

11. Real Compared to What?

Lonesome hours in the saddle made him wonder about what had gone wrong. Riding around, the ills of society profusely manifest themselves: Barren parking lots where once stood gorgeous stands of hardwood, fewer and fewer farms, increasing filth everywhere tossed by thoughtless motorists, ghettos, pollution, poverty, every one a result of petroleum consumption. Extra lanes are added to accommodate an extra 250 million registered vehicles, more than total motorists, almost as many as total inhabitants, a number that has doubled over a decade. Soon there wouldn't be any place worth biking at all. Pavement expands beyond its borders by flooding adjacent forests and rotting roots. Life gets crowded into forgotten corners and barely holds on. Animals and birds timidly huddle in tiny pockets surrounded by deforestation and devastation. Of what use is freedom if individuals choose badly? Freedom only helps informed individuals when choices include something beneficial. Choosing among evils isn't worth wasting your time. You should elect yourself not to choose, or choose something else entirely.

The Bible recommends and the vast majority looks for the good in any situation. Al considered this okay for average folks but cowardly among those endowed with brains, inheritance or talent. Penniless prophets challenged hypocrites around them, exposed ills, waged a battle of words, and were persecuted for it. They humbly served public interests whether or not anyone recognized them for it. That's the trouble with generalizing without defining terms and setting up preconditions. Too often you're misunderstood. People generally don't like anyone who speaks out about what makes sense, what's right. The Baptist, one small voice crying in the wilderness urging all to repent, was beheaded. He imagined Evangelists were just a quartet who could scribble, and so were conscripted into codifying the day's political correctness. Writers were always looking for projects even if events occurred a hundred years earlier. Probably didn't want to, but they rose to their assignments, lucky to accept some mission in life, which was to leave incredibly indelible legacies. Crusaders, Galileo, Giordano Bruno, Socrates, mere men, not divinely driven saints, all suffered similarly horrible fates. Average folks reward genocidal hatemongers and mass murdering despots but not someone who acts out of love and repeats simple truths. Examples of martyrs inspired exposing and opposing evil despite extreme personal peril, but few have the

inexhaustible willpower needed to crest that climb. Meanwhile, worthwhile missions persist and are ignored.

Reading a local newspaper article that complained of traffic gridlock, he wondered why there was no mention of plans to build bikeways to get around it. Hybrid vehicles only preserve a dying habit, and there was no room on roads for more. When his next new car purchase came around, he considered a hybrid, but instead bought a full size 6-cylinder with all amenities for half the price. A hybrid wasn't economical for him given his limited driving miles. Materials to build electric cars were even more rare than dwindling supplies of petroleum. Anyway, with increasing *movement* and no way to accommodate more, how unsafe had motoring become? So he sought statistics from the U.S. Department of Transportation.

In 1999, motor vehicle [henceforth mo-ve] related accidents throughout America took 44,000 lives [forgive digits used for clarity here; people aren't numbers elsewhere] and injured more than 300,000 drivers and passengers in 3 million reported accidents. In other words, that's 220 fatalities per year per million drivers, among 200 million licensed. Figures 5 years later reiterated these numbers, showed no decrease despite widespread educational efforts and public service announcements. Fiscal loss to Americans exceeded \$150 billion per year, even more than smoking at \$100 billion per year nationally. Motor accidents were the third leading cause of death, after cardiovascular disease and cancer [source: National Center for Health Statistics]. Between ages 5 and 65 over 50% of all unintentional injuries resulting in death are mo-ve related. High speed and substance abuse were the main culprits, especially mo-ves running off rural roads, 4/5 of the nation's paved thoroughfares. Has as much to do with motoring's popularity, especially teens racing around tempting fate, with fate losing patience. "Any bright spots?" The dollar's value has plummeted compared with the Euro, fuel prices are up, gridlock has strangled traffic flow, and motorists have begun to minimize miles, so losses won't be quite so devastating as they once were, one hopes.

Compare this "car-nage" to bikeage fatalities: <650/yr., only 13 per million participants, and trending downward, 25% less than 1975, attributed to increased use of helmets, an educational effort that has succeeded. In the same period bicycle trips nearly tripled—from 1.3 billion to 3.3 billion/year—among the nation's 57 million bicyclists, 20% of the total population, [source: NHTSA, 2004]. Stats from 1999 show 64% of fatalities occur in urban areas; 70% were at not at intersections, but include "car overtaking" and "parking lot fly-out" scenarios; 90% of deaths were collisions

between cyclists without helmets and mo-ves. During 1999, a total of 51,000 cyclists were injured in crashes with mo-ves [in 2004, 725 killed, 41,000 injured]; 30% of these, the biggest subcategory, involved cyclists riding against traffic. Of reported accidents, ignoring even more unreported, 99.99% were not fatal. Not children, but males 16 to 25 years old accounted for 88% of these scrapes, just as you'd expect, since adults generally give up riding in favor of motoring to lackluster life-ruts. Kids don't ride as much, probably, which partially accounts for an alarming trend in child obesity, which goes along with channel surfing, playing video games, and such sedentary indoor activities.

From these per capita numbers, it seems you're 19 times more likely to be injured or die motoring than cycling. More motorists are killed every single year than cyclists in total over 75 years since 1932 when they began keeping records. He couldn't even project how more dangerous excessively sitting was, 100, 200 times? Leads to blood clots, deep venous traumas, heart attacks and strokes. Those who want to make bicycling sound dangerous argue "per mile traveled" not "incidents per trip", which amount to <1 per 22,000 trips, 44 years of daily commutes, or a lifetime of rides for most cyclists. Or they lump stats for bicyclists in with slow moving pedestrians, who are 6 times more likely to get killed by mo-ves. At a speed of 40 mph, 85% of collisions with pedestrians result in fatalities, but not so helmet wearing bicyclists, who absorb force by rolling. Any per mile comparison is unfair, since typical bike trips are short, averaging 3.5 miles, and mo-ves offer greater range. On the other hand, many motoring accidents were on trips as short as bike rides, since half of all motored trips were less than 3.0 miles, and most accidents are within 10 miles from home. Americans average 5.1% of their time behind the wheel, ~443 hours/year. Avid bicyclists make ~100 trips/year, usually less than 2 hours/trip, less than 1% of their time. Only obsessed cyclists who didn't drive much put in >500 trips/year.

Hard to reconcile traffic statistics, which never add up. All motored miles (bus, car, truck and van) estimated at 2.7 trillion annually exceed by far bicycled miles at only 10.5 billion. But there's considerable underreporting of bike miles versus better actuarial estimates from motor fleet managers and other sources. Easier to measure flow of motor vehicles than bikes, simply because bikes don't stick to major arteries like cars and cholesterol, where it's easier to monitor. Worldwide, bicycles outnumber mo-ves 3:1. If every bicyclist nationwide rode only 300 miles a year, that would exceed 17 billion miles. Motorists go >8 times farther for

their comparable sacrifices of death and injury, but motoring isn't 8 times faster, only 2 to 4 times given travel realities, and uses considerably more energy, since you've got to earn its myriad costs. Dozens of bicyclists he knew rode 10,000 miles per year. Yet others buy bicycles and ride only once, frightened off by motorist hostility. If Americans reduced drive time by only 1%, 5 hours per year, by driving sensibly, flexing work schedules to avoid rush hour jams, organizing trips, and withholding car keys from teen joyriders, the nation would conserve about 10 billion gallons of gasoline, a major stride toward balancing trade. They wouldn't have to stay home, since bike miles could easily supplant 5% of those driven. He'd personally given up 50% and didn't consider it a sacrifice at all.

Here's another comparison. Trampolines result in 47,000 injuries a year. In error, manufacturers claim they're 3 times safer than bicycles, about which they cite 150,000 accidents (not injuries) per year, caused mainly by falls and running into fixed objects. First, how many hours do people trampoline per year? For the distance you travel in traffic on a trampoline, it's incredibly dangerous, perhaps the most dangerous choice by far. Oh, not a conveyance? More people get injured falling in a shower. Does that make bouncing on trampoline safer than taking a shower? Come to think of it, you fall down every time you use a trampoline. Crazy reporting? Fun with numbers? First, you must define terms and compare apples with apples. Injuries need to be rated on a scale. Comparisons must be stated by severity per incident, hours of use, type of use. Besides, who wants to be lumped into any statistic? He wasn't one who raced down single track dirt trails or recklessly hotdogged off jumps doing flips with no hands and wound up with a broken back and paralysis. Watched a report about blind bicyclists who use clicks and echo location to "see" obstacles, but that doesn't work well among moving vehicles. As stokers on tandems seems a better way for blind to benefit from riding. Obviously, there are different ways to participate that result in varying degrees of safety, as there are in all things, except, perhaps, motoring, which has become uniformly unsafe no matter how deliberately you proceed.

He took issue with any miles/incident comparisons, such as those which makes flying seem safer than driving. When a jetliner crashes nearly everyone dies. Slow accidents at ground level are far more survivable, cause injuries rather than fatalities. Of motorists in crashes, one out of every 68 dies. Of bicyclists in major accidents, which because most are minor are not reported, on average one out of 300 dies. This survivability quadrupling is counter-intuitive, since most wouldn't choose to be the bicyclist in any car

collision. With billions of bike trips annually, collision injuries are incredibly low, only 12 per million trips, two fatalities per 10 million trips. As an activity, biking is statistically safer than almost anything you might engage in, including attending ballgames, where spectators are hit by balls and bats, served bad food, and slammed around by other spectators. That there are 6 times fewer fatalities bicycling alongside traffic than walking has something to do with a bicycle's speed being closer to that of mo-ves. You can no more bicycle as if a vehicle than walk like one. All 3 activities are distinctly different. Left turns across fast traffic only work if you can ramp up fast enough to merge, and only one in 10,000 bicyclists have this ability. Walkers are restricted to crossing at crosswalks and intersections. Bicyclists had to plan left turns in advance, ease across to left edge of passing lane, often middle of road, then assess oncoming traffic before making turn. It's times like these a rearview mirror can be really helpful.

In May, 2005, Texas Transportation Institute released a report on time wasted in traffic congestion. It covered 85 study locations. The worst was Los Angeles, all motorists abiding an average annual wait of 93 hours, stopped for 21% of their driving time. Other top 10 cities ranged from 50 to 70 hours. In 20 years, nationwide total estimates have risen from 700 million to 3.7 billion hours wasted; roads heavily to extremely congested rose from 20% to 54%. Average annual waits nationwide may be as high as 30 hours per driver. Suffice to say, gridlock means it's getting harder to drive, wastes an enormous amount of dearly acquired fuel, 2.3 billion gallons/year, and, ironically, there's no reference to bicycling in any of TTI's reports. Did you think bicycling community could afford such a study? Texas, a state that produces oil, is unquestionably more focused on flowing ever more fuel burning tourist travel, since motorists curtail any recreational transport when conditions become unbearable. Their fix usually means adding lanes at the expense of shoulders. Stealing shoulders is not an answer. To no avail, Los Angeles has more highway lanes than anywhere, 14 in each direction in some places. After exhaustive study, it's been demonstrated it's impossible to save energy by reducing congestion, because every attempt to facilitate flow simply results in more traffic. Public transportation—monorails, subways, trains, but not busses—helps a little, but not enough. Advice from network newsmen who broke this story was to “grin and bear it” or find some new distraction while driving—like bicyclists need that! Nobody interviewed suggested a viable alternative. Mass transport was characterized as impractical and unprofitable, and how was it any

different from adding lanes? Seems to scream, “Bikes belong!” but never once were they brought up.

Narrowly reported facts that don’t bring up their ethical and humanistic impact are dishonest. Anyway, arguments and numbers don’t motivate. Brainwashing against bicycling abounds. Rare news of a hurt cyclist is spread on front page above the fold. Everyday occurrences of killed automobilists are buried in obituary pages in back of Section D. If you focus selectively, you miss seeing truth that surrounds.

On his bike, he hardly ever concerned himself with gridlock, went around vehicles and through intersections without unclipping. But he knew side streets and ways to evade those 6-way rotating horrors of supposedly “safer” intersections. Safer for whom? Too bad not all bicyclists had his local knowledge. Signs would be nice. Nationwide, hundreds of thousands of motorists each year endure serious injuries due to distractions—cell phones, smoking, radios and televisions in vehicles—negligence in road layout and maintenance, poor vehicle design, substance abuse, unabated speed, and *way too many drivers* on roads! Never before had so many driven all at once. They give licenses to anybody; literacy, sensitivity or skill are no longer prerequisites. All this comes at a price to you, an annual loss, federal estimate, of \$200 billion dollars. For lost productivity caused by gridlock add \$63 billion more. You pay for it in higher HMO fees, mounting fuel prices, and other cost-of-living increases. Even if you reduce consumption and conserve, you can’t live on less than \$10,000 per year net, about what you make gross on minimum wage, most of which is dumped into an energy vacuum and pointless armed conflicts. The price of a proper meal in a modest bistro is more than many workers earn clear in a day.

One night he glimpsed a cyclist directly under a streetlight, under a new moon, backlit by a storefront on a black bike, no helmet, no lights, no reflectors, dressed in black with a black brushed leather jacket—stealth mode—riding toward him on the wrong side. If not for this miscreant’s silhouette he may never have noticed until under his wheels. Yet an accident never happened. So what can you conclude? For even thoughtless riders, bicycling is pretty safe, and can be made safer given precautions: Plan routes away from mo-ves, ride with flow, slow where visibility is low, use lights (blinking or otherwise) from dusk to dawn, use a mirror, wear bright or reflective clothing, and wear a helmet. See and be seen. Stay safe. When driving, give room to bicyclists and protect them from other motorists who might inadvertently run them down.

It should be a priority to separate bikes and cars where most dangerous. This has been a major shortcoming in urban planning. What cyclist wants to compete with SUVs and trucks? Painted lines on major avenues offer little protection, capitulate to construction costs and land pressures, while bikeway building was more convenient in suburbs, where not as high a priority.

New bikeways should emanate from busy urban centers, where people work, to suburbs, where they sleep, not suddenly end. This would encourage safe bicycling where hard to otherwise negotiate. Could be done straightaway at low cost, he reckoned, by simply designating certain lightly used side roads as one-way, striping them with bike lanes (parking on left, bike lane on right away from driver door swings), paving a few existing roads and rights-of-way to connect them, then adding strategic jersey barriers and signals where needed. Unless you pick flat terrain along ridges and streams, a slow pace might discourage use. Bike paths are like personal expressways. Bicyclists who'd rather not dodge cars or suck exhaust can use them to escape from city to fresh country air, or take an easy 10 to 20 miles to complete a long ride. Greenways can be quite lovely passing alongside splendid overlooks and through endangered conservation areas and wetlands.

Even state maps refrain from recommending certain surface roads, 4-lane undivided but not limited access. Highways were prohibited as well as bridges unsuitable for experienced bicyclists, 25% of surface roads. He wasn't too bothered by not having access to either. Who wants to ride alongside 80 mph traffic? But they do cut off bicycling by presenting stretches without breaks that result in impossibly long detours. Commercial developments that fence off wide areas have the same effect. Accommodations at these points should be mandated, a zoning regulation that precedes new development. Easy to arrange while paving parking lots anyway. Maybe you can't do anything about airports or oil tank fields, whose perimeters must be secured, but shopping centers ought to have bikeways running right through them. Malls should stretch out and embrace cyclists and walkers.

In an eastern suburb he was squeezed off a narrow lane by a Humdinger, a gas guzzling, overly wide, modern metal dinosaur destined for extinction, mired in tar with which streets are built. He had many worse incidents with busses, heavy equipment and oversized recreational vehicles, of which there are some 8 million in America usually hauling trailers sometimes with even bigger boats.

His whole life seemed like a string of unrelated occurrences, as if early segments of television dramas before their first commercial, that little exciting bit designed to rivet attention of compulsive channel surfers. But, in his life, after the break, boy never got girl, mystery was never solved, nothing ever lead to something better, and he had to pick himself up and dust himself off. Life isn't a train on rails headed anywhere. It's just a bunch of meaningless coincidences and switches with just enough causality to get you to suspect logic before you die. Led, like a sheep to slaughter, is more like it. Why submit blindly? Don't you matter? Or are you just in some important person's way?

Once cyclists have their first such adrenaline pumping incident, they get it into their heads biking is dangerous, sometimes give it up. Otherwise, scrapes seem special, almost heroic, 14 pounds of bike against tons of powerful steel. He'd actually been hit a couple times. Once an overworked gardener with a pickup overfilled of yard waste literally brushed him; forced into curbstone he somehow struggled to lean back into lane. Another time he was rubbed under left buttock by an El Camino's low rear quarter swerving around him. Both hits were from behind, your typical way to get into a tangle. Smarter to be well out in lane, giving those coming from behind no chance to wedge by. Twice he had to drop bike and skid to a stop at intersections, when motorists ran red lights, either that or collide. Close encounters? So close around town, he'd constantly be tempted to cling on and take a tow, especially those big mirror brackets on busses; of course, you can't do that, since you might get hooked and dragged under wheels. That said, in over a half million mo-ve miles, he'd had 3 collisions, all of which were someone else's fault, from behind and rear quartered, among hundreds of near misses. Among millions of reported collisions each year, ones involving bicycles account for less than 2%, while slow speeds make such incidents survivable in all but 0.5%.

After his Humdinger run-in he began to notice how SUV drivers in general are horribly rude, tailgating, trying to pass at high speeds on right, weaving behind. Evidence was clear, noticed by many, went along with their "me first" attitude. Sure, they're a little higher up, can see farther ahead. Doesn't mean they can reign up their horsepower, have better reflexes, or have more right to road. Quite the opposite, heavier means more momentum resulting in longer stopping distances. Did these vehicles make their drivers this way? More likely, it was the demographic of SUV drivers, who have no compassion for the downtrodden and feel entitled to burn as much fuel as they want. Versus a typical car which uses on

average 24.8 miles per gallon, driving SUVs at only 13 mpg wastes 1 million barrels of oil a day nationwide. Wastes same amount of energy as leaving a refrigerator door open for 6 years, or a bathroom light on for 30, or a color TV for 28. Improving average fuel efficiency for all vehicles by a mere 2.7 mpg would equal all U.S. oil imports from Persian Gulf. How can an SUV be fueled on ego? It's nothing more than a clumsy mini-van, after all, something so un-cool as to be ridiculed by comedians, who call them "lead sleds".

Americans are addicted to comfort and sold on automotive motives. Cash flow inherent in motoring pays most bills, is therefore sacred, and should never be questioned. This leads to urban planning that caters to driving. Generally, visitors would rather drive directly to wherever they want, but, of course, population density means they must compete for parking spaces or walk considerable distances. Too little free parking and threats of hefty fines deter potential museum patrons, shoppers, and theatergoers. Smart retailers have their staff park as far away from front door as possible, leaving room for customers. Every day hundreds of thousands of New Yorkers commute into Manhattan by bike, because they can't park but can ride. Cities have much to offer, but art, concerts, and sports venues aren't the only reasons people go. Ambiance plays a part, chances to interact with friendly people in an attractive setting, and, of course, employment. Gangs brandishing handguns is a definite turnoff. The presence of honest citizens day and night is what makes any city appealing and vital. What can you do to encourage it? It may seem counterintuitive, but bicycling infrastructure increases both population density and tourism appeal. Not only does it attract bicyclists—a bunch of nonthreatening middle-class spenders—but encourages bike commuting, which leaves parking free for others. Cities that host many visitors should make it easy for residents to arrive without their vehicles. When tourists need directions, who do you think they'll ask? Who else knows the shortest way to get anywhere?

Bicycling must be safer than motoring—clearer heads, less mass, slower speeds, and smaller footprints. Bicyclists can leave roadway to evade collisions. Who fears being run over by a bicycle? How much property damage by bicycles is reported each year? Bicycles are no menace. More people should bike instead of drive simply for safety's sake. Countless compilers of statistics all suggest that fatalities regarding bicycling are 5 per million trips, which is about as low a risk as anything you can imagine. Bikes make a small target, and so avoid collisions. Per million reported motoring accidents there are 100,000 injuries, 15% of which are fatal.

When bicyclists collide with mo-ves, among 51,000 injuries per year only 1.2% are fatal. This is very curious, since bicyclist don't wear seatbelts and have no crumple zones. Bicycling's comparative safety, over 12 times less likely to result in death per accident, comes from better awareness of surroundings and limited acceleration, plus it's difficult to ride very far if you're intoxicated, while you can easily increase inebriation even while motoring.

There's a general belief in some unwritten right to motor. However, a license should represent something you're qualified to do through demonstrating ability and knowledge of laws. They give licenses to anyone and let them do almost anything. Why not make an example of Miss America, who bemoaned shock at having killed a child on a bike? Take away crown and lock Missy up for 10 years. Make an example of her. Society rejects deterrents that might reduce slaughter. Motorists will never take responsibility for running over bicyclists, who must instead take responsibility for themselves. Unheeded history repeats. Joe Kane claims in "Famous First Facts" that the first recorded automobile accident occurred in NYC in 1896 when a motorist collided with a bicyclist. Figures. Nowadays, motorists mostly run into each other. Some go after bicyclists on purpose. In June of 2006, a police tow truck nailed and killed Dr. Carl Nacht while riding with wife along Hudson River Greenway, an official bike path. Reminded him of that time he was forced off a bikeway by a police cruiser rushing to a mugging. Shows you're not safe anywhere as long as automakers have their way.

Enforcers usually enjoy making examples. They take a harmless stock trading incident, blow it out of all proportion. For what? Because prosecutors are too lazy to go after everyday swindlers who cheat big and deviously cover their tracks. No, this lacks publicity value and takes "real work". Sure, government tries to hire forensic accountants to track down misdeeds, but they only pay them \$30,000 a year, hardly enough to discourage bribe taking. Rather let Marty's conviction serve as a lesson. Of what? People were just jealous of her acumen, energy, lifestyle, wealth. Journalists lust for such stories, "How the mighty have fallen", mother's milk, pure source of a mighty river of sentimental content. So she makes doilies in prison for a few months. Serves no purpose, because people can't identify with her any more than they can some unscrupulous investment banker. You can't legislate decency or effectively enforce such laws. Serial killers go on endless slaughter sprees while states prosecute puny misdemeanors. McCarthy hunted the powerless. Are the powerful so unassailable? Seemed to him they've set

themselves up for retribution. They should've been rooting out basic inequities, like letting some people starve while others grow obese. Isn't it ironic nobody from Enron went to prison? Even so, mighty friends make serving time a pleasure at country club prisons for short terms.

All were merely symptoms of what's wrong with America. Make rules, monitor actions, slap down rule breakers, and severely penalize the outrageous. Just don't get stupid and test people's patience by picking on a schoolmarm for effect. Why are prosecutors so lazy? Modern conveniences! It's too easy to do everything today. Automatic Dishwashers, laundry devices, instant entertainment by turning on a television, and, worst of all, automobiles. Da Vinci had in mind some applied physics to ease drudgery and provide an edge in battle, but he couldn't have foreseen this race of energy-greedy sloths his inventions would spawn centuries later. Those in industrialized nations want this to continue unabated, even if this means occasionally streamrolling innocent victims. Little has changed since 1970 when Les McCann reminded people that, "Possession is the motivation that's hanging up the goddamn nation... The president, he's got his war, folks don't know what it's for. Nobody gives us a rhyme or reason; have one doubt they call it treason." Consumerism reigns supreme. It bulldozes common sense, human life, national identity, or such things still cherished after minds have been so perverted by the illogic of it all. Fire drills in facts and logic? Network execs told Edward R. Murrow that nobody tunes in for a civic lecture. No wonder he wasn't invited to parties. It gave him nothing but time to discover correct viewpoints undisturbed, to explore alternatives, but to what end?

Dumb chic was a backlash in which one-eyed men rule in the land of the blind and drag everyone below their level. Dudbubba was its poster child. A dull knife causes more injuries than a sharp one. A person who writes a half-baked memoir may skate along the edge of a sea of gifted intellects, not quite having what it takes. But frequenting the edge to describe it does make it accessible to dummies. Really, being a translator between complex thinkers and their ponderous technical detail and simple minds who need to know in simpler terms is where all the action is. The best writers are just slightly ahead of the masses and harbor no delusions about it. Ministers and priests assumed this role long ago. Anything else is very far out.

Imagine just how insane are academic pundits, cloistered pedagogues, cosseted technocrats, obsessed monomaniacs, religious apologists, scientists of semantics with gyrating beanie

copters, and all such narrow specialists lusting for abstraction. Without multi-disciplinary perspectives, they concoct bizarre, insulated theories. One such acquaintance, a doctor of linguistics, claimed English was the most sexist/violent language. He shot back a) most widely spoken language, b) polyglot which assumed violent terms from around globe, c) nouns in Romance languages have gender but not in English, and d) no state religions in English speaking countries ever sanctioned human sacrifice, unless you include holocaust of motorists and soldiers dying on their behalf. None of his objections negated the premise, but do at least denote causality and distribute guilt. These philomaths provide statistics that are supposed to inspire sensible behaviors. Perhaps the worst of them are anthropologists who shape unrecorded past to suit their need to justify bad present behaviors. Any intellectual house of cards can be built only to collapse when people grow bored or get careless.

A Society for Technical Communication Broadside claimed that current technical writing education is a rehash of things they should have taught you on an elementary level. While he agreed with this unfortunate finding, he knew why. All good technical writing is done on a very high plane; writer must be quite knowledgeable about some very specific discipline yet also be extremely adept communicating on a clear, least common denominator level. It's rare to find individuals with motivation and/or talent in both areas. It's even rarer to find them working for \$10 an hour, which is what businesses offer. Professional technical writing is almost an oxymoron, like jumbo shrimp or military intelligence. Those who'll work for what most companies are willing to pay aren't usually very professional; they are mainly engineers between assignments or slowing down towards retirement, maybe eager kids trying to break into industry, or failures from just about anywhere. The net result is a slop of manuals that can't achieve much more than 10% acceptance according to reader/user polls.

After long practice he knew a technical writer's 7 deadly sins: 1) "Graphobia", 2) Inconsistency, 3) "Irrelativity", 4) Irresponsible Omission, 5) Longevity, 6) "Parapacking", and 7) "Wordallowing". Standard setters expect you'll tow the mark and refrain from such transgressions. Tech writers, like all people, hardly ever did, not just from never having known, but from being willfully opposed to constraints. After all, conventions help communicate, and people only do so when they want to share, not profit or take advantage. Obfuscation can be profitable. Philosophers depend

upon it, thereby bury themselves in objective nonsense and syllogisms.

Graphobia panics over cost, time, or inability to produce pictures. Anything that helps readers visualize what you are saying, the easier it becomes for them to do so effectively. It's easier for a reader if you summarize what you'll be saying in one chart or graph (like a bar chart of how violent English is compared to other widely spoken languages weighted by number of speakers); use tables instead of enumerating facts in paragraphs; put headings on outside edges for quick reference; use pull quotes; create schematic drawings, exploded or cutaway views, photos with arrows, captions, circled details, keys, legends. There's mounting evidence that linear thinking males who populate engineering departments fixate on words over images. Shlain proposes, throughout history men wrote all bibles and doctrines; most were withheld from women lest they reduce to absurd their sexist message. Documents done by engineers more resemble doctrine than dialogue, while more women assume nurturing elementary school roles where rather than dictate unilaterally they teach interactively. By enabling women, which is what bicycles did early in 20th Century, society may have begun to restore balance, something sorely needed. But advice of old wives isn't always ideal, by any means.

Training tracts should be consistent, throughout use the same case, punctuation, spelling, syntax for phrases, same idioms and styles, same tense. They must finish what they've started; if first chapter has sidebars in margins or paragraph rules or 3-column format, 20th chapter and all in between ought to also have them. As a final editorial check, he'd always scan for lapses from section to section.

Irrelativity confuses when and where. Components that must be assembled onto something before others can should be specified before advising you to start others and make reader waste minutes, hours, days. In manuals everything should happen in the present unless specifically future or past; buttons, switches, devices, mechanisms do, not will, operate. This conveys that the darn thing works, not "might work". It's only common sense. Those who outline or storyboard before composing refine temporal sequencing. Requires discipline to which few want to submit.

Longevity occurs when writers worry their readers will think them insipid or uninformed unless they pack their manuals with all known facts. The best manuals exclude more than they include, know what to put in, what to leave out. Panegyrics on everything designer has learned from birth need not preface a hardware

manual. It's not a shrine to a designer's career; it's supposed to inform readers on a specific topic, get to the point quickly and move on. It's no insult to write brief statements and small paragraphs. Only idiots judge a work by each paragraph's bizarre, tortuous twists and turns. Corkscrew roller coasters may be fun to ride but leave you feeling dizzy and nauseous.

Parapacking can be downright hostile. A padded sentence squirms with vague intensity which suggests understanding without revealing its actual lack of any, as well he knew having written many for that very purpose. The average reader appreciates how well a document conveys meaning, elucidates, even enthralls. In context, a paragraph that says a lot can be as small as one word. If a sentence doesn't support the premise of one that comes first, it belongs elsewhere, perhaps deleted altogether. Good technical writing is compact, helpful and straightforward; it lacks colloquialisms, long convoluted sentences, and stubborn redundancies. It isn't a halfway house between journalism and novels, it's its own artform, mystery fused with science.

Wordallowing wallows in excess words. Words are cheap as dirt and look it. It's always easier to write a lot about a little than produce an elegant picture that says a lot. Easy to lose important points in such muck trying to be clever and engaging. Leads to Irresponsible Omissions, which you wondered whether he'd forgotten. One should never omit key facts but should always anticipate end user needs, at least in theory.

People will perceive what you've written better if you give contextual cues, for example, listing things alphabetically when you don't want to imply a sequence of dependent events or priorities, which you should list in order from beginning to end. Alphabetical items work together as a matrix, each supporting a proposition in its own space and time. Ordinarily, writers think too chaotically for such discipline; only editors prefer comprehensible neatness. Alphabetically reordering lets you reassess accuracy of list or suitability of word choices. Too many items get listed as a kneejerk reaction to a topic, rather than a thoughtful collection of causes and effects. Writers fight it, ferociously make extravagant claims rather than simply impart facts. Journalists superimpose their prejudice, or dredge up an inappropriate past, when they don't grasp significance of a current event. If it's all malarkey, why bother investing your time reading it? Sometimes a picture and a caption are enough.

In short, sheer words, unadorned, are tiresome, like this manuscript. Graphics can always be melded in, should someone take the time to draw or develop any. A simple rule across a page, tells reader that what's above is somehow different than what's below. Changes in typography, a drop cap, a numbered heading, are cues. White space can be used with great effect. Graphics properly placed and scaled help relieve monotony. Ever try to place a service call? Manuals sometimes annoyingly neglect numbers where someone can be reached, fail to satisfy, waste your time. Sometimes rather than enclose, it's better to have an add-on sheet with all this networking stuff separate, since it might change frequently. Anyhow, a technical manual's planned life can be less than 6 months, too short to bother doing well, some might argue. If something as mundane and straightforward as a technical manual could be so fraught with personal craziness, what of such complex structures as a corporation, government, or religion?

The English language was cobbled together piecemeal, looks it, and so it's loaded with inconsistencies. Her, hers, him (hims? no) his, their, theirs, our, ours, my, and (mys? no) mine. Irregular verbs: I am, She is, We are. Lie, lay, lain. Put, put, put. Irregular Plurals: Deer (Bambi) and Deer (herd). These just hint at its many peculiarities. Why knights with a k? Writers can't ignore or minimize its oddities. They should strive to banish strange and focus on conventional, eliminate, purge, but only if they wish to communicate and share, usually not the case and hard enough to do anyway.

From years of observing high tech manufacturing, he considered it all the more remarkable how raw materials end up as finish products, such a marvel, like an alchemist's dream that suddenly came true. But manufacturing has become passé. Through automation, manufacturers can make more items in practically no time than even billions of clients can ever use. Steel mills ship ever less product. Computer companies report losses. Recessionary woes plague every market. The best employees are let go in spending cuts, so quality declines. Society loses applied knowledge that took generations to learn. Consumers take too much for granted. Because technical manuals fail to inform users on how complex equipment works, they've compensated by designing equipment differently. Software engineers are thinking more of how to put manual on-line within software, to completely sidestep amateurish attempts to characterize programs in words or to reproduce tiny screens on pages only to be ignored. Yet help screens are no substitute for printed manuals, which are accessible even when there's no electricity; all you need is daylight and possibly eyeglasses.

Neither approach educates users all that well. User's play around with a device until they break it, then learning occurs.

The latest trend and probably wisest course is to agree on what constitutes a user need, then find a uniform way to design to it. Ultimately, this means ubiquitous micro-manufacturers who custom produce anything at low cost to fit skill set they encounter locally yet apply high international standards. Companies profit from making things unlike; that's only okay when they don't gamble with death. For example, cars have analogous but different controls, but nothing so unusual that someone can't get in and operate a vehicle without success. Microsoft and Apple both offer their versions of WIMP—Windows, Icon, Mouse, Pointer. Wimp works well and makes all computers much more accessible, even if not quite alike. It's more like a general principle that anyone can get cushy with. Standards should represent consensus, but agreements tend to favor one department over another when people are fighting to keep their paychecks.

No wonder there are fewer who know what they're doing than those who don't. People are incompetent, for the most part. He wasn't talking about socking down nuts or other simple tasks, but a more generalized knowledge of how things work and principles behind. Most people asked to use their mind to solve problems instantly become freeze dried dunces. He admitted that he was incompetent. There's so much they don't teach you in classes, so much you learn yourself, so much more that comes from experience and osmosis. Maybe these rehashers haven't written professionally. One can't profess to teach technical writing and merely remediate basic writing skills. Usually they can only do so because students are nearly ineducable. The fact is that technical writers have a peculiar mindset; they are already eager to share details, highly skilled, self-motivated, and uncompromising in their methods. For someone to acquire this mindset, education on a master's level barely lays a foundation. 2-day seminars for which they charge \$500 are a total rip-off. It takes about 5 years of steady output and collecting critiques before you begin to communicate; of what value are 2 days except to the most naïve?

How do you avoid stripping beauty out of something so it obeys some *rules* of grammar? Whose rules? What grammar? Mere conventions that many disagree with. It's no wonder so many people have trouble learning English. They better be careful not to turn English into a dead language by imposing too many obtuse, obscure rules. If majority of people can comprehend what you

wrote, it's okay! Reading dull articles about someone's pedagogical monstrosity is boooooooringggg! Get the lead out. Spark it up a bit. Get real. Wake up. If it interests you, share it; it'll probably interest others, too. But don't snare it, dry it out and pin it down like a dead butterfly. Then there's the rest: emotion, experience, logic, poetry, persuasion, rhetoric, sense. There are so many ways to maximize your writing's impact. There are ways to merely elevate it. These too can be taught, if a trainee is motivated. In the end, they all mask truth.

Good technical writers are brought along, culled, trained, and worked cleverly into fine organizations. In his mind, technical writing is quite unlike other forms in 3 major ways: 1) It's not self-expressive, 2) It strives to teach with precision, being, therefore, didactic, and 3) It is usually done in collaboration with others, under deadlines, within unreal constraints. Sounds like what journalism should be, but, of course, isn't. Basic writing courses consist of poetry and composition. They teach youngsters to mine for jewels within, to understand and express. He'd done precious little of this professionally during an entire career as a writer, though it amused him as a personal hobby. Technical writing commits facts, not fantasies, to paper. Metaphysically, to be sure, one might argue whether truth is found anywhere. But, an ethical, knowledgeable, properly funded practitioner of this profession will technically tell truths, at least transitory truths until specs change, or near truths until proven otherwise, until ennui sets in, money runs out, or scruples disappear, maybe never. But it will never be self-expressive or it won't get into print, unless author sneaks a little poetry between lines and editor misses it.

You have to be old enough to write. This is not to say youth doesn't write well instinctively. But what is there to talk about? Takes bullet dodging combat, death defying escapades, inconsolable grief of losing beloved, and years of sorting out outcomes to come up with something nobody simply laughs off. You have to be crazy, possessed by demons, reassured by angels to get close to a reader's core, to strike a chord, before gathering a congregation. Passing pleasantries is simply hypocritical. Being Pollyanna may be fine for incompetents. They should be banal and cheery. Simple ambitions are easy to address. For despots, kings, and others who rule, cynicism, paranoia, and partiality go along with their chosen roles. An educated populace means more menace, not less. The ignorant are easily led by the nose.

Collaborative writing isn't taught. Until recently, most projects expected a technical writer to produce an entire document without help. Asking way too much! It's enough that you can write brilliantly. Must you digitally animate, illustrate, photograph, and publish as well? And, yet, this is what's generally expected, what he'd always done, and very well, it might be added. But, gosh, what a struggle! Who expects you to do it all? Enlightened companies have distinct centers for graphic production, and editing/publishing, keyboarding, photography, text creation. They realize the most important part of selling technology is smothering end users and salesmen with their vision of how to do things, gaining complete acceptance in a superior technique, thereby separating themselves from rivals. Only clear exposition in electronic or printed documents can achieve this, and so becomes the better half of any product offering.

Precision (not technical) writing has barely been heard of. Mastery of article use, to begin with, is akin to pawn management in chess, something grandmasters revere but of which the uninitiated aren't aware. He could describe it in great detail, but it's probably best left unsaid. What's the best way to impart knowledge? Is it always the least number of words in a sentence, 14 maximum? Is it always active voice, unless subject is obvious and imperatives suffice? Extremely clear exposition has nothing abstract, poetic or vague in it. It doesn't mind boring readers, running too long, or sounding dull. It's encyclopedic in perspective, leaves no metaphor unmentioned, pulls no punches. But are words the best way to communicate? Publishing isn't just words, for they are, after all, a mere shadow of actual phenomena. Show pictures, illustrate your ideas, integrate form, words and pictures into an educational whole. Graphical thinking is more effective. Rather than just say, describe and show. This is where vivid imagery comes in. Precision writers know this and anchor text with pictures. Lately that means moving pictures, animated gifs, mpegs, videoloops, or on-line links to such. Hypertext is much better at imparting details in the way mind works, exploring connections rather than being fed serial facts.

Imaginative creativity is supremely important. All progress depends upon it. His work didn't create language or press old words into new meanings. Even so, he did try to bring something beautiful and useful into the World. Are artists who create small self-consistent worlds emulating God? Is it not creative merely to rearrange existing elements?

He'd spent his best years championing precision measurement, so machines and medical devices would be more reliable and save lives. Yet he never forgot the humanistic side of manufacturing, so those who participated in building or used these new technologies never felt dehumanized. Precision measurement was full of uncertainty, just like life, no guarantees.

The closer one looked, the more defects were in evidence. Better not to know? Best to accept imperfection, learn to deal with it, even put it to use. The surface roughness of an engine piston enables it to hold more oil and stay better lubricated. Pistons could be made perfectly smooth, but that's not only unnecessarily compulsive but counterproductive. Excellence in criticism is founded on such intensity. There's no excellence without passion, no growth without a desire to know better, to love stronger, a great big bear hug for humanity.

What a technical communication guild should be about is, by order of priority: 1) Getting work for members; why forge ahead if no opportunities exist? 2) Promoting improved communication within companies. 3) Endorsing education in these areas. Technical illustrating and writing are rare specialties; you can't use all your fingers counting how many fine industrial photographers can be found in a 100 mile radius, unless you live in a publishing mecca, like New York.

So much easier and safer to simply spout fiction or generalities than be precise that just about all literature is irrelevant or misleading. Bookshelves groan with the pointless escapes that novels provide, yet some hint at something universal, as if a shudder in a passing moment quickly forgotten. Unanimously, writers pen something then think, "This is all wrong." Truth, as simple as it is, remains obscure and strange. Believe nothing at all of what you read, especially *The Bible*, whose bad reputation as a misogynist bully precedes it.

Why bring all this up? What does any of this have to do with bicycling? If you guide yourself upon opinions, how can you expect to survive? Technical details in governmental reports are mostly fabricated by incompetents, who slack off for a few months then slap something together to meet a deadline. Decision makers lap it up and think they're getting the best data available. Statistics are extrapolated, even fudged, from small skewed samples, neither incontrovertible evidence nor majority opinion. It can't even be proven that there's any validity to abstract data. Even if it feels right, what does it matter? You can't convince people with facts,

useless for policy decisions 5 years too late, while circumstances change too fast for facts to make a difference, while motor trend publicists continually cast unsettling tidbits as bait hoping policy makers, statisticians and you bite.

What the bicycling community is left with are arguments, misconceptions, and persistent false misgivings that your next ride will be your last.

