THELAST GREAT AMERICAN CAR GUY

Fighter jet–flying, horsepower-hungry Bob Lutz believes global warming is "a crock of shit," yet GM's vice-chairman is the driving force behind the Chevy Volt, an innovative electric car that calls to mind the company's glory days of engineering ingenuity. And it still might not be enough to save GM.

> by RUSS MITCHELL photograph by **TAYLOR CASTLE**



ENERAL MOTORS IS BURNING, BUT BOB Lutz, the company's vice-chairman, is grinning in a way that's reminiscent of my high school stoner friend Artie. I'm riding shotgun, and Lutz is behind the wheel of the new Chevy Camaro. He is 76 years old, finely appointed in an English-tailored suit, and perfectly sober. But that grin means mischief. I have visions of Artie and me blasting through Chicago's South Side in my '68 Camaro 327 Rally Sport, the eight-track belting out Humble Pie. I tell Lutz about my flashback, but he scoffs: "The 1968 Camaro was a primitive car."

The machine he's piloting rumbles low as we prowl through the General Motors Technical Center, a 330-acre campus just outside Detroit teeming with thousands of engineers, designers, and techni-

cians. Suddenly Lutz downshifts, jams his foot to the floor, and unleashes the new Camaro's 422 horses. There's a quick G-force slam back into the seats and a giddy rush as the engine lets loose. "There's a roaring fire in there!" Lutz shouts. "There's stuff exploding in there! Something is happening in there! No electric motor is ever going to do that!"

Something explosive is happening in Detroit, too, but it's less the heady rush that comes from flooring a Camaro and more like the spike you get spinning out on a patch of black ice. Already hurting from crushing debt, huge pensions, and massive overproduction, the U.S. auto industry has been pummelled by the recession. It's not even clear if the Big Three

(General Motors, Ford, Chrysler) will survive the year. Stronger companies, like Toyota, are making drastic cuts, and should be all right. But it's only thanks to a \$9.4 billion loan from Congress that GM limps on - at least through April.

"We need to focus on getting healthy again," Lutz says with the forbearance of a colonel in the middle of a war. He won't forecast GM's odds of survival, but he's emphatic that it will "repay the taxpayers as quickly as possible."

A difficult prospect, considering that even before the Big Three were forced to go panhandling in DC, customers were bypassing GM showrooms. That's why the company brought in Lutz, a bona fide car genius with the vision and balls to shake the company out of its rut.

"What happened at GM is that we cruised on our reputation for the last 30 years," he says. "Now when we do a great car, people say they don't like GM cars. And when we ask, 'Why don't you like GM cars?' They say, 'Because my daddy told me they're crap.' Well, at the time, Daddy was right."

Except now, Daddy's no longer right. Overlooked in the welter of bad press about Detroit is the fact that Lutz has largely succeeded. Car quality-rating agencies, automotive magazines, and industry

THE CONGRESSIONAL **HEARINGS WERE "A HUMILIATING** SPECTACLE," HE SAYS. "I HATED TO SEE... **THAT ORDEAL.**"

analysts agree that the GM product line is the best it's been since the '60s, comparing Chevrolets to Toyotas and Cadillacs to BMWs without sarcasm. What's more, Lutz has championed what could be the most important American electric hybrid car yet, and a key to securing GM's future - the Volt. He still has one more task, the toughest of all: make Americans love GM again.

UTZ HAS ALWAYS STOOD OUT FROM THE BLAND RANKS of his auto industry brethren. He's a straight-talking former marine flyboy; a quasi-vegetarian who's skeptical about global warming's causes. A Zurich-raised, Berkeley-educated gentleman who speaks English, Swiss-German, and French with a set of low-vibrating, cigar-and-martini-marinated vocal chords. An amateur fighter pilot and motorcycle fanatic who

> likes to blast a Ducati through the twisties. He is a 6-foot-3 white-haired tough guy with a permanently curled upper lip that adds some in-your-face blue collar cred to his otherwise dapper demeanor, and the rare man in GM who feels equally at home on the assembly floor and in the boardroom. "I hate to quote Kipling," says Tony Posawatz, who heads the Volt program at GM. "But Bob has the ability to walk with kings and never lose the common touch."

> In a remarkable 45-year career in the auto business, Lutz rose to high positions at BMW, Ford, Chrysler, and now GM, earning a reputation as a firebrand with a talent for reviving ailing companies. "Bob's a true enthusiast," says

Stewart Reed, head of Stewart Reed Design in Pasadena and a GM collaborator. "He loves technology. He understands it."

For all his prowess, Lutz never attained the industry's crowning achievement: chief executive officer of a major manufacturer. In fact, eight years ago he was further away from that seat than ever before, working out of a windowless office in the Ann Arbor headquarters of the Exide Corporation, a car battery maker. He had left his previous job as vice-chairman at Chrysler in 1998, soon after Daimler-Benz bought the company; he took the CEO gig at Exide because, really, no carmaker wanted him. He had a luxury lifestyle to keep up, including a blond wife 19 years his junior who loved horses. It kept him busy.

Then, in late 2001, GM boss Rick Wagoner dropped by. A finance specialist who had been running GM for more than a year, Wagoner was off to a poor start. He had just unveiled the Pontiac Aztek, an SUV-lite with a pop-out tent and pitiable ugliness built in. The auto press laughed, and the car languished on lots. Wagoner needed a leader who lived for product development, not bottom lines. People told him, "You need somebody like Bob Lutz."

Lutz immodestly recalls the meeting this way: "Rick said, 'Who's the equivalent of you, but 50 years old?' I said, 'Gosh, he's probably out there, but I don't know.' I said it would be tough to find someone that fascinated with cars but with my academic credentials and broad level of experience. Someone bicultural, in the sense of having worked in Europe for almost 20 years, and who's equally at home in the European and American parts of the business.

"Rick hemmed and hawed for a long time and was finally able to speak the words, 'I don't suppose you'd consider coming to work for us full time?' I said, 'Sure I would.'"

Lutz was back home. "I was not happy being out of the industry. The car business is the most interesting business there is. It combines high tech, high levels of capital, and more consumer psychology than any other business."

At one of his first GM meetings, Lutz was greeted with a vivid



ROUGH LANDING Lutz, beside the German Dornier Alpha fighter jet he likes to fly over the Great Lakes (above); with a Europe-only Opel Kadett that he flipped during high-speed testing on a German track (opposite)

graphic display of the corporation's managerial incompetence. "They had this matrix on a big screen with things the company should be doing," he says. Hidden among the normal carmaker concerns reduce costs, improve advertising effectiveness - sat one small square that read DEVELOP EXCELLENT PRODUCTS.

"I said, 'You can have the other 50 cells, but one has got to be at the center, and it's 'product excellence,'" recalls Lutz. "The rest are tiny things, like yellow petals around a sunflower. If you don't have the car, nothing else matters."

Clearly Lutz had his job cut out for him. He worked from the inside out. Product neglect at GM showed most noticeably in wretched interiors. Anyone who slid into the driver's seat floated in a sea of cheap plastic assembled with all the care and precision of a four-yearold putting together an Erector set.

"Frankly, before Bob Lutz came onboard, interiors were not the priority," admits Ed Welburn, GM's vice-president of global design. "Often the interiors were developed in the 11th hour, and if the costs were not in alignment on the car, you would take it out of the interior. Then Bob came in with fresh eyes, talking about how bad our interiors were. We quickly reversed things."

The exteriors were only marginally better, and Lutz made sure that changed just as fast. The curvy Pontiac Solstice two-seater earned Lutz his first big design gold star at GM. The Chevy HHR borrows liberally from the Chrysler PT Cruiser's retro-minivan aesthetic but

still turns heads (and sells well). Fans of the Cadillac CTS love its angular stance, while Saturn has transcended its plastic-bodied roots to showcase styles from GM's European design centers.

Yet no car exemplifies the renewal of the product line better than the new Chevy Malibu, which debuted in late 2007 and vaulted GM into serious competition with Honda, Nissan, and Toyota in the allimportant midsize family sedan segment. Car & Driver magazine named the four-door one of its 10 best cars of 2008.

At the same time as he overhauled the product line, Lutz set about remaking GM culture, aided by his outsider status and the recognition that the company's future was so grim there was no reason not to follow his lead. When anyone came to Lutz saving something couldn't be done, Lutz responded with "Says who?" Soon SEZ WHO? stickers began appearing all around the company headquarters.

Still, he can't single-handedly raise the Titanic. The union's refusal to make needed concessions at the bargaining table until a year ago led to GM depleting its cash resources to pay benefits and wages that far outstripped labor agreements made by foreign manufacturers, destroying profit margins. General Motors' average U.S. labor costs are \$69 per hour; Toyota's, \$48. (Unions are about the only thing Lutz won't talk about. "It's very sensitive," he says.) Just as bad, GM shortchanged development of small, fuel-efficient cars for so long that it has a lot of catching up to do. While Toyota invested research money into the Prius hybrid, GM deep-sixed its EV1 elec-



GOOD CALL Lutz in his office while at Chrysler (left), and debuting the production version of the Chevy Volt last fall

tric car program and launched Hummer. It effectively ceded its role as the industry leader, pulling to the curb while Toyota sped ahead. Then came last fall's economic collapse and December's bailout.

If Lutz is grateful, he doesn't show it. The congressional hearings were "a humiliating spectacle," he says. "I hated to see three distinguished executives who are blameless put through that ordeal. I'm amazed that the financial institutions got hundreds of billions more than we did and were not put under this kind of scrutiny." Like his fellow execs, he believes that healthcare costs and "an ever increasing tide of regulations" have burdened U.S. auto companies at the expense of foreign competition. The current troubles represent "a crisis in overall demand," says Lutz. "Japanese sales are down just as much as ours. It's not just raining down on dumb old Detroit."

UTZ'S OFFICE AT THE GM TECH CENTER IS LIKE A rich kid's bedroom in the 1950s, shelves neatly arranged with beautiful models of Ferraris, Ducatis, and Corsairs. He has a full-scale replica of a Lamborghini engine sitting in the center. On the walls, where posters of a boy's heroes would hang, are pictures of Lutz. On his desk sits a quote etched in Lucite attributed to Italo Calvino: "Play is the mainstay of culture."

Lutz has always been afforded the chance to play. Born in Zurich,

From re-envisioning the

meat-and-potatoes sedan to

I utz continues to cement

his legacy.

veloping an iconic supercar,

where his father was a top banker at Credit Suisse, he attended a string of private schools in Switzerland and on America's East Coast. He avoided schoolwork. In high school he was constantly in trouble due to "girls and unauthorized driving." Expelled from one Swiss prep school, he didn't receive a high school diploma until age 22.

Hoping to instill some sensibility in his son, Lutz's father persuaded him to join the U.S. Marines, where he became a fighter pilot in the peacetime lull between the Korean and Vietnam wars. The marines taught him how to speak truth to power. "Officers, even junior officers, are encouraged to think and express their opinions."

In the early '60s he took his flattop haircut and squaresville shoes to the University of California-Berkeley, where he wrote a master's thesis titled "The Influence of Design on Product Image." In an experiment that would hone his eye for design, he built two car models, identical but for one small difference: The wheels on one model were moved outward for a slightly wider stance. "That car was seen as more stable and safer," Lutz says, even though the wheel change was so slight as to be almost imperceptible to onlookers. "They weren't able to say why they felt the way they did."

His thesis was about consumer psychology, and that's where Lutz's genius lies. He knows what makes people subconsciously connect with products. It's a tight gap between two body panels, soft

to the masses

FORD EXPLORER

Banished to run trucks by his superiors, Lutz

transformed the Bronco II into the Ford Explorer,

the on-road/off-road combination that sparked the SUV craze. Blue bloods always had their

Land Rovers, but the Explorer took four-wheeler

leather on the seats, balance and proportion in a car's profile. As such, his Theory of Design is simple: Spend money where it makes the customer feel a difference. This is where he has clashed with the engineers at GM - they used up so much cash on under-the-hood improvements that there was never money left over to upgrade what customers see and feel.

After college Lutz was hired by GM. His foreign-language skills prompted the company to send him to Europe, where he succeeded as a marketing executive, only to flee to BMW to become executive vice-president for global sales and marketing. He took the German sport-luxury carmaker from niche family manufacturer to baby-boomer status symbol before landing at Ford of Europe. There he championed the Sierra, a Euro-only model that presaged a marketplace migration toward curvy cars. Nine years later he created the millions-selling Ford Explorer.

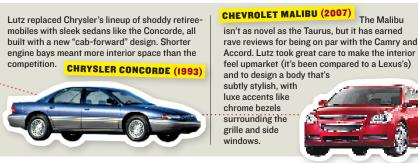
Despite those home runs, Ford's elder statesmen saw Lutz as a troublemaker, and eventually they asked him to see a psychologist. Lutz says they wanted him to cool his jets, to play along. Soon after, he left Ford for Chrysler, where he found a kindred spirit in the entrepreneurial CEO Lee Iacocca. There Lutz secured his place in Detroit history. In the early '80s, Iacocca saved Chrysler

from bankruptcy with financing from federal bailout loans, but by the '90s his boring compact K-cars and boxy four-doors weren't cutting it. Lutz sparked excitement at Chrysler - and helped keep it afloat – by producing the Dodge Viper and restyling the angular sedans using a novel configuration that created more room in the front and back seats.

Everyone in Detroit considered Lutz a shoo-in to replace Iacocca when he retired in 1992. But Iacocca snubbed Lutz, tapping Bob Eaton, a colorless executive who would let Daimler control Chrysler after the merger – with disastrous effects. Iacocca's ego was huge and his skin thin. Lutz would paint him into logical corners at meetings, embarrassing the boss in front of other executives, incurring his wrath. When it was time for the board to choose his successor, Iacocca lobbied against his protégé. As Lutz explains, "He had something called the ABL program: Anybody But Lutz."

Iacocca seems to regret the grudges. In his latest book, Where Have All the Leaders Gone?, he excoriates auto industry execs but spares Lutz, whom he calls a "savvy veteran." Earlier, Iacocca told a reporter that the Bob Eaton affair was "the biggest mistake of my life." When I tried to reach Iacocca for a comment, he spoke through his assistant, and offered only a single-word response about the reason for his difficulties with Lutz: "Personality."

"Sure, I would have liked to have been CEO of Ford or Chrysler," Lutz says. "But I think I have a personality that is antithetical to that ambition. I would have to have been more go-with-the-flow. Who



While in Europe, Lutz sensed a migration toward

reduce gas mileage. His aerodynamic new style

debuted in the Euro-only Sierra, which inspired

curvy cars - the look was fresh and would

the revolutionary U.S.-sold 1986 Taurus.

FORD SIERRA (198

DODGE VIPER (1992)

of consumers

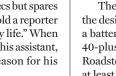
With Chrysler deep in a malaise of boring cars,

Lutz pushed for a modern version of the legend-

Viper earned Chrysler much-needed love from

ary Shelby Cobra. The resulting 400-horsepower

the press and made Dodge cool again in the eyes



"JAPANESE SALES ARE DOWN JUST AS MUCH AS OURS. IT'S NOT JUST RAINING DOWN ON **DUMB OLD DETROIT."**

knows? If I hadn't argued with Iacocca so much and caused him to explode in white-hot fits of anger ... "He trails off, before getting in a final dig. "I've never made CEO, but I'll be 77, and I'm still working. So there's a sort of revenge on Iacocca, who didn't want to go."

Y THE TIME A PRODUCTION VERSION OF THE TOYOTA Prius arrived in the U.S. in 2000, it was already hailed as the future of personal transportation, and a Japanese company that was once seen as an interloper earned the American public's adulation. GM's board of directors hated every second of it. "The mood in the auto press was all Toyota, Toyota, Toyota," says Lutz. "Toyota saves the planet! Only Toyota does intelligent things! Old Rust Belt America is too dumb to think of anything!" Eventually Lutz told the board, "The only way this will stop is if we send a strong technological statement." How about letting him build an electric concept car for the 2007 Detroit auto show? He got the nod and set about working on the Volt.

That electric enthusiasm from Lutz was a 180 from his stance less than a decade earlier. He's the first to admit he had never paid much attention to electric cars. Then he found himself at a battery company. "At the time I joined Exide, a battery to me was a prismatic black lump that started a car," Lutz says. "I thought it would be hard to get enthusiastic. But like most things, the more you get into it, the more fascinating it is: different types, technologies, techniques."

Then he arrived at GM and found that pushing an electric vehicle was an uphill affair. "The official view was 'We tried electric cars, they didn't work,'" he says. The General's attempt is chronicled in the 2006 documentary Who Killed the Electric Car?, which recounts the life and death of the EV1, an electric roadster made by GM from 1996 to 1999. The company built 1,117 of them and leased them in California and Arizona, only to pry the much-loved cars back from their owners seven years later and crush most into oblivion. GM argues that demand for electric cars was too low and production costs too high. "The EV1 was a disaster financially, and it turned out to be a PR disaster," says Lutz. "The movie is still out there doing damage." The Volt is an attempt at atonement, and a radical departure in the design of electric cars. Hybrids like the Toyota Prius switch from a battery to a gas engine depending on driving conditions, and get 40-plus miles per gallon. All-electric cars, like the \$100,000 Tesla Roadster sports car, drive on pure battery power but need to spend at least a few hours with an electrical outlet to re-up.

The Volt strives for the best of both worlds. It will use only battery power for the first 40 or so miles. When the cells are nearly depleted, a small gas engine kicks (continued on page 96)

LUTZ continued from page 69

in that indirectly recharges the batteries or powers the electric motor, keeping the car running for another 200–300 miles. GM sees the Volt mainly as a zero-gasoline overnight plug-in commuter car without the "range anxiety" inherent in all-electric vehicles.

The Volt was the darling of the auto show, and the board quickly green-lit a production version. Chris Paine, the director of *Who Killed the Electric Car?*, will be telling the Volt's development story with his next documentary. "I like Bob's candor and the Volt concept," he says, "but the proof for the car companies will come when anyone can actually buy plugin cars in showrooms."

Despite helming the Volt project, Lutz is no tree hugger. In his grandest foot-in-mouth moment since joining GM, last year he dubbed global warming "a crock of shit," a remark he now acknowledges was "politically incorrect." Lutz, no scientist, believes that sunspots are a more likely cause of global warming than human-generated carbon dioxide. Mainstream scientists note a positive correlation between sunspot activity and global warming effects, but few identify it as the main cause of the greenhouse effect.

Sunspots or not, Lutz insists his views on global warming won't affect his work. More regulation, tighter fuel standards, higher energy prices: All, he knows, are inevitable. "My motivation is to be petroleum-free," he says. "If anyone thinks we're going to reach higher mileage standards using gas engines, they're nuts. I don't think the internal combustion engine is going away soon, but the electrification of the automobile is a necessity." No matter what, Lutz says, the Volt program will go forward. "The Volt is our highest priority," he says. "Everything else can get cut, but the Volt won't."

Not that GM has a choice. If the Volt does not fulfill Lutz's promises, if it costs too much (rumors point to a \$35,000 price tag versus the Prius's \$22,000), if it does not arrive on time (it's set to hit showrooms late next year), it won't matter whether GM survives from month to month on bailout fumes. If the Volt doesn't make it, GM won't either.

AS THE SUN RISES OVER THE GERMAN gingerbread main house at the Lutz farm in Ann Arbor, Lutz's beautiful wife Denise (his third) heads to the barn to care for the horses. Close by, Lutz's MD 500E helicopter sits ready for his morning commute.

Lutz folds his frame into his copter, fires it up, and lifts off northeast toward GM's Tech Center in nearby Warren. The flight takes him to the edge of burned-out Detroit. "You become immune to the ugliness," Lutz says.

The last great car guy in Detroit descends again into the fray, knowing there's still much to do. Lutz will continue to build great cars and try to undo Daddy's effect on car buyers. Trouble is, Lutz is about all that separates the GM of today from the bean-counting days of the recent past, and he won't be around forever. "The day he retires," one longtime GM supplier told me, "the traditional GM culture will move in like the tide and wash away the sand castle that Bob built." village chief, the gendarme, and the subdivisional officer.

We stop to clown around with some local kids, then walk back toward the GVFI field office, arriving just in time to see the broken-down truck being towed in.

As the sun sets we repair to the porch of a small house that serves as GVFI's headquarters in Ngoila to drink warm beer and feast on rice, chicken, fried plantains, and *ndolé* (greens with nuts and salty fish or goat and palm oil) slathered with *piri-piri*, Cameroon's fiery salsa.

For Wolfe, it is a chance to bullshit with his staff — LeBreton, deputy director Ubald Tamoufe, chief operating officer Karen Saylors, and director of laboratory science Brian Pike — about the new, expensive toys that promise to ease logistics and narrow the time between specimen collection and results.

Now, Wolfe's Cameroon team -27 public health specialists, wildlife ecologists, laboratory technicians, nurses, and community liaisons - are clearing space in their labs and field sites for new high-tech equipment. Cameroon will be getting nitrogen generators to cool blood at field sites, GPS-trackable motorcycles, and possibly a state-of-the-art phylogenetic sequencer, which would give GVFI the first world-class viral discovery lab in Central Africa.

EARLY THE NEXT AFTERNOON, AN elderly woman winces as a syringe pierces her vein, opening a flow of blood from her arm to a collection vial held steadily in a nurse's meaty hand. Standing in line behind her are several dozen local villagers. Apart from the needle's prick, no one seems the least bothered by the bloodletting or the waiting. "The success of this approach depends on having a long-term engagement [with the locals]," says study leader Tamoufe. "We're sharing knowledge, we're explaining the goals of what we're doing, we're being honest."

After the blood draw, study participants step inside a thatch-roofed pavilion for medical checkups. Then they're sent away with packets of milk, cans of sardines, condoms, and any prescription medicines they need.

GVFI's method flies in the face of the "parachute science" approach that has long typified data collection in the Third World. Wolfe thinks he's got the system down, and he believes that, with the right collaborators, his model can be scaled up and repeated anywhere in the world.

Maybe. But the unpredictable places Wolfe is targeting — Congo, Madagascar, China, Malaysia, Laos — have a way of making a mockery of the noblest goals and the most elegant logistics. Even here, where the team has an eight-year track record of trust and collaboration, nothing can be taken for granted. Today, for instance, Wolfe's team will attempt something unprecedented, with a high potential for misunderstanding. "This will be tricky," Tamoufe says. "There are certain cultural sensitivities surrounding masturbation."

The GVFI team wants to get semen samples and vaginal swabs from at-risk hunters, as well as their primary sexual partners. Here's why: Every virus needs to use its host cell's resources to make copies of itself, which then go out to infect other cells. But a virus that infects a cell in a liver or lung — or, indeed, almost any other cell in an animal's body can't carry on to the next generation of its host. In other words, if you were to contract influenza, or SARS, or Ebola, and then have a baby, you wouldn't normally pass the virus on to your offspring. But some infectious diseases can be transmitted sexually.

Tamoufe's team approaches 17 hunters and their sexual partners, asking them to participate in today's "special study." The chief adds his own encouragement. "We are hunters here," he says, "and this is how we help. We know that there are some bad things inside some of the animals we kill. If we can help our friends discover how to protect people, that's good."

Both Tamoufe and ecologist LeBreton confide that they have doubts about this working. "But whether or not we get these extra fluids," LeBreton says, "we'll get plenty of blood."

LATE THAT AFTERNOON THE TEAM meets back at GVFI's headquarters in Ngoila, where night drops quickly. Within a matter of minutes the kerosene lamps are lit and the abundant butterflies are replaced by fireflies — one of which finds its way inside the screenedin porch, zigzagging among the team members. "We Cameroonians say that it's a lucky thing to have fireflies in your house," says Tamoufe.

Indeed, it has been a good day. Of the people approached, three men and four women provided semen samples and vaginal swabs — a pretty good start, all agree. That's in addition to the 100 blood samples collected.

Working like this, one village at a time, Wolfe has quickly accumulated one of the most comprehensive blood collections on Earth, some 25,000 human and 16,000 animal samples that are available to researchers around the globe. "I can guarantee that these repositories of samples will be treasure troves of information for the future," says Michael Worobey, of the University of Arizona.

Even though Wolfe is fundamentally a collector — of blood and exotic microbes and, to a lesser extent, West African art — he's a minimalist in his personal life.

"Almost everything I own is in a storage locker in Los Angeles," he says. When Wolfe was on the faculty at UCLA, he had an apartment in Venice Beach. "I would swim and do yoga and ride around on my Vespa. I was also into rare orchids, but I wasn't there enough, so they died."

He tells me he lives for moments like these, drinking warm beer with his team, listening to the sounds of the jungle as they build into a riotous chorus of grunts and caws and chuckles. But Wolfe, who is single, says that as he nears the age of 40 the urge to drop anchor is getting stronger. "I'm actually thinking that things will begin to calm down in a few months," he says. "Of course, I've been saying this for the last 10 years."

Pike suggests we go outside to toast the almost-full moon. As we do, someone fires up a generator and a radio, sending the warm, liquid guitar lines of Congolese soukous skipping across the courtyard.

"We vertebrates are a pimple on the ass of life on this planet," Wolfe says, to no one in