

## **7. *Burning Oil***

*CO<sub>2</sub> emissions from fossil-fuel burning and industrial processes have been accelerating at a global scale, with their growth rate increasing from 1.1%/yr for 1990-1999 to >3%/yr for 2000-2004.*

— M. R. Raupach, G. Marland, P. Ciais, C. LeQuere, J. G. Canadell, J. G. Klepper, and C.B. Field. (2007, *Proc. Nat. Acad. Sci.*, 104:10288-10293.)

Glenn Oneth didn't like to be in debt, so he paid cash for his house at 321 West Wade. The people who lived in this house didn't necessarily think of themselves as middle class, but then they didn't consider themselves poor, either. The poor people lived down the street, or over in Fair Addition, across Highway 66, or in Glenn's rental property behind 321, or in his other rental property on the corner of Wade and Admire Streets in El Reno, Oklahoma, the old Rock Island railroad town. After I'm gone, Glenn used to say, those rental houses will take care of Mama. Genevieve Oneth—"Mama"—worked as a teacher; it wasn't entirely certain that she needed "taken care of." Nor was it entirely certain where Glenn had gotten the cash to buy a house. His employment consisted of promoting addiction, of making sure Americans remained hooked on that essential—some would say ultimately deadly—element of post WWII life: the automobile. If John Janovy was committed to finding oil, Glenn Oneth was committed to helping burn it up. In between the line on John's map, pointing to oil, and the key in an automobile's ignition, a twist to start that fire, lay a nation's dream, its identity, and its disease.

“Cars’ll be the death of this country,” says Glenn, as he pops open the distributor cap on my green and white 1955 Ford. He pulls a small screw driver out of his shirt pocket, loosens the ignition points, then takes a matchbook out of the same shirt pocket, opens it, and uses its cover as a spacer gauge to set the gap. He tightens the screws holding the points in place, snaps the cover and clips back on, returns his tools to their hiding places in his shirt pocket, and bites on his pipe, the one with the metal ventilated stem. Then he nods. I turn the key. The vehicle purrs. He slams the hood. It’s just as simple as that. He will be long dead before this kind of work gets done by a computer, whatever information he needs to make a few adjustments being sent into a black box somewhere that anyone can attach some wires to and read something about performance on a screen, instead of being sent into his brain by an invisible, indeed indescribable, mystic sense, derived from experience, *experience, the lessons of time and practice*, of what makes an internal combustion engine work—right.

Few inventions rival the automobile as an essential component of any attempt to answer the truly leading question of our time—What is a human being?—although it could be argued that molecular biology, computers, and shoulder-fired weapons come pretty close. But humans travel, period. There is plenty of evidence that this tendency is of genetic origin, perhaps part of our species’ character. Before we domesticated horses, we walked. Once we domesticated horses, we rode. Once we invented trains, we built tracks and rode long distances relatively quickly. Once we invented the internal combustion engine and the automobile, we bought these machines and made them a part of our personal identity. Nothing in this paragraph is news to anyone in the 21<sup>st</sup> Century, nor was it news to much of the world’s population throughout most of the 20<sup>th</sup> Century.

If the malignant disease promoted by John Janovy and Glenn Oneth—finding, burning, and becoming addicted to, oil—continues to run its natural course, however, then you can read the previous paragraph backwards and history will have come full circle. If “What is a human being?” is the leading question of our time, then “What will a human being be a thousand years from now?” is perhaps one of the most intriguing. We know that in a thousand years the planet’s fossil fuel will be exhausted. We know that in a thousand years, there will be no need for petroleum geologists, and probably not for auto mechanics, either. In the meantime, driving—that quintessential American habit—is inextricably linked to everything from work, to romance, to identity both individual and collective. There is hardly a better place to contemplate the wonders of an automobile than out on the open road; and if there is an ideal open road, deep in the heart of America, indeed deep into both the geographic and metaphorical center of our nation, then it must be State Highway 15 across Kansas.

What does a person think about during a drive across Kansas? It depends on when you take the drive, and on your definition of “when.” When you don’t want to, but have to because your sister just called to tell you that your father has gotten so weak from his cancer that he can’t take his addictive painkillers so is having withdrawals? When you don’t have to but want to because you’re sick and tired of the Nebraska winter and just have to see forsythia blooming and leaves starting to push out of their sheaths? When you feel an obligation to visit relatives, just to keep in touch, personally, just to make sure they know you’ll drive across Kansas to see them? When Genevieve has finally died? When your only surviving paternal relative is having her 90<sup>th</sup> birthday? Yes, on all these occasions, something has to be thought about during the drive across Kansas, something that will take your mind off the fact that you’ve packed yourself and your

family into America's major public health hazard and are now zinging it across the prairie at up to 70 miles per hour.

That “something,” it turns out, is one's life as remembered, memories that are presumably “true” but in fact are shaped strongly by parents who assembled the environment in which those memories were formed. From a father who searched for oil, I learned that automobiles were more than mere transportation. Thus you never just *went* somewhere; you had to also be *doing* something by going there, if that something were only—and I used the word “only” advisedly here—studying local landscape and distant clouds. From a mother who sought comfort in books, good books, interesting books, I either learned or inherited the need to also be *thinking* about something along the way. And what is there to think about on a drive across Kansas? The answer is: many things, ranging from Coronado's early explorations in search of Quivira, to what those prairies must of looked like to Native Americans before the Spaniards brought horses again to the New World, to the post-modern devolution of American science education symbolized by the cultural clashes over—of all things—evolution. But in all those decades of driving across Kansas, studying and thinking, what occupied my thoughts most of the time was the evolution of cars.

Because of changes in automotive technology during the time since Bernice and John bought their first one, the historical narrative that follows is one no sixteen year old, just having passed his or her first driving test, will ever be able to write fifty years from now. Fifty years is just a blink, even in a human life. It has been longer than that since a strange man grabbed my arm in the downtown Oklahoma City Library on May 17, 1954, and shouted “They gonna make you go to school with the niggers! Whataya think uh that!?” It has been more than fifty years since the launching of Sputnik I, the event that ushered in the age of truly meaningful space

exploration. It has been more than fifty years since President Harry Truman relieved General Douglas MacArthur of his command in Korea and the general then uttered those memorable words “Old soldiers never die, they just fade away.” It has been more than fifty years since the Joseph McCarthy House Un-American Activities Committee hearings, since the last undisputed American Civil War veteran died, since the last Jew was gassed in Auschwitz II, and since an atomic weapon was last used in war. Fifty years ago, a carburetor was one of the most mysterious of all automotive devices; fifty years from now the word “carburetor” will have vanished from the average American’s lexicon and migrated over into the realm of antique automobile collector and NASCAR garage crew and Museum of Science and Industry staff argot, if it has not done so already.

Thus driving across Kansas for most of the last half of the 20<sup>th</sup> Century is actually a lifetime of research on the United States’ addiction to fossil fuels and the devices we developed after WWII to help maintain that addiction. Any person who has lived through post-war American cultural, economic, and political evolution, and has spent most of that time outside one of our inner cities, has enough expertise and experience to write the car tales found in the next few paragraphs. If what I have to say about our family automobiles sounds familiar, indeed so much so that you ask “what’s the point?” then your mind has become so connected to the physical world we have produced and in which we now live—the design of our current society—that this connection obscures the fact that when the subject is ground transportation, family history from 1945 to 2007 also is national history, rapidly becoming military history because of global forces over which no human has control, namely, the burial of Mesozoic algae and the drifting of continents, forces that delivered the American way of life into Middle Eastern hands.

For the time being, at least until the oil runs out, we Americans, our environment and our behavior have merged into a single entity that includes a supply of petroleum, a service industry, and an automobile; that “single entity” is our identity. Of those three components—fuel, service, car—I was born into one, married into another, and bought the third. Thus like the great majority of United States residents, automobiles have been an integral part of our extended family relationships ever since Karen and I had our first date in which, of course, the automobile was a central player—a friend offered to drive some girls to Dallas if they would buy the gas; I went with them and she was one of the girls. But this trite assertion, which almost any American family could make, has a special quality, not only because of the petroleum industry of which my father was a part, but also because of Karen’s father, Glenn Oneth, who was service manager at the Ford agency in El Reno, Oklahoma.

Obviously, after I met Karen, I drove Fords, although my family had owned two Chevrolets—a 1948 two-door Fleetline and a 1953 four-door, blue and white, Model 150. I learned to drive in the Fleetline, although in a clear violation of company policy, my father taught me the rudiments of clutch work in his company car—a 1952 4-door Ford. I loved the Ford, tolerated the Chevy; both were, of course, standard shift. Standard shift is no longer a necessity in a personal or family vehicle; if they fulfill any useful role for typical Americans today, standard transmissions are life style statements.

In 1949 we drove the 1948 Chevrolet Fleetline to California. This vacation was to visit my mother’s sister Velva and my maternal grandmother, Myrtle Locke. Velva lived with her second husband, Dan Baldwin, a Yugoslavian immigrant who played the horses and won more than you’d predict based on statistical evidence alone. My grandmother was a “practical nurse.” Nowadays, I suppose, she’d be called a caregiver; we, or at least I, had never heard of

Alzheimer's at the time. Her husband, Edgar, had died of pneumonia when I was a tiny baby, or maybe even before I was born; I'm sure Myrtle was completely uneducated and unprepared for life as a widow, so that caregiver was about the only profession open to her. But evidently there was plenty for a "practical nurse" to do in California and I distinctly remember believing that she was engaged in a noble profession. I have no idea how she got to Oklahoma on her visits; it was certainly not by automobile; perhaps it was by bus. Knowing what I know now about the Southwestern American landscape, I hope for her sake there were plenty of rest stops.

Traveling west on U.S. Highway 66, we encountered the Mojave Desert. As we approached Arizona, cars coming out of the desert had canvas water bags hanging on their grills. At one filling station, we bought such a bag and hung it somehow on the front of the car; at another station, the temperature was 120°F. The water bag seemed more like a fashion statement than an essential emergency item to me, and fortunately we didn't need it. For years afterwards it hung in our Oklahoma City garage, a reminder of the California vacation taken when my mother Bernice was young and beautiful and healthy. For the California trip, my father also bought an evaporative cooler that fit in the passenger's side window, where my mother rode. I remember fighting with my sister all the way to Los Angeles. My mother must have been truly miserable, but when we got there, we had a great time. I still have small books on California birds and mammals that I bought at the Los Angeles County Natural History Museum. My father, however, would never stop at any of the roadside zoos that advertised, on large, hand-painted signs, that they had THE BIGGEST RATTLESNAKE IN THE WORLD. On the way home, we took the southern route and stopped by Carlsbad Caverns, another thrill. Eventually he traded that 1948 Chevrolet for the 1953 model, which later gave way to a 1955 Ford, my favorite of all

cars because it eventually became mine, personally, my first automobile, bought with my own money from my own father in 1959. None of these cars came with seat belts.

The 1953 blue and white Chevy felt solid and I liked the way it shifted, but the first time I drove it to El Reno to visit the girlfriend who would eventually become my wife, her whole family teased me unmercifully about driving a “*Chiv-uh-lay*.” So I never drove that car to El Reno again. Glenn Oneth, my future father-in-law, had worked as a mechanic in small Oklahoma towns for all his life, eventually ending up the service manager at the local Ford agency. He never finished high school, and when Karen and I got engaged, he seemed genuinely disappointed, and immediately started talking about his hopes that she would finish school. “School” in this case meant college. Karen would be the first of Glenn’s children to get a college degree, but she was two years away from graduation, so that engagement ring must have looked like a memory of what marriage can do to one’s educational plans.

In November of 1959, when I gave her that ring, I was in the army at Ft. Sill, Oklahoma, driving the 4-door, green and white, 1955 Ford that I’d bought from my father for \$800. I was determined that Karen would be my wife, and I had money in my pocket—namely, my second lieutenant’s uniform allowance—so spent it in Lawton, Oklahoma, on an engagement ring and matching wedding band. The rings had an unusual emerald-cut design that I thought she’d like. When I drove from Ft. Sill to Norman it was in a Ford; one did not deliver an engagement ring to Glenn Oneth’s daughter in a *Chiv-uh-lay*.

The seat belts in this particular 1955 Ford were ones that I’d installed myself, and of course they only belted around the waist, not over the shoulder, too. I consider it enormous good fortune to have never needed them, nor any others, for that matter, as of this writing. The seat covers were vinyl, and torn in a place or two. I bought my first set of tires for that particular car,



with my own money, and my driving habits changed within minutes of writing the check. My own father showed me how to replace the points and plugs, and how to adjust the valves. I learned from experience how to replace fan belts, heater and radiator hoses, brake shoes, a fuel pump, and a water pump. A few days after my officers training course at Ft. Sill was completed, now at home at my parents' house in Oklahoma City, I got into this particular 1955 Ford for a trip to Columbus, Georgia, and Ft. Benning, where I was to start parachute training. But the car was not running very well, so I messed around a little bit with the carburetor, discovering, in the process, that the housing was cracked. It soon became obvious, however, that if I pushed the whole carburetor-air cleaner apparatus to the left then the car would run much more smoothly. So I found a coat hanger, attached it to the carburetor, wired it tightly to something on the left side of the engine compartment, and started off toward Memphis.

An Army buddy, Basil Cronin, rode with me. After we were both mustered out, Basil returned to Boston. I wrote a letter or two, and when we each got married, our respective wives always sent Christmas cards with the annual Christmas letter, sometimes with a family picture, enclosed. Thus although I've not seen him since April, 1960, I've followed him through his career as a math teacher, the birth and growth of his children and grandchildren, and Boston politics, and he's done the same with us. Among the items packed for my trip to Ft. Benning was a terra cotta sculpture of a reclining female nude that Karen had made in one of her art classes. Because it was about the only place left for this terra cotta lady, I put her up in the back seat window ledge. If I'd hit anything, that little statue would have flown forward and decapitated one of us, but I kept watch on her during the trip, thinking of my fiancé, and worrying not at all about my 1955 green and white 4-door Ford whose carburetor had been fixed with a coat hanger for a cross-country trip. Somewhere along the way, the nude lady's foot got broken off, but she

still had that relatively seductive look, especially in the rear view mirror, that a 22-year old Second Lieutenant, separated from his bride-to-be, would appreciate.

The terra cotta reclining nude remained a part of my away-from-home life for the next 35 years. She stayed with me through research on bird malaria and mosquitoes, commuting regularly across half of Kansas, through another cross-country move to New Brunswick, New Jersey, and halfway back across America to Lincoln, Nebraska. She rode along in several subsequent Fords, watching over my shoulder, a silent back seat non-driver. When we settled into Nebraska she became a part of my office decorations and remained in this role through most of my academic career. She watched me struggle through those first research projects as an untenured professor, those first grant proposals, first graduate students, first committee assignments, and first 300-student biology classes. As my office plants grew, she acquired the aura of a jungle goddess, nestling among the philodendron leaves on top of my file cabinets, watching the parade of young people through my office. Periodically I'd glance over at her, thinking about Karen's fingers as they'd pressed the clay bits into the shapes that would become her arms and legs—back in 1958.

Finally one day I took the clay lady home and put her away high up on a shelf. Why? Times had changed. My nation had evolved. It was no longer politically correct to have a terra cotta nude in a university science professor's office (= state owned building, constructed with tax money). John Ashcroft, the United States Attorney General, after all, had the bronze breasts of a statue covered so that he would not have to appear on national television with a piece of hackneyed sculpture typical of any art museum in the world. If the United States Attorney General could not stand to be in the same room as a statue with uncovered breasts, then my students shouldn't be in a room with an uncovered terra cotta butt. As I put my hand around my

little lady's waist, and retrieved her disconnected foot, I could not help but think about the truly fundamental contrasts between art, basic biology, and politics. Clay figurines—female nudes with exaggerated breasts and hips—have been collected from Cro-Magnon sites. At least four billion people must see an unclothed member of the opposite sex every day, sometimes several times a day. Certainly the amount of damage done to society by an artistic rendition of a nude must be relatively immeasurable, especially compared to the damage done by men fighting with real weapons.

But global cultural forces had come home to Middle America via information age technology. A few blocks down the street from my office, horror, war, sex, and violence—much of its realism computer-generated—fill the screens of 13 movie theaters. My cable channel, and indeed my network channel, offerings contain a more than ample supply of gunfire and story lines built around infidelity, thievery, murder, child abuse, war, and narcotics. But at some point, because of something that was simply in the air, sort of like greenhouse gas emissions, I took my terra cotta jungle goddess home and put her on a shelf in my basement office. The United State's attorney general at the time would have been proud. He was embarrassed by bronze breasts; no telling what kind of a reaction he would have to a naked lady hiding beneath the philodendron on my file cabinet; who knows when a coed might accidentally see that thing on a Friday when she and her boyfriend were headed to the downtown movie megaplex later that evening to take in Bruce Willis and *Die Hard 4*.

If the nation's Attorney General was embarrassed by some bronze breasts, I was even more embarrassed by his inability to talk about Hellenistic sculpture in a casual way that might be of minor educational value to a national audience if asked about his sculpture companion, but I was determined to not be reprimanded because of a small piece of art with enormous personal

significance. There was only a miniscule chance this reprimand would happen, of course, but the cultural evolution indicator is the fact that I was concerned enough to actively avoid the possibility. I even envisioned a Bill O'Reilly piece about obscenity in tax-supported professor offices using my sculpture as Exhibit #1. I imagined myself bemoaning the fact that her leg was broken instead of responding to questions about her posture and non-existent clothing.

The literary journey from a 10,000 year old Cro-Magnon fertility idol to an imagined propriety violation in Nebraska may seem greater than one from the Big Bang to SuperBowl XLI, but it's no further, in my mind, than either the changes in automotive technology since WWII—a measure of our determination to burn oil in order to move—or the cultural distance between populations presently occupying various geographical regions of Earth—populations in possession of oil that other populations seem hell bent on burning. At the same time as culture warrior John Ashcroft stood demanding that a bronze breast be clothed, there were places on Earth where, by virtue of religious tradition turned into national law, girls were not allowed to go to school, work outside the home, or drive a car. These two places might represent the extreme points of a fossil fuel compass—the major consumers and the major suppliers—but were she alive, Bernice Locke would lay down her book of English literature and pass immediate, scathing, judgment on both cultures. Among her toxic prescriptions would be a volume of Shakespeare; she'd probably pick it up and turn to a page, reading out loud some passage about the arrogance of power and the ability of men to demonize not only women, but also one another.

It doesn't take an avant guard artist to take information from the last few paragraphs and produce a picture made of oil, religion, and sex, categorized respectively as birthright, law, and evil. Nor does it take much effort to ask interesting questions about our current global socio-

economic interactions, questions such as “What would the world be like today if the internal combustion engine had never been invented?” or “Was the invention of such an engine inevitable, given the development of metallurgy and the discovery that petroleum would actually burn?” And finally we could ask: “What would the land of Oklahoma be like had engines and oil not been a part of the human experience?” Would Oklahoma have been, in historian Angie Debo’s words, a place where “. . . all the American traits have been intensified.”? And would Debo have been able to claim that “The one who can interpret Oklahoma can grasp the meaning of America in the modern world.” I believe the answer to these last two questions is “no.”

Since that weekend when we drove to El Reno with an engagement ring on Karen’s finger, we have had a long relationship with Ford Motor Company, and our family ties have been maintained as much as anything by driving across Kansas for three and a half decades in various Ford and Mercury vehicles. Why do I feel that our cars should be included in a narrative that is ostensibly about my parents but is actually a portrait of my evolving nation? Because some people will read this book, I hope, and see their own story of how various automobiles have controlled their lives, while at the same time giving them unparalleled freedom, for a short period in human history. And if the scientists are correct, children born in Nebraska in 2010 will live to see the end of petroleum as a factor in human lives, although just prior to that end, these same scientists might predict that petroleum would be *the* factor shaping the human experience.

Paleontologists tell us that there have been easily recognizable human beings, probably doing things we would consider extremely common and, well, *human*, for at least 250,000 years, and surprisingly, thus hauntingly, human-like species for several million years before that. We know that for at least 50,000 years humans have been producing spectacular art that stands the

test of time, which in itself is a litmus test for being human. But we've only had cars for about a hundred years, and if the pundits are correct, petroleum to allow this luxury may last for another hundred years at the most. So unless Detroit, or Tokyo, or some other fair industrial city, learns how to produce cars that can run on seawater, the rather stunning mobility of modern humanity will come to a grinding halt. Instead of rolling blackouts, we'll have rolling stay-at-homes. In another 50,000 years, paleontologists will be studying the plastic dashboards and door panels they've dug up from the rubble that used to be New York City and wondering what in the hell humans actually did with them. Thus the record of what this contemporary 0.004 fraction of human history was like needs to be as rich as it can be made, because when it's over, we'll be back to horses and our own two feet.

There is one other reason why I'm telling this story, however, and that is because it documents one family's interaction with an extraordinarily expensive, highly dangerous, pervasive, and rapidly evolving technology that has finally become institutionalized. By "institutionalized" I mean that today almost nobody works on his or her own cars. The vast majority of people who own and use automotive products daily have become extremely dependent not only on the vehicles themselves, but also on the service industry. We don't do our own tune-ups now any more than we do our own appendectomies. Furthermore, unlike the case fifty years ago, even a reasonably well educated person today has virtually no way to correctly diagnose what's wrong with his or her vehicle, unless, of course, it's something blatantly obvious like a flat tire. Only the computer "knows," or at least can find out—so we believe, what's really happening under the hood. And only a complete idiot would work on a modern vehicle without specialized training, itself a career move.

But this extreme dependence on a defining body of technology was not always the case. The pejorative term “shade tree mechanic” is a familiar one to older folks, but it’s now passing from our lexicon. For me, the hands-on part of this story of techno-human evolution ended in 1998. That’s when I bought a 1997 Dodge Dakota pickup truck, the first automotive product I’ve owned that I simply did not, because I could not, work on. Its immediate predecessor, a 1993 Dodge Dakota pickup, was my first rebellion against Ford Motor Company and I worked on it. Before I bought it, in the small western Nebraska town of Ogallala, I called Karen’s brother Eddie, who builds cars from the frame up, and asked him for advice. He told me that police departments often bought Dodges and drove them 200,000 miles without much trouble.

When I stopped at service station for \$5 worth of gas for the 1993 Dakota before taking it out on the interstate for a requisite 100MPH test, the guy who took my money asked if I was actually thinking about buying it. When I answered “yes; my brother-in-law says the cops drive them 200,000 miles” he simply shook his head. I asked him why and he said “because it’s a Dodge.” After my 1993 Dakota had 130,000 miles on it, I vowed to buy another one just like it, and did, except the newer one was white instead of blue and gray. Both of these pickups are, or were, in Karen’s words, “that damned Dodge.” Thus she preserves the essence of her father in our daily lives, using my truck, even as we both pass into the new automobile age together, she with her new white Sable and me with my damned Dodge, neither of which is amenable to self-repair or owner maintenance beyond replenishment of windshield washer fluid and the airing of tires.

Anyone who has lived through most of post-war American history, coming of age in the 1950s, and finding reasonable employment, could write this tale of gasoline prices, home and highway repair jobs, and fond memories. Among the same Americans, at least two million of us,

since 1950, could also write stories of tragedy, incredible sadness, and loss, all stemming from our interactions with the automobile. I encourage all of you who may be reading this book, and are over sixty, to put it down, fire up your laptop, and start your own memoir in which the motor car is a central player. Then send your long letter off to your children, and donate copies to the archives department of your local library. A hundred years is not very long. Most of us senior citizens know people who are in their nineties. But a hundred years from now, the nation's supply of narratives about our personal interactions with a vanishing technology will be extraordinarily valuable.

This chapter of *Bernice and John* may not be particularly exciting—no tales of violence, unrequited love, crime, deception, and duplicity, i.e., the daily prime time television fare. It is, however, a unique slice of human, American, and Oklahoma history that will never again be repeated, and will be gone from the human experience by the time our great grandchildren get to retirement age. And if you were born into one industry, committed to the finding of petroleum, and married into another industry, this one committed to burning petroleum, then our collective stories of post-war, and sometimes pre-war, travel around the country in personal vehicles will comprise a database of stunning uniqueness. Unlike art, which springs from deep within a human soul or mind, and can be dabbed on a Spanish cave wall or splattered on a canvas on the floor, thus repeatedly generated as long as humans live, the oil will be used up; gone; forever. *The oil will be gone; forever and forever, at least as human measure "forever."*

And if you are lucky, your great grandchildren will not be living when it happens. But don't bet the farm.