small town on the edge of the most rural section of the county. One day, our administrative assistant came by my office to deliver supplies and stayed for lunch. As we ate, she asked – in a perfectly conversational tone – what it was that motivated me. For her own part, she got on well with all the staff, never took sides in con ict – even her husband often came in to volunteer. While her title conferred minimal status and pay, she didn't merely take care of correspondence, accounts, and office supplies, she truly cared for the needs and concerns that kept us all at work. (Why do we assume that "administrators" just take care of things, while "ministers" take care of people?) Her own motives clearly ran deeper than self-serving career notions like "personal goals" and her "5-year plan." Her question shook me up. I was unsure why I was there at all.

"I just want to be a person," I blurted.

It felt embarrassingly vague at the time, but some years later – after making a life in which I knew and worked with my neighbors and had found work where I could build real relationships with the people I worked for – a book by Martin Prechtel clarified the larger

context in which we become persons rather than just titled automatons.

In his 20s, Prechtel found himself in a traditional Mayan society in Guatemala where the phrase for "person" translates roughly as "a full twenty" — i.e., someone with ten toes and ten fingers. In the wholly hand-made life of a Mayan village, if you lacked toes or fingers, you'd be hard-pressed to participate[3]. Of course, toes and fingers aren't so rare, but it takes time to learn to use them well, it takes time to discover our particular gifts, and it takes time to fit ourselves into a community and the world.

Though he was in his 20s when he arrived in Guatemala, once in the village, Prechtel had to enter "as a child," first learning the ways of home, food, bodily comforts – literally, the mother tongue. Then, in public, he began to learn the language as shared by neighbors and men at work. Finally, in order to grow up from raw childhood into fully cooked *person,* he had to join the other young men for initiation, out in the jungle, there to confront life and death, and to experience the sources and meanings of all the stories they'd been told – those impersonal authorities that won't negotiate with anything less than a complete person, or a "full twenty."

Village life included much suffering: from the brutality of occupying military forces that eventually destroyed them; to the hardships of a wild land that provided nothing without toil and which exacted severe consequences for mistakes. Despite the lack of a safety net or an organized system to motivate and reward them, however, people celebrated life, gratefully and skillfully accepting the invitation to participate, at home, in the fields, in the shared life of the community. Prechtel says they "used the gifts they'd been given…to make beauty."

He also explains that their ability to live this way stems in part from the absence from their language of the verb "to be":

One cannot say, 'She is a mother,' for instance. In Tzutujil, you can only call someone a mother by saying whose mother she is, whom she belongs to. Likewise, one cannot say, 'He is a shaman.' One says instead, 'The way of tracking belongs to him.'

Prechtel's adopted people understood each other by what they actually *did,* not by what they thought they *were*. Real activity related them to a shared existence where every individual saw and understood themselves in living connection not only to each other, but the land under their feet: Prechtel explains that "W*here an American settler says 'this is my land, this land is mine,' a Mayan would have to put it…as 'this soil carries my people, we belong to this land.'*"

To know and be known this way requires an intimacy and engagement with life that most Americans, I think, don't experience. Rather than "*belonging* to the world," we think we can just "*be* in the world." We argue creation versus evolution, where they simply

3 Quotes from Martín Prechtel come from his books, *Secrets of the Talking Jaguar, The Disobedience of the Daughter of the Sun, and* from an interview with Derrick Jensen, in *The Sun,* April, 2001.

tried to maintain the world that gave them life and carried them through it. They saw themselves as caretakers rather than authors. Yet all people, American or Mayan, indigenous or industrialized, do have and can share real experiences that bring us together. That *fitting together* of people and life is the literal definition of art. The indo-European root, *ar,* means, simply, "to fit together," a meaning that crops up in many interesting places, and has much more to do with how we care for the world we live in than it has to do with our status as makers, painters, or performers; parents or personnel. Each one of us, simply in order to live, fits ourselves into life in some way. When it works, we reap rewards that go beyond money: worthiness, goodness, strength – all forms of beauty that gain value as we share them.

Language shifts experience, and giving up the verb "to be" forces us to recognize the context we do share. Try it and see what happens. Every time you catch yourself writing *am, are, is were, was,* or *will be,* re-formulate the thought with another verb: instead of saying "the grass is green," say "the rain gives green to grass," or even just, "green grows the grass." Is it not true that "the grass that *is* green" *is*, literally, an *object;* something small that we own, interpret, or manipulate as opposed to the common ground that carries us all?

Language can isolate or connect us. People, by tradition, belong to and participate in something larger than themselves. We know, at some level, that the life we all face *is not* a problem requiring a solution. Rather, we come into the world helpless and weak, born into something too big for solutions, that we can only hope to know by living through it. But how will we do it? Each of us must choose a way to follow from the ways that we find open to us. So imagine answering the question "what do you do?" by declaring what *way* you follow:

"I follow the way of health" (doctor)

"I follow the way of justice" (judge/lawyer)

"I follow the way of caring" (minister)

"I follow the way of water" (plumber)

"I follow the way of design" (artist)

Imagine! Rather than winners and losers, rich and poor, professionals and peons, we could all strive to use our gifts according to our own natures. Not only would the plumber earn the respect due him for working with the source of all life, but we would *all* receive honor and rewards for service to noble ends – and all of us could share a common humility, with common roots (and a common future) in the same soil. We would share the true work of culture. Prechtel calls it "feeding the holy." I call it art. Either way, beauty invites each of us to participate, and makes equal demands on *everyone*, not as separate individuals graded and sorted by price or status, but as whole persons, all related and equally responsible for maintaining what sustains us all.

At the beach in Oregon, playing with the remains of mountain ranges.

Holy Stone

The old people came literally to love the soil and they sat or reclined on the ground with a feeling of being close to a mothering power. It was good for the skin to touch the earth and the old people liked to remove their moccasins and walk with bare feet on the sacred earth. Their tipis were built upon the earth and their altars were made of earth. The birds that flew in the air came to rest upon the earth and it was the final abiding place of all things that lived and grew. The soil was soothing, strengthening, cleansing and healing. This is why the old Indian still sits upon the earth instead of propping himself up away from its life-giving forces. For him, to sit or lie upon the ground is to be able to think more deeply and feel more keenly.

— Luther Standing Bear (1868-1939), Oglala Sioux Chief

WHEN I was 11, my mother moved us from a safe, small town to Boston, where she'd been offered a better job. Our first summer there, a new friend took us to a North shore beach where I picked up a polished beach pebble and carried it home in my pocket. I liked how it fit my fingers, and carefully transferred it whenever I changed trousers – for years afterwards – until I didn't feel dressed if I couldn't feel it under my fingers. I lost it during college, somewhere between the coasts, as I traveled from East to West. I quickly picked up a new stone, wondering if I could replace what I had lost – and wondering who might pick up and treasure what I had treasured. After that, I started giving away my stones on purpose, and appreciating that whatever qualities made me want a rock in my pocket were not unique to a particular rock, but to a particular quality shared by all rocks.

Literally, of course, all matter refers us to one "mother earth" (Latin *mater*); the comfort we get from "solid ground" underfoot comes from experience, not cliché.

After I graduated high school, I took a year off and got a job as a busboy in a high-end chain restaurant at the top of the Prudential Building in Boston (I decided any work would be worth doing at such a height). I spent my free time carving stone in a suburban workshop loaned by a friend of my mother's. For material, I drove up to Vermont to the marble quarries near Danby, and brought home a chunk as big as I could wrestle into the back seat of my old Volvo sedan. I carved it into an oversize replica of a beautiful shell fragment I'd found on a beach. I explored commercial stoneyards around Boston, and bought a nice chunk of architectural limestone that I worked into a portrait of a beautiful face I'd seen in a book. A friend of my mother's bought it for his garden, which paid for a plane ticket to Europe and a trip to Italy, so I could work in Italian marble. I knew very little about where or why I was going. I saw life in the photos I'd seen of Michelangelo's sculpture; I felt life in stone and the bite of steel chisels, and I wanted more. I knew Michelangelo had worked marble from Carrerra. That the Italian stuff shared marine and geologic processes with Vermont or Indiana marble made no difference to me. Nothing would quench my desire to carve but Italian marble.

With my bits of high school French and Italian, I managed to wander my way through Switzerland and France to an Italian town called Pietrasanta ("holy stone") that I'd heard about from an artist friend of my mother's. He had recommended it as friendlier and more welcoming to foreign artists than the larger and more famous city of Carrara.

Pietrasanta lay near the Mediterranean, west of Florence; it attracted a steady stream of foreign artists who came seeking material, experience, or help with the casting, reproduction, or enlargement of their work. From the train station, I walked across a piazza into one of the local bars (throughout Europe, I'd been surprised to discover that bars could be open, well-lit, public spaces where people gathered at all times of day). I got quick and friendly advice on renting a room in a cheap pensione and finding a place to work. At 17, I was running on pure desire and pure fear. I followed the advice I got – and suppose the only reason I got anywhere is that I was too afraid to say much – and that everyone I met was kind.

For work, I was sent to a small wiry man named Sem, whose stone-yard consisted of several long, low buildings ranged alongside of a couple of acres graveled in marble chips and filled with huge blocks of stone that various *artigiani*, or artisans, were turning into sculpture. Sem's men wielded chisels and hammers, powered by hand held hammers or pneumatic hoses, to enlarge and/or copy works by Michelangelo, Henry Moore, and artists I didn't want to know who could afford to have their strange little abstract lumps made into strange abstract monuments. Sem also made space for a few foreign sculptors who lacked money for a studio of their own. He said no more than a few words to me the whole time I was there; we never talked about rent, and I was too young and clueless to ask. I did pay for getting my work and materials crated up and shipped home, but when I look back, the whole time shimmers as an extraordinary gift that I accepted without any thinking at all, much less a thought of gratitude.

After providing me with a wooden stand and pointing me to a disused corner, Sem invited me to look for a piece of marble. I poked around the piles of stone laying all about, found a piece I liked, and showed it to him. "Ragazzo (boy)," he said to me in a thick growl, his hand locked onto my arm above the elbow: "e lo stesso che ha usato Michelangelo…trovi algo otro"

"That's the same stuff Michelangelo used…pick something else," he said, and walked away.

But nothing else had the same warmth. I wandered around the other yards. In one of the smaller ones I met an old man working by himself, who showed me a lovely block of warm, pink marble with big crystals and faint swirls, as though the color hadn't been quite thoroughly mixed before it all set up. It was the end of a big piece of "rosa di Portugal," Portuguese marble that had been shipped over to be turned into an architectural column. It cost me about what I paid for a meal at my pensione. The old man lent me a hand truck to haul it back to my work stand. After I'd set it up and started carving, Sem walked by.

Where'd you get that? he asked.

I told him.

I saw it come in on the ship. You won't find another piece like it, not even if you go to Portugal.

Later, I went on a collecting trip with another American who had a car; he took us up to the quarries in the Alpi Apuane, where Italians had been mining marble since before the time of Christ, and where I learned the difference between *bianco b,* a cool bluish stone commonly used for architectural applications, and the beautiful, warm, almost ivory toned marble called *statuario* – Michelangelo's stone of choice. We ambled under a web of suspended wires that hummed around the quarry on a criss-cross, pulley driven system that carried wet sand into slots, scraping and slicing the mountain into blocks as big as small houses. Compact Italian trucks hauled them down the mountain on switch-back roads. Brake failures or snapping wires regularly killed men, but noone told us to leave or be careful. We filled the little car until it sagged. Then my friend gave one of the men a few bills, "da bere," – "to drink" – and we headed home. Back at the yard, away from its maternal mountain, my chip grew in value. Another carver offered me more than a week's rent for it.

The value of that stone, however, to me included most of the story of my life up 'til then. My father and mother had taken us to Italy for three years when I was an infant; Italian had been my first language, and I'd studied it in high school with a marvelous teacher who sang opera and taught us Italian folk songs; I didn't know it at the time, but my father had spent some years in Italy carving stone as well. Nor did I know Michelangelo's famous story that he had swallowed marble dust with the milk he suckled from the breast of a wet nurse, a stonecutter's wife who lived in Settignano, a tiny hill village east of Florence, where Michelangelo's father owned a quarry – and where my family had lived during our time in Italy. All I knew at the time, however, was that I wanted to breathe that dust and participate in that story.

Everywhere I went in Pietrasanta, the local stone spoke out silently, supporting the buildings and celebrating the work of the community – not just Michelangelo, who was a local hero throughout the region, but all the artigiani who helped shape the material that had shaped so much of the history. People seemed to have a pride of place in a way I'd not really experienced at home. My grandmother did speak proudly of the "Bridgehampton loam" that grew "Long Island Potatoes" and, along with whales from the sea, had fed and employed her people since the 1600s – but I knew the place itself only as a summer vacation spot. I'd worked for local farmers and builders there, but my grandmother's family had been gone for generations, and she had only been able to return as a "summer resident." As I grew up, I watched farms disappear under expensive vacation homes that sprouted like mushrooms. I watched as a relatively self-sufficient agricultural community converted into a "tourist

economy" too expensive for the locals to live in.

I left Italy because I had applied for and accepted an opportunity to go to college, where I took geology, and learned how plate tectonics, volcanology, and mineralogy makes the entire planet into "common ground." Field trips gave us opportunities to share a fascination for crystalline matter and the miracles of life that we have somehow inherited from it. Yet it seems to me that – as a people – Americans have not lived long enough on their particular pieces of land to incorporate themselves into the particular stories that make every place uniquely worth celebrating.[4] The Biblical creation of Adam from a handful of clay and the breath of God, really begins with the word *Adam which,* in Hebrew, translates variously as "of blood," "of (red) clay," or "arable land." Now we value the fact that blood, red clay, and good ag soil (whether Bridgehampton loam or Willamette valley clay) all share basic chemical traits. Iron, for instance, gives color both to blood and red clay alike. And clay's crystalline structures may have provided providing the specific order and architecture by which to incubate and energize the first life on the planet.[5] But we have yet to build those facts into the stories of our places.

It took me nearly twenty years after leaving Italy to re-member and re-locate myself and my story to land I could stand and live on. Working directly now with the dirt, I find that everywhere I go is a quarry, and every story I tell begins and ends underfoot. I also find that it's a story everyone knows – and one that everyone seems to want to hear, in one way or another. We need to participate in our own stories – not just intellectually and emotionally, but physically and materially. Building a house out of earth – or even just an oven or a bench – invites anyone to participate in an essential rite (from the root ar, "to fit together"), a family celebration of connectedness. Industries, factories only get between us and the ground; they make a prostitute of matter – our mother; they dress her up in colored tubes, bags, and cans and sell her back to us – temporarily. We become orphans by choice, and lament our loss as "economic necessity." But, like the rock in my pocket, working directly with the earth restores us to gifts that offer a common but essential comfort. If we mean to follow a way of design – a particular path on a particular part of a planet made by distinct and particular stories and phenomenae – we need *particular and direct experience* of matter itself. We need real stories made of real stuff; we need *mother – mater, matter* – to tell them to us.

4 Save, perhaps, for a few small residual communities such as the one that Wendell Berry writes about in his stories of "the Port William membership."

5 Dirt, The Ecstatic Skin of the Earth, by William Bryant Logan,

Working with native material.

"Hattie Hunter, spinner in the Lancaster Cotton Mills. 52 inches high. Working in mill for three years. Gets 50 [cents] a day. Lancaster, S.C., 12/01/1908," as documented by photographer Lewis Wickes Hine, for the National Child Labor Committee. Hine travelled thousands of miles to investigate child labor in mining, manufacturing, commerce, and agriculture. Now he is better known as one of "the fathers of documentary photography."

Community — The Aims of Art

the aims of art…are incommensurate (as the mathematicians say) with social aims. The aim of an artist is not to solve a problem irrefutably, but to make people love life in all its countless, inexhaustible manifestations. If I were told that I could write a novel whereby I might irrefutably establish what seemed to me the correct point of view on all social problems, I would not devote even two hours to such a novel; but if I were to be told that what I should write would be read in about 20 years time by those who are now children and that they would laugh and cry over it and love life, I would devote all my own life and all my energies to it.

— Leo Tolstoy, in a letter to Boborykin, quoted by A.N. Wilson

WHEN I was10, I tried to convince my best friend's father, a very fine sculptor who taught me to make molds, that photography was art because it offered beauty as surely as his drawings and sculpture. He said it lacked craft and skill, but I saw it as having greater power to communicate, and thus broader reach than his sculpture, which seemed a largely private pleasure for just those who could afford bronze, or who happened to visit him at home. But I loved his sculpture. I had started carving myself, and was taking up the camera, so I was learning about craft, skill, and art first hand – but still, I felt the depths of the divide between the aims of art and Tolstoy's "social aims." (I was a serious kid.)

At the time, my first "social aim" would have been a way for my mother to earn a living doing what she most loved. Every artist I knew – my mother, my friend's father, unknown gallery artists – all seemed crippled by a definition of success limited to money, sales, and shops that seemed little different than car dealerships. When, at 10, I saved enough to buy a beautiful soapstone walrus carved by an unknown "Eskimo" (actually a member of one of three particular Northern tribal groups, each separate from and unrelated to the others), it seemed wrong that such beauty should be separated from it's maker, whom I would never meet, whose story I would never hear, and whose life I could not love. And what of rich folk who filled their houses with beauty that required of them no work, no participation? It might make them feel good to have nice things to look at, and their consumption of artistic products might give an artist recognition and wealth, but it seemed clear to me that most artists suffered from isolation and plain loneliness money couldn't assuage. It seemed to me that membership in the human race came with a practical requirement to be of use – art that made a few people feel good wouldn't be enough (feeling, of course, is what aesthetics is about, from Greek aesthesis, to feel – and as Ananda Coomaraswamy points out, feeling is a simple animal response common to all of brute nature).

Through elementary and high school I spent a lot of time practicing drawing, carving, photography, ceramics, and learning bits of various crafts. Before college, I worked my way to Italy and carved marble there for several months. I arrived at Hampshire College that fall with a lot of attitude, and little clarity. I thought I knew art, so I sidestepped the humanities requirements by presenting my sculpture portfolio. I turned to science for more powerful tools. I took geology, chemistry, history of science, and a materials science course in the engineering department. I expected the materials course in particular to take me beyond what I already knew. The first day, the instructor explained how sophisticated testing on a faulty woodstove design had located stress points in the sharp edges of the castings – filing them round stopped the cracking. But I knew that no casting comes clean out of the mold. Proper craftsmanship, not to mention pride, required that sharp edges and lines be "chased," or removed and blended into the rest of the shape. I quit the class in disgust, spent more time riding my bike, and signed up for rock-climbing and whitewater kayaking. I found a work-study job in the woodshop, where I laminated and carved my own kayak paddles. To finish my science requirement, I designed and conducted a lab experiment on the kinesiology of cycling. In Italy, I had found racing shoes with clips that allowed me to pull as well as push on the pedals. I wanted to prove their efficacy. The project was more interesting than the materials course, but it too just seemed to make a complicated proof of what I already knew by experience.

In the social sciences, I took a course called "Inescapable Marx." The young professor introduced us, not to a bearded old sage nor a wild-eyed revolutionary, but to a brilliant seventeen-year-old who, in his first year at University, read and translated numerous classical texts from Latin and Greek into German, wrote a 300 page opus on the philosophy of law, studied current philosophy, natural science, history, and art, and began teaching himself English and Italian; he also wrote long love letters to his sweetheart, poetry, and plays. When his health failed after a term, he went to the country on doctor's orders. There, he told his father, he matured "from an anaemic weakling into a man of robust bodily strength." The letter was not just a report either. Full of affection and longing, Marx explored the motives and aspirations that inspired him to follow in his lawyer father's footsteps.

The teacher asked us to write a letter of our own. Unlike Marx, however, my father had been absent since I was four and I didn't know where I was headed. Confused and only minimally acquainted, academically or personally, with my own history, I wrote to a sculptor friend from my time in Italy, who at least shared my interest in art. I blamed capitalism for reducing art to a speculative commodity no better than soy beans or widgets, and speculated on how to fix what was "broke." Political science seemed to offer practical ways to think about my life and my choices. Marx said knowledge should provide not just understanding,

but power to change – and improve – the world. Our teacher, too, had participated in the student movements of the '60s; as she taught us about Marx, Hegel, and Engels, she also told stories of women's liberation, civil rights, the ending of the Vietnam war: major moral shifts and real legal and social change.

Theory inspired action, action proved ideas and inspired movements; movements made community and context in which to act. The world started to seem less lonesome. Although my own family was fragmented, I could identify with my class, at least, if not my culture. Once named, I thought I understood the economic and social structures that had created my dilemma, and I found hope in reports of popular revolutions in Nicaragua and El Salvador, and stories of liberation from oppression. On campus, short generations of student activists built a food cooperative, a campus garden and a solar greenhouse; started small businesses, and organized events, and classes; even mobilized against apartheid and pressured the administration to divest its South African holdings. I satisfied the social science requirement with an analysis and critique of the contradictory educational ideologies that underlay the founding of the college, which prided itself on its alternative mission. I started to believe in the power of the pen and the theories it could clarify.

After two years, I found an internship at RAIN Magazine, a small journal of appropriate technology in Portland, Oregon. The philosophical architect who started it had set an agenda that included everything from solar power and compost to poetry and politics. I organized the library, worked in the files, and wrote a bit, including a review of a movie about a Midwest farmer-labor union, a joint piece on the poet Adrienne Rich, and a descriptive piece about one of Christopher Alexander's architectural projects at the University of Oregon. Alexander had just published his *Pattern Language,* a dictionary of archetypal social patterns and designs for living, ranging from furniture details to designs for homes, cities and whole regions. I fell in love with the woman who designed and laid out the magazine, and spent free time with her walking the city, looking at how things fit together, or not. I tried to make sense of things according to my reading, but my girlfriend was not only thoughtful but practical. If my abstractions strayed too far from reality she'd haul me up short and make me re-focus on the shared world in front of us or around us.

I left the magazine to look for more hands-on work, and applied for an internship with an international non-profit that promoted and exported appropriate technological assistance to third world countries. I went to an interview in Washington DC and was turned away for lack of practical experience in the countries where they worked, and with specific technologies. I went back to my college town and signed up for calculus and physics at the local state university. I wanted powerful, *practical* tools. But I didn't have the math to make easy progress in large lecture classes, so I dropped out. Then an accident and an emergency

room doctor sent me home.

I spent the last few months of my year off in my mother's house, where all the familiar hand-made things and raw materials helped me feel more whole. Looking through a book my uncle had given me on the history of photography, I learned about the work of Lewis Hine, whose dignified portraits of working children helped outlaw the exploitation of children by US industry, and whose documentation of the construction of the Empire State Building became part of an iconic portrait of American industry.

That became the starting point for the final thesis I needed to write to graduate college. I analyzed Hine's images in the context of the forces that motivated and funded him. I tried to put his personal efforts and decisions into a class context, as part of the development of professional social work, documentary photography, and advertising. Along the way, I discovered that my grandfather, a newspaperman and then a pioneering adman, had written for Survey Graphic magazine, which had published much of Hine's documentary work (he had also lived in the same housing complex as the editor, who served as one of Hine's mentors); my grandmother, too, before marriage, had worked in a New York settlement house under one of the leaders of the child labor movement. So Lewis Hine – an historical figure I knew only through his photos – helped fill in my own family history.

My grandfather wrote me that he liked advertising because it translated products "into human terms, as answers to human needs and desire." Hine wrote about his photography in similar terms: in his child labor photos, he tried to sell the public on the idea of reform; his later work he described as "publicity and morale stuff." I loved his early documentary art, which seemed to me to communicate particular truths about particular people for the sake of a greater moral good – for true beauty. But his later photos seemed like shallow promotion of the very power and wealth that abused children for the sake of profit – and I saw no good, no beauty in that at all.[6]

Life after college offered me much the same choices Hine had faced: work for change, or work for wealth. I tried out various options in both arenas – community organizing and commercial art, carpentry and community development – but nothing seemed to fit. And while I was always working as part of a team, whether in carpentry or community development, the work itself was largely solo. There were few occasions, outside of meetings, to be part of a working group of other humans.

Ten years later, when I left community development for art, I assumed I was exchanging social for solitary work, but that turned out to be impossible, especially as I started facing choices between working alone at home or going away to make art with other people. The

6 The Documentary Imagination of Lewis Hine, by Kiko Denzer, *History Today,* Volume: 38 Issue: 8, August 1988, Pages 49-55.

latter were typically larger, more public projects that I couldn't do alone. I didn't hesitate to choose the work I could share, or that addressed a shared need: a community oven, a public bench or play structure, murals that marked entries or helped to define shared public spaces.

In addition, I had chosen (or been chosen by) the simplest and most sociable material possible – mud. Even when they can't stop to say yes and take off their shoes, people know mud as an invitation to play. And that earthy communion changes work to joy: instead of draining one person's energy, it tends to invigorate everyone. Even when I built my 50-ton earthen workshop out in the boonies, friends and curious others seemed to just show up to help. Working all by hand and foot, we mixed and applied dump-truck loads of sand and mud by pitchfork onto slowly rising walls.

Being a good puritan, I thought shared satisfaction required hard work well (and quickly) done. When a friend and former professional dancer brought a tape of funk music and asked to play it while we worked, I had to restrain my contempt for what I thought would be a frivolous distraction from our common goal. But good rhythm and happy partners made better and easier work. We got more done in less time, and still had energy when we were done – perhaps even more than we'd had at the start.

Malidoma Somé, writing about *The Healing Wisdom of Africa,* describes how women in his village in Upper Volta would spend the better part of a day singing together, to establish the unity required for work they then managed to do in very little time. Similarly, in the isolated American community of Gees Bend, just a few decades ago, black women designed quilts by gathering to "sing and pray" together; the resulting work kept family and loved ones warm and made practical (and stunningly beautiful) use of old blue jeans and unused scraps of cloth.[7]

Work is energy (the words share a common root), and energy shared tends to increase rather than decrease – like sticks on a fire. But this is no metaphor – sticks won't burn unless you prepare your kindling properly, arrange it well, and ignite it with spark or ame. So, too, work requires proximity among participants, proper breathing space, and some kind of inspirational spark, or just the heat of friction. We *all* share a common capacity for burning – indeed, we *are* fuel. To see *ourselves* as fuel, and *art* as common work means that we need the company of others to sustain combustion. Artists cannot function as solitary candles giving out just one small ame.

In the sparsely populated and hard-pressed rural area where I live now, community is a value because without it, houses burn down, work doesn't get done, and there's no pleasure in living. When my woodshed caught fire, we called the neighbors, passed out buckets, and

7 *The Healing Wisdom of Africa*, Malidoma Some, Tarcher, *The Quilts of Gee's Bend: Masterpieces from a Lost Place*, by Arnett, Wardlaw, Livingston, and Beardsley. Tinwood Books

made a line from creek to fire. By the time the state firefighting crew arrived to make sure the forest didn't burn up, the fire was out and we were all standing around visiting. "That's the first time we've seen a fire put out by a bucket brigade," they said, adding humor and pride to the pleasure of a job well done. Unfortunately, opportunities to work together, much less just to visit, have gone the way of the little "gyppo mills" and one-room schools that people here used build for themselves, to anchor their own community. (Consolidation has made of both timber and schooling large, centralized industries requiring urban machinery, capital, and administration. As a result, rather than working with their neighbors, most rural residents are either retirees, or commuting to work in town and sending their kids on long bus rides to a distant school. So modern industrial economies destroy communities around the world, regardless of political ideology.)

As with art, community is not a thing, but an activity, done with others. Shared work begins, simply, as "moving together."[8] As such, it's still common in sports, as well as in music, dance, and theatre, but we think of it as primarily aesthetic – meant to evoke feeling rather than to confer a practical benefit – so we label it "recreational," or "non-essential," and participate primarily as spectators. As such, our emotional responses to what we see provide the sole measure of goodness and beauty. Judgment becomes a matter of private, personal preference: "I don't know anything about art, but I know what I like;" or: "I don't know the players (or the issues), but I know who I'm rooting (or voting) for." This approach denies common boundaries and unified wholes; it reduces our choices from "both/and" to "either/or." And if all you can do is choose *either* Coke *or* Pepsi, *either* jobs *or* the environment, you can't even *ask* questions that include *both* pleasure *and* nutrition, *both* economy *and* environment – much less act to maintain their unity.

Traditionally, art gave us ways to think and measure as participants in a common whole. Art never asked questions demanding *either* beauty *or* utility – rather, art always required *both* beauty *and* utility of every act. When all the players, or all the actors, or all the dancers work together for the sake of a unity that includes all, work becomes pleasure and goodness (beauty) follows naturally, for stars and supporting cast alike. Beauty provides a traditional and proper measure of art, not because we like it, but because it refers us back, constantly and repeatedly, to simple goodness. Such beauty provides a proper measure of *efficiency* not because it implies a particular end that costs less money or incurs less environmental damage but because it asks us to consider, literally and philosophically, "what comes out of our making?" (ex facere, in Latin). For community to come out of our making, we have to put community into it. Goodness must come whole – both/and, not either/or.

8 The Latin root is *munis,* "service performed for the community" (as in *municipal*). M*unis,* from the same root as *mutate,* suggests movement, which defines all animal aggregations. *Com,* of course, means "together."

One of Hine's later posed portraits, part of his *Men at Work* series. No name, no date, but part of a story of which Hine wrote: "We call this the Machine Age. But the more machines we use the more do we need real men to make and direct them. ...the more you see of modern machines, the more may you, too, respect the men who make them and manipulate them.

Student artists with their work. Corvallis, Oregon. The design came out of plant drawings done in relation to a watershed project aimed at helping to restore a riparian area behind the school.

Culture

"A culture is not a collection of relics and ornaments but a practical necessity, and its destruction invokes calamity. A healthy culture is a communal order of memory, insight, value and aspiration. It would reveal the human necessities and the human limits. It would clarify our inescapable bonds to the earth and to each other. It would assure that the necessary restraints be observed, that the necessary work be done, and that it be done well. A healthy farm culture can only be based upon familiarity; it can only grow among a people soundly established upon the land; it would nourish and protect a human intelligence of the land that no amount of technology can satisfactorily replace. The growth of such a culture was once a strong possibility in the farm communities of this country. We now have only the sad remnants of those communities. If we allow another generation to pass without doing what is necessary to enhance and embolden that possibility, we will lose it altogether. And then we will not only invoke calamity, we will deserve it.

— Wendell Berry, in a 1974 address,
reprinted in a 2004 issue of *In Good Tilth*

I WORK with sand and other mineral aggregates which, when you submit them to gravity – shovel them around, pour them into buckets and wheelbarrows, or mix them with water – sort themselves into layers according to particle size: clay with clay, silt with silt, sand with sand, rocks with rocks, big with big and small with small. The various layers and bands you see on an ocean beach or in roads that cut through strata of ancient soils display the same forces at work on a larger scale. Natural forces naturally divide matter by size, shape, weight, color…. If *art* means "fitting together," then culture happens when nature sorts organisms out according to how they fit together as neighbors in communities. This makes human society into a force of nature, an art by which land, people, labor and love divide and recombine into myriad unique landscapes.

Culture, as Darwin and others point out, evolves and grows as individual lives submit to sorting according to the particular forces – threat, hazard, or boon – of particular and inescapable landscapes. Now we have "conquered" those forces, we seem to be well on the way to destroying all the particular and beautiful cultures they made possible. We cover up the destruction by trying to "celebrate diversity," by telling "multicultural stories," and by welcoming refugees from other lands to make space for them in ours, but such diversity serves mostly as a bandaid on gaping arterial wounds. We ignore mountain ranges and oceans, travel half way around the world in a day, and destroy the conditions that make diversity possible. Real diversity requires boundaries, but healthy boundaries are easily breached by unrestricted trade, global tourism, and – dare I say it – by "thinking globally." Global thinking can ignore what is particular and unique for what is simply most powerful.

But humans need unique social identities as well as a unique individual identity – family

names as well as individual names – witness how the names for most indigenous cultures typically mean, simply, "the people." But each is a people of a particular place with particular relations to individual mountains, animals, streams, and skies – and their language, and their names, are their own, and noone else's. By contrast, most modern Americans live in barely differentiated houses in monotonous neighborhoods, and eat the same brand-name food from the same corporate vendors as everyone else.[9] But corporations can't provide unique individuals with a unique social identity (much as they might try) – because corporations maintain no unique relationships to a unique matrix of creation. They follow the way of money, which comes to nothing more than a thin wash over the surface of a deeply marked planet.

In the urban areas where I spent most of my life until I was 30, neighbors were simply "the people next door," and they changed every time we moved. We never knew them well. Communities formed around school, work, politics, or sports. Con icts had less to do with physical boundaries than they did with difference of opinion, belief, and social identity – which sometimes came out of ethnic or tribal bonds, but also out of ties to schools, corporations, "interest groups," and other gangs. Such *culture* becomes a thing that *identifies* us, even *brands* us, like items on the supermarket shelf, so that "who we are" becomes a private affair determined by private preferences. "Cultural identity" becomes a badge that we can wear everywhere we go, like the yellow Star of David that Jews had to wear under Nazi rule. But does our "free market choice" really cleanse it of evil?

Such notions of culture free us of any responsibility for making or maintaining the physical order of life – food, shelter, clothing. And shared labor is reduced to meetings, political discourse as framed and broadcast by profit-driven private corporations, and occasional recreational activities like dancing, sport, or "arts & entertainment." These we do not make ourselves (though we may be employed in their *production*), but we do *consume* or hoard them, and count our success in appetites gratified, or status conferred.

Culture stems from the Latin *colere,* which meant "to cultivate, till, or inhabit." (*Ager* in *agriculture* is Latin for *land* – as in *acre.) Colere* is also related to *wheel,* via the Greek *kuklos,* for *wheel,* or *circle,* and the Old English *hweol* (from Indo-European *kwel*). So culture is a spinning wheel, a revolving cycle of germination, growth, maturation, death, and regeneration. We tell the story a thousand ways: the birth, death, and resurrection of Christ; the Greek legend of Demeter and her daughter, whose negotiations with the lord of the underworld gave us the seasons; even the green circular arrows of the "recycle" logo tell a simplified version of the same story. The one constant is land – as matrix, as context, as source and ending. So it should be no surprise that *culture* shares a common root with the word *dwell* –

9 In the book *Hungry Planet,* families from around the world display a week's worth of food, but more striking than any differences in quantity or wealth is how often the same brands show up in different homes on opposite sides of the earth.

both of which have to do with our participation in one cycle.

"To dwell is to garden" writes Sam Bass Warner Jr. in a celebration of Boston's urban gardens by the same title. He says that "all cities are a form of garden," which grow according to politics as well as local soil conditions. He finds the roots of twentieth century Boston's urban gardens in eighteenth century English politics, which forcibly removed rural peasants from common land they had used and shared for generations. Once removed from their traditions – as well as from the land – peasants had little choice but to migrate in great numbers to industrial cities, where the means for living were limited to jobs and houses that weren't always available to all comers. So rose a new class of urban poor that quickly overwhelmed the capacity of private charity to address. The growing cost of relief inspired new charities that allotted refugee urban peasants with small plots of disused urban land that could be converted to small shared gardens – which helped reduce the cost of relief.[10]

Of course, gardens and agriculture don't sprout ballet or museums or paintings or sculpture or architecture – all the "normal attributes of culture" that typically fill the arts & culture section of the Sunday paper.[11] Elliot Eisner, however, an author on art and education, reminds us that culture is "a medium for growing things." *Growth* implies *creativity,* which shares a root with words like *increase, crescendo,* and *sincere* ("of one growth"). In a biology lab, *to culture* means to provide nutrients, moisture, space, and time for organisms to grow. The only other thing we need for human culture is community. Community provides a matrix for nurturing individual skills and talents so all can participate. We do that by watching and copying what we see others do – and in copying, we encounter our unique limitations, our talents and our gifts, our nature and our destiny. But without the matrix of community – without sharing – we stunt native competencies. (Like competition, competence is a matter of *seeking together. (*In Latin *petere* means "to seek;" the social prefix *com* provides togetherness.) So to isolate the artist in his work diminishes his competence. Neither can a ghetto of isolated artists provide real community. A guild of painters doesn't feed itself, nor does a troupe of dancers house themselves. Such segregation reinforces a series of fatal illusions: first, that mechanical production can replace human competence; second, that

10 It's interesting to consider, here, how much more easily agricultural norms translate from one landscape to another – as opposed to the more nomadic norms of the American Indians, which didn't translate to "reservations" at all.

11 Opera, ballet, galleries, theatre, and museums don't constitute culture, per se. Rather they are *artifacts* of culture, vessels variously made to store and maintain our essential stories. While some of the contents may be alive, life so contained has very high maintenance requirements. Like potted plants in a greenhouse, such cultural life demands wardens who can water, feed, dispose of, and replace the plants. These wardens often work as "artists" – we pay them to fill up galleries, museums, and theatres with appropriate stuff (obviously, we can't pay all of them, so an even smaller number may actually, by force of circumstance, find ways to live creatively outside the walls of "culture." Artists who do this are called "renegades," or "primitives" and as such occasionally gain "recognition.") This kind of culture is only as alive as money can make it. We compensate for its lacks by paying a few more artist-types to explore places where culture is still whole and self-generating, or where the renegades and primitives have made their hidden nests. With cameras, sensitivity, and passion, these cultural explorers capture, kill, and "preserve the cultural heritages of the world" and bring them home for storage, so that we can exercise our dulled and comfortable imaginations and perhaps whet our complacent appetites by breathing in the faint, lingering smells and textures of life.

continuous consumption can insure continuing life, and third, that waste is necessary and death is not.

First, where man produces, nature creates. We know the hallmarks of creation as diversity and pattern – think of snow akes, each one unique, each one similar, from unknowable beginning to inevitable end. We participate in diversity through the universal language of pattern. Whether we call it the Golden Mean and celebrate it in our arts of painting and music, or investigate it by arts of number and counting, only our human competence allows us to actively participate in and know it. Pattern, not production, provides a fundamental grammar, intelligible marks, legible, lasting tracks that teach the story of where we come from and where we're going.

Second, machine production makes disjointed patterns that lack the inherent capacity to turn and start over. Without the ability to generate likeness from likeness, machine production can't turn the wheel of culture.

Third, we seek to deny death by "consuming" our waste in sealed landfills, concrete coffins, underground bunkers, orbiting satellites, or even "recycling stations." But none of these can perform the simple miracle that happens every day in the dirt under our feet, where death transforms life and life transforms death. Life ends with death and begins, again, with germination – and that requires dirt, a living gift made of stone, death, and time.

Nearly every culture tells a story of human origin in which the male sky god fertilizes the earth mother (in Latin, *mater,* from which our word *matter*); or in which the creator fashions people directly out of the matter underfoot. "Dust thou art," yes, but consider the diversity of dusts we're made of. "Common clay" includes Bentonites, Montmorillonites, kaolins, porcelains, and terracottas – each of which differs according to it's parent rock and particular environmental and historical conditions – the porcelains of China being distinct from the porcelains of England, for example. (*Clay* is etymologically related to *cleave,* as in "cleave together," and other sticky phenomenae, from clod, clump, clasp, and clam, to gluteal muscles, globe, and gluten.) While some creation stories attribute dark or light skin to the degree to which we were cooked in the fire, others say the clays themselves were different colors. Many say that God brought them to life with a breath.

The tale told by science lacks the poetry, but suggests a similar story. Firstly, clay takes time. Until there was atmospheric water to wear, work, and separate rock, there was no clay. Like culture, clay comes about as neighboring elements get involved in increasingly complexified relations; like life, clay composes, arranges, and makes patterns that re ect particular work, energy, growth… Scientists surmise that the unique crystalline structure of clay provided an armature on which living, organic molecules organized in such a way that matter and energy could combine and into living forms. "Life requires patterns to contain

working on the hug hut, near Corvallis Oregon

energy in form." Life requires clay. Clay requires life. Clay is indeed the mother, the matrix – literally, metaphorically, scientifically.[12]

Where our ancestors stood up on their hind feet is a late event in a long process. Before human memory could even claim, "I am" (much less, "I think") we had experienced, felt, and participated in a truth that began with the great beginning of all. We cannot tell that story without relying on the knowledge that precedes language, the experience that precedes identity. The only possible answer lies in culture and community – service to our individual and collective genius – not to *produce,* but to feed, clothe, house, nurture and inspire us all – together. Like the common clay from which it grows, that kind of work calls to all of us, and we must respond according to our own unique natures, our own genius. But genius resides in actual places and materials, whose stories and meanings are ours to perform and build and assemble and organize into a whole: useful, efficient, and beautiful.

12 A dirty joke: When science finally discovered the secret of life, it hired a PR firm to get the news to God. "God's time is over," announced the press release. God suggested a contest to verify the claim. "Let us have a contest," He suggested, "to make a man. The only condition," said God, "is that we must do it as it was done when I created Adam." "Sure, " said the scientists. The lead researcher bent to grab a handful of dirt. "No, no, no," said God. "That's mine. You make your own dirt."

Love made visible. Hannah, with bread.

Work & Love

Work is love made visible. And if you cannot work with love, but only with distaste, it is better that you should leave your work and sit at the gate of the temple and take alms of those who work with joy. For if you bake bread with indifference, you bake a bitter bread that feeds but half our hunger.

– Kahlil Gibran, *The Prophet*

What we love to do, that we do well. To know is not all; it is only half. To love is the other half…nothing can take the place of love. Love is the measure of life: only so far as we love do we really live...there is no preservative and antiseptic, nothing that keeps one's heart young, like love, like sympathy, like giving one's self with enthusiasm to some worthy thing or cause.

– John Burrows, "The Art of Seeing Things," in *Leaf and Tendril,* 1908[13]

My mother gave me a tiny pocket edition of Kahlil Gibran when I was a teenager. At the time, I thought work meant chores, or what I did to put money in my pocket. The things I loved to do – carving, ceramics, photography – seemed completely unrelated, especially since I had no interest in selling anything.

I graduated from college with praise, but also acutely aware of my brother and other peers who left before graduation because they either had real things to do or just hadn't been able to fit in to college. Whatever "success" graduation celebrated, it clearly made me no more qualified or intelligent than anyone else. I had no clear idea what to do next.

A friend had taken a job in an Inuit village north of the Arctic circle, and invited me to visit. I found a cheap ticket to Alaska in the classified ads. My mother helped me shop for a new backpack. The day of my departure, she left the house before I did. I felt relieved and sad. Then she came back, unexpectedly, to retrieve a forgotten item. I surprised us both when I lashed out at her with anger and tears. I blamed her for being blind to my confusion and fear. I was angry at losing my small status so quickly. Late for her appointment, she just said, "well, I'm glad to see you're human" and left. I got on the plane with a copy of John McPhee's *Coming Into the Country,* notebooks and pens, and a vague idea that I'd write about social and community change in the North.

I spent my 23d birthday drinking beer and celebrating with research contacts. We watched the midsummer sun swing around the bottom of its circuit, just above the horizon,

13 The rest of the quote (as much as I copied down in my notebook):
The science of anything may be taught or acquired by study; the art of it comes by practice or inspiration. The art of seeing things is not something that may be conveyed in rules or precepts; it is a matter vital in the eye and ear, yea, in the mind and soul, of which these are organs. I have as little hope of being able to tell the reader how to see things as I would have in trying to tell him how to fall in love or to enjoy his dinner. Either he does or he does not, and that is about all there is of it..."

Even the successful angler seems born, and not made; he appears to know instinctively the ways of trout. The secret is, no doubt, love of the sport. Love sharpens the eye, the ear, the touch; it quickens the feet, is steadies the hand, it arms against the wet and the cold. What we love to do....

while they told me about trying to teach native kids to be industrial students. The next day, they put me on a tiny plane into the northern bush, where my friend Sue was running a community garden project in a tiny native village. I was curious about how this strong, beautiful, and ancient culture had been broken by money, alcohol, gasoline, and TV, in just a few generations. I had little interest in the gardens, which seemed small recompense for their losses.

Some of our neighbors shared their fish, walrus, and other wild foods with us, but at home in Sue's cabin, we ate crackers and peanut butter, own in at great expense from very far away. Sue was also, inadvertently, the distributor for free government rations from a US Geological Survey camp over the ridge. They regularly sent surplus boxes of packaged food and, once, a dozen frozen turkeys. I think the helicopter pilot who made the deliveries welcomed the excuse to see a rare, white, and single US female. Sue distributed the goods throughout the village, but her neighbors asked for alcohol.

We were about as far into the bush as you could get, among people whose culture had ourished there, and for far longer than anything in our own histories, but I was wrapped up tight in the world I'd brought with me, a world that demanded a kind of work that would add nothing to the lives of the people whose hospitality I was accepting. Sue's little box-like cabin provided a safe place to read, write, and retreat, but after a couple of depressing weeks, I left for the southern harbors and fish plants, where the summer salmon run offered surer work and wages. I needed something real to do and money to get home. I pitched my tent on a sandy spit between the town and the fish plants, where the other "spit rats" had built a haphazard, multicolored nylon village. Rubber boots at the door said who was "home" and who was working on the "slime line," hacking at dead fish – or spending a precious hour or three at the library or a bar.

I landed on the cleanup crew, and spent extra hours hanging out, making up bad doggerel about "holding my hose," and writing lonesome postcards to friends back home. Sue sent me an announcement for a job running a small community newspaper for the same native corporation that had hired her. I applied with a brief resume featuring my degree, and a 6-month internship at a small magazine. I was surprised when they offered me the job, but it was a one-man office, a long winter, a foreign culture that would be, I'd been told, as familiar to me as China, and a dark, wild-west town full of alcohol and depression. Depressed myself, lacking courage or desire, I declined, and headed home as soon as I could find a ride.

I rented a room in a shared house in Boston and found a part-time job as a sculptor's assistant. For a year or so, I cast little plaster copies of Egyptian sculptures for the Boston Museum of Fine Arts store, made fiberglass molds for retirees who wanted permanent copies of bad sculpture, and helped make new copies of old architectural molding for

historic renovations. At one time, the studio had produced large public and religious art pieces, but the fragments of even those big jobs didn't convince me that art was as important as working directly in and for the community, something I was trying out on my off days as a part-time volunteer for the Association of Community Organizations for Reform Now. ACORN had hit a nerve in Boston with a campaign to move homeless people into empty, publicly-owned houses that the City was holding for developers, wanted to replace them with office buildings.

I considered applying for a full-time organizer position, but ACORN assigned new recruits and seasoned organizers according to a military schedule that rotated them through various campaigns around the country. How could they grow community if they never gave their own seeds any time in the ground? I wanted freedom and community, but itinerant organizing seemed to point the opposite way. On the other hand, I told my girlfriend that I never expected to be content because I never expected to see my ideals made real. The purpose of life was change, and I thought I was making a commitment "to be" something other – and better – than an artist who would have to work for whatever status quo the market would support.

Then one day a smart and committed activist buddy from college joined me on a visit to my mother at her home. Around the house, he noticed a couple of sculptures I'd made. "You have talent," he said. I dismissed the comment as I'd dismissed the work. But his words stuck somewhere, only to rise again on that calm day when my mind was finally quiet enough to hear the voice that asked, "If talent is a gift, who are you to reject it?"

I thought I had been trying to meet the challenge of work, but really I was worrying about how to "choose a career" – one that would make the world a better place, make me who I was meant to be – and make me a living. I had confused my own choices for expectations – some societal and others of my own – and I had confused work with performance. Rewards only went to those who did it "right." But if work seemed bitter, perhaps my eating it would benefit others, who wouldn't have to. The confusion left little room for the other half of hunger, which – in my case, at least – was a hunger for beauty – and not just physical beauty, but something bigger that I knew best by its absence.

It took a dozen years before I could give up the bitter bread. While I didn't exactly beg alms, I did receive gifts from more than a few people for whom work seemed to be more than a paycheck or a re ection of their ego. One poet friend of my mother's wisely advised me that careers weren't chosen, like college or graduate school, but made, slowly and gradually, by working. Literally, of course, a career is a path, made or followed, and as I slowly began to understand that, it helped me shift my focus from a future beyond my control, to my own choices about what I actually did from day-to-day.

I most loved losing myself in hand-work: carving, and the feel of shapes growing out and up as hard stone or wood gave way under blade and mallet; finding and following shapes and lines with pencil on paper; even making bread – pulling the dough into a loaf and seeing it bulge out from under its taut, smooth skin. And I loved them because they rewarded work with beauty that wasn't mine – the surprising life and warmth of crystalline marble, the light and shadows that illuminate shape and form, the avor and texture of good bread….

It was hard to believe in the importance – or even the usefulness – of that kind of work and beauty, so often labeled quaint or common, but essential to making and maintaining a whole world. I knew nothing of astronomy or horticulture, but (when I paid attention) I could see and feel the beauty of the skies and the green, growing earth. Eventually – finally – after I decided that it was more important to do work that fit me than it was to try and copy others – I found ways to work with love.

Despite what they say about teaching being the province of those "who can't do," people learn best by doing, so teachers who love what they do attract students who want to learn – so I soon found myself teaching the kinds of art I love. Working with mud made it all the more appealing. I can talk a long time about how schmearing mud plaster on the walls gives living esh to the planes and surfaces of the walls we live in, how it can make a living space out of painted, dead, sheetrock box, how it can open up a room to the caresses of sun and shadow, making walls taut or loose, lithe or lumpy – but it also just feels good, like making mud pies.

Still, people balk at "not knowing how." They tentatively dab mud on the wall, or struggle to make tools do what they want, trying to keep the mud under strict control. Then I suggest that they approach the work as they'd approach making love. "If the tools get in your way, just work with your hands." They laugh, often nervously, but go back to work with less anxiety, less concern for doing it right and more faith that love will guide them.

The joys of love are similar, whether made of warm esh, cool dough, wet mud, or cold crystalline marble. They are also brief – though commitment can inspire constancy. We succeed when we risk losing our hearts by giving them away completely. We succeed when we believe. *Belief,* of course, grows out of love (they share the same root). But it is stronger. When love breaks your heart; when the stone cracks or the bread won't rise, belief keeps us working. Eventually, love becomes visible again. So "Love is the answer" but not just because it makes us feel warm and fuzzy – love is the answer because it is the essential art by which we may participate in creation.

Recognition of these truths doesn't require conscious awareness – sometimes it comes about through intuition – literally, through *inner awareness* (the Greek root is tueri, "to pay attention," making tuition the price of hiring someone to attend the kids when we don't have

the time ourselves). I used to bristle when people made fuzzy claims for *intuitive design,* but I had to adjust my attitude as I took in the deeper meaning of the word – and when I remembered how I could abandon a problem to take a nap, and wake up in 15 minutes with the perfect solution – no logic, and no apparent effort required!

Making cob in Mexico.

Without intuition, lovers would discuss every caress and evaluate every embrace. Instead, we intuitively welcome a loving embrace without reservation, and remember it with joy. By the same token, art – like any work worth doing – goes best without words, sometimes without thought. Since we all live in bodies that fit together well and work, individually and in groups, we all carry an intuitive, innate knowledge of beauty – our own, that of the world, that of what binds us to the rest of creation. Even if we aren't in direct contact with the world through our hands and eyes, we're all constantly in our own beautiful, useful bodies — and whether or not we're mentally conscious of it, we are physically aware of it.

It doesn't take much to restore that contact and that confidence. I've seen people rediscover it simply through mixing mud, barefoot, or squishing it by hand onto a wall or an oven or a piece of sheetrock. I can show you countless photos of people jumping in the mud, an individual experience that is easily and directly shared, that produces smiles and laughter, and that soon becomes pleasant, practical labor resulting in a building or a sculpture (or both in one) larger than all its makers put together. People go home inspired to design their own projects and organize their own "work parties" to sow another crop of work and reap another harvest of love. You don't "have to be good at" art in order to work at integrating love and practice, belief and intuition. Simply by the doing of it, we better fit ourselves into our homes and communities, we confirm harmony, measure "rightness" of fit, and maintain beauty.

A green stone mask, Mezcala culture, Guerrero, Mexico, from the Museo Nacional de Antropología de México, Mexico City.

Birth, Death, Food, Sex

He who buys grain in the market, to what may he be compared? To a child who is cut off from his mother, and although it is taken to homes of wetnurses, it is not satisfied. And he who buys bread in the market, to what is he compared? To a man who digs his own grave – a wretched, precarious existence. But he who eats of his own produce is like a child reared at his mother's breast.

— the Talmud

THE FIRST food I ever planted was a little green tomato start I bought at a local feed store. I was working an office job and didn't have time, space, or ambition for a whole garden, but I remembered my grandmother's tomatoes and thought I should have a few of my own. Where she had had a whole bed full, all I wanted was a single plant, so I made a hole in the lawn about the same size as the pot, installed the poor thing in its little hole, and waited for it to grow up and feed me. Of course, the roots had no place to go, and the grass laughed while the tomato strangled.

I quit that job "to be an artist," but I wanted to make art that was fundamental. I didn't want to make commentary on politics, or lament the stupidity of mankind, or sing the praises of a God I didn't know. I wanted to work with truth, but I barely knew myself, so I figured food and dirt were a good place for a beginner to begin. I thought I should learn to grow my own food.

Before I got my garden dug, however, I attended a conference where I did a sculptural demonstration that attracted the attention of a Mexican couple who ran environmental education programs. They invited me to do a hands-on project with the kids in their community. I was so honored by their recognition and acknowledgement that I accepted without really thinking about the time, the cost, and the disruption it would require. But my girlfriend was volunteering in Guatemala, which gave me an excuse to pursue both love and labor. I borrowed some language tapes and found that my rudimentary Italian converted well into rudimentary Spanish. A colleague from the conference came to visit at the same time and stayed to help.

I fell in love with Mexico. Rich and poor alike seemed to combine art and life, whether in all the hand work that was still a part of tradesmanship and construction, or the public murals that decorated buildings throughout the cities, or even just the skill, care, craft and beauty that sidewalk vendors put into hand-making tortillas or slicing mangoes. Not only was the food beautifully made, it seemed to drop off every tree. As my friends told me the names of common plants, they also explained how they tasted in some delicious dish they wanted me to try. The spiny nopal that grew like dandelions in every poor garden

showed up as cooked vegetables in every taco stand. The threatening, sword-like Maguey that guarded homes and fields not only produced the milky beer called pulque and the fiery brandy Mescal (like tequila from agave), but the roots and the owers also provided starchy vegetables, the leaves and stems provided building material, and the spiney tip and husk fibers provided ready-to-sew needle and thread.

Even Mexico City, one of the most polluted and crowded cities in the world, seemed to hold more life and more beauty than any city I'd visited in America. I went back three years running. On one of my trips, a lovely young woman named Marianna, who lived in Mexico City and studied anthropology at the University, accompanied me for a day at the Mexican National Museum of Archaeology, which has a reputation more like our Smithsonian. To a sculptor, it over owed with continuous revelations: stunning animal and human figures of every size and description fashioned out of clay, cloth, and not just stone, but the hardest of hard rock: jade, jasper, basalt, even obsidian. And the carving displayed a level of skill and precision beyond the capacity of most modern sculptors, even with their most modern, industrial tools. Beyond technique, the artists seemed to have known their subjects inside-out. Every figure held beauty and meaning, and seemed to me to hold truths essential not just to the lives of the artist, but to the life of the whole society.

Most of Mexico is built on the remains of several empires – not just Aztec, but Toltec, Mayan, Olmec, and others so distant not even names remain. And where my Puritan ancestors shunned union with dark-skinned natives, the Spanish Catholic conquistadors did a good job of mixing European and native blood. Partly as a result, most Mexicans have dark skin, and many of them take real pride in their ancestors' achievements and heritage. Unfortunately, the information in the museum is limited by the current state of archaeology, which offers only the briefest descriptions of a few cultural practices. The exhibit labels typically indicated only the provenance and discovery date of each displayed piece. It was hard to find even simple facts about how the pieces were made. Marianna and I extrapolated as best we could, Marianna from her studies, and me from what I could put together by simple observation, but after several hours what became clear in my mind recalled what I'd tasted on the streets and had started to suspect even back home: all of it came down to one of four basic themes: birth, death, sex, and food. Behind or underneath every other experience lay an ultimate beginning, an ultimate end, and the basic processes that get us from start to finish. Every bit of work celebrated some aspect of a daily activity, a thing done, a passage of birth or death, celebrated, noted, or just recorded in a visual story.

Flying home to the US felt like explusion from God's garden into a cold, Northern hell. Here, food was dead and lifeless, wrapped in plastic and served by slaves; art and beauty

were locked up in galleries and fancy shops to keep them safe from contamination or theft. Still, the inspiration held, and I managed to make it home to my little refuge in the woods with much stronger faith that I might be able to translate into some dialect of my own, the themes I'd seen, tasted, and heard in Mexican Spanish.

A *theme, of course, is more than just a topic of discourse or discussion; an idea or a point of view. It's not just "what art is about." In Latin and Greek it had the sense of a "thing placed." In Old English ("daed," "dom," "deman") it is linked to our modern words "doing," "deed," "deem," and "judge." (The venerable and oft-cited "doomsday book" of England was so called because it recorded all the doings, or house-buildings of every British inhabitant in 1100 a.d.) Branching back up into Latin, another form of the same root gives us the word "fact," from Latin, facere, "to do," or "to make."*[14] So a theme is a doing done, but still alive – unlike the dead facts of history. What do we do? We're born, we eat, shit, grow, make love, make babies, and die, to feed the worms and the next season's growth.

The themes of most "modern art," however – like the history I'd learned and absorbed in school and everyday life – seemed like dead facts, no matter how freshly presented by newspapers, galleries, and museums. The challenge I faced required working with life – and the chores facing me when I got home were all in the garden.

Now ready to start gardening seriously, I asked my friend Beverly for advice. She had been growing vegetables for years, not just as a hobby, but as a large and essential component of her diet and economy. "Well," she said, "if the instructions on the back of the seed packet aren't enough, try the seed catalog." There was no hint of sarcasm. She could have cited shelves full of books, but none of them would mean anything if I didn't put a seed in the ground. Bev said her friends accused her of being "incorrigibly educational," which meant that instead of answering your question, she'd rather tell you how to figure it out for yourself.[15]

So I read the packets and the catalog, and planted seeds. I went to help Bev in her garden. One day we transplanted some "heavy feeders" on top of a generous sprinkling of white dust from a bag of organic fertilizer she kept in a covered garbage can. It stank of fish. I red the ingredients: rock dust, fish meal, phosphate rock. "But that's all stuff from the ground or from the sea," I wondered. What happened if you didn't have fertilizer, or couldn't get a shipment from whoever it was had dug it out of the ground or collected it from the ocean? I wanted my garden and belly innocent of earth-destroying mining and long distance transport. What's the difference between growing food on mined minerals and just mining minerals for money to

14 The American Heritage *Dictionary of the English Language*

15 *In Timber Country,* by Beverly Brown, Temple University Press, and *The Making of a Popular Educator, The Journey of Beverly A. Brown,* Eds. Peter A. Kardas and Sarah K. Loose (of the Jefferson Center for Research and Education, a popular education non-profit that Beverly founded), 2010.

buy food grown on more mined minerals? Can't gardens save us from industrial and ecological evils? I went home chastened, but I fed and watered my garden, and didn't move back to town.

And started to produce some real food: I had beans and potatoes in abundance. I got some good crops of carrots and beets. But I wasn't used to eating just potatoes and beans and carrots and beets. I had to adjust my diet, not to mention my habits and assumptions about my food. With a garden out my front door and the closest super market nearly 30 miles away, my routines shifted. When I was hungry, I didn't just go to my refrigerator for a snack. Beans, for example, surprised me by providing three different foods: fresh green vegetables when they were young, an amazingly sweet and delicious main dish when they were mature but hadn't dried down, and finally, when they were dry, a much tastier version of what I could buy at the store. Some meals were pure celebrations of a single plant that had given me a beautiful head of cauli ower or broccoli. Some I ate raw in the garden. I learned to appreciate things I'd taken for granted, especially olives for oil, which I'd never be able to grow in Oregon's central coast range.

After about a year and some pretty good eating (and not too much foreign fertilizer) another gardener friend named Dona applauded me for growing a garden and saving the earth. She gave me a book called *Seeds of Change,* by Ken Ausubel, and said the book would explain it all. Ausubel, who had started a seed company by the same name, said that seeds contained more information than books, and not just genomes, but whole human traditions and cultural practices. That combination of knowledge and information represented a history and lineage most of us couldn't even conceive. For example, he said that pre-Columbian indigenous folk in the Southwestern United States had eaten nearly 300 different kinds of plant, and had cultivated 200. By comparison, 15th century Europeans cultivated only about 15 varieties, and modern Americans lived primarily on corn, soy, and wheat.

One day I sat down to a meal I'd cooked from my own produce and saw it as not just beans and 'taters, but as continuing aeons of relations linking soil, sun, water, seed, and the animals that lived on them – including all my ancestors. Yes, "we are what we eat," but so too "what we eat comes of who we are." Stretched between now and then stood all my people and all their stories: all the land they ever walked on, all the people they'd ever conquered or been conquered by – and all the plants and animals they ate. There was no fairy godmother and no magic wand, but as I looked at the meal I'd taken out of the soil under my own feet, the table turned into an altar; everything on it shone as if lit by a halo. Inside myself, a hard seed of gratitude, scraped and scratched by experience good and bad, finally cracked deep enough to absorb a moist drop – it swelled and cracked and came to life. My skin stretched – or my self dissolved – "I" included all of it – and "it" became "Thou." How could I feel lonely? How could I not celebrate?

One of the people Ausubel interviewed for his book was a fancy chef and former anthropology student named Mark Miller. Miller spent most of his academic career studying art, and said

> *our food supply has to be something that is real within our own life experience. As long as we talk about taste and the earth and trees, we get closer to the acceptance of the natural cycle…. It has to do with a generation of ourselves over time, our own death and the death of others around us. It's a mirror….There are only four things that happen internally to people. There are birth and death, and sex and food. Everything else is outside of us. Cultures in the past have seen food in this way. Religions have seen food in this way. They have used food as a connection to teach about life.*

Food, sex, birth, and death: art, food, life, art – also religion, culture, and agriculture – but we can't really "use food to teach about life." We either do it, and know it, and behave accordingly – or we don't.

Ausubel says 95% of the seeds that used to be common in seed catalogs 100 years ago are now probably lost forever. In the rush to commercialize all aspects of culture and agriculture, we've lost irreplaceable genetic stock. He says that, in effect, we are "burning books we haven't even read." But it's not just metaphorical books and genetic "information" we're losing, it's culture and life. Without seeds, without skills and knowledge passing from hand to hand, without common experience, what can parents and grandparents hope to teach their children? No shared experience means no shared meanings. Without shared meaning, what good is a story? What good is culture? If everything is relative, culture is just a mall that sells disposable lifestyle accessories. If we're not born into a particular family and place and tradition, what do we have? Who can we be?

I left off my life-drawing sessions with its long drive to town. I drew in the garden, andI looked and saw things in new ways: the way plants grow in braided layers to nourish and protect an apparent void from which grows – hidden, invisible, miraculous – a stalk and seed. The way a ower keeps growing, uncomplaining, after a truck runs over it. The way patterns repeat, varying from species to species, but each guarding and nurturing in their own way life's common secrets.

Wheat harvest at our home, western Oregon, 2007.

Home

The world cannot be discovered by a journey of miles, but only by a spiritual journey, by which we arrive at the ground beneath our feet, and learn to be at home.

— Wendell Berry

WHEN I quit my last professional job "to be an artist," I wanted to make sculpture. I had some skill and talent, and maybe enough savings to go a year without having to worry too much about money. I looked at graduate schools, but few, if any of the programs mentioned beauty, skill, or materials. Most, however, did offer wonderful opportunities to spend many thousands of dollars on tiny studio space where I could spend two years not just working, but also trying to explain my work, motives, and subject matter to people I didn't know. It seemed better and less expensive to just keep figuring it out for myself at home.

At the time, however, home was an anonymous apartment in an anonymous complex of mass-produced industrial housing. Like so many other North Americans, I'd never spent more than about 5 years in one place. I had neither ambitions nor cash to even think about buying a house, but I did want to *make* a home – I even recognized that desire as a gift that I'd applied to every place I'd ever lived, whether it was the office I'd made in a disused closet for a college internship, or all the rented rooms I'd converted into comfortable living spaces – usually with furniture salvaged off the sidewalk or assembled from recycled bits and pieces.

One day, a neighbor and friend invited me to hear a guest lecturer in her introductory anthropology class at the local university. His name was Ianto Evans, and he shared stories and photos of places he'd worked, where people made beautiful, useful things, by hand. Some objects, like brooms or bricks, were sold as common household things; others were unique and not made for sale. Some, like the hand-terraced paddies of hill-country rice farmers, made beautiful patterns, but for the makers, beauty was merely the daily union of means and ends – and even more beautiful.

I recognized those slides and stories as pictures of home: not houses, but real places made by hand among family and neighbors, that we use up, and have to re-make according to the limits and demands of weather, materials, and the vicissitudes of life. They result in beauty and love, as we learn to make them, year after year, generation after generation. To me, stories like that provide the only definition of an art that works for all of us, rich or poor, native or immigrant, literate or not.

After the lecture, I joined my friend for a dinner with Ianto and another colleague of theirs.

Ianto, who had given up "developing the third world" to de-consumerize the "first world," had just built a small, earthen cottage for $500, and was offering workshops for a few hundred bucks. If I was going to be an artist, I figured the knowledge to make a cheap house might come in handy, so I signed up.

Most Americans, when I tell them about building with earth, think of adobe, which comes from the Arabic, "Al-toba," for "the mud," but in the British Isles, people traditionally built with wet mud mixed with straw and shaped into rough lumps, or "cobs" – so Welsh-born Ianto called his earthen material "cob." The building we worked on had been designed for the caretaker of a huge garden devoted to permaculture and sustainability. The owners were creating a small American version of the kind of indigenous village Ianto had shown in his slides. For the first time since my college internship in appropriate technology, I encountered compost toilets & greywater systems, passive solar design, re-cycling, and simple, home-made, fuel efficient stoves…except that now they weren't ideas or proposals, but the central appliances of the place where I was working, eating, and sleeping.

In contrast to my days as a philosophical and long-winded intern, I found myself impatient with the discussion and debate that swirled around the pot of vegetarian stew at the end of our working day. People wanted to define "sustainability," debate technologies and fuel efficiency, or argue for the "best" or "cleanest" method for achieving their shared goals. But to me it seemed that "sustainability," like art, didn't suggest a *state of being* but a *way of action*, an approach, a path – and not a place at which we'll finally arrive to stay, "happy ever after." We can only sustain life within limits. What we need are ways to grow, reproduce, and die within the physical boundaries of a physical place called "home."

I had never known such a place. I'd never even lived in one place for more than a handful of years. All I'd ever learned at school and at home had denied the very idea of such limited boundaries. "Home" included anywhere I could go in a plane, including many distant destinations where I could find members of my own family who had wandered off in pursuit of careers that were clearly more important than any home or family they might have left behind. Buying a ticket to y thousands of miles in a few hours was "normal," and even when they were expensive, we barely considered the fact that most plane tickets cost less than what most of us earn in a few days or weeks. Even if you only earn minimum wage, the time required to pay for a cross country ticket is miniscule compared to what it would take you to walk the same distance.

A couple of months after finishing the cob-building workshop, I left my anonymous apartment and drove cross-country, visiting family and friends, sorting through my options, and wondering what to do next. I returned several months later, rented a single room for sleeping and eating, a shop for working, and set about to be an artist. It was difficult and lonely. I was depressed.

My landlady didn't like sharing her house, so I had to find a new place to live. A friend offered me the use of an old cabin on his family's ranch, about an hour out of town. It was depressing too. The cabin was tiny, low-ceilinged, dark, and falling down. Inside, under peeling shreds of dark grey building paper, crawled living mats of cold, sluggish house- ies. Fixing it up would be a major undertaking. It seemed almost incidental that I could trade my labor for rent. And I simply did not notice the stunning valley all around – the hills, the creek, the pasture. But I needed a house, and thought "why not? If I don't like it, I can leave." I said I'd give it a try.

It took me several months to rebuild the cabin and move in. I kept my studio in town and commuted to work. But slowly, and often as an antidote to loneliness, I started exploring the woods and learning about the land. Walking, which I thought of mostly as exercise, now required thinking. I'd never had to make my own way through unmarked territory to unknown destinations. Going to my friend's house a half mile away took an hour's exploration. It was easy to get lost within sight of my cabin, simply because I didn't know the hills or the little creeks that shaped them. I discovered that home was not the four walls of my little cabin.

I started growing a garden, but more than that, I learned about living in a garden. I ate beautiful wild mushrooms that I harvested from under an ancient tree so irregular and twisted that noone had bothered to cut it down for lumber. I picked wild nettles that came up every spring in thick green patches. I watched salmon spawn in the creek, and lamented the losses and laws that had turned them into "endangered species" instead of food (and fished for unprotected trout). I went hunting with a friend and smoked and ate his wild venison.

One day, I went out for a long walk into new territory, and found myself on the side of a hill across a valley from another hill that I recognized as leading back to my house. It looked like an easy short-cut, but at the bottom I found myself in a thicket of tall spiny underbrush known around here as "devil's club." Pushing into the middle of it, I found myself so thickly surrounded that the only way forward was to fall down. I could see the end, and didn't want to go back, so I fell, got up, took two steps, and repeated….Almost there, I thought how much easier it would be to run through on all fours like a native elk or deer or…cougar. What an easy meal I'd make for a big cat! I laughed – and was grateful for broad daylight, and the end of the thicket, and the proximity of a paved road that would lead me home again.

The most important lesson about living in a garden, of course, is that we are all food, if not for each other, then for the worms that make the soil fertile. Humility, of course, shares a common root with "humus" and "human." That is easy enough to understand in the mind, but it's another thing altogether when your mind grows real feet and hands – and the ground grows tongue and teeth, and sings a siren song of beauty, and makes being eaten into a fate worth working for.

Matter, Spirit, Mud

Nothing can be known, except what is true.

—George MacDonald

The last couple of years before I went back to art, I worked for a community alcohol and drug abuse prevention project. One day, an alcoholic named Joe came into the office asking how we intended to "prevent" what he lived with as an essential and defining ingredient of his humanity. Most of the staff had been trained as professional social workers, and our federally funded program was based on scientific public health research that had identified a set of "risk factors" that we hoped to reduce. It was a matter of cause and effect. However Joe, a member of Alcoholics Anonymous, explained the dilemma as a problem of matter and spirit.

In a famous letter to AA's founder, Bill Wilson, Carl Jung explained that the Latin word for spirit – the "highest religious experience" – also signifies that liquid distillation of matter that we know and drink as beer, wine, and *spirits*. Jung applauded AA's wisdom in applying "spiritus contra spiritum," and their pragmatic recognition that energy has weight, and that weightless spiritual principles like the Twelve Steps can effect substantial growth and change.[16] Clinically, the AMA now defines "the disease of alcoholism" as including "psycho-social factors," and the public health professionals who had written the legislation authorizing our program argued that we could prevent alcoholism by working in and with the whole community. Spiritual programs like AA provide effective treatment, but they can't be reduced to a simple set of "risk factors." Sobriety in AA depends on learning to help others "who suffer" – which really includes anyone affected by the disease, whether you go by clinical or popular definitions. Helping requires more art than science. (Perhaps that's why our applications of Einstein's proof have mostly resulted in war and toxic waste. Applying spiritual energy to solve practical problems requires individual creativity, not political or state power.)

In addition to AA membership, Joe claimed native heritage and followed "Indian ways," particularly a weekly sweat lodge that happened at the home of a local tribal member who was also a professional drug and alcohol counselor and a recovering alcoholic. I took a "professional interest" in the practice, but I was also in the midst of my own personal difficulties at home and at work and felt the lack of something I couldn't name. One Sunday I followed Joe's directions to a wooded path behind an isolated country house, leading to a creek where salmon spawned and died. There I found a varied gathering, usually of men, who

16 Carl Jung to Bill Wilson, 1/30/61

collected and cut firewood, tended the fire, and sweated together every week. I participated more or less regularly through one fall and winter, rainy and wet.

To heat the rocks that would heat the lodge required a loose stack of logs perhaps 4 feet square and almost as high. By the time the fire had burnt down, the hot rocks glowed, as if a volcano had just spit them out. Pitted and holey like round, hard sponges, they had been selected for their capacity to soak up heat without exploding. We began when they were ready. The lodge sat a few steps from the fire – a low dome of bent sticks covered with old carpet and plastic sheeting, and blue tarps. We entered naked, or in shorts, on hands and knees, through a low door covered by a ap of material. We entered on the left and crawled around to the right, leader first. When we were all packed in tight, knee-to-knee and shoulder to shoulder, the fireman started passing hot rocks through the door and into a central pit dug into the earthen oor of the lodge. We greeted each one as it came through the door: "welcome, grandfather." The doorman let the ap fall back across the opening. In the dark, the leader cooled the radiant stone – not just with water, but also juniper, sage, or cedar – aromatic smoke and steam enveloped us all and filled the lodge. Heat rose, sweat ran. The darkness enclosed us, and thickened. Despite all the bodies we packed into that tight, close space, however, we could not fill such dense and utter blackness. We melted into it like sugar in coffee. To each grandfather rock, we offered a round of songs, prayers, or stories, each of us speaking or singing in turn: personal problems and prayers, native chants, Amazing Grace. At the end of a round, we welcomed another grandfather for more heat, more prayers, more songs, more stories.... And while there was no shame if heat or claustrophobia drove you out, the heat delivered the medicine, and you couldn't benefit if you left. Once I felt that I might pass out and moved to escape. As I crawled by, Joe held my arm, and cupped cool water over my neck and shoulders until my faintness passed. I sat back and waited. When the round ended, I poured out of the lodge, liquid-like, to jump in the creek and re-crystallize my body among cold rocks and dying salmon. Then we started over, piling more hot rocks on the old warm ones.

The total number of rocks determined the intensity of the sweat which was, in turn, determined by our need for medicine. The stories we shared and listened to – like the stories told in AA meetings and, I imagine, like the first tellings of both Bible stories and scientific discoveries – carried the immediate weight and illuminating light of real, direct experience. Such medicine goes into our ears the way heat enters our bodies. Sweat comes out instantly, but stories, songs, and prayers work slowly, like heat and water on stone.

It would, as they say, "be inappropriate" to build a sweat lodge – or a church – in a public school art residency, but the first time I put an earthen mural onto a school wall, I innocently chose "Creation and the Four Elements" for our theme – mostly because our primary

material was earth and because the point of an art residency was to celebrate creativity. I also knew I would be getting a widely variable range of individual work that I would have to assemble into a composition to enhance the appearance of the school's entrance. I needed a strong theme to insure unity and consistency in the finished mural, and to make something recognizable and worthy of pride.

The kids jumped right in, each with their own story: some drew images of the big bang while others gave me earth-mother figures, and once, when I suggested to a class that we were all "made of mud" ("Adam," in Hebrew, means "red clay"), a very determined girl adamantly informed me that we were made of "bread and wine." The composition turned out well enough. It clearly re ected the efforts of the entire group, though I had had to select individual drawings and make isolated stars out of some of the kids. And I had to insure consistency and clear definition of each figure, which made much of the work look like it came from a single hand. As a result, some of the parents didn't believe that their kids had actually been involved. For the most part, however, it seemed to succeed. I was mostly glad that the mud had indeed stuck to the wall as I had said it would, but years later I learned that one active, artist parent had not only calmed the anxious principal who wanted to veto the idea of "mud on her wall," but had also met a potentially destructive wave of angry parents who came in fuming about the artist who was "teaching religion in school." She poured oil on the angry waters by inviting parents to present their own creation stories to the kids. She said the experience forged bonds stronger than anything else she'd seen happen there.

Like a sweat lodge, a theme offers common space in which every individual can claim their own part of a shared story. In our fractious, divided culture, however, to put a mural on a wall invites discord because we come out of different lodges and different churches, and we don't want to see our kids misled into stories that might not fit them (or us). To sidestep this problem (not every school has a star parent who can creatively handle con ict), on the next mural I took inspiration from the women of Basutholand in South Africa. Rather than propose a theme, I simply asked the kids to abstract geometric designs from their own drawings of local ora. Then I chose a handful of designs to assemble into a composition that we put on the wall. The process was as simple as the meaning, which came down to the kind of hospitable welcome owers offer to anyone nearby – and forcing no one to accept a single interpretation of our multi-faceted universe. The result was nearly as beautiful as the plants and owers that inspired it.

For the women of Basutholand, such murals hold a central place in a long-standing spiritual tradition. Home, and the spaces around it, make sacred vessels that contain and nurture us the way a mother's dark, enclosing womb nurtures her child. The murals tell a story about how human culture marks the land. In the Basutho language, you don't say a people *are civilized,* you

say that their land "has lines on it's face" – that it shows the marks and patterns of working humans who claim their place to satisfy their needs. As the earth answers our work and washes away our marks in an annual cycle of rain and wind, so does it wash away the murals, the making of which becomes an annual rite of renewal and re-connection.

The Basutho example not only offered a unifying theme that avoided divisive questions about "teaching religion in schools," it also offered potential solutions to two other problems with making art in schools. The first one revolves around the tenuous place of the arts in school curriculae. By treating them as ancillary to reading, math, and science, schools deny Aristotle's truth that "what we learn to do, we learn by doing." Murals and other large-scale art projects, however, focus the entire community on a theme common to all, and provide a golden opportunity to crystallize individual lessons by shaping them into a shared story. The second problem is that art creates storage and maintenance problems. The substantial physical products of student work either have to be small enough for students to take home, or "good" enough to warrant a permanent spot on a wall and a long-term allowance in the annual maintenance budget. But it's easy to convince most people that murals made of mud will be not only beautiful, but also impermanent, easy to "wash away," and low-maintenance. Experience proves these to be true. The murals age well. The more exposed ones wear away slowly under the action of wind and rain or little fingernails, until it's time to wash them away – and then they're simply gone.

The greatest opportunity of such murals, however, poses challenges and rewards much greater than "teaching religion." By far the greatest success would be to transplant the arts into the perennial culture of the school by making of them an annual rite, like the Basutho renewal of their house murals. Many schools make a rite of annual sports events or annual class trips or (in Oregon, at least) what they call "outdoor school," whereby a whole class takes a week at the end of the year to go camping. By making an annual rite of removing and re-making a mural, schools could substantially enrich their local culture. Those who made last year's mural would train and assist a new team the next year. The entire school could be involved in refining, re-defining, or re-envisioning a theme. Teachers could build enthusiasm and energy for the event by adapting their other curriculae to the shared subject. Students would become teachers, and all would share in developing a local tradition based on real skills and knowledge. And there would be far fewer divisive questions about committing the entire community to one permanent and eternal piece of art because every year would provide a new group the opportunity to tell the same story in their own way. And finally, the matter and spirit of the earth itself would take its rightful place as both source and symbol of eternal renewal. Old mud can be made new simply with the addition of water. Or it can be returned, usefully and joyfully, to the earth from which it came. Both confirm one truth.

Above: Creation and the four elements, Corvallis OR (Ryan Gardiner, photo)

Below: pattern mural, Corvallis OR

Bas-relief in earthen plaster on sheetrock.

Deal With Your Shit

Shit (v.) O.E. *scitan*, from Proto Germanic. **skit-*, from Proto-Indo-European **skheid-* "split, divide, separate." Related to *shed* (v.) on the notion of "separation" from the body (cf. Latin *excrementum*, from *excernere* "to separate") [thus related to *science* and *conscience]*. The noun is Old English, *scitte* "purging;" sense of "excrement" dates from 1585, from the verb. Taboo from c.1600, it rarely appeared in print (neither in Shakespeare nor the King James Bible); even in "vulgar" publications of the late 18c. it is disguised by dashes. *Shite*, formerly a dialectal variant, re ects the vowel in the Old English verb (cf. Ger. *scheissen*).

— from the Oxford English Dictionary and
Barnhart Dictionary of Etymology, as compiled by
Douglas Harper of the Online Etymology Dictionary (etymonline.com)

WHEN I moved into my cabin in the woods, my most urgent problem was food – not growing or finding it, but figuring out what to do with it after I'd swallowed it. What goes in, must come out, and I'd moved into a house with no toilet, no sewer system, no septic tank, no drain field, and I had to shit long before I could expect to build myself a composting toilet. Now what!? My friend Bev, who had spent years in various cabins in the woods, suggested I either bury it, or burn it (but only if I had a really hot fire – otherwise, it really, *really* stank). For the first year or so, while I was still figuring out where and how to plant seeds, I shit in a 5 gallon bucket (regular toilet seats fit very nicely) and dug random holes when I needed to.

But friends in Mexico had shown me a simple design for a composting toilet that controlled stink by separating liquids from solids – and fed the garden. Another composter who dealt in garden-friendly waste disposal suggested using worms to convert my once-digested garden produce into twice or thrice digested, fertile compost. So as soon as I had built myself a shed, I fashioned a simple concrete tank wide enough for two people to sit on, and deep enough to hold about 150 gallons. I divided it into two separate chambers; covered the top with removable, wooden seats, and installed funnels below the front of each seat to catch the pee and divert it through a tube to another trusty 5-gallon bucket. A trap door at the bottom allowed for emptying it out. I bought some commercial "red wriggler" worms and added them to the mix. The plan was to fill up one side, and then use the other chamber while the worms finished what they'd started in the first side. The pee bucket, of course, filled up in days, but pee is sterile and high in the nitrogen that any garden needs: great, easy-to-apply fertilizer. Other than emptying the pee and covering each poop with a handful of sawdust, there was nothing to maintain or even think about, except the day when I could feed the garden what it had fed me.

My wife-to-be, Hannah, showed up not long after I'd finished the composter. She took to the garden as quickly as we took to each other, and we were married in less than a year. It was many more months, however, before I had to start thinking about emptying the first chamber (it takes a lot of shit to fill a 75 gallon hole!) Indeed, by separating urine and feces, you not only reduce stink and volume, you also make a product that's easy to manage – a good reminder to be clear about what's shit and what's not. One early summer morning I decided to examine the full chamber, and see what had become of all that garden produce we'd used just once and then deposited in the dark. I opened up the trap door to find an even, at surface of what looked like brown earth covered with a sprinkling of weathered sawdust. I cautiously poked it with a stick. Just below the surface was fine, moist soil. I smelled the stick; no stink! In fact, it smelled clean and fresh. I pinched some between my fingers – just like compost! I dug deeper. It was *all* the same – nothing but beautiful, clean, dark, fertile compost! It was so thoroughly digested that I found hardly any worms! (I had relocated a handful of them to the new chamber when we switched sides.) I was so excited I woke Hannah up to come and see, and she, wonderful woman (and gardener) that she is, was almost as excited as I was.

"Dealing with our shit" has been the necessary complement to growing our vegetables, but it's not nearly so messy as our fear of it. If "familiarity breeds contempt," then alienation breeds fear. To treat shit as alien is to treat soil, self, and life as shit. To redeem our shit transforms death into new life. The ancient Aztecs called their goddess of purification Tlazolteotl, or Tlaelquani, "she who eats filth." She took confession, dealt with your shit, ate it, redeemed it, and made new life possible. In both Eastern and Western traditions, we bless the food we eat to sustain our hopes for new life, but we run from our shit. Blessing it instead would make a daily practice of humility (from the same root as *humus* – or compost — and *human*).

So make a toilet at which you can worship the compostorous miracle of transformation! Bless it with rites of resurrection ("rite," from the same root as "art," suggests how religion fits self together with society by celebrating common ties to common origins). Making shit sacred restores a proper fit between food and soil, culture and agriculture, water and life. Compost promises transformation, if not redemption.

Bas-relief in earthen plaster on sheetrock.

carved alder spoons

Making Money

Never work for money.

— Bernard Denzer, M.D.

IN HER student days in New York, when work was more important than eating, and money was scarce, my mother knew a sculptor names Sidney Simon, whose first commission came from a wealthy businessman who wanted a portrait bust. Unsure what his work was worth, when his patron asked him for a price, Simon looked around the well appointed office and noted a large, leather-covered armchair. This was long before IKEA and globalization, when furniture was made and repaired by craftspeople in a local economy. A chair was an investment, as well as an object of beauty that commanded it's own portion of a room. Simon said "whatever you paid for that armchair will do." The businessman recognized the comparison, and paid Simon a good price.

Such comparables for assigning dollar values are harder to find now. How does one price work for sale in a gallery? By the hour? How do you price the time required to develop a discipline? How do you quantify the labor of heart and soul, or the gift-value of dreams? Is there a variable scale that recognizes the value of those rare moments when something moves through you and delivers beauty from some source much greater than yourself? When I was trying to price pieces for one gallery owner, he suggested "well, how much would you need in order to part with each piece?" The problem there, however, was that the ones I didn't want to part with, I wouldn't sell, and the ones I was happy to sell, I didn't want to keep. But he encouraged me to value my work highly, and to let the prices re ect it. I sold one piece for quite a bit of money, gave away a few others, and took most of the rest home. Since I live in a very small house, storage was a challenge. My next show was at a gallery where the previous exhibitor – an established and well-known sculptor – had sold nearly every piece. He priced as low as possible (and worked in wood – much slower and more involved than what I was showing). Following his lead, I priced my work low, sold most of it, and had little to haul home. I was delighted – richer than before, and free to begin anew!

Between these two shows I also wrote and self-published a little how-to book which started to sell quite well. A book, of course, is easier to price than unique works of art, but I had a few customers who bought them wholesale and one of these wanted to negotiate a unique, deep discount on entire cases. It made me anxious and uncomfortable. When we met to discuss the discount and exchange money for books, My "customer" was someone I worked with. I liked and respected him, and didn't want my irrational feelings about money

to queer our relationship. I told him that dealing in dollars made me defensive – as if my value in the world was just a number, and that everyone else was a thief out to cheat me of my due. As we talked, it became clear that neither of us worked just for money. We shared common purposes, deeper than the money, which took its rightful place as a simple means of exchange, rather than a value unto itself. Everything else fell into place. That "customer" remains a friend, and our relationship has become a collaboration by which we do much more than simply selling books. Though we continue to do that – profitably – we're also making beauty (goodness) – together.

Such beauty may not offer criteria for pricing work, but it does guide it. After I'd been doing things long enough to be known for what I did, I found myself facing choices about how much work and how many clients to take on. I realized that just because other people think of what I do as "my art," I don't have to say yes to every opportunity. In fact, sometimes I have to say "no." Working for goodness and beauty is not a simple matter of ever-increasing production and bank-account balances. We must not make ourselves into machines. Like farming, art succeeds or fails not according to the number of carrots and potatoes you pull out of the ground, but according to the fertility of the soil and the health of the farmer and their community. When the soil over ows with fertility and the community over ows with health, all products become gifts and exchange becomes celebration.

Obviously, "the fertility of the soil and the "health of the community" are beyond the reach or potency of any one man or woman's art, whether we think of health and fertility as concrete facts or fuzzy metaphors. But at a certain point I did realize that my own choices shaped my community and affected the richness of my environment.

For instance, I fairly regularly get invited to work in places and for people far from home. Of course, this is a big ego boost, and travel is always exciting. One man called from Canada saying he wanted me to build him an oven to anchor his new restaurant concept. Since "the customer is always right" and since ovens were "my art" I said "yes." After I hung up the phone I thought about the 2-day trip to Edmonton, the weeks away from home and family – and the fact that I had no practical idea of who I would be working for – and I thought, simply, "no." I called him back next day and gave him the name of a Canadian builder I knew. Not long after, I got another call from someone much closer to home who also needed work – and realized that I wasn't just building ovens or making sculpture, I was adding to a network of relationships between peoples who – depending on my choices – might be in close enough proximity to know not just me but each other.

Part of any work, of course, involves maintaining relationships, and if the work itself also involves maintenance, it makes sense to keep the focus local.

Now, when I evaluate my job prospects, I weigh them according to how they answer three questions: is the work in or close to my community? Will I be working with people I know, or know of? Is it interesting? This doesn't' mean that I refuse jobs that don't meet all criteria – sometimes it's worth more to try something new, or to work with a particular person than it is to stay home – but the criteria help me remember that money isn't a value. Once I'm clear on what *is* of value to me, then I can talk about money.

Such criteria also add something I call "gift labor" to every job. If a job is worth doing, it's worth giving my time and energy without counting every minute and every expense. This leaves me free to adjust my prices according to real needs (my own and my clients') rather than arbitrary or contrived scales based on fickle markets or mechanical concepts like "time & resource management" or "cost-benefit analyses." The gift can work both ways, too, as some clients are able or willing to pay more than I strictly need.

Of course, need and wealth are relative. If you need to eat at fancy restaurants, to drive brand new cars, to buy every new appliance, to go on expensive vacations, to live in a big house (or two), with cable TV, maybe a personal trainer, and every possible option on your cel phone package, you'll "need" a lot of money, and you'll have to count your time and your wealth in dollars enough to pay all the bills. My measures may make little sense in that case. If, on the other hand, you need time and freedom for family and garden, to cook your own meals and to make a life of beauty (goodness), then you may need only one small house with nothing in it that will distract you from the people you love and the things you love doing – and your wealth will be much harder to count – and to tax.[17]

When labor turns again to art, wealth is given in the form of time and materials at hand – and goodness comes without price. One mason I worked with specializes in custom-built, super-efficient, wood-fired heaters. As a 2nd or 3rd generation brick-layer who was inducted into the union at the age of 12, he was used to billing by the hour, until one obsessive and controlling customer came up with a different number of hours and refused to pay the entire bill. Now he simply charges a at fee that includes an allowance for maintenance calls. He's one of the foremost builders in his trade; his focus goes entirely into the work – which includes a large amount of "free" work – and his clients become allies in his larger mission, which is not just to make money, but to educate the public about a better way to heat a home.

17 My family and I – four of us – live quite happily and cheaply in a combined cabin and cottage that give us about 600 square feet of space, not including the composting toilet, cold-cellar, and greenhouse, which are in a separate small building. I started out trading labor for rent, including fixing up the buildings, but now I have more work, we pay cash. The small space limits our ability to consume too much stuff, encourages us to live outside, and keeps us close. I also have a shop at a neighbor's, where I do odd jobs in exchange for use of the building, which would otherwise go empty. According to official "standards of living" we are "below poverty level" – and pay no taxes. But we have no debt and no one can fire us from our jobs.

In Mali, west Africa, where buildings have been hand-sculpted out of mud for untold generations, masonry has required much more of a man than it ever has in America. Masons in Mali traditionally took responsibility for the entire life of a house, not only maintaining and re-plastering every year, but also burying the owners when they died! No house sold with approval from the mason. In Djenne, home to a great Mosque that is one of the largest earthen structures in the world, masons share responsibility for the structure, which also requires annual re-plastering. The job involves the entire community, which divides into teams to make and transport mud to the masons, who race to see who can finish their section first.[18] It's a celebration!

Can you imagine an American contractor agreeing even just to keep a house painted? If the same man who built the house also maintained it, who would need bonding and insurance? And if the builder had to approve every new owner, we would have to value houses as sacred space essential to the life of the whole community, rather than simply as speculative commodities controlled by banks and mortgage re-sellers.[19]

Of course, I may need to compute how much cash I need per month or per year, how many hours I have available, and how many dollars I need to get out of my working hours. But I don't sell my time – that's called "wage slavery," and for good reason – when you sell your time for money, you give away your freedom.

Selling objects in galleries seems no better to me, even after that show where I sold nearly every piece. I like to meet and know the people who buy what I make, and it's helpful to learn how they use it and what inspired them to buy it. I much prefer to work by commission for people who need or want me to help them find ways to improve their home, to increase the goodness and beauty of their life, whether it be an oven, a garden wall, or a fireplace surround. I get to collaborate with them, and they get to participate in the process – together, we create far greater value than the cash that I need personally.

When I have time at home, I carve spoons and wooden dustpans, most of which I've given away, though I have thought that when I have time, I'd like to make enough to be able to sell direct at markets or fairs. I take pleasure in talking to people who show interest in the things I make, whether it's books or spoons, and when they buy, it seems like more of an exchange of gifts than a financial transaction. When I sell only what I make, everything changes. Every *thing* has its price, and prices vary with the market, the buyer, and the seller – but *all* labor

18 The Future of Mud, a "constructed documentary," by Susan Vogel, tells the story of a modern mason in Djenne and how he deals with the choices forced on him by modernity, including good footage of the annual community plastering of the Mosque at Djenne.

19 I wonder if this isn't part of the reason why Malian masons were also undertakers. After all, wouldn't it make sense, especially if your prime building material were earth, for your house-builder to see your dead body safely enclosed back into the earth that also sheltered and enclosed your living body?

truly is "love made visible," and the gift of s/he who gives it.

Best of all, however, is working in a pure gift economy – also called barter, except that barter focuses more on the thing, while a gift economy focuses more on the exchange. The original agreement by which I fixed up and moved into my house was the greatest such gift because it was a relationship that brought me into my community, and that also continues on what is very much a familial basis (which, of course, includes family challenges and the kind of risk you can't control with money – which is priceless on the good days, and no worse than normal on the bad days).

When Hannah was pregnant with our first boy, we found a wonderful midwife who traded with many of her clients. She happened to want a garden wall, so after she spent 6 months walking with us into the adventure of parenthood, I spent weeks in her yard helping to re-shape her home. Later, inspired by a carpenter who had traded home maintenance for family doctoring, I traded with our naturopath for family health care.

A few years ago we took the boys to a "primitive skills gathering" that has taken place near us every summer for more than a decade. We spent a week making things, and the boys made fast friends and foes and had the run of the camp. Individual skill and talent was on display and/or in use everywhere: tools, utensils, weapons, clothing, food & drink – all hand made, home-grown, wild-crafted, and beautiful. The highlight of the week was the *trade blanket,* when anyone with an item to trade could bring it into the circle and offer it for exchange. Traders sat around a blanket with spectators all around. When someone put an item on the blanket, anyone who liked it could offer item or items in exchange, including as much or as little commentary as might be needed – sometimes even cash, when the pot needed sweetening, but otherwise, no mention of "dollar value" was allowed. When the offers stopped, the stories started. No deal was required – the trader could simply say "I respectfully decline," and remove her item. Otherwise, she'd make her choice, and close the deal with a handshake. Some exchanges celebrated and cemented friendships. Others encouraged new young traders, as when a young man who wanted someone else's beautiful knife offered a few tiny jars of a sweet he'd made – from the milk of his own goats. The owner of the knife wasn't interested at first, but the boy told about his herd, the hours he'd stood at the stove stirring – and then, with encouragement from the crowd, he offered a taste of the product. Everyone around the blanket had a stake in the exchange by now, and most were rooting for the boy. It became a point of honor for the older and more experienced trader to reward not only the work, but the courage and integrity that the boy brought to the blanket. When they shook hands, all cheered.

Shouldn't every exchange do as much?

Working on entrance columns for an alternative high school.

Kinds of Art

The basic error in what we have called the illusion of culture is the assumption that art is something to be done by a special kind of man, and particularly that kind of man whom we call a genius. In direct opposition to this is the normal and humane view that art is simply the right way of making things, *whether symphonies or airplanes.*

Manufacture is for use and not for profit. The artist is not a special kind of man, but every man who is not an artist in some field, every man without a vocation, is an idler. The kind of artist that a man should be, carpenter, painter, lawyer, farmer, or priest, is determined by his own nature, in other words by his nativity. No man has a right to any social status who is not an artist.

– Ananda Coomaraswamy,
The Christian and Oriental, or True Philosophy of Art

In Canada, a few years ago, I worked with a talented young woman who had left art school for a gardening internship at a center that was variously involved in permaculture, natural building, and public education. I had come to teach a workshop on art and design with earthen materials. She was particularly interested in using earthen pigments to paint the beauties of the garden, but also talked about her doubts about giving up on art school, where she had enrolled to "be an artist." She loved the outdoors, working in the garden, observing and painting the beauties of nature, but the aesthetic at her school emphasized abstractions and theories, and pulled her away from what she loved. So she quit, to work where her love could grow. The gardening internship, however, left little time for painting.

Before the end of the workshop, she and her gardening partner made time to put on a farewell play. A dozen or so of us followed their mobile performance out of the garden and into the woods. They showed us places where they had discovered the wild sources of all the well-ordered beauties of the garden; they showed us what they loved, and told us how they loved it. We gave them tears and laughter.

Later, sharing an hour's car ride, she asked me how I'd gotten to where I was, which I took as a question about how I'd combined my own loves and managed to make a living as well. How do you answer a question like that? I laughed and said, "well, that's all a bit of a long story."

"That's what I was hoping for," she replied.

In fact, however, her own career impressed me for the clarity and confidence with which she had not only chosen love and beauty, but chosen to follow them into their native environment, and there pursue the practical skills by which to combine them. I had only recently come to the same place by many errors, a few trials, and much luck. She seemed

to have already arrived, by surer means. Stories merely confirmed the truths we held in common – different arts; one purpose.

Eric Gill, the English artist and typographer who designed the typeface in which this book is set, put it very simply when he said "an artist is not a special kind of person – but every person is a special kind of artist." In other words, all us have the capacity and, I would say, the duty to fit our love with the object of our love in a way that benefits the world. Coomaraswamy expands that notion greatly in the opening quote, essentially saying that our status depends *on how we make ourselves* useful *to those around us* – not how we can *make more than those beneath us*. His "normal and humane view" comes out of his knowledge of traditional cultures where people earned their livings by hand – where the normal working person possessed skill or facility in the transformation of inert matter into useful things like vessels and containers, tools, food, sculpture, and pictures. Rather than define what art *is* or should *be,* Coomaraswamy challenges basic assumptions, and asks us to unpack the "illusion of culture," to look deeper than status, titles, and aesthetic surfaces.

Of course, before books became the norm, we made our stories public through the media of song, dance, painting, and sculpture. Further, even lawyers and priests who didn't make *physical* things, still had to make *useful* things, like justice or meaning, the usefulness of which anyone could measure, also on a *public* scale where status meant much more than the sum of the numbers on a cash register. Finally, the public scale of normalcy never reduced a person to zero. If you look at the old stories, even idlers provide a balance against the arrogance of measuring all value in human terms like money and status.

Such a view of *normal* is now, sadly, archaic, so much so that people call it unrealistic. Modern normality requires the buying and selling of stuff, mostly machine made. We have lost touch, literally, with the matter of life; we've exchanged the norms of art for the norms of trade. Now, to "make nothing" doesn't mean that you're an idler, but that your financial worth adds up to zero – or less! Instead of the still potentially useful role of "idler," your worth is simply counted out in passive dollars. Public stories (sculpture and painting) and the public scale of social status have morphed into a private scale of bank balances, credit ratings, and stories that we print and digitize for increasingly private consumption (in Greek, the word for private is *idiotikos*). We now believe in a global scale of value, ruled by speculation and gambling, counted out in paper chits or electronic bits in an imaginary "global marketplace." When the house of cards collapses back to that illusory "number," zero, men jump out of windows or shoot themselves. Is it any surprise? Of course art has lost significance. It has been privatized and converted to currency so that, as a cynical friend of mine aptly put it, you can "hang your money on the wall."

When I do call myself an "artist," I sometimes feel as though I've admitted to being an

idler, not much more than a bum, and almost a zero (except that, unlike many professionals for whom debt is a way of life, I have money in the bank and no debt). But (after I tell them how I earn money) people often take more interest in my art than they would ever have for a more profitable trade like marketing, engineering, or law.

So why does art still confer any status? Why do schools teach it? Among the professions, art is a notoriously dubious career choice.[20] Artists are stereotypically poor, struggling, ignored, misunderstood, etc. Or art is vilified for being elitist, out-of-touch, irrelevant, rarefied, incomprehensible, Godless, etc. At the same time, art is the last refuge of the autonomous individual. Art is where it is possible to be authentic, honest, courageous, independent, visionary, prophetic, profound, and wise. And art still carries the connotation of excellence in any field: if you happen to find a competent, qualified, disciplined, thorough, reliable, and trustworthy worker, someone more likely to succeed where a mere journeyman might fail, it's common to praise him as "an artist." In this sense, art tempers aesthetics (feeling) with morality, and such artists work for beauty and goodness (which come to the same thing) instead of just for money; their motives, if not pure, may have enough complexity to escape the crucible of the market without being reduced to simple greed.

We seek to serve higher goals, but lack the common measures that would give practical value to love, beauty, truth, justice, and even idleness. Congress nor President can enact them. Laws won't make life. But human arts, like yeast in dough, infect and inspire us with living truth and working beauty, though they cannot act alone. Only when they multiply, combine, and collaborate can they work the dough and make it rise.

20 The status of art in society comes in for interesting treatment in many places. Bureau of labor statistics for 2006 reported that artists held about 218,000 jobs (out of about 135 million – or just 0.16% -- that's less than *one fifth* of one percent). The NEA gets a higher count: almost 2 million (a number they proudly compare to the "total number of active-duty and reserve personnel in the U.S. military (2.2 milion)" and also more than legal, medical (physicians, surgeons, dentists), or agricultural workers (farmers, foresters, ranchers, and fishers). "Artists in the Workforce, 1990-2005," National Endowment for the Arts, www.arts.gov) Many so-called "art jobs" are, of course, in advertising. It's also now a cliché that "real manufacturing" jobs have all gone to countries where labor is cheap. And while we still have way more folks in the "goods-producing" sector than we do in art, per se, even that sector only accounts for about 15% of the 2006 total. All of which serves, in my opinion, to underscore Coomaraswamy's point about what constitutes a "normal" view of art.

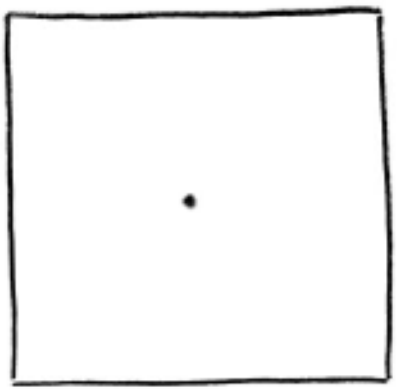
The Way of Design

As ordinary adults, we have to ask ourselves, in a way that people two hundred years ago did not, what an adult is…. I would say that an adult is a person not governed by what we have called pre-oedipal wishes, the demands for immediate pleasure, comfort, and excitement. Moreover, an adult is able to organize the random emotions and events of his or her life into a memory, a rough meaning, a story.

It is an adult perception to understand that the world belongs primarily to the dead, and we only rent it from them for a little while. They created it, they wrote its literature and its songs, and they are deeply invested in how children are treated, because the children are the ones who will keep it going. The idea that each of us has the right to change everything is a deep insult to them.... An adult is a person who, in the words of Ansare, goes out into the world 'and gathers jewels of feeling for others.'

-- Robert Bly, in The Sibling Society

WHEN I WAS in college, I sent a postcard to a friend that just said, "my life is like this:" over a drawing of a dot in a box. I was comparing my insides to other people's outsides: they all seemed to have clearly defined goals and objectives, and secure knowledge about where they were headed and how to get there. I felt alienated and unsure. When I saw him again, my friend gave me a hard time for being vague and obscure, but that diagram explained exactly how I felt: infinitely small, trapped not only by my own small knowledge and experience, but also by the unknown world which somehow managed both to loom large and also press in on all sides – without actually touching me! *Alienation* seemed too pat a word, like a diagnosis that could be cured with a pill.



Years later I discovered a beautifully drawn little *Book of Signs,* by Rudolf Koch, containing "493 symbols used from earliest times to the middle ages by primitive peoples and early Christians." Koch says that "the square is the emblem of the world and of nature. As distinct from the triangle [the square] is the Christian emblem of worldliness. In it is symbolized the number four; this has a host of significations, as: the four elements, the four corners of the heavens, the four Evangelists, the four rivers of Paradise." (Koch, p. 1, 5.) The dot, he explains as "the origin from which all signs start, and…their innermost essence…" So my figurative, intuitive use of this simplest of signs coincided with a more detailed, layered meaning, which names the place where chaos ends and life begins, the point that suddenly organizes the

blank page, introducing four-sided order into unbounded formlessness.

We all, of course, find ourselves at that point over and over again, at different stages of our life, but my friend literally *could not see* that. I was surprised because, like most college students, we'd spent a lot of time philosophizing. But I think, as literal people, we let language separate us from life, and then ask it to restore us to life. So now, in the same way that we expect nutritional data with our food, we expect artists and other manipulators of symbols to explain their meanings – an expectation that keeps critics happy and working, and that my friend held up as his intellectual due. I felt I was merely repeating a common truth, a truth that requires every single thing on earth, no matter how small and weak, to follow a process: we all begin, somehow, as simply as a dot on a page; we must all grow into the world that surrounds and encloses us.

To follow that way *consciously* means following common processes – growth and decay; birth and death; photosynthesis and oxidation; conduction, convection, and radiation… etc. We recognize the patterns of such change as design. So the patterns of Picasso differ from those of Monet, the waves left by oceans differ from those made by the wind, sound requires ears where light requires eyes – and on. Different qualities in different patterns help us distinguish between designs, name them, and celebrate them. At the same time, every design re ects the common sources of the life that made it, so all our designing shares that fundamental grammar. This discovery – which, once made, continues daily – transforms the challenge of art.

In a consumer culture, however, the challenge of art typically comes down to the explication of absurdly individualistic language that none but the speaker can understand. Accordingly, every expression exists independent of every other, each one an individual interpretation of separate truths, each truth presented as whole, complete, and authoritative. So we learn to evaluate artists, not against a common standard of truth or beauty, but according to her ability to proclaim "her own truth," her own uniqueness. Judgement comes down to personal preference, like buying ice cream: you like chocolate, I like vanilla; you like Moore, I like Michelangelo. *"It's all good."*

Indeed. As the verb *to be* suggests, however, if we limit art to a consumer choice, to a *state of being,* there it must also remain: static, rigid, in exible, and inevitably dead or dying, like yesterday's fad. (How carefully we treat it – putting it away in great mausoleums – I mean, museums – but only after a proper period of public viewing in private galleries.)

Art we *consume* reduces us not just to consumption, but to childishness. Modern design begins with self as consumer, in a world where all things mirror the self. This give us "modern," "post-modern," and "industrial" design – not to mention "designer clothing," "designer water," and truly bizarre concepts like "trademarks" and "intellectual property," by which individuals

and mortal human beings claim authorship and control over everything from seeds, to genetic codes, and family names. In the market-driven world of career, money, power, status, comfort and consumption, every design is a product, and every designer is up for sale. Work must generate ever-increasing profits for an ever-growing market in an ever-expanding economy. Such growth works like cancer, and converts our inter-dependent, cooperative selves into isolated, competing, selfish, and life-destroying tumors. Technology and wealth "free" us from traditional labors, but replace wisdom with gratification, art with ego, and beauty with pathology. Even in traditional societies, the global market has perverted tradition and made it the scapegoat in a global war on beauty. The market, blind to beauty, sees all things as resources, then as products manufactured "to meet the demand of the markets" (magically created by advertising), and finally, as profits, "to have and to spend." Reduced from person to consumer, you must compete "to get your needs met." Adulthood no longer means that you "put away childish things." Instead of outgrowing toys, adults are merely expected to buy bigger, more expensive ones: cars, equipment, and houses, instead of crayons, rattles, and blocks. Of course, the wealthy and powerful serve themselves first. The rest eagerly try to "make themselves marketable," a strategy that gives them brief value as small, weak, and ultimately disposable units that simply add increments of cash value to the corporate account. Mechanized, the eternal cycle of life, death, and rebirth becomes production, recycling, and disposal. Rather than a cycle, however, we now imagine history and progress coming to a final end as a used-up planet covered in more-or-less toxic waste.

It's a bleak picture, but no matter how passionately painted or performed, to call it art only makes it bleaker. By contrast, if we understand art as a way to enter into and follow the fundamental processes of life, death, and rebirth, then we may find hope. This kind of art invites us into a living stream of beauty, into the way of design.

The word *design* comes from the same Latin source as designate, which suggests a choice, a literal "marking out," as of plans on paper – but the root meaning goes deeper, to a source it shares with such words as *sign, sequel, suitor, pursuit, second,* and, interestingly, *society.* This root meaning is, simply, "to follow." What does design "follow" and what does it mean to follow "the way of design"? If I'm working with others, I'll often begin by asking them to look around for some natural object that they like. Then, together, we can ask:

"Look – here's a beautiful leaf. What made it just so? How did the leaf achieve leafness? *What does it* ***do*** *that attracts you to it? Why is it so beautiful? What's going on?"*

This allows us to talk about beauty, not in terms of absolutes or even relative qualities, but in terms of art – not *what the leaf is,* but *what the leaf does*. The interpretation of actual experience leads to identifying process and pattern, which is how design becomes apparent. As we discuss those workings, we can begin to see design as a stage in a continuing process

– the leaf dies, the tree falls, we eat the fruit, and the cycle continues.

Following the way of design means *using* our arts to align living with truth and beauty. Drawing, dreaming, making, musing; arguing, analyzing, and legislating; cultivating, reaping, and sowing; singing, dancing, and designing – all provide means for shaping patterns of life and land, for fitting cultures to universal cycles of birth, growth, and death. Art challenges us not to create but to *use* our gifts and abilities to fit ourselves and our work together with the whole, which was here when we arrived, and will persist after our great-grandchildren return to the dust. Don't just make. Learn to see and to feel, to understand and to participate.

The Hand That Obeys the Intellect

La mano che ubbidisce al'intelleto

— Michelangelo Buonarotti

WHEN I quit my day job to return to art, I enrolled in a life-drawing class at the local community college. I had done a fair bit of drawing from life, and I was attending a bi-weekly open studio with a live model, but I wanted more practice, and I was thinking about pursuing a graduate degree in fine arts. I thought some course work would be advisable. But rather than drawing a model, the teacher had us copy master drawings projected oversize onto the wall. I didn't so much mind the copying as I minded what she had us do afterwards: on our own drawings, she told us to locate and draw any "S" shaped curves or relationships that we could find. While the patterns were somewhat interesting, I didn't think I was learning anything from it. When we finished that exercise, we copied more master drawings, but this time, covered our copies with triangles and triangular relationships. Finally, she had us look for and draw in parallel relationships. I had done what I thought were similar exercises using scribble techniques, or making angular facets to break up the planes of the body – but those resolved into designs that actually resembled the original. These just messed up my drawings with what I thought were relatively obvious and uninteresting connections. After three or four weeks, I thought my skills and experience might be too advanced for the class. But as I considered dropping it, a small voice suggested that my impatient, arrogant self should try sitting down and shutting up for a change.

As we finally started drawing from life I found myself looking for "S" shaped, triangular, and parallel relationships, often unconsciously. Using my teacher's method, I found that I located hands and feet more easily and more accurately. Instead of having good parts and bad parts, my drawings started to look and feel whole and finished. After six months or so of drawing, I wandered into a local gallery with my portfolio and got offered space to show drawings and sculpture.

Art teachers will often give drawing students an object, and then tell them to draw it *without looking at their paper.* This "blind contour" exercise requires you to focus your eye on the object while imagining that you're actually touching it with the tip of your pencil. It's impossible to do quickly, at least at first, but with practice, not only does the drawing become accurate, the act of drawing strengthens the connection between hand and intellect

so they can work together. This not only makes the object real, it opens the mind to new perceptions about it.

I came across Michelangelo's quote not long after deciding to go back to sculpture. I was past merely wanting to carve like him, and wanted to know more than I could learn from pictures of his work. Having had a fairly typical U.S. education, I knew little about the Renaissance, much less the medieval history preceding it. But I knew enough to suspect his apparent loyalty to "the intellect." I still don't trust the human mind to fully hold onto truths that precede our brief existence by billions of years, nor do I trust it to predict outcomes to forces so obviously beyond our control. But I have also come to realize that a "hand that obeys the intellect" may go much deeper than I first assumed.

At root, intellect (and intelligence) refer to our ability "to choose between," to distinguish dark from light, straight from curved. A fundamentally visual or tactile quality, it begins with physical experience of the world – truth exists, not in the mind, but in the world. Intellect attaches us to our experience of those truths, and speaks back to the world in the form of ideas, re ections of the truths we see. (Not surprisingly, "intellect" shares a root with words of law and language: lexicon, legislate, etc.) Michelangelo's hand, then, wasn't simply obeying his mind, but his mind's image of the world, which he saw through his eyes, but also through his understanding of ancestral stories about the world, and the laws men live by, both natural and human. As a result, his work still speaks to us 500 years later.

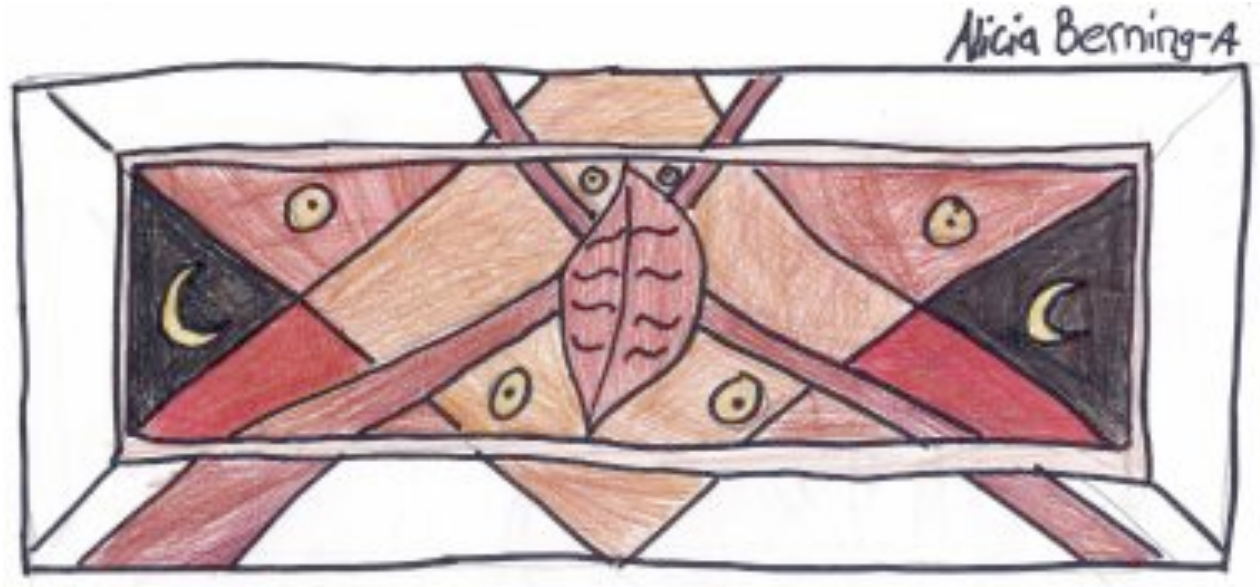
A hand that obeys the intellect behaves like a hand that draws a line — it must follow reality, to make it true. The mind directs the hand to draw, but the hand also brings new information to the mind. The hand obeys the intellect but also conveys physical data – shape and movement – that the mind needs in order to perceive truly (the root of "idea" means "to see"). So we learn not just by listening, reading, and reciting, but by *participating* – which is, I think, why most kids like to draw, at least until about middle school, when freedom shrinks and fear grows, fed on grade-based performance anxiety and fear.

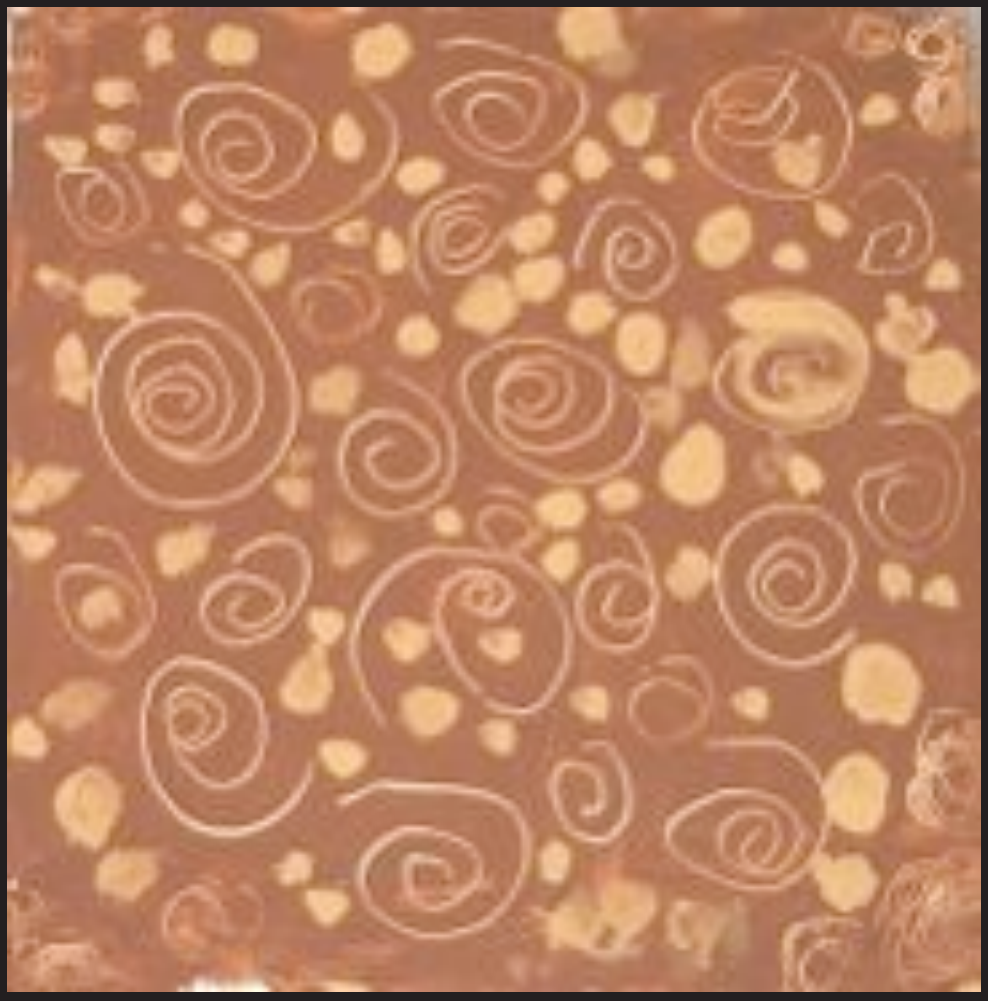
When I started working with kids in schools, I needed exercises to identify and quickly develop whatever drawing skills the kids might have. And I needed exercises that wouldn't require copying drawings of naked grown ups! What I found was a wonderful book by Mona Brookes called *Drawing with Children*. An artist and teacher whose boss asked her to teach realistic drawing skills to pre-schoolers, Brookes took on the challenge with the help of a musician friend who suggested coming up with a simple "alphabet of shapes" that any 5-year old could use in order to draw a realistic tiger, ower, or bird. They agreed on 5 basic shapes, which she gave to her young students in simple exercises that involved repeatedly copying the shapes, first alone, and then in more complex patterns. Once familiar with simple shapes and relationships, they were able to look at complex patterns or live models, find the basic

shapes, and reproduce them in correct relation and proportion. Using this straightforward approach, she not only got impressive drawings from her kids, but also saw marked changes in how they performed back in their regular academic classes – especially those labeled "Attention Deprived," or otherwise "challenged." Inspired by her example, I made up my own exercises and used them to get kids involved, mentally and physically, in the process of design – the process by which we represent reality and find meaning.

The first time I used them, I was working in a second grade classroom. I gave the kids paper and pencils, and they set to work. I answered a few questions, but it was very quiet. The teacher, standing next to me, asked in a low voice if she could copy the exercise sheets, because "the only time they work like this is when we do art."

A student design (below) and one of the resulting earthen murals; Salem, Oregon.





A practice panel (above), done in earthen pigment on sheetrock,

Below: students painting the final mural

Lines & Letters — Literacy & Participation

Reading, for a man devoid of prior understanding, is like a blind man's looking in a mirror.
— Aristotle, Metaphysics, VI: 2, 4 & XI: 8, 12;
quoted by Ananda Coomaraswamy, in "The Bugbear of Literacy."

LINES AND letters grow out of drawing. Basic drawing – the making of dots, lines, curves, triangles, etc. – provides a fundamental grammar of visual perception and intellectual participation. Knowing requires doing, and drawing, simple as it may be, provides an active connection to our ideas. Those mental and physical structures, made of shape and line, can enhance understanding and provide the means – the art – by which to create meaning. From drawings on cave walls to the theory of relativity, drawing allows us to re-present real things according to their actual form and our common experiences of them. All of us have seen a person that we easily represent with a stick-figure made of just a few lines arranged under a circle. The same drawn shapes and principles of relation and proportion enable us to draw letters, by which we re-present actual relationships between ideas, things, and experience. When Aristotle said that understanding comes before reading, he merely repeated the old saw that "experience is the best teacher." Yet most schools give far more importance to reading over drawing, much less other manual experience – aka art.

Literacy now represents, for most teachers, a primary gateway to the goal of "culture." But culture from doing, not from books and reading. It grows from direct, practical participation in the working relationship between land and people. From an evolutionary perspective, it grows out of hunting and gathering, and only recently out of planting and tending seeds; it has always included making, building, and telling stories – all essentially participatory arts.

As a "teaching artist," then, my job is simple. I work with kids to tell stories about common experiences. But instead of using letters and words on paper, we use shapes, figures, and 3-dimensional representations of real things. My job is to invite and encourage kids into the process of transforming experience into meaning. The difficulty comes of the fact that our common experiences have grown small and their significance has shrunk too. In America, for example, two centuries ago, or even one, most people farmed or made things for a living, and if they didn't, their parents had farmed or made things. People knew the earth by hand, or they knew the basic materials that came direct from the earth: wood, clay, metal, water….And the

earth, despite the wind- and coal-powered beginnings of the global economy, still consisted mostly of places that people could and did walk to.

The experience of consumption, while equally universal, now no longer requires the participation that makes it *culturally* meaningful. The bread that we used to know from the growing of the wheat to the grinding of the grain to the baking of the loaf now comes to us off an anonymous shelf, from far-off farmers and faceless bakers. As one result, the cultural meaning of communion has shrunk to an individual, personal event – like buying your favorite brand of bread. No longer can we share the deep meaning of what we all used to harvest more or less directly from common ground that was watered – providentially – by a universal sky.

So when I teach, I set up the work cooperatively, and emphasize our common purpose. To strengthen that purpose, I offer techniques and symbols rooted in experiences we still share: common as TV but – I hope – more meaningful than what we can buy on the shopping channel or who's voted American Idol this week.

Sight still provides common experience by which to make common meaning. That is, of course, why TV has such power. We still live by what we see. So when I work with groups of kids, we begin by looking analytically at what's around us: "what's this place like?" "How does it feel?" "Why do you think it makes you feel one way and not another?" Or, if we're starting with drawing exercises, I'll often ask them to go outside and find something real and natural to draw: leaves, rocks, owers and branches – things that seem simple until you look closely and try to draw them.

By focusing on immediate visual relationships, we avoid arguing about the relative meaning (or goodness, or beauty) of what we're making. Instead, we build it, slowly, piece by piece, according to how things really fit together. The shared experience builds a vocabulary of common terms that we can use towards a common purpose. If that purpose requires us to fit the parts together well, then the end result has greater meaning than anything we could have agreed on in advance by simply talking.

We make culture out of stories, not letters, stories we make, by hand, heart, and mind – all working together. So participation and learning leads us, by art, to meaning and beauty. What we make is not a physical product, but an agreement, a meaning…. The thing left in our hands is not art but object. It is the artifact – literally, what "art makes" – out of experience, knowledge, and the materials at hand and underfoot.

Painting an earthen sculpture.

A practice panel in mud on sheetrock, and a preliminary pattern design study in pencil on paper.

Naming Beauty

In all the cities of the world, it is the same, the universal and the modern man is the man in a rush, a man who has no time, who is a prisoner of necessity, who cannot understand that a thing might perhaps be without usefulness, nor does he understand that, at bottom, it is the useful that may be a useless and back-breaking burden. If one does not understand the usefulness of the useless and the uselessness of the useful, one cannot understand art. And a country where art is not understood is a country of slaves and robots.

– Eugene Ionesco, *Notes et Contre Notes,*
quoted by Thomas Merton in *Raids on the Unspeakable*

In teaching, I try to find ways to help people see, understand, and name *life,* whether we're looking at nature, art, craft, or design.[21] I'm usually teaching where people already live and work; where life has already defined paths and destinations: where walls, windows, doors already define design and structure. I have to figure out how to talk to people about what's already there before we can discuss doing anything new. So I try to get people to stop, look, and see. The trick is to shift perspective, to be able to identify the parts, the whole, and how they do (or don't) relate to each other – and to us.

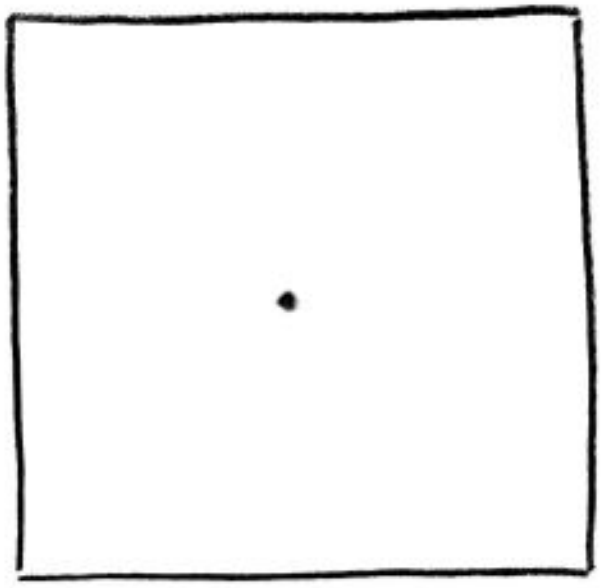
I start by asking folks to mix materials so we can *do* something together, and so they can focus on something simple, without the distractions of what they think they already know. Making mud is a great way to warm up any group. Everyone works together to help mix big batches of dirt, sand, and water that we stomp around in, barefoot. People get comfortable (after all, you only take off your shoes when you're at home or on vacation, right?). We talk. As the material comes together, so does the group. Then everyone gets a bucket of mud and a board, and I invite them to schmear the mud on the board and play around with line, texture, shape, and anything else that might come to hand. I might suggest an assignment to get things moving, but the point is not the assignment, but simply to see how minds and hands work together. After a half hour or so, most people have gotten to a stopping point, so we arrange our work so all can see, and talk. There are likes and dislikes, varieties of analysis and criticism, expressions of regard for those who have definite talents, and then humility – often surprise – at unexpected beauty that "just happens."

After a couple of hours, we've sidestepped awkward introductions, learned some names,

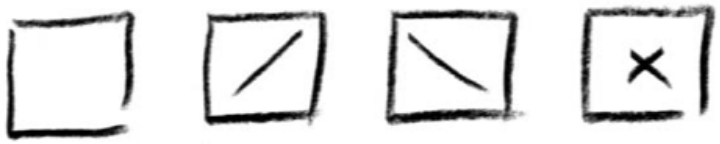
21 Modern art theory divides manual "craft" from conceptual "art." But craft without art is merely technology — tools for production and profit. Art without craft is "design" – a drawing of something that someone else can make – without thinking – by machine. "Manufacturing" requires no manual skill. We call "design" *modern* simply because we can produce it in facile, monotonous, and seemingly endless quantities. Reduced to machinery, neither art nor craft produce anything more than pleasure we can sell, bodies we can buy, and cheap purposes paid out in dollars – slavery legalized, because the slaves get a share in the profits. Ananda Coomaraswamy says that "industry without art is brutality." True art and craft flourish only in freedom, in a practical but non-economic union that combines beauty *and* purpose, necessity *and* survival, knowledge *and* understanding, experience *and* wisdom. It requires real work, done by hand, heart, and mind.

shared an experience, gotten dirty, laughed, loosened up, and learned concrete lessons about our materials and each other. We not only have material to work with, we also have a sense of ourselves as individual members of a unique group, we've laid a foundation for a common language. Then I try to talk my way through the process that we've all just completed, using the same materials and the same square board, but now trying to *name* some of what happens when you make a mark on a blank surface.

Naming helps us grasp what we know – as the purchase of a new car grants you possession of the name as well as the object, and suddenly you see "your" make and model on every street. Before the apple of knowledge made them conscious (*with knowing*), Adam and Eve had no *idea* by which to separate themselves from their bodies and from the rest of creation. Whether we lament their loss of innocence or celebrate their acquisition of power, naming their nakedness was as important to Adam and Eve as naming the animals. By the same token, the Biblical notion of dominion may have had less to do with master and slave than it had to do with the mundane cooperation between inhabitants of one house (from Latin, *domus*). We build and occupy houses to serve the needs of *all* the inhabitants, so dominion can imply service, the rule of relatedness rather than the practice of power. We measure service not by *rightness* or *wrongness*, but by *how things fit* – or not. When they fit, we get life. Whether we do it for theology or science, the ultimate purpose of naming the parts has little effect on our ability to control life but immense impact on our ability to participate in it. So too, naming the elements of design begins with a simple combination of looking and doing: For example, if I make a dot on my board, as at below, it changes everything. What was blank nothingness takes on order and structure.



The point locates forces of relationship: Mathematicians define a point as the intersection of two lines, like this:



The lines of the "X" indicate the relations your eye recognizes when you think "center" in relation to "square." Two forces intersect, and germinate a new, third force.

By naming that intersection CENTER, we recognize the relations that establish, strengthen, and confirm wholeness. Once we've named and *seen* it, we relax; we feel that "it's all right" – in other words, that relations between the parts are as they should be – integrated – again, it fits together.[22] We say "it's good." "Good," in Latin, is "bonum," – the root of "beauty."

22 The quality of wholeness is also essential to *health* and *holiness* – words that share a common linguistic root, because they share a common basis in human experience. *Holiness* suggests union with the universe. *Health* suggests union with nature. Breaking either bond destroys wholeness and invites disease.

Draw me a Leaf

To DRAW a leaf you have to identify all the parts: stem, veins, top and bottom surfaces, and edges. These vary from species to species. I'm unlikely to mistake a nettle leaf for a fern. Neither, however, would I confuse either of them for bark, branches, or roots. As leaves, they share essential properties.

Leaves exist whole; they have centers and edges. But centers and edges alone don't make them leaves. What we recognize as "leaf" – rather than a box, a cow, or a brick – requires a visual language. All leaves have surfaces and edges, but those will vary with each particular leaf depending on its story: age, location, size, orientation, exposure, etc. As such, principles of identification and differentiation apply equally to graphic design, sculpture, architecture, or urban planning.

Expressed visually, those principles are like the parts that connect to make the whole. They work, incrementally, by steps. Visually, this translates as *scale* (in Latin, scala means "step") — a means to do gradually what you can't possibly do all at once; a path from here to there. Only Superman can leap tall buildings in a single bound. The rest of us will just have to use the stairs.

A leaf cannot turn sunlight into sugar and transport those sugars to the rest of the tree all at once. Rather, the central stem that serves as the main artery between leaf and branch also divides the leaf (typically into 2, 3, or 5 parts, which, as you may have noticed, makes part of a Fibonacci series – and helps explain why it's so rare to find a four-leafed clover – but more about that later). Looking closer at each of those individual parts, we see them further divided by branching veins. Each vein further divides the leaf into pieces of more or less regular shape, and each piece is composed of cells, too small to see, where the chlorophyll actually does its work. Each step serves a different biological function – transport vs manufacture – and also divides the leaf into recognizable parts that we can draw.

Scale functions as a pattern: shapes and lines that divide, separate, and organize the whole in ways that are both regular and rhythmic. Notice how the dock leaf at left is put together: polygons bounded by veins attached to branches attached to a central stem. Nature uses alternating repetition of individual units to make large shapes from small ones. A nettle leaf works the same way — but arrives at a recognizably different end.

Scale operates on many levels. From the level of veins in the leaf, you jump up to the

level of leaves on the tree, and then trees in the forest. Similarly, there's a pattern of curves surrounding the pupil of the eye with iris, white, eyelids, and brow, and there's the pattern of eyes, nose, mouth, and ears in a face; there's the pattern of small rectangles and squares that make up a door, and the larger pattern of squares and openings that make up the façade of a house.

Visually and practically, changing scales move our eyes from center to center – as the veins in a leaf move nutrients from leaf surface to stem and as branches move nutrients from leaves to trunk, etc. Similarly, different sizes of panels in a door move your eye from one plane to another, from door to frame to wall.

Compositions of multiple centers, like leaves on the tree, relate the whole to the parts, and provide balance. This allows us to shift our focus to the boundaries where transitions happen. Boundaries mark the limits of growth. Look at where leaf meets branch, or where branch meets trunk. On a practical structural level, this is where the tree changes function. Where leaf meets branch, materials change from production to support: there's a clear break between the leaf, which will die and fall off in a single season, and the branch, which will live and grow for years. Similarly, where branch meets tree, the trunk needs extra material to support the weight of the branch. Typically, such functional changes create visual changes, patterns that suddenly shift in size, number, texture, or color.

Biologists talk a lot about the "boundary effect" in transitional zones between different kinds of habitat, where life increases in complexity, variety, and richness. The same principle applies to visual analysis, where boundaries create richer habitat for the eye. The edges of leaves, for example, may be serrated, toothed, or even just very slightly curved; there's more going on, things are moving, rhythm and repetition increase. That movement attracts our attention in the same way that a running rabbit attracts the attention of a hungry hawk.[23]

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23 Like biology or religion, interpretations of visual boundaries vary according to the interpreter. Paul Grillo, an architect who wrote a 1960 book called *Form, Function, and Design,* attacks border decoration as the physical expression of pathological fear: "the *fear complex,* with its complement, the *security urge,* can be considered as the pathological syndrome of our civilization. In the field of pure design, it reveals itself in many ways:

"For instance, the fear of a clean meeting of the vertical and the horizontal may be traced as the essential reason for the *moulding*..."

After equating mouldings with fear, however, he explains that mouldings also alleviate fear by "prolonging" the transition between vertical and horizontal.

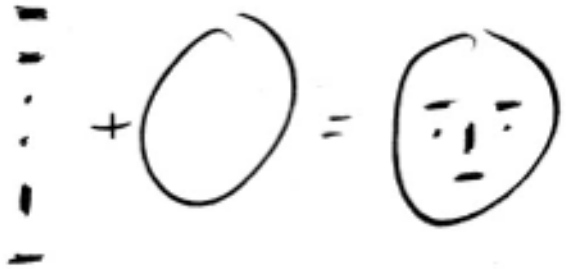
"Pure design" invites such contradiction because it separates aesthetics from function, and divides objective reality against subjective experience. By way of comparison, Chris Alexander, another architect who takes a more biological, empirical perspective, notes that life grows and proceeds by repeating units that not only duplicate themselves, but do so in distinct, rhythmic, musical patterns which change in tempo, intensity, etc. He uses this logic to argue *for* visually complex boundaries such as those made by moulding, or varied thicknesses of trim around doors and windows.

Art's Lexicon

The artist did not think of his art as a "self-expression," nor was the patron interested in his personality or biography. The artist was usually, and unless by accident, anonymous, signing his work, if at all, only by way of guarantee: it was not who, but what was said, that mattered. A copyright could not have been conceived where it was well understood that there can be no property in ideas, which are his who entertains them: whoever thus makes an idea his own is working originally, bringing forth from an immediate source within himself, regardless of how many times the same idea may have been expressed by others before or around him.

— Ananda Coomaraswamy, "The Nature of Medieval Art"

TAKE THE simplest kind of drawing assignment: arrange a circle, dots, and lines to make something that we might recognize as a person:



If the eyes, nose, and mouth aren't in proper relation to each other, we may recognize some elements that say "person" but their relationship to the whole is so skewed as to make us doubt the accuracy of the label:

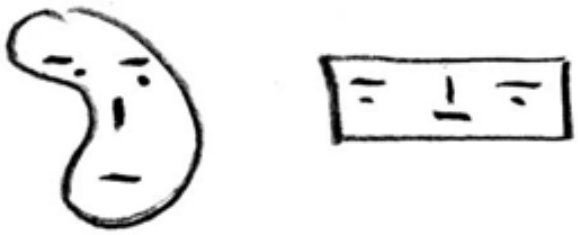
Since we all share the experience of seeing people with similar *relations* between head, eyes, nose, and mouth, it's not hard to agree, either that our drawing should exhibit the same relations, or that our drawing should emphasize the fact of a mis-fit. Either way, it's easy to answer such simple, non-judgemental questions as: "where should the nose go? "where are the eyes in relation to the nose? "what about the mouth?"

Agreement comes when we understand relations between the individual features and where we must locate them in order to convey the idea in our mind. That is, the nose should go roughly in the center, the eyes should be centered on either side of the nose, and the mouth should be centered between nose and chin. The concept of CENTER, then, is crucial – it is also one we know by experience. We have all stood at the center of attention, or reached out for the salt at the center of the table,

or run in to the center of a circle game. When we agree, further, that drawing eyes, ears, nose, and mouth in roughly the right places makes a recognizable face, we can also agree more generally one how we might use the idea of CENTER to examine other designs besides simplified people.[24]

SHAPE

If we separate the features of a face from the overall shape — say by drawing a face in a box or in a kidney bean — we may recognize essential facial qualities, but the final effect is cartoonish — something that conveys the idea of *abnormality* as much or more than it conveys the idea of *a person*:



While we do commonly see box and bean shapes, we *don't* see actual human *faces* of those shapes. The resulting discord makes a good place to start a discussion. All I have to do is present such a visual con ict and ask, "what works here?" "What doesn't work?" Obviously, the answers will vary, but generally it doesn't take too long to establish enough agreement to be able to name SHAPES, identify CENTERS, locate BOUNDARIES, and identify a WHOLE.

Indeed, we know a thing is whole when CENTERS define BOUNDARIES and BOUNDARIES define CENTERS; when parts have their place, and the WHOLE provides adequate space for the parts.

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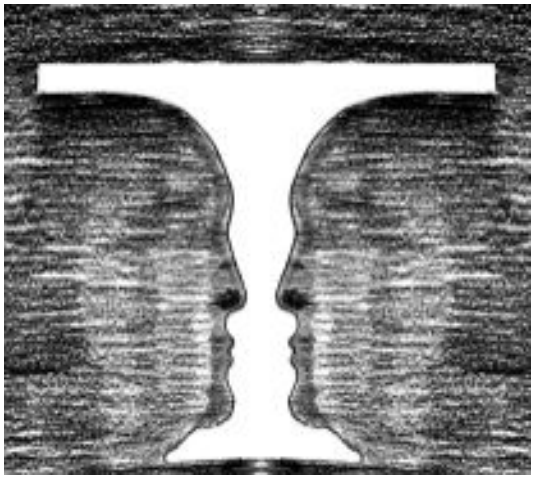
25 This section is inspired partly by the work of Christopher Alexander, who designs buildings, neighborhoods, and other artifacts; who has written many books, including the classic design manual, *A Pattern Language*; and who as a mathematician helped shape the web software that makes possible such things as "wiki" pages. In *The Phenomenon of Life* he argues that life exhibits "15 properties" that we regularly observe in traditional designs, and which is most often missing from much modern design. The properties themselves are not so new as the context in which he places them and the evidence he offers for how they work. For anyone interested in design, he offers substantial and satisfying support for the rightness of certain kinds of design decisions. Using varieties of scientific observation and documented fact, he argues that individual, subjective preferences often come from a common source and set of principles. His "15 properties" are:
1, LEVELS OF SCALE, 2, STRONG CENTERS, 3, BOUNDARIES, 4, ALTERNATING REPETITION,
5, POSITIVE SPACE, 6, GOOD SHAPE, 7, LOCAL SYMMETRIES,
8, DEEP INTERLOCK & AMBIGUITY, 9. CONTRAST, 10, GRADIENTS, 11, ROUGHNESS,
12, ECHOES, 13 THE VOID, 14, SIMPLICITY & INNER CALM, 15. NOT SEPARATENESS

POSITIVE & NEGATIVE

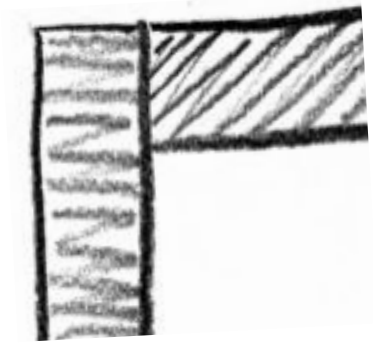


In general, we perceive SHAPE in terms of positive or negative, presence and absence. The classic example is a (positive) table shape that creates two (negative) face shapes:

Where and how you focus your attention defines which aspect comes to the fore, POSITIVE or NEGATIVE.

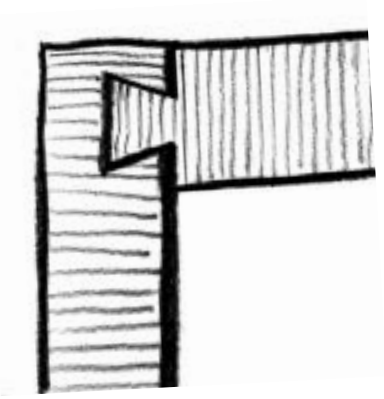
If the BOUNDARIES work, if POSITIVE and NEGATIVE balance each other out and have good proportions, then the SHAPE is good; both positive and negative aspects have enough strength to claim your attention, and to stand alone as separate and whole.

BOUNDARIES



Boundaries don't just divide, they join. Take a joint between two pieces of wood. A carpenter shapes them to make a corner for a drawer. The simplest joint forms a straight line boundary defined by where the end of one piece meets the side of the other: but there is little strength in such a joint, even when glued.

Instead, the carpenter shapes the common boundary to make it more complex, effectively weaving the substance of one into or around the substance of the other. Such a joint locks both pieces in place, and will hold without glue. The joint also forms a new shape that has its own integrity and wholeness. Two pieces become one, while two shapes become three. The third shape, that of the dovetail itself, not only separate the sides, it connects them. But the joint can't work if the SHAPE is wrong: one side will be weak and the joint won't hold. Strength comes of wholeness, and WHOLENESS depends on (roughly) equal division of parts – or SYMMETRY.



SYMMETRY

Symmetry (literally, "of the same measure") describes how a balance of forces can maintain both the integrity of the parts and the wholeness of their relation to each other. Symmetry does not mean equality – remember that measure is not number. Symmetry can unite an 8 inch board with a 3 inch board – but try to unite a 3 *inch* with an 8 *foot* board and you'll have trouble because you're working with two very different measures. Similarly, the human body is roughly symmetrical right to left, but one side of any body never truely mirrors the other side, as proven in these two precisecly symmetrical portraits of Pablo, each made of right and left sides of his face, respectively.

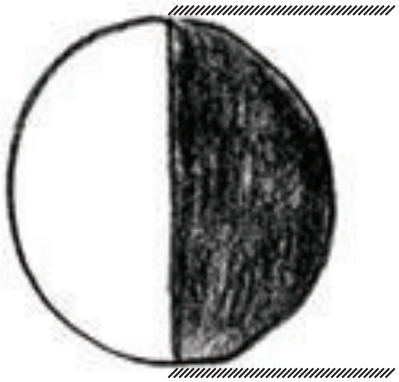


Complex wholes like human bodies or cities are made up of discrete, separate wholes: bodies contain cells, organs, and limbs; cities contain people, houses, neighborhoods, and districts. Each of those smaller wholes must be roughly symmetrical with each other in order to function, but due to varying local forces – left- or right-handedness among humans, or neighborhood ethnicity in cities – the whole can't be perfectly symmetrical without sacrificing some essential living inner part. On a larger scale, this lack of precise symmetry helps prevent stagnation, but it is also evidence of the inner life responsible for creating such "imperfect perfection."

Take the universal symbol of the cross, where life meets death, where the four directions converge, where God and man become one, where good encounters evil – or where mathematics defines the intersection of two lines as a "point." Note, however, that when the lines lack symmetry – when one is very short or very long – the meaning changes, it becomes another kind of mark, and we interpret – and use – it differently.[25]

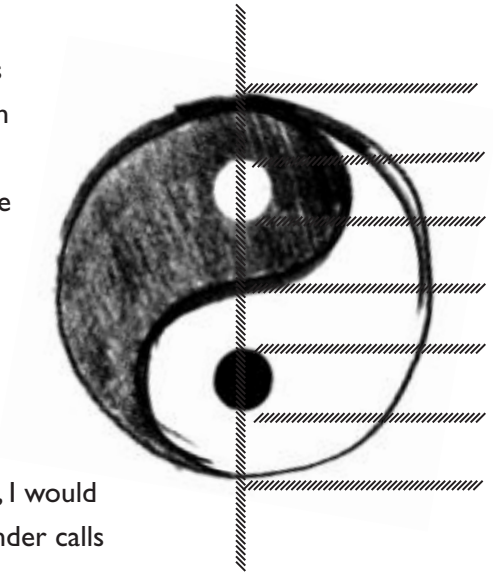
CONTRAST

CONTRAST consists not merely of opposition. When relations and boundaries work, the work unites opposing parts into a new WHOLE. The symbol for yin/yang is a good example, as is the cross. Both are made of identical elements. The event of their coming together – their opposition – creates a unique and whole third element. So mother and father create family. So light creates shadow; so filling the cups empties the pitcher; so the roots make the tree; so the vertical path of the sun defines horizon and horizontal; so the whole is more than the sum of the parts.



Materials also work by such opposition: rough, white paper abrades the soft, dark matter of pen, pencil, or crayon; amorphous, crystalline stone and fibrous wood resist the invasion of sharp chisel and knife blade.

But CONTRAST alone doesn't necessarily strengthen WHOLENESS. Consider a yin-yang, and a split circle; both are equally half dark and half light, but have completely different effects. If we divide both with one line, we begin to see the causes of the difference. The lower circle is made up of two exactly equal mirror opposites. The boundary between them measures the full width of the circle. In the yin-yang, the straight vertical boundary divides two shapes into four. The boundary itself is divided in six, each unit equal to one diameter of the small paired circles. In the split circle, there is only opposition; we notice it more than we notice the unity of the circle. In the yin-yang, however, the BOUNDARIES are more complex, the oppositional relationship is working on varying SCALES, the SYMMETRIES display both balance and movement.

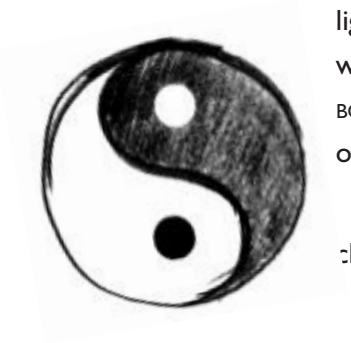


Which one creates a stronger whole? Or, as Christopher Alexander might ask, which one has more life? They both contain equal amounts of dark and light. They are both divided yet whole. Yet they are fundamentally different. How do you choose between the two?

If you chose the yin-yang as the stronger whole, the one with more life, I would suggest that the reason for your choice might have to do with what Alexander calls GRADIENTS.

In the Yin-Yang, the curved boundary separating light and dark (as well as the

25 Christopher Alexander distinguishes large scale symmetry from what he calls LOCAL SYMMETRIES, which allow small wholes to work individually, but also in right relation to each other – like ethnic neighborhoods in a city.



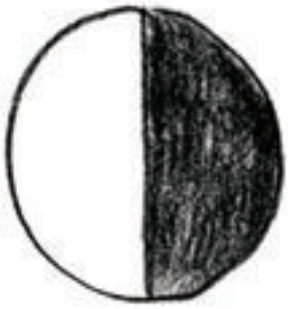
opposing light and dark dots), graduates, or slows the transition from light to dark and back again. Nature behaves the same way. The darkness of night doesn't give way to the brightness of day all at once. We don't go from midnight to noon in an instant. Rather, we experience the shift from night to day as a sometimes imperceptible process that requires a whole separate name: dawn, dusk, twilight, daybreak. Similarly, good BOUNDARIES don't just bind opposites together, they create whole zones where opposites mingle and inter-act.

The same principle, or lack thereof, is readily apparent in buildings at the borders between windows and walls, or even between the two planes of wall and ceiling. The traditional approach provides a gradual transition from open to closed, horizontal to vertical, typically through the use of graduated mouldings or curved surfaces.

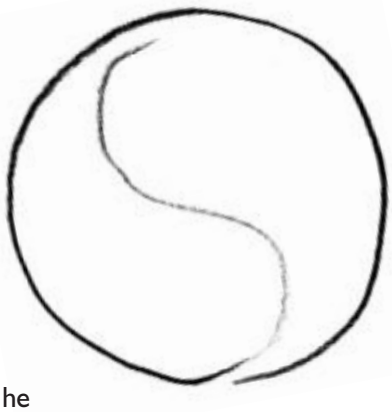
Note that either transition has the same effect: it creates a wider BOUNDARY where light and dark can mix or shift more gradually. Mouldings expand the boundary not only by their physical width, but also by building up that width gradually, with trim of different sizes. In addition, the corners of successive pieces of moulding create alternating strips of dark and light which effectively mix to make an intermediate zone between light and dark, wall and window, inside and outside. Because it effectively contains those alternating qualities, the BOUNDARY becomes a whole in and of itself, which strengthens the relationship between the opposing qualities of the light and the dark.

When we look at it this way, the choice between yin-yang and half-circles becomes a choice between boundaries. Look at what happens when we isolate the boundaries:

Clearly, the "S" curve alone still shows something recognizable of the yin-yang, while the straight line alone doesn't even hint at anything circular. The disparity between the two grows when we recognize the small, dark and light circles as additional, necessary parts of the boundary. Opposition *without relationship* creates isolation and fragmentation. Only opposition *in relationship* can create a working, beautiful whole.

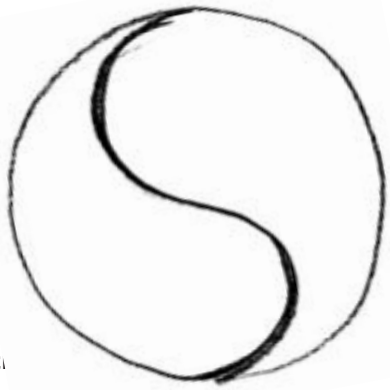


PER-FECT IMPERFECTION



When someone gets obsessed with perfection, it's worth remembering that *perfect* just means *thoroughly made*. So when they stop to breathe, I say, "you're done, it's perfect!"

Life adapts perfectly to changes in the environment and all the movements of life itself. BOUNDARIES adapt to changes in materials, light, color, context and content. Christopher Alexander calls such adaptation ROUGHNESS. Ianto Evans invokes it when he says "it's better to be roughly right than perfectly wrong." In effect, it means choosing between accuracy and precision. Scientifically, precision means that every bullet hits the same spot. Accuracy means hitting the target. If you're hunting bear, it's better to put one bullet accurately in the heart, than to put three bullets precisely in the left foot.



In visual terms, if you draw a Yin-Yang, precision and accuracy are relatively easy. first attempt is a little off, you can adjust the line for greater accuracy. As I draw new lines over the old ones, without any erasures, I end up with something less precis but more accurate. With additional work, it begins to look "right."

One can rework almost any drawing this way, and generally improve it – though it can be hard to convince a person of this notion if they are both obsessed with precision and possessed of an eraser – in which case, unless they can achieve both precision *and* accuracy in the same line, they'll waste both penc lead and eraser material, and they'll find it very hard to move on. It's worth exami the drawings of the great masters for evidence of this kind of gradual adjustment.

By the same token, a blunt pencil and a fat line may get better results than a very sharp pencil and a fine line, because the more open the line, the easier it is for your eye to adjust for discrepancies and inaccuracies. Alexander points out, however, that this property is not merely a fancy word for "hand-made." Rather it is how nature adapts the small individual parts to the whole. For example, the kernels on a cob of corn are all roughly the same shape, but each kernel adapts, slightly, not only to accommodate its neighbors, but also to conform with the overall shape of the cob. So a "perfect" ear of corn is made up of slightly imperfect kernels arranged in slightly irregular rows. Similarly, the markings on a zebra or a giraffe shift and vary, irregularly, with the shifting volumes of muscle beneath the skin – but the whole works.

This process takes time. Names and proofs are never enough, nor is an essay, or even a whole book. You have to get familiar with your materials, develop skills, make mistakes, and generally acquire experience. And even then, every situation presents its own challenges, every relationship requires new negotiations and clarifications. A common language offers a place to start building a common understanding, and a common beauty.

Designing according to a common, working measure....

Arts & Measure: Naming Experience

The fairest thing we can experience is the mysterious. It is the fundamental emotion which stands at the cradle of true art and science.

– Albert Einstein (quoted in The Golden Ratio, by Mario Livio)

We see human thought and feeling best and clearest by seeing it through something solid that our hands have made.

– Eudora Welty

My neighbor Tim grew up on a 600 acre ranch surrounded by thousands of acres of national forest where he and his grandfather hunted deer and elk by narrow trails that changed daily. I grew up on the urban east coast, following maps and streets all named and numbered. The first time I went hunting with Tim, he directed me to meet him at a bench on the other side of the valley. I knew he didn't mean a park bench, but neither did I have much idea of what I should look for. I wandered in the direction of his pointed and wondered if he was playing me for a practical joke. When he found me, I asked about the bench. Where I'd been looking for something distinct and small enough to sit on, he pointed out the shape of the whole hillside, which included a parking lot sized at spot. Tim worked as a timber faller, and later I would watch logging operations stack entire hillsides of trees onto similar benches for loading onto trucks. How could I recognize such a bench when I'd only ever known the kind I could sit on?

Art, similarly, assumes enough shared experience to make common language. Without it, we can't get past the childish rule of personal preference ("I don't know anything about art but I know what I like"). Without common experience, confusion reigns.

Let's start with *number* and *proportion* and the processes by which we know them, processes in which we all participate every day.

NUMBER

I used to wonder if perhaps counting began when women noticed how their menstrual cycles related to the cyclically changing shape of the moon in the sky, perhaps inspiring them to count the days of their months. It made a nice fuzzy kind of theory, but number may come "hard-wired" in the synapses of our brains. Certainly every human being, male and female, carries number and measure in their anatomy:

- 2 comes to us through paired eyes, ears, hands, feet, arms, legs;
- fingers and toes give us multiples of 5 and 10;
- and 3 knuckles on each of 4 fingers gives us multiples of 12.

So humans have variously counted by twelves, twenties, tens, and twos. There's the 12 inch foot and 12 month year (related to hexagonal and circular geometry that uses 60° angles and a 360° circle). There's the French "quatre-vingt" ("four-twenty"), and base-20 phrases meaning "a whole man" ("a 20"), in Inuit as well as Mayan cultures. Ten fingers and toes makes a decimal system. And base two, easily expressed in electronics as either "on" or "off," "yes" or "no," underlies both our hi-tech, computer society, as well as ancient dualities like dark and light, good and evil, yin and yang.

From such basic experiences of number, we developed "the art of counting," or "arithmetic" (literally, from the greek "arithmos," *number,* and "tekhne," *skill.* The initial "ar" of "arithmos," of course, shares the Indo-European root "ar" with art, order, ratio, and related ways of "fitting together" experience and reality.)

PROPORTION

Proportion refers to relationship more than number. When something is "in proportion," all the parts work together, and balance harmoniously. A well proportioned figure has limbs right for the trunk; fingers right for hands, etc. Literally, *proportion* means "for his share," a fair division of parts, but fair doesn't have to be one for one. Proportion can be 2 for 1, or 1 for 3, or 7 for 12. It can be skinny, fat, tall, or round (most bodies are justly proportioned, as nude studies show; clothes often confuse or hide true proportion). On the surface, the numbers we use to describe bodies and matter seem definite.

But early seekers found profound questions in number, not answers. Take Pi, which we think of as a "number" amounting to 3.14159…. Mathematically, Pi refers to the number of diameters that fit into the circumference of a circle. Philosophically, however, Pi describes a relationship that is the same for every circle, no matter how large or small. That relationship will not reduce to a simple whole number, or a ratio between two whole numbers – which is why you get the series of dots at the end – in actual fact, the digits after the decimal proceed forever, randomly!

By contrast, a box that's 12 inches on each side can be cut precisely in half to make two identical rectangles, each containing exactly half of the whole. Similarly, you can cut the box into three or four equal parts and end up with proportions of 1 to 3 or 1 to 4, *precisely* one third or one quarter, 0.666… or 0.750.[26] Because they fit into a finite ratio we call their descriptive numbers *rational*.

We call Pi irrational, however, because we simply can't *count* the fit between a circle and its circumference – the "number" is not finite. Relationships that we can't adequately describe with the fingers on our hands and toes we label "irrational" – which contradicts the supposed rationality of number. In fact, number fails to define many natural relationships. We *can*, however, easily see that the relationship between diameter and circumference is uniquely stable! But that stability requires a whole story of unity and harmony beyond what number can describe.

In 1502, mathematician Luca Pacioli wrote that "Just as God cannot be properly defined, nor can be understood through words, likewise our proportion cannot be ever designated by intelligible numbers, nor can it be expressed by any rational quantity, but always remains concealed and secret, and is called irrational by the mathematicians." [Livio, p. 132] *The Divine Proportion*, a book Leonardo DaVinci illustrated, explored another irrational number known as Phi, or the Golden Mean. This particular and "unintelligible" proportion that Pacioli called "our proportion" tries to express the unique relationship between growth and form, between spirit and matter. It's another measure that we can't quite measure by number alone, but we can find it throughout nature, uniquely related to beauty.

26 While the ratio 2:3 works out to an endless 0.666666…, in base 3 it works out as exactly 0.1, a trick that won't work with Pi or the Golden Mean, neither of which find expression as whole number fractions.

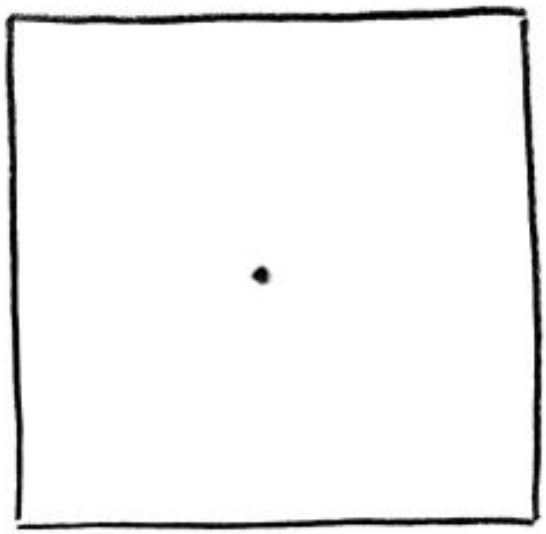
Interlude: an Allegory

He who does that which he sees will understand. He who is set upon understanding, rather than doing, shall go on stumbling and mistaking and speaking foolishness.

— George MacDonald.

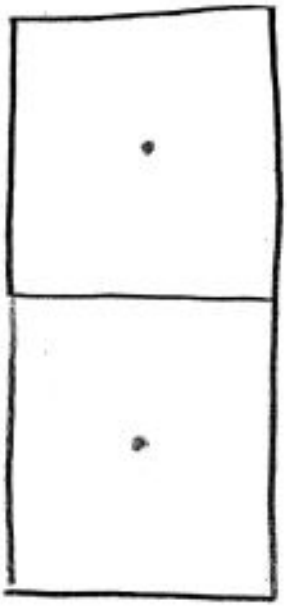
When I moved into my home, it was a small, dark, half-rotted old hunting cabin in the middle of sheep pasture owned for many generations by a ranch family. A friend of that family had built it in the 40s, so it was also part of a history going back a hundred years or so. But the human part of the cabin's story stalled as the builder aged. When he finally stopped coming out to hunt, the stove, bed, and cupboards remained – complete with silverware and fridge – while the cabin went dormant. I came to it in 1994, a single man with few needs and fewer possessions, but after sixteen years, it's become a compact homestead that shelters and helps feed four of us. There are many ways to tell it, but the story I want to share here is simple, graphic, and based on the physical footprint of the structure itself. It doesn't exactly have a moral, but it does conclude in a way I hope you may recognize:

It begins with a solitary man (not me), who builds himself a cabin far away from the world, surrounded by trees and nature.



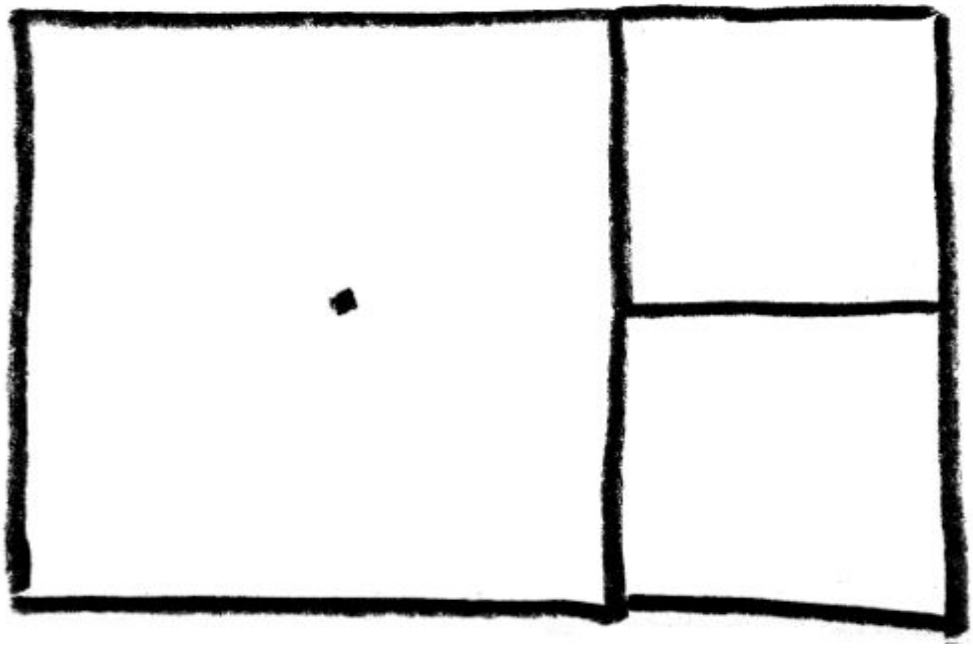
Home, just after I renovated and moved in; 1994.

He goes there to fish and hunt and escape the pressures of life crowded by people and toil. The cabin contains a bed and stove. He cooks on the stove and sleeps in the bed, but spends his days outdoors, wandering or hunting or fishing. He returns to town renewed by unmeasured labor and unexpected gifts – gifts he likes to share. The more he shares, the more often he finds himself crowded in his cabin. So he adds onto it the easiest, cheapest, and quickest way: by building three new walls off one side – doubling his total space:



He brings a bed big enough for he and his wife, and builds cabinets for food and dishes and tools. They divide the cabin into social and sleeping spaces, and make it cosy and snug – easier to share with friends and family. Still, they all spend most of their time outdoors, until they get too old to hike and hunt – they visit less often; then not at all.

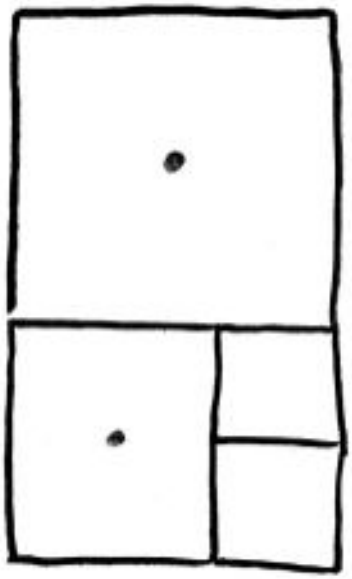
Years later, after making friends with the family, and in need of a place to live and work, I got invited out and offered an opportunity to fix it up in exchange for rent. None but mice and ies had lived in it for years. But my options were few and the price was right. I fixed it up and moved in, and started to learn the joys of living with more trees and wild things than people. But I needed a shop for work, and got permission to expand the woodshed next to the cabin:



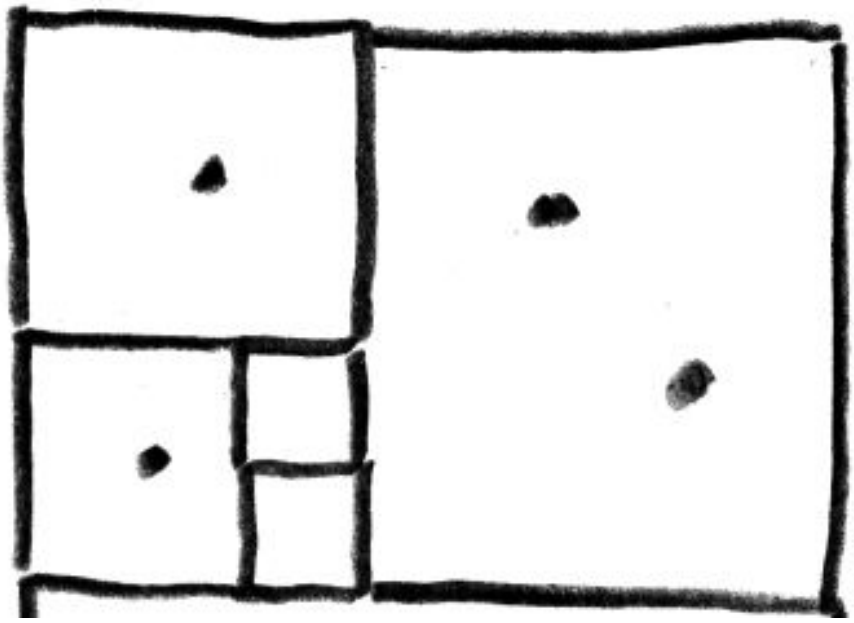
I arranged the space for solitary work and solitary life and found contentment and companionship in the world outside my door. I began to find myself at home, not just within the walls of "my house," but in the unbounded world outside.

A few years later, a woman came who seemed to answer to prayers I hadn't known I'd prayed. She stayed, and turned her hands to making the land around the house and studio into a larger garden to feed us both:

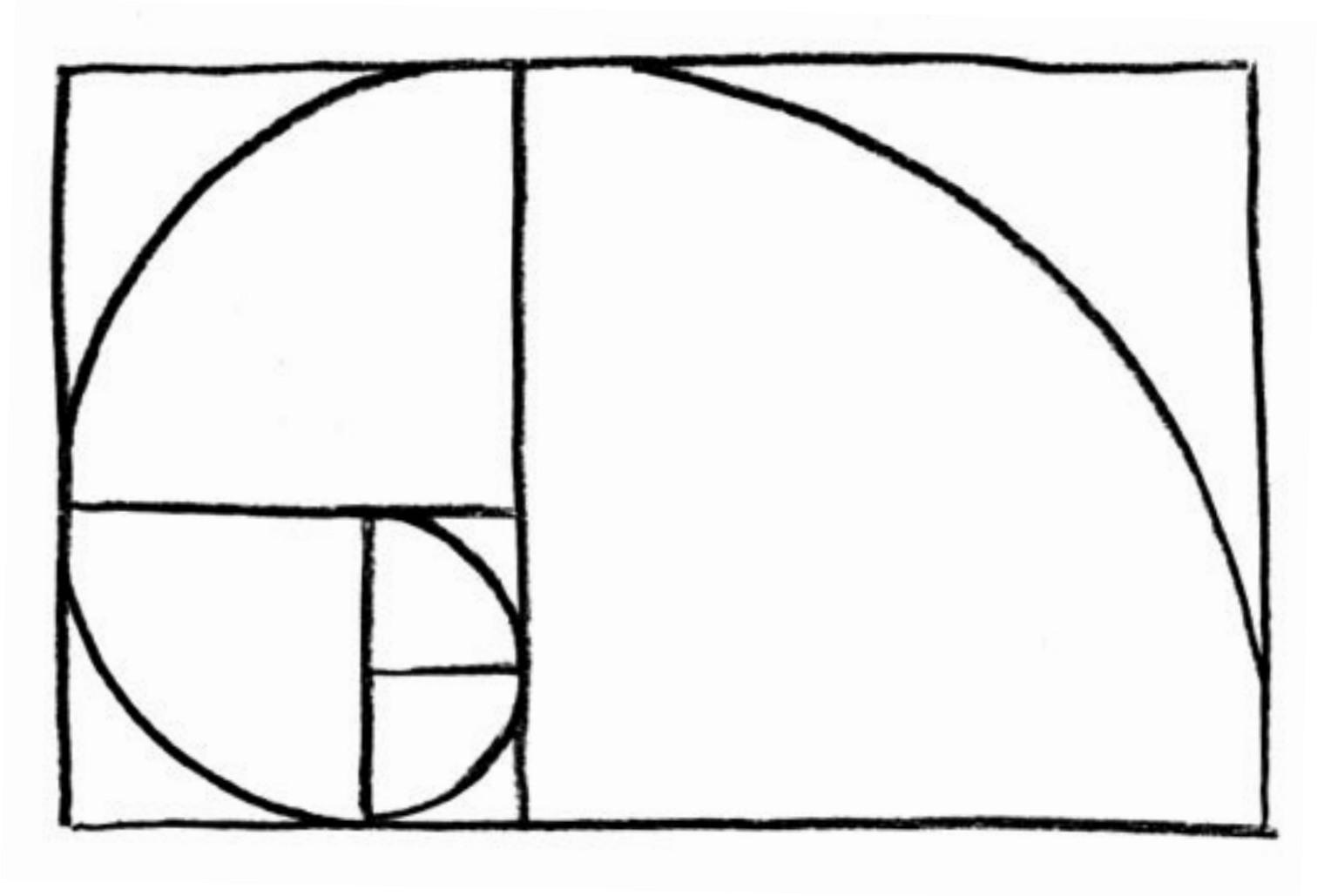
When our first boy was born, we moved into the studio and I took a larger work space elsewhere – thanks to yet another neighbor and friend. We organized more space, and had another boy:



As the family has grown, our living and doing have acquired some measure of rhythm, pattern, efficacy – even design. We move in our own ways, but share enough to be able to move together relatively harmoniously. Our activities spiral inward and outward both, depending on the day and the season:

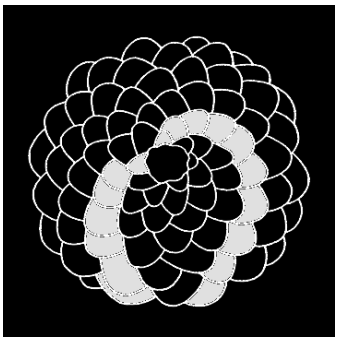


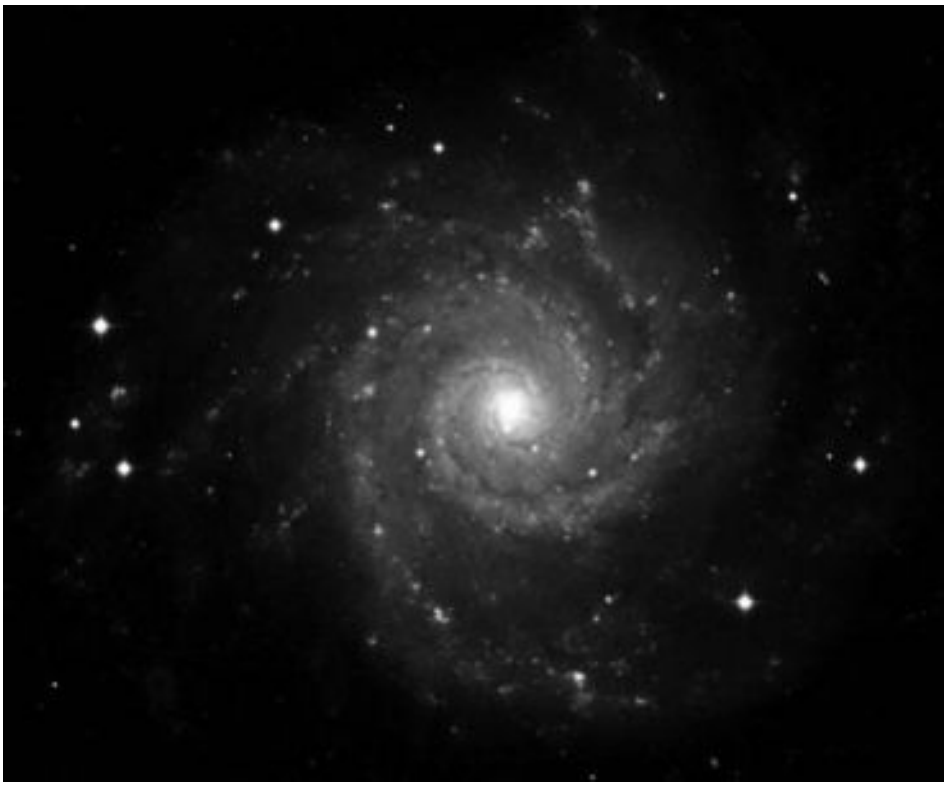
The final figure here is close to what we call a "Golden Spiral." It re ects a natural relationship between growth and form, a principle known in mathematics as the Golden Mean, or Phi. Here, however, it also serves as a parable, an allegory, a simplification of complexities. But it contains some truth. Though it obviously can't look like a series of boxes enclosing a spiral line, my family and I have grown into and out of a combined cabin and cottage the shapes of which roughly match the shapes of the first 3 boxes, with garden all around. And, like the dot in the box that so aptly described one stage of my college life, the progression tells something essential about my recent history, a pattern of growth that has resulted in enough practical harmonies to make possible the raising of a family.



It doesn't equal the beauty, simplicity, and efficiency of a sea shell, but I begin to see how my own life might follow the same principles which order the curving lines of seeds in a sun ower, or the spiralling scales of a pine cone,

Or even the winding trails of stars, spinning around a spiral galaxy.





For me, at least, this visual comparison between the mundane events of my life and the timeless and universal beauty of nature brings much more than a numerical proof of the golden section. It brings joy: at being able to participate in the story of creation; joy that my life, however haphazard, follows fundamental principles of life and nature. To arrive at such feelings gives substance to the idea that beauty binds us all to a common source; it proves the axiom that where death ends one life, it begins another. Lao Tzu says that "to know the way of the Harmonious is called the Eternal. To know the Eternal is called Enlightenment." Perhaps "enlightenment" is another word for maturity. Perhaps the way of design can lead us into the way of harmony. Perhaps a feeling for native design and harmonies can give us an aesthetic more potent than personal preference, a measure of beauty based on participation and unification rather than analysis and division.

Home after about 14 years, 2008.

MEASURE & BEAUTY

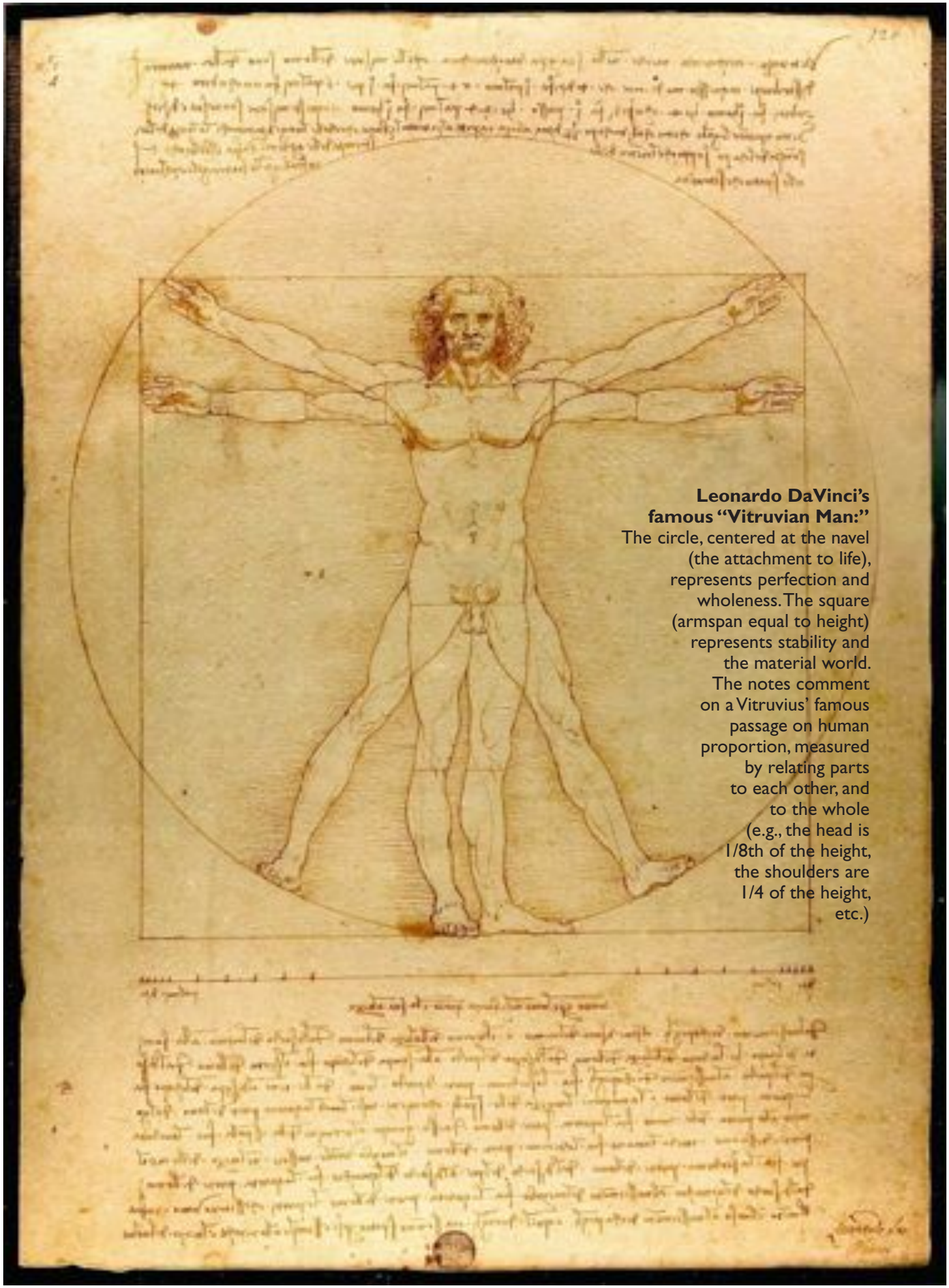
Measure, like art, cannot just *be,* but must always *do.* What does measure do? It relates us to each other and to life. To measure "one foot" relates us directly to the what we measure. We measure horses in "hands;" in Spanish "pulga" means "thumb" and "inch," the ancient cubit was the distance between elbow and the tip of your hand; a "cloth yard" was the distance from the tip of your nose to your outstretched hand.[27] Even modern, mechanized units like the metric system originally established the meter as a specified fraction of the circumference of the earth. Since that was a bit hard to standardize, we tried to "fix" it by marking out one exact meter of nearly pure platinum – but platinum shrinks or grows minutely with changing temperature. Now, we define a meter as the distance traveled by light in an absolute vacuum in 1 299,792,458 of a second. But even time can't escape the vagaries of relationship, whether you measure it the old way – from daylight to daylight, which always changes, of course, season to season – or whether you measure it the new way, according to radioactive cesium's rate of decay – which varies according to gravity, so that even atomic clocks run fast or slow depending on where they are in relation to the center of the earth!

Given our common experience of "how time ies" or "stands still" why should we expect time to give us a more stable unit of measure? Indeed, we began to measure time simply by light and dark. Longer periods were noted by lunar phases (the dark "new moon," the waxing crescent, full moon, the waning crescent, and back again). Since lunar phases change every 7 days, we called them "weeks," from an old Germanic word for "turn." Four turnings made a "moon," a little more than12 moons made a year.[28] To "measure our days" was an experience we shared daily (related to "dawn"). And "measure" is related to "moon" via Latin, *mensis,* meaning "month" (and also the source of "menses," the monthly female cycle of fertility).

So to give something a number – or even a ratio – is not always enough to take its measure. By the same token, to measure something requires more than simply giving it a number. *Measure must not just quantify, but qualify the world by our own experiences:* feet & inches; ounces & pounds; quarts & gallons; speed, volume, color, texture (smooth and rough measure surface variations), contrast, proportion, balance, justice – they are not numbers, but a common experience of life on earth. We may take for granted our received knowledge of math, science, and how the world works, but if we go back to our roots we'll find ourselves in a place where we must *see* and *feel* every measure, every experience. It is those feelings that give us a measure for beauty and goodness (which share the same Latin root, "bonum").

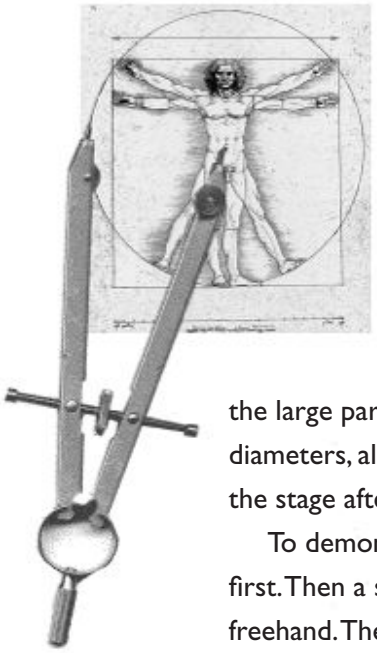
27 Some metrologists (students of measure), suggest that one foot = approximately 1/360,000 of one degree of the circumference of the earth: thus 1/360,000 x 360 = earth's approximate circumference. Wouldn't that make a lovely proportion by which to know our place and our planet?! And doesn't it make sense of *geometry,* a word that means, literally, "measure of the earth"?

28 There are actually more than 12 and less than 13 lunar cycles in one solar year, which makes for some very interesting and useful stories. For edifying and important additions to this discussion of measure, see *Sun Moon and Stars,* by Robin Heath.



Leonardo DaVinci's famous "Vitruvian Man:"
The circle, centered at the navel (the attachment to life), represents perfection and wholeness. The square (armspan equal to height) represents stability and the material world. The notes comment on a Vitruvius' famous passage on human proportion, measured by relating parts to each other, and to the whole (e.g., the head is 1/8th of the height, the shoulders are 1/4 of the height, etc.)

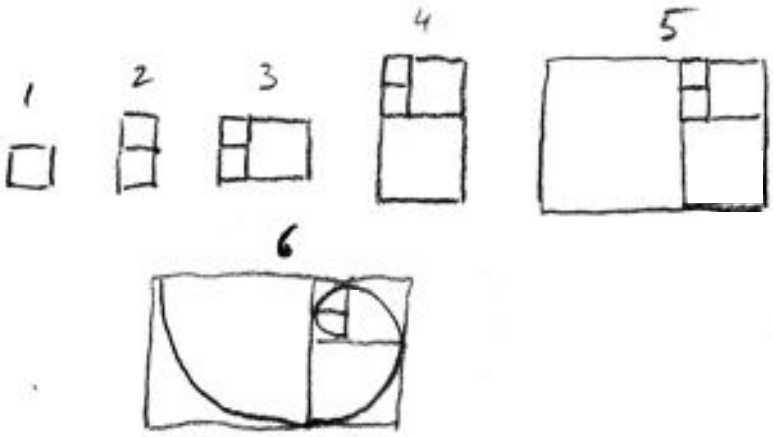
MEASURE & MEAN



Leonardo drew his Vitruvian Man to illustrate a perfection of human and natural proportion and beauty. It certainly retains it's power as a standard measure of (male) beauty, but it seems to set a standard few of us can hope to equal. This makes it a perfect tool for illustrating a powerful truth: in fact, most of us *do* measure up to Leonardo's standard. Here's how:

In addition to centering the circle, the navel roughly divides our height into proportions that Leonardo called the "Golden Mean." It was called golden for reasons we'll explore later in greater depth, but brie y, it divides a line so the large and small parts are in the same relation to each other as the large part is to the whole. Like Pi, it states a common truth. Just as all circles contain Pi diameters, all living things grow, and every stage of growth is related to the stage before, and the stage after. Growth and form related according to a shared principle.

To demonstrate the principle, I draw out a series of little boxes: one small, central square first. Then a second. Then I add a square on the long side of each resultant rectangle. I work freehand. There's a mathematical sequence that happens, but it's not necessary to explain it (tho we'll get to that later). Here 'tis:



The final step draws a quarter circle through each box, starting with the first, and proceeding around in the direction the boxes "grew" — a spiral trail of growth.

While we don't enclose our bodies in beautiful spiral shells, most adult humans, like Leonardo's (self!) portrait, display a series of more or less "golden" relations: finger and hand lengths, hand and forearm, forearm and far shoulder, fingertip to shoulder and full armspan.[29]

29 Ancient philosophers understood the circle as a perfect expression of unity: "uni-verse" means, simply, "one complete turn," of earth around sun, seasons around a year, or seasons of a life. A circle makes a holy one-ness containing everything (to

So to illustrate this beautiful relationship to a live audience, and as part of an exhibit on the Golden Mean, I made a compass with three legs, hinged and proportioned so that the third leg always marks the point between the two outer legs that's "golden." First, I wouild ask for a random volunteer from the audience. Then, I would show that the volunteer's armspan equals their height (the square). Then, asking the volunteer to stand with hands and feet outstretched like an "X" (the "Vitruvian stance"). I would show that their navel is the center of a Vitruvian circle. Most folks submit with an air of mildly embarrassed condescension: "OK, so your stick points to my navel, and I'm in a circle; great. Now what?" I hold the calipers from fingertip to fingertip: look! there's the shoulder at the golden section! I shorten the calipers to measure the distance from far shoulder to fingertip — there's a golden section at the near shoulder! I shorten it again, to measure just one arm — there's a golden section at the elbow! Measuring now from elbow to fingertip, there's a golden section at the wrist. By the time I get to hand and fingers (golden sectioned where the fingers attach), the volunteer's mouth opens and their jaw goes slack. "WOW!" they say. Sometimes they cry.

Such proportions are not precise nor universally equal, but life makes every body to a common measure of beauty that it shares with the rest of life. WOW, indeed! Tears of joy make sense, especially if you've had to measure yourself against modern media's standardized, sexualized, and commodified "standard of beauty."

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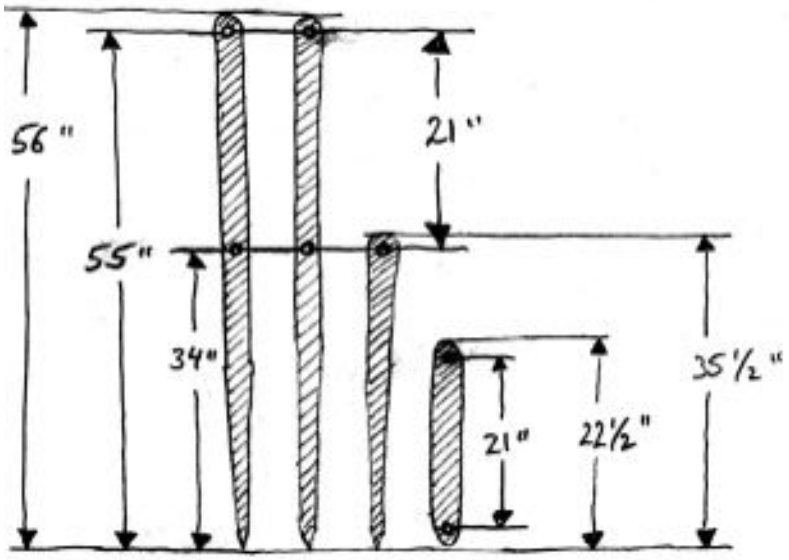
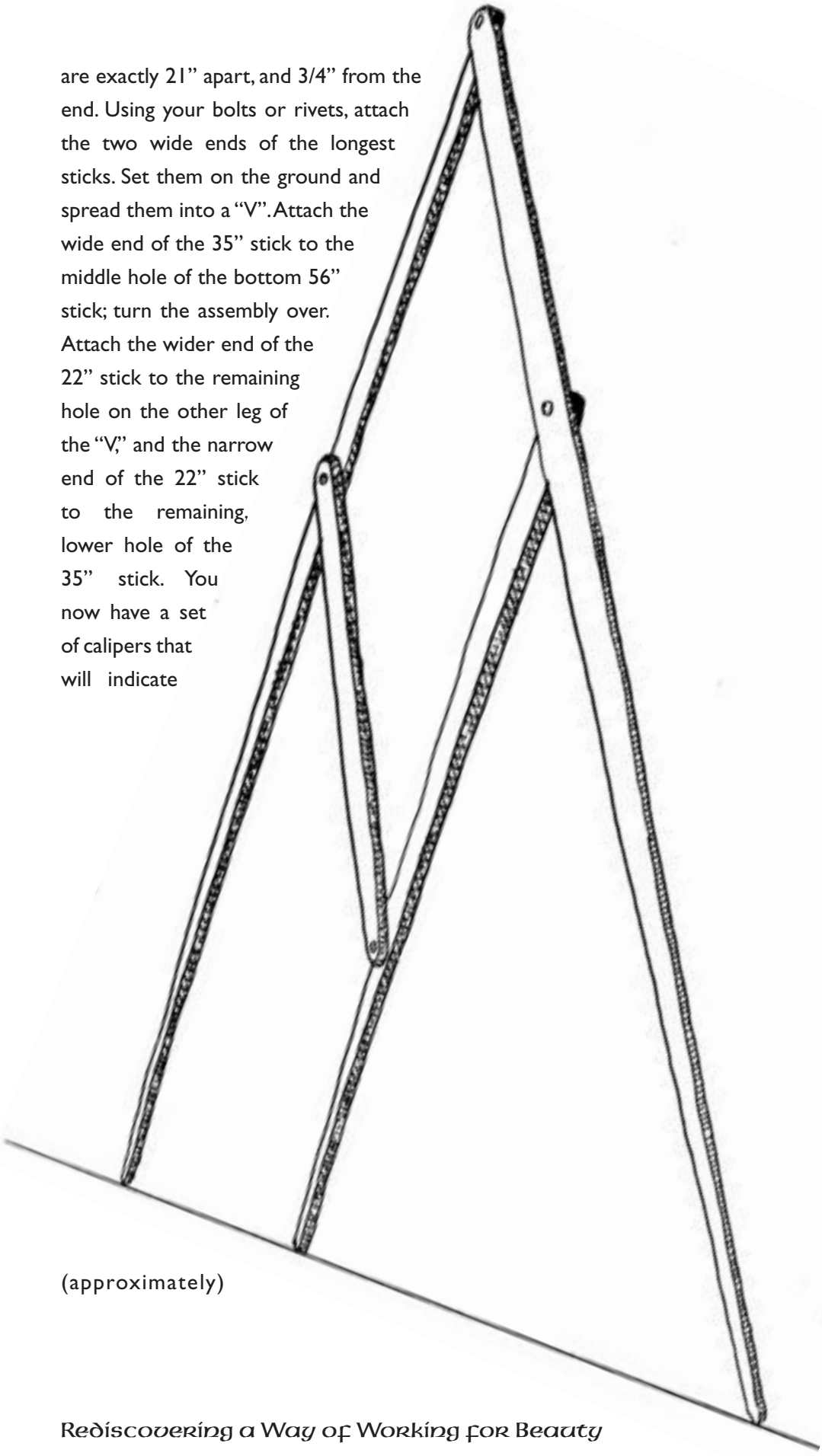
mark "zero" with a circle is a curious convention; zero actually serves two purposes: one is to mark the columns we use to indicate numbers of ones, tens, hundreds, etc. The other indicates the idea of nothingness, which we managed to do without for millennia, since it was so hard to imagine "nothing" in a world so full. The west only learned of zero in the twelfth century, along with Arabic numbers and computational methods.) The square, by contrast, expressed solidity, reality, and the earth. The ancients associated the square with the number four, for the cardinal directions, east, west, north, and south; the four seasons; as well as for the intersection of up and down, and left and right; heaven and hell, life and death (these latter are also expressed in the cross, which is contained by and defines the equality of a squares' vertical and horizontal measures). For more along these lines, and for a delightful and practical geometric romp through the numbers, see *A Beginner's Guide to Constructing the Universe: The Mathematical Archetypes of Nature, Art, and Science – A Voyage from 1 to 10,* by Michael S. Schneider.



HOW TO MAKE
GOLDEN CALIPERS

Buy 1-1/2" x 1/2" milled molding from the lumber yard. You will need 4 straight, uniform sticks, free from any warping, 2 at 56 inches, 1 at 35-1/2, and 1 at 22-1/2 inches. Taper each of the three longest sticks, symmetrically, so that one end is 1/2 inch wide. Sharpen the final inch of length to a point. Round the other end into a half circle. Taper the shortest stick to 1 inch wide, and round both ends. For the next step, you will need soft rivets or nuts and bolts about 1-1/4" long, and washers. Lay the 56" sticks on top of each other. With a drill bit sized for your rivets or bolts, drill one hole through the center of the wider end, exactly 55 inches from the point. Drill another hole exactly 34" from the point. Through the wide end of the 35" piece, drill a similar pair of holes, one exactly 34" from the point, and the other exactly 13 inches from the point. On the shortest stick, drill both ends so the holes

are exactly 21" apart, and 3/4" from the end. Using your bolts or rivets, attach the two wide ends of the longest sticks. Set them on the ground and spread them into a "V". Attach the wide end of the 35" stick to the middle hole of the bottom 56" stick; turn the assembly over. Attach the wider end of the 22" stick to the remaining hole on the other leg of the "V," and the narrow end of the 22" stick to the remaining, lower hole of the 35" stick. You now have a set of calipers that will indicate



(approximately)

Count the spiralling lines of seeds in many ower heads and you will tend to find Fibonacci pairs. This one counts out to 34 and 55. Or maybe it's 35 and 55....

Fibonacci Numbers & the Golden Mean

All the beauty and all the mathematics [of the Golden Mean] are the natural byproducts of the simple system of growth interacting with its spatial environment.

— *Peter S. Stevens, Patterns in Nature.*

THERE ARE aspects of measured, proportional relations that numbers describe quite wonderfully, but I got frustrated with the language of number long before I tried giving up the verb *to be*: "1 + 1 = 2" doesn't offer much room for improvisation. But geometry I can draw out on paper, and by the same physical, *relational* method, geometry has given me a new appreciation for number. So bear with me. Make another drawing of little boxes spiraling into big ones. Take the first box as a unit measure of one; use that unit of length to measure the long side of each successive rectangle. You should get a repeating series of lengths whereby each new number is the sum of the preceding two:

0+1 = 1
1+1 = 2
2+1 = 3
3+2 = 5
5+3 = 8
8+5 = 13
13+8 = 21
21+13 = 34
34+21 = 55

and so on…

This particular arrangement of numbers is famous as a "Fibonacci series," named after Leonardo of Pisa, who helped introduce the system of Arabic numerals to the West. (His nickname is abbreviated from the Latin phrase "filius Bonacci," or "son of Bonacci." "Bonacci" means "good nature," in Italian, and shares with *beauty* the Latin root *bonum*, for *good*). In the 1170s, when Bonacci's mother brought him into the world, cut the cord, and eventually loosed him to his businessman father, accounting was dominated by the Romans. As you may recall from grade school, Roman numerals consist of not only ones and tens, but also 5s and 50s. They further confuse things by representing the numbers 4 and 9 as "5 minus 1" and "10 minus 1". It makes adding, subtracting, or multiplying notoriously difficult, but that was

the system in which Fibonacci was raised. However, because his father traded overseas and served as a custom official in Pisa and Bugia (Algeria), Leonardo's teachers included an Arab who taught him to use the "nine Indian figures," which we call Arabic numbers – and which make even simple math much easier.

Traveling around the Mediterranean some years later, Fibonacci observed how the Arabic system facilitated trade, and thought that Europeans might benefit by learning it, so in 1202, he published *Liber Abaci,* or *Book of the Abacus*. (Livio, 92-3.), including an example of the numeric series we now know by his name. And while he neither invented, discovered, nor named it (a 19th century French mathematician did that), Fibonacci series show up in everything from the arrangement of seeds and leaves in plants, to the lengths of your limbs, to the sizes of planetary orbits.

As a simple list of numbers, they may seem to hold little interest, simply indicating the lengths of a series of rectangles:

1, 2, 3, 5, 8, 13, 21, 34, 55, 89, etc.

However, each number, when combined with its antecedent, produces the following number in the series. OK, big deal. It could go on forever (and it does). Dividing each number by both the following and preceding one produces two more series, as follows:

1/2 =	0.5	2/1 =	2.0
2/3 =	0.666…	3/2 =	1.50
3/5 =	0.6	5/3 =	1.666…
5/8 =	0.625	8/5 =	1.60
8/13 =	0.6154	13/8 =	1.6250
13/21 =	0.6191	21/13 =	1.6154
21/34 =	0.6177	34/21 =	1.6191
34/55 =	0.6182	55/34 =	1.6177
55/89 =	0.6180	89/55 =	1.6182
89/144 =	0.6180	144/89 =	1.6180

Notice that the product of each series of divisions approaches a common constant that is numerically close to 0.6180, or 1.6180. Amazingly, however, this number never resolves itself into a final and absolute quantity. As with the difficult concept of infinity, the further down the Fibonacci series you go, the closer you get to the Golden Mean, but no matter how far you get, the possible new number pairs stretch out in front of you farther than they do behind you. You can never actually arrive, either at infinity, or at the Golden mean. (Interestingly, you get the same result no matter what two numbers you start with. Try it!)

Long before Fibonacci, Euclid noted and named the same constant but he did it geometrically rather than numerically. He called it the "extreme and mean ratio," and defined it not as a number, but as a point on a line where the short part has the same relation

to the long part as the long part has to the whole. There are numerous other geometric examples and proofs for the Golden Mean, but whether you define it by Euclid's geometry or Fibonacci's "nine Indian figures," the Golden Mean challenges the solid, physical terms by which we typically try to grasp the concept of measure. The stability of the Golden Mean rests on relationships between birth, growth, and physical form. So when poets talk about learning the secrets of the sea from meditating on a dewdrop, or seeing the universe in a grain of sand, they are in fact being just as truthful and, I would argue, as accurate as any mathematician talking about Pi or the Golden mean. Indeed, an old Brittanica article on "number" admits that our practical usage of numbers creates "embarrassing difficulties" that can't be resolved without setting up an "abstract" system made of "pure logic." Or, as Einstein put it: "as far as the laws of mathematics refer to reality, they are not certain; and as far as the are certain, they do not refer to reality." (in Livio, p12)

We call number and geometric figure both "ratios" from, again, the Indo-European root, "ar," "to fit together." Life, like art, proceeds in finite increments – days, minutes, years, months; idea, material, work – but each incremental step must fit with all that came before it. Art and beauty come of how we fit ourselves into the time we have. In this sense, I think, the Golden mean reminds us to tell the story, rather than trying to simply "explain" it with a not-so-simple number.

Life and materials involve so many different factors that are beyond our capacity for analytical understanding that logic requires contradictory concepts like irrational numbers. As a number, the Golden Mean cannot correct ugliness or imbalance. We can use it, analytically, to understand how some things fit together (or not), but in itself, it merely shows that the material limits and forms of life balance the growth of life. Beyond those limits life cannot go. If Einstein was right about the laws of mathematics not definitely referring to reality, how could we possibly ask for definite certainty from such indefinite things as art, beauty, or the Golden Mean?

However, if we accept the mystery of irrational numbers, then so-called "vague and unreliable" things like "gut feelings" and intuition begin to be worthy of greater exploration. Intuition, infact, is not nearly so vague and unreliable as numerical logic would make it seem. Like the tuition fees you pay for private schooling, the root of the word is *tueri,* which means "to look at, watch, protect." So tuition is, essentially, what you pay the baby-sitter (which raises serious questions about the baby-sitting institutions we call schools, but that's another story).

*In*tuition, then, is that same attention focused on yourself, your surroundings, and your work. Intuition enables an athlete to anticipate his opponent's next move, or a martial artist to break solid rock with soft, fragile esh. Intuition enables an artist to go beyond what she can see; to choose Truth without assembling all the facts required for proof. But if you want

to achieve what intuition enables, you must be willing to hear and obey what no one else may notice.

So anything I have *said* here can't and won't *be* true unless you make it so by giving it new life. Even if I had the whole U.S. military at my command, I couldn't enforce the Golden Mean any more than King Canute could reverse the tides. We can obey something as mysterious as the Golden Mean only by "lowly listening," – by putting paint to canvas, chisel to stone, pen to paper, and humbly following the rules and limits of materials, the edges of the frame, the limits of time and money and patience and discipline and knowledge. Kathleen Norris says that "obedience is an active form of listening." Buckminister Fuller said "When I am working on a problem, I never think about beauty. I think only of how to solve the problem. But when I have finished, if the solution is not beautiful, I know it is wrong." (Livio, 10)

Another bas-relief in mud...

Mud sticks very well to masonry walls, washes off easily, and can be re-used when the next generation decides to renew the work...

Slinging Mud

We do not think ourselves into new ways of living. We live ourselves into new ways of thinking.
— Richard Rohr, Everything Belongs

I SLING mud at walls. Most of them benefit. Conventional walls made of industrial materials like sheetrock, brick, or block can be extraordinarily ugly – especially in schools and other institutions – but even otherwise beautiful homes suffer when the surfaces are covered by monotonous acres of sheetrock. Even bad paintings will at least add color to an ugly wall, and graffiti is a huge improvement over dead industrial surfaces.

When I'm lucky, I get paid to help kids throw mud onto the walls of their schools. It has many of the same attractions as graffitti, though it lacks the adrenalin rush of illegality. The mud consists of an earthen plaster about ½ - 1 inch thick. I help the kids come up with their own designs, which we incise deeply into the surface of the mud, and then color. Trowels make application fast and easy, but I finish by wiping out the hard edge-marks with my at palm, to leave a subtly undulating surface and a soft texture (much concrete work is similarly finished with a brush, but unlike the hand, a brush follows the atness of the trowel, rather than introducing its own variations).

As we begin, I give the kids two surfaces to compare, one hard-troweled, and the other hand-textured. "Which do you like better?" I ask. The quick replies tend to favor the hard-troweled look (these are kids raised on industrial toys and games, who value the "brand new" look of plastic and metal fresh from the factory). I ask them, "why?". This requires work. "Well," one might say, "the troweled mud looks newer/better/shinier."

Bingo.

"Why is that better?"

They can't usually answer that one – except to resort to the first principle of modern aesthetics: "I just like it" – so I ask them to walk past the wall while focusing on a patch where smooth surface meets rough surface. "What do you see?" I ask.

Some just say "Wow!" Others will explain: "the rough one looks like it's moving and the smooth one doesn't."

"How does that work? Why does it look like it's moving?"

"Well, there are all these little shapes and shadows that change as you walk past them…"

We talk about light and texture, and how texture looks *alive* because it seems to move when you do, according to where you are in relation to both the wall and the light.

Few people will argue against the greater "alive-ness" of hand-textured surfaces, but it's

worth specifying the many ways in which that works. First, the human hand adapts the shape of the material itself according to human movement. Hand-made lines, strokes, and marks of all kinds mean that the things themselves fit the size of other humans who come near. Some "designers" recognize this, and try to match it by specifying textured or patterned materials, but machine-made regularity minimizes life and rhythm. (Why do we describe industrial walls and oors as "dead at"? Because they don't move.) By contrast, when materials and tools, tool-marks and maker, design and designer all work together, we get strong, *living* wholes that resist analytical dis-assembly. Surfaces move. Things fit; life works.

Columns faced with (faux?) river rock, Corvallis OR

The Value of Ornament

… all the words purporting decoration in many languages, Medieval Latin included, referred originally not to anything that could be added to an already finished and effective product merely to please the eye or ear, but to the completion of anything with whatever might be necessary to its functioning, whether with respect to the mind or the body: a sword, for example, would 'ornament' a knight, as virtue 'ornaments' the soul or knowledge the mind.

— Ananda Coomaraswamy, in "The Nature of Medieval Art"

For three years, I spent some of my winter months in Mexico, traveling and learning Spanish, but primarily following up on an invitation to work with rural kids in the state of Tlaxcala, in the high desert a couple of hours northeast of Mexico City. My hosts were a Mexican couple, an architect and a sociologist who ran cross-cultural educational programs in permaculture and natural building, as well as a small private school and environmental programs for local kids. Each year, I'd do a project with the kids: a sculpted oven, earthen play sculptures for a park, and a mural. I'd also participate in the courses they offered to mixed groups of gringos and Mexicans. At one of these courses, I met an architect who invited me to Xalapa, where he built free-form sculptural houses that combined ferrocement and rammed earth. He asked me to build him an oven that he could use from his kitchen but fire from the outside. We came up with an experimental design that I shaped into a lagartija, or lizard, that sat on the patio outside his kitchen. The design, however, required the chimney to rise like a tail over the firebox door.

Danilo looked at the odd creature, and said, "cuando haces algo che no te gusta, dazlo su proprio valor." Literally translated it means: "when you've made something you don't like, give it it's own value." But in Spanish, *valor* is closer to the root meaning of *value,* which has to do with worthiness that comes from strength. The fire-farting lizard didn't work because I was trying to make the smokestack look like a tail, and then hide the ass-hole under it. When I looked at the opening as a fireplace with a chimney, the malformed lizard turned into a mythical beast with two heads and two mouths – no masterpiece, but it worked – and clarified for me the difference between ornament that strengthened a design and ornament designed according to unexamined – and therefore weak – assumptions.

I had assumed that the lizard needed a tail, and that an opening under a tail must be exactly what you assume it would be. But the sphincter at the end of the intestinal tract is small – even when open – so when the opening was too big for an asshole, ornament contradicted function. Of course, the oven would work even if the door "looked funny," but the door, in order to function, needed reinforcement to support the weight above, it needed thicker edges to withstand repeated use, and it needed to be big enough to accept firewood

– all of which changed the frame – and thus the ornament – around the door. To work as a door, it had to look like a mouth. Function and structure should fit – their values should balance. When they don't, you get ugly. When they do, you get true ornament.

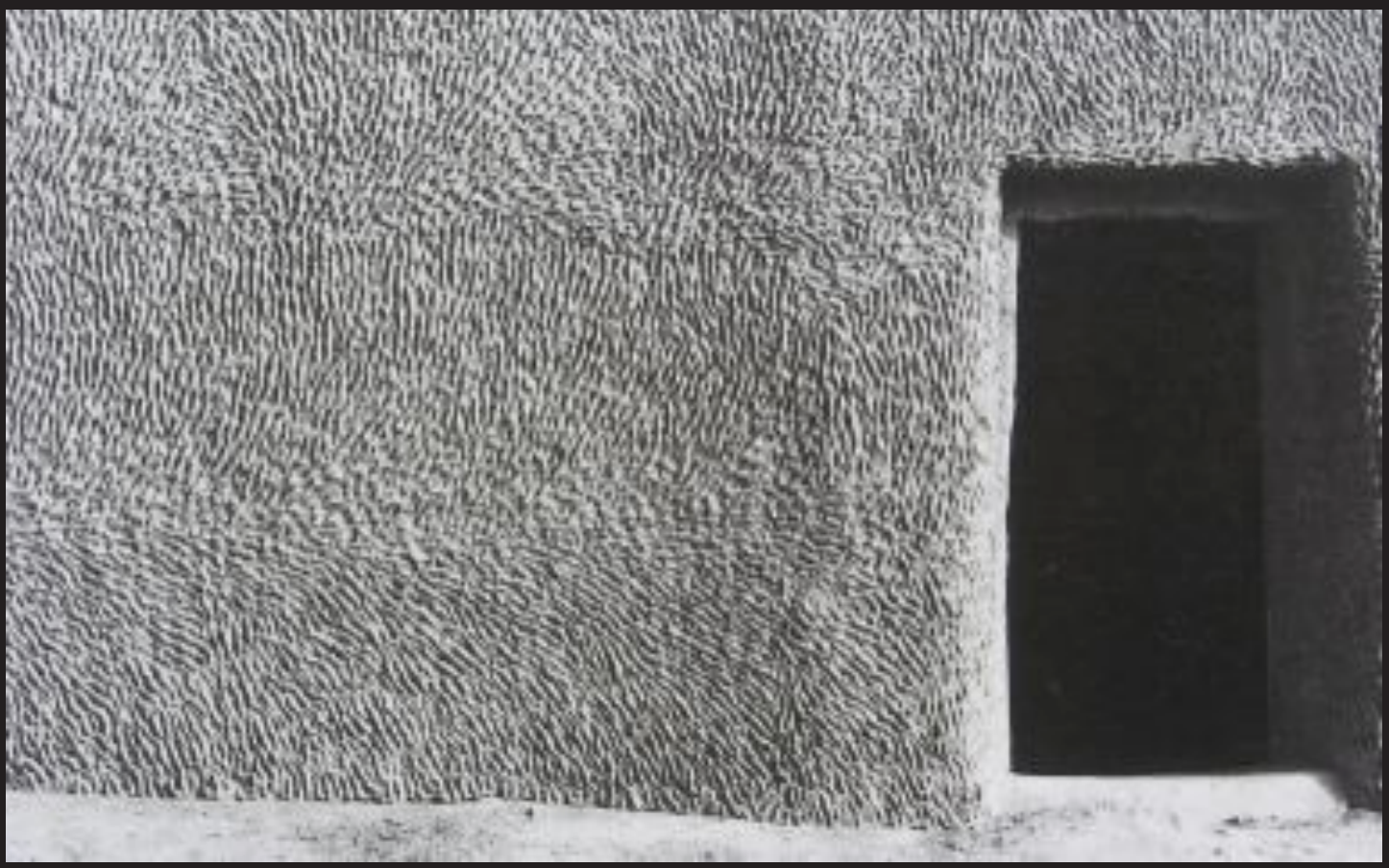
Modern usage generally associates *ornament* with less important elements – simple or superficial *decoration* that hides ugliness. But beauty in nature makes ornamental patterns that faithfully record the actual forces of creation – spirals or rings marking annual growth, rippling dunes of sand arranged by wind, rivers that follow the ow of water over land. This, it seems to me, makes for true ornament – true patterns that show the force of hands and minds at work – be they architects, engineers, carpenters, cooks, or janitors. Literally and traditionally, ornament marks the fit between structure and function (it too comes from the root *ar*, meaning "to fit together"). Where there is ornament, where we fit together, there we feel the pleasure of rightness.[30]

When a building hides the function of its structure – as often happens in modern buildings – the scale tips toward ugly. Take the clapboard-covered Corvallis office building in the preceding photo: it sits on a faux foundation designed to give a "look of stone" (called "decorative facing," the stone can be real or cast concrete, depending on the budget; either way it's applied superficially, and adds little or no working structure to the building; some masons call it "lick and stick"). The roof over the walkway is supported by skinny posts which were designed to "match" the foundation – so the masons were paid to stick the same round facing to the posts alike, like glueing pennies on paper. Without the facing, the posts might have balanced their long, thin profiles with their purpose of supporting the roof. But covered with these big round "rocks" on edge, they *look* unstable – not just because the rocks look glued on, but also because there's not enough width to support the rocks, despite the mortar. How can they stand, much less support weight? They look weaker than a skinny 4x4 because, as any 5 year old will tell you, round rocks – like pennies – won't stand on edge and stay upright – unless you glue them in place. So the "facing" robs the columns of their true value, their *worth*.

Ornament means much more than just making buildings "look good" (it too shares with "art" the root "ar," meaning "to fit together.") How miserably shallow our understanding must be to convince us that beauty "is only skin deep," like a sugar coating on a bitter pill. Truly, ornament makes a proper fit between beauty and goodness the same way that gravity enables a mason to stack a rock wall without any mortar at all. Ornament doesn't just make us feel good, it makes us feel good *about something of value,* something important and true, or even just something that truly works, like a foundation that faithfully insures the longevity of a building, or a doorway that supplies fuel to the fire.

Properly worked, gravity ornaments rock. You can tell because it sticks together without benefit of cement mortar – and it looks right.

Industrial units and measures (note corporate (Pepsi) sponsorship) - vs - native units and meassures.
Which has more life?



Feeling & Thinking; Aesthetics & Science

Science renders the work beautiful, the will renders it useful, perseverance makes it lasting.
("Scientia reddit opus pulcrum, voluntas reddit utile, perseverantia reddit stabile.")
— *St. Bonaventura, (1221-1274), De Reductione Artium ad Theologiam, XIII*

Art without science is nothing ("Ars sine scientia nihil")
— Jean Mignot, 1399 [31]

At the start of one school art project, as the principal was giving me a tour of his building, something suddenly struck me as feeling very wrong. "Hold on a sec," I said, stopping him in the middle of a sentence and the middle of a hallway: "why do I feel good here?"

It was a brand new building; I expected it to feel dead, lifeless, cold, and lonesome; devoid of human detail, warm colors, or beauty. That's only normal for most principals and students. What's abnormal is to mention it. So he surprised me by saying, "yeah, it was designed that way;" then he pointed out how every space – even hallways – got daylight from hidden skylights; how the daylight bulbs in the overhead uorescent fixtures hid their glaring tubes behind shields and re ected their warm, yellow light gently down off ceilings and walls. Corridors, instead of serving solely as cattle chutes to shunt herds from one stall to the next, also provided students with semi-private alcoves where they could pursue quiet activities. Rather than merely going from room to room, the principal and I walked in community the whole way. He closed by noting that he dealt with far fewer behavior issues than he'd had in other schools – despite the statistical tendency for poor populations like his to "act out" more than their wealthier peers.

We build our schools and institutions – as well as most homes – on a scale measured in 4x8 foot units of dead at stuff we call "sheetrock" – designed so one man can carry 32 square feet of masonry wall in a unit designed to fit perfectly with every other. It covers huge expanses quickly and cheaply. The result is smooth and fast, like highway travel, but when I walk through it I feel like a cow being pushed from feeding stanchion to milking station.

When we're surrounded by shapes bigger than we are, built for speed not beauty, it's hard to feel yourself human. How then, can we expect schools built according to thos criteria,

31 Quoted by Ananda Coomaraswamy, in "Ars Sine Scientia Nihil," in addition to Dante, St. Augustine, Plato, and traditional American Indians, all of whom, he says, share the same essential view that the beauty of any art depends on its usefulness; in *The Essential Ananada K. Coomaraswamy,* p. 177.

to protect, nurture, and encourage our kids? Shouldn't we build them on a human scale, so they'll feel as though they actually *fit* in the spaces we've made for them?[32]

Take a hand-made building, made of native materials, created on a scale we can measure in human units – real fingers, feet, hands, arms, and legs. A brick, for instance, contains a couple of handfuls of mud; the rhythm of the labor of laying one brick on the two below makes a pattern. The pattern breaks up the wall into at and raised surfaces. Sometimes, to define the top edge of the wall or to fit around a wooden beam or rafter, bricks might be laid vertically rather than horizontally (a "soldier course," versus the normal "stretcher course"). The laws of physics require other, additional patterns. To span any opening bigger than a brick, the mason has to arrange his many small, straight units into angled or curved wholes strong enough to hold up tons and tons of weight – arches! To increase strength, walls must be wider than a single brick, which requires tying them together by laying some units width-wise and others length-wise – more pattern! In this way, even the largest, unvaried span of structural brick displays pattern and life – not only in the functional pattern of long and short, but also in the irregularities of hand-made surfaces and hand-laid joints whereby lines are never perfectly straight, and surfaces never perfectly at. By contrast, industrial "facing" brick or block functions only as a at, thin coating that needs no patterning in order to function – rather, it's merely applied to the building the way you'd apply a coat of paint. As such, it's all atness, without depth. Looking at it raises suspicion: "should I trust a coat of paint to keep the roof from falling on my head?"

This is why most older buildings feel like they fit us better. Even the most monumental of old buildings feels better than most modern office towers. A piazza surrounding a European cathedral may extend for blocks, but patterned tiles or cobbles spread out underfoot in rhythms you can dance to. The entryway may tower over a procession of hundreds or thousands, but a series of 7-inch high stairs moderates and calms their approach, and the doors, though they may be a full story high, invite each entering person to examine a surface decorated with small carvings that tell commonly known stories. Vaulted ceilings may be 100 feet high, but their lines intersect and overlap like woven cloth. Windows may loom as large as a wall, but small lites divide the view….

Aesthetics refer to *feelings* (Greek, *aesthesis)*. It's not a visual quality. Consider the function of buildings: like clothing, they keep us warm and dry or protect us from hot sun and drying wind. Remember, our first shelters were tents – fabric draped over a skeleton of wood and rope rather than bone and muscle. Like clothing, when a building doesn't fit, we feel it. But in the same way that we let fashion dictate discomfort (high heels, tight pants, neckties) so does

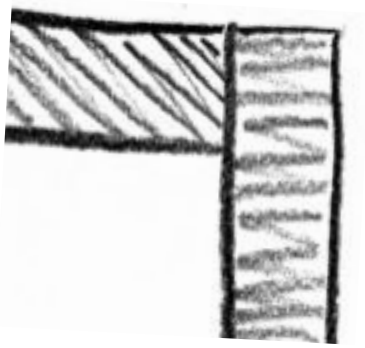
32 Modern design tends towards patterns that fit only when you look at them from the air. Aerial photos of industrial culture make this point very well, such as Emmet Gowin's *Changing the Earth*, (Yale University Press, 2002) and *Clearcut*, by author, publisher, date.

architectural fashion dictate how we feel in our homes, schools, and offices. Why do we deny it? For the past decade, I've lived in an earthen building where every wall is not only about a foot thick, but also curved and sculpted, where every surface shows the touch of a human hand, where thick-edged doors and windows invite me in and out gently and gradually. The walls are shaped the way a body is shaped, with a smooth warm skin that fits the bone and muscle below. When I have to spend time surrounded by cold, stiff, dead- at walls, I wonder how people live in houses that feel to me barely more welcoming than a prison cell.

Supermarkets are worse. To me, they feel like a feed lot full of milling cattle, slightly anxious about what awaits them at the end of the checkout chute.[33] All the bright, ashy colors lure me to bite and buy – why? I'm suspicious of all the packaging, expensively designed and engineered to feed our desires, not our bodies. Breakfast cereal is a cheap accessory compared to the box and the marketing plan. Look at the aisles of bottles. What's inside doesn't matter, but how many different shapes and kinds of plastic bottles there are! Some are designed to look sexy (look how many have tempting nipples); others are "ergonomically designed" (to make drinking less difficult?); others are simply odd. But if you compare them to the bottles humans have made for all the preceding (pre-consumerist) millennia, it's obvious that they were designed to contain liquid rather than sell it.[34] Shapes were simple: tall for pouring, squat for stability and storage, and both as needed, to pour as well as contain and preserve. Beauty and goodness grew from working relations between mouth and body, between holding and pouring. Narrow openings limited unwanted entrance (especially when storing or preserving things like wine and oil, which suffer from exposure to or mixing with oxygen). Good bottle shapes feel good in part, I think, because we *know* the pleasure of bodies that work: pleasures like filling and emptying bellies, satisfying appetites, and exerting and exercising muscles.

33 There's a reason they call this the "impulse purchase" aisle; those shelves, like feeding stanchions, hold us in place so we can consume more shiny candy and saccharine magazines.

34 There are ancient bottles for which shape appears to be more important than content – animal-shaped vessels are a good example. But they are hollow figurines, modified to serve as containers. And *all* vessels, no matter their shape, *only* came into existence as unique products of unique artists who worked as both designers *and* fabricators. There were no separate guilds of marketers whose sole purpose was to increase sales by researching which shapes would sell the most bottles. So the point here is not to "improve bottle design," but to underscore how design itself is fundamentally maimed when we replace "manufacture for use" with "manufacture for profit." We buy, not because we need the bottle in order to drink or carry the water, but because commercial fashions decree that we drink water from bottles. Commerce uses water as an item of trade ("good for the economy"). We accept the notion that in order to live, we must buy. We invite our corporate friends Coke and PepsiCo to train our children to this way of thinking by installing vending machines in our schools filled with "appropriately healthy choices" like juice and … water! In bottles. Right next to the drinking fountain. I have worked with kids who can't quench their thirst unless they spend money for a bottle — even when the vending machine is next to a fountain providing the same water, clean and free. The aesthetic science of marketing varies the shapes of their bottles not because the shapes are useful for drinking or carrying water, but because shape is the only way they can differentiate between water sold by PepsiCo from water sold by CocaColaCo. Such science is not required for beer or wine because these products can claim distinction according to real differences in avor based on real differences between varieties of ingredients grown in different places. Thus you can't distinguish most brands of beer and wine by the shapes of their bottles. Corporations, which don't eat or drink, define utility merely as profit. The modern aesthetic of profit dictates feelings according to bank accounts – and establishes an entire guild of artists whose purpose is merely to increase market share and profit. One marketing exec expressed his purpose as solving he problem of how to get the world to drink more Coke than water. That, of course, was before water was so universally bottled. Now he doesn't even have to add sugar and avor to the water to make it into a profitable product. All he has to do is put it in a bottle.



When feeling and function work together, beauty results. Take a dovetail joint. When it goes too deep, you get distortion, an imbalance between shapes. Where one penetrates too far, the other gets weak. Both lose integrity, compromising their union.

Note that the shape of the joint relates both to its depth, and to the thickness of the boards. A joint deeper than ½ the board's thickness loses symmetry, strength, relationship. All else being equal (rarely the case, since materials may vary in density and strength), the joint should go no deeper than ½ the width of either piece.

When I go to schools to teach art and beauty, I look for ways to restore a native *symmetry* between place and people. For instance, children typically arrive in cars and busses, so road access is given priority. The front of the school either feels like a train station or a loading dock – or the "front" is really in the back, and lone arrivals have to search through a confusing labyrinth of parking lots, false fronts, service entries, and landscaping hints, such as potted plants strategically placed next to the "right" entry. Rather than letting cars and buses define the entry, I try to redesign wall surfaces to welcome people, to help adjust the scale from automotive speed, to playing and learning speeds. The practical change may amount to little more than a small gesture, a few square feet of practical beauty, but people notice, and often they not only say thank you, they also remark on how a seemingly small change can have a very large impact.

Woodburn (Oregon) high school: student lounge after installing mural project.

Above: An iron sewer lid in Portland, Oregon; made in India (see mark, middle right).

Below: Works of strength, art, skill in Haora, India. Casting sewer furniture for American city governments under legal obigation to accept the lowest bid. Molten iron at 2300 degrees F. J. Adam Huggins, photo, New York Times. Slides and article at: http://www.nytimes.com/2007/11/26/nyregion/26manhole.htm?_r=1

Bricks & Roses

…you cannot make what you want to make, but what the material permits you to make… You cannot make out of marble what you would make out of wood, or out of wood what you would make out of stone… Each material has its own life, and one cannot without punishment destroy a living material to make a dumb senseless thing. That is, we must not try to make materials speak our language, we must go with them to the point where others will understand their language.

—Constantin Brancusi, quoted by D. Dudley in the Dial, *no. 82, (1927):124*

I LIKE OLD BRICK. It tells the story of real masons who laid up buildings out of locally dug and molded mud, and set them in complex patterns that not only held up walls and roof, but also celebrated doors and windows with inviting arches and patterned borders, that lead you gradually and comfortably into new space.[35] But real masonry has become archaic and expensive, and the old, local brickyards have stopped transforming the local mud into local bricks. Portland, Oregon, our nearest big city, has a lot of old brick buildings, now largely reclaimed for offices and shops. But the brick still tells an old story of matter, labor, and shelter; its integrity makes the city more beautiful.

Along with brick, Portland has roses. The mild climate suits them, and they seem to grow everywhere. As "The City of Roses," Portlanders celebrate their home with an annual rose festival. Even the manhole covers proclaim it. One day, however, walking out for coffee, I stopped to admire the rose design cast into one of these oversize iron coins. Around the outside edge I noticed small capitals spelling out "INDIA." India! Bad enough that we should deny our own citizens the work of casting their own toilet lids, but to ship that heavy iron across whole oceans and continents – not to mention chasms of language, history, and culture – so that barefoot men — who will never walk in Portland — can earn a few dollars a day casting letters into products they'll never see again – so Portlanders can get it for a better price?! "Sustainable"? Or just insane? Or unjust? By forcing people to earn their livings telling other stories than their own, we displace them from the land under their own feet – and Portlanders, rather than employing their own neighbors and knowing their own land, walk on the hands of distant Indians who had to abandon their homes for money.[36]

Wherever we live, design tells the story of beauty. Materials provide the vocabulary: wood, stone, steel, glass. Patterns provide grammar, structure, rhythm. The uniform,

35 Most modern brick doesn't really support the weight of the building, instead, we use it as a visual trick to cover up the underlying steel or concrete that actually does the work. But we don't trust tricks, and walking into a "brick" building that seems to oat or y can make for conceptual discord and real, physical discomfort. When Walter Gropius, the founder of the Bauhaus school of modern design, used the tensile properties of steel to make a cantilevered roof over the entrance to his house, people were so leery of walking under the apparently "unsupported" material that he had to install non-functional posts at the front of the structure.

36 The photo here is by J. Adam Huggins of the New York Times, who wrote a piece about the production of NYC manhole covers. The article explains the conventional economics of the arrangement. I imagine the story would be much the same for Portland. http://www.nytimes.com/2007/11/26/nyregion/26manhole.html?_r=1

standardized patterns of machine production and cheap transport can't tell us our own story, or that of our place. They serve best to prevent us from ever touching or feeling the stuff we use to make our homes; they isolate us the same way that cars isolate travelers – not only from each other but from the world we share. Maker can't know designer who can't know inhabitant. No one has a name, but we all have a price.

How can one person do anything to reclaim their individual identity, and restore their communal connection? I don't think it's a question of personal growth; nor is it a problem to be solved by mass action. The best suggestion I've heard so far simply combines gratitude with neighborliness. I can only paraphrase it:

> *Make a special place in your house for contemplation. Set a table there, and on that table, set something beautiful made by someone you know. Every day, admire the beauty of that thing, think about your relation to it, and thank the friend who made it. Then get to know someone who makes beautiful tables. When you've become friends, replace the table under your beautiful thing with a beautiful table made by your friend. Then get to know someone who makes beautiful chairs, and one who makes beautiful rugs, and one who makes beautiful clothes, and one who grows beautiful food, and…. Replace your chair with a beautiful chair made by your friend. Replace your rug with a beautiful rug made by your friend. Replace your clothes with beautiful clothes, made by your friend….*

Implicit in the suggestion, however, is the assumption that you can't just buy all this handmade stuff and become a patron of the arts. For the exchange to work, you're going to have to make your own beauty for trade – and *that* will be how we convert economy into culture: by taking many small steps in the direction of hope – which is the literal meaning of "prosperity".

Young tile makers in Quetzaltenango, Guatemala, showing me their favorite designs. Each tile pattern is hand-drawn in liquid pigment in a metal mold, then covered with cement and sand, and bonded under pressure in the press at upper left. Like artists in India or anywhere else, they were skilled, quick, and proud of their work. However the Guatemalan work paved local oors.

A temple to the mythical hero of the story at right, as designed and built by the author.

Home (again)

Home is where you feel comfortable and accepted.
Home is Escape, free your body and mind, find your way home.
A home is a warm and cozy place…
A home is comfortable and it keeps you warm and safe
A home is where you are yourself
A home is a place to turn to for warmth.
— Michal B., Andy B., Josh P., Michael D., Lucas R., and Justin F.

ONCE UPON A TIME *there was a boy who lived with a bunch of other kids in a home ruled by adults. The adults thought they were better than anyone else because they had bachelor's degrees, and master's degrees which, they believed, gave them the right to make decisions for others. The kids couldn't work, or drive, or vote; they depended on the adults for food and shelter, and so they had to toe the line. Most were afraid – all but this one boy, who had believed that adults were no better than anyone else. He even dared to say it, and sometimes refused to cooperate. So the adults treated him worse and worse, until finally he died. Because they so admired his strength and will, the rest of the kids secretly remembered him, and even prayed to him. Eventually, they built a temple where they could worship his memory. Finally, their powerful prayers and faith brought the youth back to earth as a God. Together, they created a society where all could live in freedom, respect, and harmony.*

This is a paraphrase, from memory, of a story written by a young man in a treatment center for "at-risk" youth where I was a resident artist for a couple of weeks. His (degreed) teachers and counselors criticized it as anti-social and required him to re-write it to suit their standards of appropriateness. The original went into a confidential treatment file where I couldn't get a copy.

The staff were not so bad as he had painted them – and he was quite alive. He was also relieved, when it came time to read in public, to have a different story to tell. Perhaps this was an admission that the original was mostly a pointed jab at those with whom he had to negotiate most of his waking acts.

By contrast, our project asked him and about a dozen others to negotiate with each other and buckets of mud. The idea was for them to build individual model homes, write stories about the people living in them, and combine their labors into a larger village and story. We asked them to think not just about home, but also about the relationships that make home something more than a roof over your head.

We sketched designs on paper, including oor plans, sections, and some perspective. The development of the houses went hand-in-hand with the drafting of the stories, which developed connections and relationships based both on the characters, and the physical attributes of the various buildings. After completing the houses, the artists added landscaping and decorative details to their plots. Then we made a display for a public unveiling and reading.

Combining the tactile and spatial aspects of model-building with the intellectual process of writing and storytelling gave them a very different challenge that what they normally faced. The practical demands of building required them to confront some real limits (their own and those of the materials), and the joint storytelling required them both to use their imaginations, and to work together.

Many of the boys ended their projects talking about the real homes they're going to build. Others, who started out self-critical, with poor attitudes and little or no affect, ended by speaking up, reading their story out loud, or just by smiling and talking and showing a new light in eyes that had been hooded and dark. Several who expressed typical "I can't do it" fears ended up making wonderful structures of which they were rightly proud (including several marvelous, and carefully thatched roofs).

Building a home and telling stories are native, instinctual aptitudes. Exercising them reinforces and develops other innate abilities, confidence, and competence. The combination of physical and intellectual work also builds moral understanding – if we can manage to reunite home with school and school with life.

A young man in Tlaxco, Mexico, who was helping on a community art project.

Learning by Doing

There are two sides to man, two correlative and reciprocal aspects – the hand side and the brain side. Human development begins in the child, and began in our earliest ancestry so far as we are able to think, chiefly in the perfecting of the hand; for throughout the human world men do before they know – indeed, the greater part of knowing is always preceded by generations of doing.

– Major John Wesley Powell, in the Annual *Report* of the Bureau of American Ethnology, quoted in *Zuni Breadstuff,* 1920.

What we learn to do, we learn by doing.

– Aristotle

My mother grew up in the 1930s, and went to a school where the motto was "learning by doing." (Her teacher's name, coincidentally, was "Miss Doing.") School for my mother meant not only "the 3 Rs," but real things to read and write about: hands-on projects, easy access to clay and art materials, music and dance, as well as weekly field trips to see and learn and, where possible, participate in the work of the world. Now we think of field trips as standard fare, but at the time, most educators thought it heretical to release kids from desks and rote memorization, much less free them to wander the city asking questions about anything and everything.

The "Little Red Schoolhouse" where my mother spent her early school years was – and still is – a remarkable landmark in American education. Founded by an equally remarkable lady named Elizabeth Erwin, it started as a public school in a mixed neighborhood of progressive professionals and ethnic immigrants. Two central and con icting historical currents shaped it – one stream was making education into a compulsory institution whereby the state could better hope to manage and control a growing and politically restive population. The other stream supported and celebrated the inherent rights of every individual, from immigrant laborers, to women demanding equality, to curious children forced to sit all day at their desks.

Erwin graduated from Smith college, worked as a journalist and psychologist, and openly raised two adopted children with a her female partner, a writer named Katherine Anthony. Erwin believed that "those people are happiest and healthiest who can best adjust to reality [and] meet life face to face." She wrote that "when children scream with pain, they receive immediate attention, but they have screamed with curiosity for generations…." She wanted

them to be able to ask their own questions, to grow and learn naturally based on their unique interests, to play, and to develop their imaginations. She started "Little Red" as an experiment in the newly compulsory public system, but when the old order conservatives of New York's Tammany Hall moved to shut it down, all the parents, rich and poor, rallied to keep it going – led by a butcher who stood up and pledged more than 10% of his weekly earnings. Erwin's egalitarianism inspired their support. Little Red didn't single out individual "star-students" nor did they issue reports cards or grades. They threw out textbooks, drill and recitation, routine humiliation, and corporal punishment. Rather than the grade-driven "desire to get ahead of someone else," Erwin favored "the unself-conscious industry that springs from interest in work." And at the end of May, everyone in the school spent a month together in the country.[37] When they went private, they kept fees low, not only so that poor families could sent their kids, but also to demonstrate that their "experiment" would cost no more than the typical public school education.

"Learning by doing" confirmed and encouraged my mother's innate talents and interests. It also lent authority to her later decisions as a single mother, as she encouraged both me and my brother to pursue our own interests. In my case, she supported everything from carving to pottery to photography. In my twelfth year, when we had just moved to Boston and I had entered one of their notoriously dull public schools, she let me skip every Thursday to take a serious, all-day adult ceramics class at the same museum-school where she was teaching. When my teacher called to check up on me, she just said I "was sick." And I was – sick of being trapped at a desk, sick of busy work, sick of school. Then, on a very tight budget, she bought me an electric potter's wheel for Christmas, so I could practice my art at home.

We had moved to Boston so my mother could develop educational programs for the Boston Children's Museum. The activities were pretty simple, but she tested them on us at home, and employed me to demonstrate them at the museum. I got used to explaining what I was doing and a few years later, when I got sick of high school, she found me an informal apprentice position assisting the art teacher at a private school run by a friend of hers. I spent the rest of the year living with a family and working with kids only a few years younger than myself. I never had to quantify or justify any of these experiences – either for my mother or my high school – but I learned about things by doing them; I learned to teach by teaching. Years later, when "professional" teachers invited me to work with them in the US and Mexico, I already had more confidence – not to mention more actual teaching experience – than I would have had from any degree program.

Schooling offers to humans much the same as it does to fish – proximity, safety, numbers,

37 Nicholas O'Han, "The Little School That Could, Tough Economic Times Created the Rationale for One School," Summer 2009, National Association of Independent Schools: http://www.nais.org/publications/ismagazinearticle.cfm?itemNumber=151845, and "Who we Are, History and Philosophy of the Little Red School House," on the school's website, http://lrei.org/whoweare/history_philosophy.html

collaboration. Schooling was a verb before it was a noun; before we made it into the *purpose* of childhood, it was the native *product* of society, of community, of people simply *moving together*. We learn naturally by doing, participating, working with others on activities that align individual action with common purposes. In such circumstance, teachers demonstrate, invite, explain, and tell stories to eager participants. Teaching (from Latin, *dicere,* "to say, or tell") requires such a tale – not a book, but a telling, a story, a play, an example of actions or ideas and images. It requires more than just talking *at* a passive audience – it requires one person to project her experience outwards, to share it with others so that they can learn to do the same.

We all begin telling our own tales the moment we leave the womb and get our first breath. And it takes us only 9-12 months to start forming breath into words and language. All the while, we're actively learning with ears, eyes, nose, tongue, fingers – *all* our senses. Learning by doing stems directly from the basic hunter-gatherer skill of tracking.[38] So education begins and ends with experience, as we share life with parents and peers, as they did with theirs…and on…and on…and on.

We think of ourselves as modern and therefore fundamentally different from our hunter-gatherer ancestors, but physically and genetically, the greater part of our identities is made up of all the complex native skills required to find and make food, shelter, and clothing out of the most basic raw materials – *without* need of industry, science, or computers. The complexity of that "primitive" transformation is equally if not more magical than the silicon chip – and it is exactly what we have been *doing* for 99.83% of the last 7 million years of our existence (roughly since we stood up on our hind legs, and assuming about 12,000 years of our more recent agricultural experience).

Consider the story that genetics tells (literally, from *genesis*). Say, as a species, we started farming about 10-12,000 years ago. Allowing 20 years for a generation, that's about 5-600 generations. If one parent manages to survive for 70 years, their lifetime might encompass 3 generations (kids at 20, grands at 40, and great-grands at 60). Such accounting would make a story containing 150-200 lifetimes – a list of begats one might commit to memory. By comparison, telling the story of our bi-pedal ancestors since they rose up off all fours about 7,000,000 years ago would require 350,000 generations, or somewhere on the order of 120,000 lifetimes. Even had they written down their stories, that many begats makes a boring tale. But it has developed a set of genes by which we have survived. If genes tell our story, then each one of us literally *re-members* the story of who we are, and who we come from.

The language of home, the language of feeding and rearing children, the dance of hunting,

38 The word "learn" shares a root with *last.* The noun form of *last* refers to the mold by which the shoemaker shapes the shoe to fit the foot; the verb, however, means "to continue," as animal tracks continue through snow, or as the plow continues a furrow through soil. So learning requires a lasting trace by which to follow it.

the myths and rituals and even the science of living all make common patterns by which we recognize ourselves in others[39]. Schooling used to be the essential physical activity by which we united ourselves into integrated cultures with unified heritages. We gained and guarded knowledge to keep us whole. Now, however, schooling has become a noun rather than a verb. It isolates us, diminishing and weakening every individual according to the idiotic myth that one person, alone, can be whole (*idiocy*, again, comes from the Greek word for *private*). When we fail, depression sets in. We try to compensate by re-combining our kids into separate grades which we further divide into "talented and gifted" versus "special needs," so that they can grow up to join their proper class, profession, guild, party, union…. This kind of sorting protects the status of some at the expense of the whole. Culture degenerates.

We come to know ourselves by following the tracks of our parents. We grow up imitating their motions, their words, their lives. Modernity confuses the issue by re-defining life in terms that diminish the importance of food, shelter, and clothing, and in ate the importance of superficialities like status, wealth, and power. But we don't – and can't – teach or learn when we separate ourselves from the basic workings of life. Look at what happens when we do: we train people for narrow expertise and broad incompetence and get specialized workers who can't act outside their job description. We get surgeons who can repair broken hearts, but heart-sick communities incapable of finding their way back to generalized health and joy. The surgeons hold well-paid teaching positions to insure a continuing supply of experts to deal with a growing crisis of heart disease, but if they should have a child with a gift for healing, compulsory schooling says that well-educated parents can't teach their children because it's a separate speciality requiring separate training and qualifications. So kids spend their formative years learning to divide their time and talents into separate and isolated categories, outside their families. They learn to let foreign experts called "teachers" sort and grade them into categories from "A" to "F" – from high value Harvard candidates to worthless dropouts. Eventually, if they manage to grade out to a required *average,* they can progress to expensive and highly specialized training at institutions where disease is the rule and health the exception. When they have been isolated long enough and accrue enough debt, we reward them with a license to charge specialist rates high enough to repay their debt, and to insure that practice outside their designated expertise would be "uneconomic."[40]

But nature works by the "genius loci," the "spirit of the place" – genius inhabits each of us as we come into the world, screaming, cooing, or silent, according to our inborn or *innat*e

39 For a fascinating effort to explain and re-tell this story with visual evidence from thousands of years of pre-literate culture, see *Patterns that Connect, Social Symbolism in Ancient & Tribal Art*, by Carl Schuster & Edmund Carpenter, Harry Abrams, NY, 1996. Based partially on the idea that "information overload leads to pattern recognition," the book consists of 1,023 illustrations of decorated bodies, garments, dwellings, dwellings, and other artifacts of life before books. It posits a universal language based on universal experience: birth, death, food, sex (and condenses 12 prior volumes and 7,000 illustrations).

40 See Ivan Illich and John Taylor Gatto for more along these lines. See also the parable at the end of the essay.

nature. Likewise, native human genius can't be "taught." Education can only lead out our genius as it frees us from boxes, categories, and the fear of death, and helps us put our genius into service with others so that schooling, once again, can serve all of us instead of just some of us.

My own education came largely from my mother's efforts to include me in her work. In that integrated realm between home and community, a degree of wholeness was possible. At school, however, and especially during those years I tried to "put my education to use" for profession and career, wholeness and personhood eluded me. The illusions of grades, salary, status, and "professional development" all proved hollow, frustrating, and cold. Now that we're raising boys of our own, homeschool seems to me and my wife to offer greater hope of wholeness for our kids – not because it's ideal, but because it encourages us to work together in the family as well as the community – both of which, of course, suffer a common brokenness.

Ironically, my mother worries about "socialization." At home, we are, like most other American families, isolated and too private. However, like my mother, I try to follow a kind of art that requires not just *fitting* my own story together with my self and my career, but also *moving together* with neighbors and strangers to make things that bring people together – ovens, stoves, public murals and installations, community projects and potlucks. All of this means making art *in* and *for* community, rather than for "the market." As much as possible, we try to combine work and family, to *school up* not only with each other, but also with neighbors, with people we teach and learn from in workshops, and those we meet at camps and conferences, and in whatever learning-by-doing field trip our life happens to offer. It's not perfect, but it's a place where we can focus on what we're really learning and doing, instead of worrying about how high or low we rank.

Kids working on a school mural, in an (earthen) art project led by Caz Phillips, in the U.K.

THE ANIMAL SCHOOL
A Parable

Once upon a time, the animals decided they must do something decisive to meet the increasing complexity of their society. They held a meeting and finally decided to organize a school.

The curriculum consisted of running, climbing, swimming, and ying. Since these were the basic behaviors of most animals, they decided that all the students should take all the subjects.

The duck proved to be excellent at swimming, better in fact, than his teacher. He also did well in ying. But he proved to be very poor in running. Since he was poor in this subject, he was made to stay after school to practice it and even had to drop swimming in order to get more time in which to practice running. He was kept at this poorest subject until his webbed feet were so badly damaged that he became only average at swimming. But average was acceptable in the school, so nobody worried about that – except the duck.

The rabbit started at the top of her class in running, but finally had a nervous breakdown because of so much make-up time in swimming – a subject she hated.

The squirrel was excellent at climbing until he developed a psychological block in ying class, when the teacher insisted he start from the ground instead of from the tops of trees. He was kept at attempting to y until he became muscle-bound – and received a C in climbing and a D in running.

The eagle was the school's worst discipline problem; in climbing class, she beat all of the others to the top of the tree used for examination purposes in this subject, but she insisted on using her own method of getting there.

The gophers, of course, stayed out of school and fought the tax levied for education because digging was not included in the curriculum. The apprenticed their children to the badger and later joined the groundhogs and eventually started a private school offering alternative education.

— anonymous student, University of Toronto,

re-printed by my mother in *Making Things, A Handbook of Creative Discovery*

Hillcrest Youth Correctional Facility, Salem, Oregon

Freedom & Failure

Love truth & honesty day by day = freedom
Equal respect for all no matter what race
Life requires life's ingredients: love, joy, & peace

— Inmates at a state youth correctional facility in Oregon

Teaching artists in Oregon get funded to work in schools and prisons, both of which operate on authoritarian principles: participation is compulsory, freedom is limited, and failure is punishable. Fortunately, institutional management recognizes that inmates who are occupied – or at least distracted – are generally "better behaved" and more manageable. So funding for the arts can sometimes be justified. In this case, I'd been invited to work with kids in low-security juvenile facility that had just enclosed their "campus" with a 20 foot chain link fence topped with barbed wire. Ugly and imposing as it was, the fence prevented easy escape and so meant that the inmates could spend some "free" time outdoors.

To begin the design process, I took the kids out to survey the site. In silence, we walked around a few acres of grass bordered by asphalt paths, buildings, and the fence. A few mature trees made shade. The benches had to be simple and small so as not to offer a hiding place for would-be escapees. That limited our options, so I proposed that the kids develop designs they could make out of clay and cast into concrete slabs which we would put up on legs. But I wanted them to come up with a theme to unify the work. After we surveyed the site, they wrote about what they felt and experienced as they walked around. Almost unanimously, they suggested a theme of "freedom." Then we reviewed their writing, measured the available space on the bench design, did some editing, and agreed on which words, slogans, or phrases to work out in clay. Some of the taggers provided beautiful lettering, and others ornamented the phrases with symbolic figures. One boy sculpted a rose in low-relief – a real challenge, since he had no real rose to work from, and just an inch of at clay in which to try and create an illusion of 360 degrees of roundness. After working intently for a while he pushed back from the table and said, "this sucks." In fact, it wasn't bad, but he had high standards, a discerning eye, and considerable skill.

The in-house staff tried reassuring denial: "oh, no, it's *great!*"[41]

He seemed unconvinced, so I asked him what he didn't like. He described the difference

41 If I could collect a dollar every time a teacher denied a student their own opinion of their own work, I'd make more than they pay me. It's the standard way in which we diminish art. To deny that art requires skill – and that kids may need to work – leaves only pure emotion as measure. It's a measure that diminishes you when you don't "like your art," because art, after all, is what makes us *feel* good. If, on the other hand, we understand art as skill, to find our skills lacking might motivate us to practice and improve – not our*selves*, but our skills.

between a real round rose and his at reproduction. We talked about the problem and he finished the piece, which we cast into the bench. When the concrete had set, we broke out the castings, assembled them into benches, and installed them on the grounds.

I never asked how he felt about his concrete rose. I hope he learned that frustration is just a feeling and not a personal failing, and that it's possible to work through it; I hope he learned that making a at slab of clay look like a rose requires knowing rose and clay well enough to convey roundness in just two and a half dimensions. I hope he learned that knowledge is worth working for; that practice, repetition, time, and frustration can bring skill into agreement with knowledge. I hope he learned that focusing on feelings can make it hard to learn such simple lessons as "if at first you don't succeed…." Whether or not he "learned a lesson," however, is less important than whether or not we give kids real opportunities, not to "feel good" about themselves, but to learn about themselves.

At left, the rose artist at work, and his finished rose as cast into a concrete bench.

Above, a (more) free teenager with her work, at Woodburn High, Oregon.

A young woman and her work, Otego, NY

Art Saves Lives

…the arts have never existed by themselves. They have always been the apanage [adjunct] of the religions. Each time we look at a religion, we see that very beautiful things have been created and that afterwards decadence follows.

One can't take this product of the religious as universal art. Water is always water, yet each time it has a different quality, alkali, iron, sulfur. We must find the source of pure water so that everyone can drink.

Art begins to be born. Once rid of the religions and the philosophies, art is the one thing that can save the world. Art is the plank after the shipwreck, that saves someone.

—Constantine Brancusi,, 1926

I HATE those bumper stickers that say "art saves lives." What does it mean? Does it mean that life is a ood of ugly, and art is a pretty little boat come to save us? *(Martha Stewart to the rescue!)* Or does it mean that we lack something that only art can give us? (*Call out the culture corps! The masses must express themselves; they need to explore abstract impressionism and improve their self-esteem!)* And, assuming that everyone already has, or doesn't need a decent job, a place to live, and free time, just *what kind* of art will save us? Movies and music? Advertising? Or the manufacture of strange objects seen only in fancy galleries and written about in the New York Times? If art really does save lives then, like medicine, we'll have to make sure everyone gets their fair share – or that everyone "can be an artist."

Can you imagine a "Math saves lives!" bumper sticker campaign based on the idea that everyone should be an engineer? Does it sound a bit presumptuous, or arrogant? Or does it sound like "feel good" pop psychology that prioritizes self over service, and emotion above action?

Since art can be anything (but isn't really work), how can art do anything so dramatic as saving a life? Doctors save lives by dint of knowledge and skill; firemen by speed, strength, and risk. If art saves lives, it must be powerful magic.

Not that I judge people by their bumper stickers. I have friends whose bumpers say "Art Saves Lives." But really – who takes it seriously? If, on the other hand, you say "Math makes the hi-tech economy," people listen and agree. If you say "Reading is FUNdamental," people buy it.

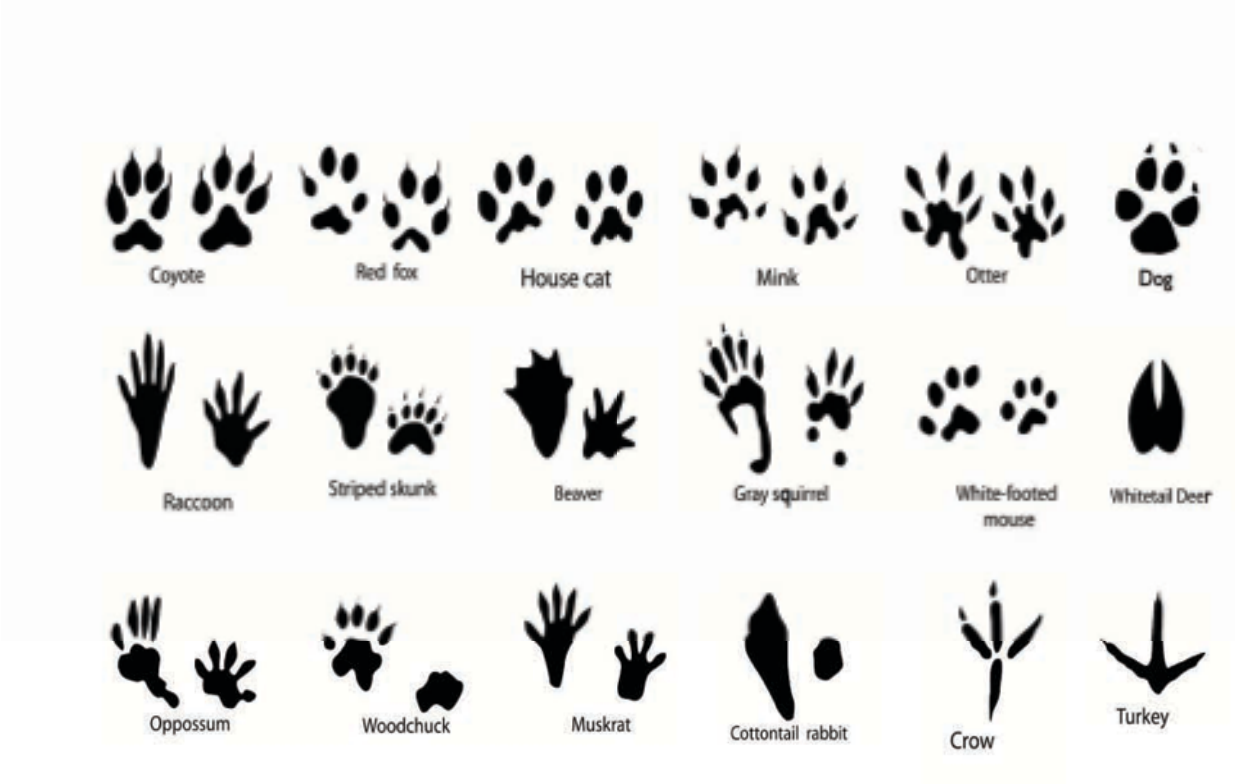
So I say, "Art is academic." Language begins as art, and our understanding of the world – including math, science, and all the other disciplines – all begin with the representation of ideas using the materials at hand – or underfoot. At the start of everything are our hands, our feet, and the dirt we stand on. We literally come up out of it – we are what we eat, and when we die (if we're lucky, and avoid the toxic waste stream that "disposes" of bodies by putting them into lead-lined concrete boxes), we go back to the earth. That's our biological heritage.

If, however, our educational and social traditions deny us the experience of absolute immersion in the stuff of our lives, then we lose something absolutely essential: we cut the

practical bond linking experience to knowledge. "If you don't go there, you can't know there."

Wilderness educator Jon Young cites research suggesting that tracks in the mud gave us the earliest form of writing, that alphabets began as birdprints, and that "reading" a set of tracks is, from a brain science point of view, the same as "reading" a bunch of symbols written on a page in ink.

So Young works with all kinds of kids, in the woods. And the ones that are labeled as having "Attention Deficit Disorder"? They're the best. Because, Young says, the physicality of tracking demands a physical response that can take them to the limits of their bodies and their minds. Kids too wound up to sit still in a classroom can focus on tracks that literally *move* them. Despite classroom failures, they excel at tracking. And when they get back to class? They're better able to concentrate, to learn, to "perform according to norms." So Young says that kids don't have *learning disorders,* schools have *teaching disorders*.



When I teach in schools I come to much the same conclusion. I gave one second grade class some simple drawing exercises. All the kids set to work. I stood back and watched, waiting for the rare question. The teacher stood next to me appreciatively, and asked if she could make some copies of the exercises. "The only time they're ever this quiet is when we do art," she said.

I was too dumbstruck to ask the obvious question: "Why not do more art?"

Art makes minds. It molds the grey matter of our brains. Yet it's called an extra. Teachers are afraid of it, even though it's a simple thing to apply to *any* lesson plan.

With a writer named Gregg Kleiner, I was an "artist in residence" at the Corvallis Farm Home, a treatment center for at-risk youth. One day we got a late start because the kids seemed to be acting out and acting up, all at once. The staff warned us that it was one of those days, and we might have to cut short our session due to behavior problems.

We were building a model village out of mud, or "cob." The kids had already drawn designs for their houses, written a rough draft of a story about the characters who lived in them, mixed up their material, and roughed out the actual buildings on 2x2 foot pieces of plywood. While Gregg and I waited at the classroom door, the other staff lined up the kids, single file, military formation, for a hundred yard silent march to our work space. No smiles, one or two outbursts. An extra adult or two (for a total of 4 or 5) ensured "adequate supervision" for the 7 kids. It felt more like body guards, but when we reached the studio, the kids set to work. A palpable quiet settled over us. Gregg and I gave only as much attention as requested; there was no con ict, no resentment, no rebellion – just quiet concentration, the occasional call for help or materials, and technical discussions about design and engineering. One of the most sullen kids even volunteered some positive remarks. The staff were amazed.

Some "non-traditional" educational efforts, like maker-fairs, experiential education, and various outdoor and wilderness programs understand and take advantage of the real work that real arts demand of kids. But we have yet to make it a normal part of every education. Instead, we have classrooms and treatment centers where we barrage kids with mental and emotional measurement. Not just academic grading, but running commentaries on their attitudes, motives, goals and, "in treatment," a running, personalized commentary on their particular "developmental issues," as well as ongoing, comprehensive scoring of their relative success or failure in each area. Of course, the standards for success and failure change according to the experience, fatigue, or attention of the staff member, and in a residential center, the staff change every 8 hours or less.

As artists, Gregg and I imposed no measures on these particular kids. Yes, there are things the materials won't do, but each kid pretty much set their own standards and judged their own success. We helped to define common goals, to explain procedures, and perhaps to analyze results. And while behavioral issues didn't magically disappear, they did magically diminish in significance. Why? I think it was because the kids, instead of focusing on the fuzzy image of themselves as re ected back at them by judgmental adults, had to focus instead on the immediate and physical fact of the mud they held in their hands. And mud can be manipulated *only* by hand; it can't be cajoled, wheedled, argued with, or otherwise psychologically controlled. The challenge we put to them – to coordinate hands and imagination – was one that they could physically *feel*.

What I have felt in schools, correctional facilities, foster homes, and other supposedly educational "institutions" bears striking resemblance to what I feel when I go to see someone in the hospital. The staff are wonderful, kind, and caring, their intentions the best; and the people they care for are beautiful – but I fear not only the illness and danger surrounding me, but also the martial forces of complex machinery and powerful professionals all rallied and organized to protect me from lurking threats and dangers.

And once so contained and controlled, how do we raise our youth? We measure and grade them like merchandise, classify them as more or less "at-risk." If they suffer, complain, or resist we isolate them for "appropriate treatment" in an even more controlled environment. If that doesn't "make them useful" as good wage-earning employees, they're pre-conditioned for soldiering and a war machine which requires only that they follow orders.

So yes, to a life so bound, constrained, and diminished, the making of art may offer moments of life-saving freedom. But what saves us is the work and the freedom it provides. There is nothing magic about such art. In a tortured and fragmented society, victims may need to write or paint their pain to save themselves from suicide, but the purpose of the writing and painting isn't "saving a life," the purpose is to communicate. Saying that "communication saves lives" is like saying "breathing saves lives." Art programs that seek merely to save the lives of a few victims merely insure the ongoing cultural destruction that makes a norm of violence and resentment, instead of beauty and gratitude.

Visual arts, writing, music, dance, and all the crafts – all represent different facets of one human language, all share in the common and innate gifts of humanity. Art fits us together, it joins our fingers and toes to our hearts and minds, and it joins each individual to the whole community. I won't argue that art doesn't save lives, but without art – of all kinds – all life simply withers, and goes "back to the dust." That means we can't *buy art*, or *teach art*, we can only *cultivate art*, like a seed, which must have sun, soil, and water – or die.

Camas in bloom, Willamette valley, Oregon. When white settlers first arrived, they found cultivated camas prairies so dense and blue with these food-producing owers that they thought they were seeing lakes.