# EXPLORATION Quarterly



\* We shall not cease \*

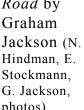






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. . . . . . . . . 8 Deadliest Animal by Hanson



Our Ridiculous World (Trip) by Matt Bishop (Reece Gilkes, photos)



Tragedy Frozen on *Linen* by Jonathan Hanson



Blood & *Leather* by Roseann Hanson (Jonathan Hanson, photos)

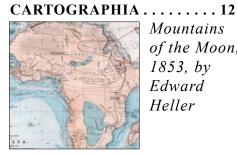


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ABOVE: Painting a newly made Maasai war shield, ochre pigment mixed with cow blood at Olkiramatian, South Rift, Kenya (1°51'09.4"S 36°06'18.9"E); Jonathan Hanson photo. OVERLEAF: Volcán Licancabur, Bolivia, viewed from north of San Pedro de Atacama, Chile (22°47'54.5"S 68°06'08.0"W); Roseann Hanson photo. COVER: Dakhla oasis, Egypt (25°41'28.4"N 28°48'58.3"E); Jonathan Hanson photo.

# EXPLORATION

Volume 1. Number 1

### **66WE SHALL NOT CEASE FROM EXPLORATION**

And the end of all our exploring

Will be to arrive where we started

And know the place for the first time." – T.S. Eliot

Welcome to Exploration Quarterly, the publication for those who do not cease to BE CURIOUS . . . to LEARN . . .

to EXPLORE . . .

We define exploration in the broadest sense:

Exploration can be geographical.

Exploration can be fractal.

Exploration can be introspective.

Exploration can be expansive.

Exploration can be structured.

Exploration can be unplanned.

Exploration can happen every day.

Exploration is continuously seeking new places, new ideas, new knowledge.

Exploration is the essence of being human, what brought us from the forests into the savannah, and beyond the horizons of Earth to the edges of the known universe.

We shall not cease from exploration.

Thank you for joining us.

Jonathan Hanson

Roseann Hanson

Founders, Curators, Editors, Designers



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### **GRAHAM JACKSON**



A scientist by trade and an explorer by passion, Graham Jackson has been combining both for three decades as a quide, instructor, and expedition leader. Born in Lesotho in southern Africa. Graham started racing motocross at age six, as well as helping his father design, build, and race off-road buggies. At age 10, Graham completed his first safari across the Kalahari in a Range Rover with his family. That trip planted the seed for Graham's

lifelong obsession with deserts, off-road vehicles, and overland travel.

In 2004, Graham and his wife Connie Rodman led a 30,000-mile overland adventure from London to Cape Town, which, arguably, was a key inspiration for the launch of the overland industry in the U.S. and formed the feature story in the first edition of *Overland Journal*. He spent several years as *Overland Journal*'s gear editor and has written for *Outdoor X4*, *Land Rover Owner International* magazine and Exploring Overland's online blog. He also contributed to two of Chris Scott's books: *Overlanders' Handbook* and *Sahara Overland* as well as Tom Sheppard and Jonathan Hanson's *Vehicle-dependent Expedition Guide*.

Graham has run and guided expeditions in Africa, Australia, South America, the American West, Mexico, and Central America. He is recognized as one of the premier expedition trainers in the world, conducting overland training in the U.S., Central America, and Africa as well as co-founding Overland Training and 7P Overland. He was Director of Training for Overland Expo for its first decade, helping develop it into the premier overland event in the world.

In 2023 Graham started Overland Passage and Barefoot Productions to produce adventure-travel-related content of competent people exploring the remote reaches of the magnificent planet we call home.

Graham is a member-national of the Explorers Club, a fellow of the Royal Geographical Society, and a member of the Field Guides Association of Southern Africa. He holds an NPTC assessor's certification for off-road driver and recovery training.

Overlandpassage.com

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### **NATHAN HINDMAN**



Nathan is an award-winning commercial photographer who specializes in creating iconic photography for the luxury hospitality industry. His assignments have taken him to more than 50 countries and six continents

around the world, from safari lodges of southern Africa to the Czar's palaces of Russia, including photographing polar bears and humpback whales in the remote islands of Svalbard with *National Geographic*. His work has been featured in hundreds of national and international publications including *Robb Report, The Wall Street Journal, Travel ,+ Leisure, Forbes* and many, many others.

In addition to his photography work, Nathan was one of the earliest adopters and advocates for overlanding in North America. With the founding of Pangaea Expeditions in 2001, he has led 4x4 expeditions across the world including multiple trips through Belize and the Yucatan, southern Africa, and across the high deserts of the western United States. He's gone through extensive training with the Royal Geographic Society and Land Rover at Eastnor Castle in England. Nathan is a member of the only American driving team to win the prestigious Outback Challenge, alongside teammate Scott Brady.

### **ERIC STOCKMANN**



Eric has always felt a familiarity with the outdoors: the mountains and lakes that make up the Midwest and East Coast have been home to him for most of his life. He is grateful to have had similar excursions internationally,

visiting Japan, China, Taiwan, India, Malaysia, Africa, Brazil, and Venezuela, which have immeasurably widened his global perspective. Since settling in California, being nearby the ocean has been added to the list of places to spend time.

Eric's past career in photography and film production has allowed opportunities to be in many outdoor locations. Exploring nature off-the-beaten path has made being outside more fun and rewarding. In May 2023 he started his education to become part of Santa Barbara Search and Rescue.

### **MATT BISHOP and REECE GILKES**



Matt and Reece are childhood friends who thought up the idea to circumnavigate the globe on a scooter with a sidecar back in 2015. At the time, they had absolutely no idea how to ride a motorbike, let alone how to drive a scooter with a sidecar around the world.

They came up with the idea when they sat in their dingy flat in North London complaining about the state of the world and how we were doing nothing to change it.

"The idea was born out of our moaning," Matt told Motorcycle Minds. "Moaning at the state of the world and how unequal it was. Moaning at the stories in the news (or the ones that weren't), and moaning at ourselves for doing nothing about it. So we decided to do something."

They took on this huge challenge to raise awareness and funds for the fight against modern day slavery. There are currently 45.8 million people living in slavery. They're in every country globally, including the UK. That's enough people to fill Wembley Stadium over 500 times and more than double what there was at the peak of the transatlantic slave trade.

They grew up in Banbury, central England. After modest but unthrilling careers at university, they both worked for the holiday booking firm Flight Centre in London before quitting to embark on the ridiculous trip that would change their lives forever.

Today they are both married with a little girl each, and are serial entrepeneurs, having founded the Armchair Adventure Festival during COVID and transitioning it from online-only to a thriving in-person festival in Cornwall. In addition, they opened the Sidecar Experience Centre in Northumberland and became the first UK dealers of Ural Motorcycles.

SidecarExperience.co.uk, AsSeenFromtheSidecar.org

(a) @thesidecarguys

 $(\mathbf{f})$  /thesidecarguys

@thesidecarguys

### JONATHAN and ROSEANN HANSON

Born and raised in southern Arizona, the Hansons have worked together for 40 years as writers, photographers, artists, biologists, and explorers.

They are endlessly curious humans who love nature, the visual arts, the written word, and above all, they love



to learn, constantly reading, exploring new ideas, new crafts, and new skills.

The Hansons met and married in 1984 while studying at the University of Arizona under many renowned field ecologists, solidifying their passion for fieldwork and science. They have worked as resident naturalists and caretakers for U.S. Fish and Wildlife in Arizona's Baboquivari Mountains; managed a guest ranch / nature lodge in the Chiricahua Mountains; taught dozens of nature, field arts, and writing workshops; lead safaris in Kenya and Tanzania and overland journeys in Mexico and the American Southwest; explored five continents together by overland vehicle; and founded Overland Expo, the world's largest do-it-yourself adventure travel event, which they sold in 2018. Jonathan is an accomplished solo bicyclist and sea kayaker, and Roseann worked for three years as a conservation program director for a Kenyan organization and traveled solo extensively in East Africa.

Their co-authored books include Southern Arizona Nature Almanac, Basic Essentials: Animal Tracking, National Park Tours of the Southwest, Desert Dogs, The Ragged Mountain Guide to Outdoor Sports, which won a national book award, and 50 Common Reptiles and Amphibians of the Southwest, which won a National Park Service award for Interpretive Excellence. Jonathan was founding editor of Overland Journal and collaborated with Tom Sheppard on the reprint of the seminal Vehicle-dependent Expedition Guide. Roseann wrote a nature guide to the San Pedro River and published two popular guides to nature journaling and field arts.

Both are elected fellows of the Explorers Club and the Royal Geographical Society for their work as explorers, writers, and conservationists.

They are pleased to be returning to their roots as writers and publishers with the founding of this magazine.

ExploringOverland.com

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# The World's Deadliest Animal

# by Jonathan Hanson

ne hundred and ten trillion. 110,000,000,000,000.

That's the estimated population of mosquitoes on earth—give or take a few trillion.

This currently works out to 12,222 mosquitoes for every living human. (I do not doubt this figure, because I remember a camp on Canada's Arctic coast where I'm pretty sure my full personal allotment was whining around my head.)

It's tempting to believe these blood-sucking micropredators evolved solely to torture humans. Not so mosquitoes were whining around the heads of Jurassic velociraptors 90 million years ago. They were ready and waiting when our Australopithecene ancestors descended from the trees four million years ago—I like to think the subsequent development of language was significantly accelerated by the need for curse words. (Little-known fact: Your very first ever mosquito bite did not itch. Only after your body reacted to that initial bite and began producing antibodies that attack the mosquito's saliva with histamines did you begin to develop the itchy bumps that follow a bite.)

As maddening as the itch from mosquito bites can be, the ramifications can be far worse. Elsewhere in this EQ you'll read about the toll malaria has taken on humanity since Neolithic times. But malaria is only one of the potential dangers associated with mosquito bites. Timothy Winegard, author of the fascinating book *The Mosquito: A Human History of our Deadliest Predator*, references a paper in *Nature* claiming that mosquitoes have been responsible for something approaching half of all human deaths since the emergence of our species.

Other researchers have cast doubt on this, but even if we're conservative and put the figure at, say, ten percent, that still represents around 12 billion *Homo sapiens* laid low by an insect weighing two and a half milligrams. Forget lions and tigers and bears—they don't even register on this scale.

Accurately speaking, no mosquito has ever killed a human being. What kills us is the pathogens carried by the female mosquito, which are transferred into our bloodstream through her anti-coagulant saliva when she bites (males live solely on nectar and sex). These include protozoans (malaria), viruses (yellow fever, Zika, dengue fever, chikungunya, West Nile), filiarasis worms (elephantiasis), and bacteria (Mycobacterium ulcerans, the agent of Buruli ulcer). Of course, malaria is the big one, accounting for anywhere between 500,000 and one million deaths per year worldwide. Trailing is vellow fever, which kills about a tenth as many, mostly in Africa. (Interestingly, despite early fears, it is essentially impossible for mosquitoes to transmit AIDS, as the virus is quickly digested along with the blood meal when a mosquito bites an AIDS-infected individual. Nor is there any evidence mosquitoes can transmit COVID.)

There are over 3,600 species of mosquito, but two genera, the *Anopheles* and *Aedes*, encompass the species that endanger humans. About 35 species of *Anopheles* carry malaria; *Anopheles gambiae*, which ranges across central Africa, causes the most fatalities. (Yellow fever is apparently transmitted only by *Aedes aegypti.*)

Five strains of malaria are known to infect humans; of these, three are rare and overwhelmingly survivable. The two of concern are *Plasmodium vivax* and *Plasmodium falciparum*. *Vivax* has a very low mortality rate, but a very high rate of regular relapse after the first infection—Winegard relates the case of a British infantryman, infected in Burma in 1942, who suffered a relapse in 1987. *Falciparum* does not cause relapses, but its mortality rate is far higher—anywhere from 20 to 50 percent, depending on various factors. Not surprisingly, mortality is highest in Africa, where care is often unavailable. Seventy five percent of victims there are under five years of age.

The quinine described in Victualling (page 90) is still used in the treatment of malaria (sorry, not in G&Ts), usually only when more modern treatment is not at hand. The World Health Organization (WHO) still endorses quinine combined with doxycycline, tetracycline, or clindamycin as a second-line treatment—that is, when more effective first-line drugs such as intravenous artesunate or arteminisen-based combination therapy (ACT) are not available, frequently due to cost.

Much preferable to being treated for malaria is not contracting it in the first place. If you plan travel to global regions where malaria is present, you can take one of a number of prophylactic anti-malarial drugs. These vary in effectiveness, potential side effects, and their risk to, for example, pregnant women or those prone to psychotic episodes (and no, I'm not touching that joke). The excellent website of the Center for Disease Control



Upper left: National Institute of Allergy and Infectious Diseases (Unsplash.com image)

# Physical Map of Africa, Exhibiting its Orography, Hydrography & Climatography (1853, Edward Weller, cartographer)

he nineteenth century was a golden age for cartographers. Thanks to improved navigation and surveying techniques, the outlines of the earth's continents had been traced with reasonable accuracy, and explorers were penetrating the interiors. The Corps of Discovery traversed the United States and its territories, Alexander von Humboldt charted South America, David Livingstone trekked deep into unknown Africa, Burke and Wills crossed Australia—everywhere gaps in geography were disappearing.

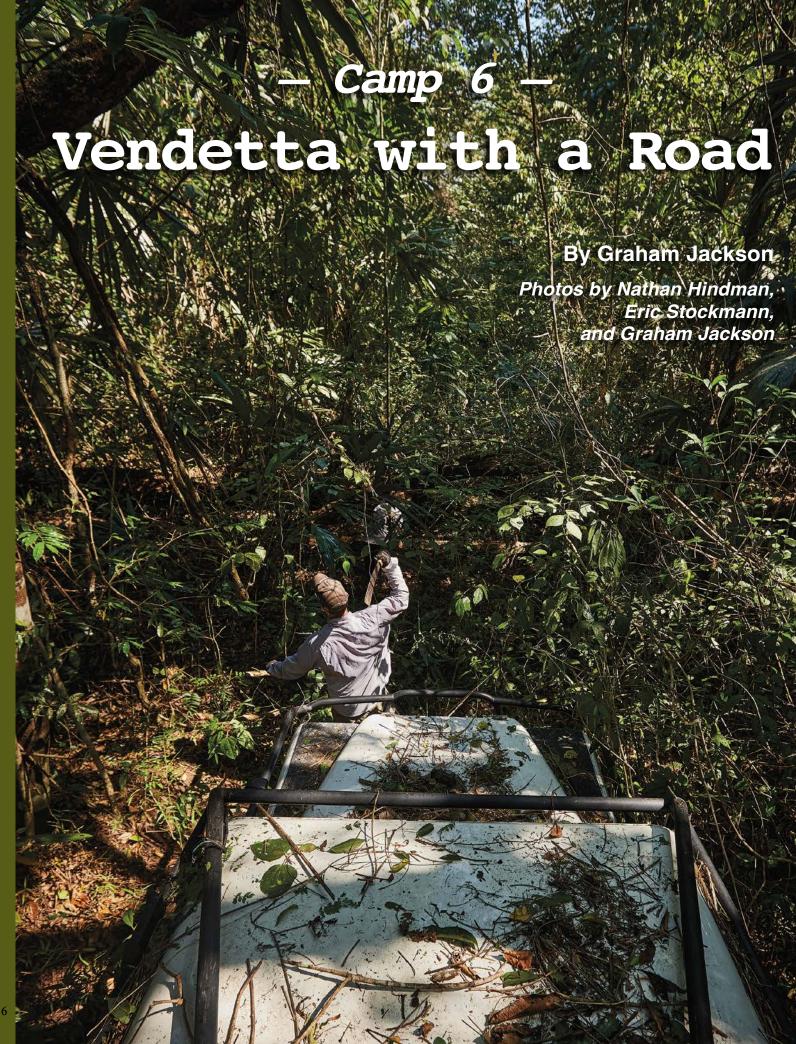
Small wonder, then, that mapmakers had no end of work—especially if you happened to be a cartographer for the Royal Geographical Society.

Edward Weller was born in 1819, and was lucky enough to have an uncle who was a successful mapmaker and who paid Edward's £50 apprenticeship fees to learn the trade—a substantial amount in the mid-nineteenth century. Weller justified the generosity: His early work was so respected that in 1851 he was elected to the Royal Geographical Society, and after taking over the Sidney Hall map business he succeeded John Arrowsmith as the unofficial geographer to the Society.

In the late 1700s German author Alois Senefelder invented lithography, a technique of rapidly reproducing detailed text and images on paper using a plate, commonly metal but originally lithographic limestone. Edward Weller was one of the first mapmakers to embrace this new technology for maps and charts. His vast output would eventually cover the entire known world before his death in 1884—after which his son carried on the work.

The small map you see here (just 230mm by 290mm, or 9 by 11.4 inches), is titled *Physical* 





# Q: What is a man on a road? A: Time.

(Mayan riddle, translated by Munro Edmonson)

My doctor was not amused by my wry assessment of the medical facilities in the remote Chiquibul forest of Belize.

"Getting to one would have been a good idea," she asserted.

I had just returned from a month-long expedition in Central America, and had brought back with me a parasite, a bacterial infection, a viral infection, and was slowly recovering from diabetic keto-acidosis.

So, a pretty good trip?

To be fair, the expedition had not had the intention of testing my immune system and my diabetes control to the limit; that came as an unfortunate side effect. The real goal had been, well, a vendetta.

I'm considered an expert in four-wheel mobility, after having spent the greater part of my life completing and guiding expeditions and overland trips all over the globe. From a very young age I'd always had a fascination with roads (and especially tracks) on maps. I'd spend hours paging through our family's

Times Atlas of the World studying routes across the Sahara, tracks across Australia, imagining what they might look like. This fascination did not stop when I started exploring those places. Inevitably, on every trip, there would be roads and tracks that forked off my planned route and I'd try to keep track of them, promising myself that I would return one day to explore and find out where they led. You could say that I collect routes. But while that is an on-trip distraction

for me, the real exercise that causes my route-collecting obsession to flare is not being able to complete a planned route.

In 2010 I discovered Camp 6 Road. It was the inaugural trip in Central America for a new tour company, and as lead guide I had put the route together with their guidelines, poring over maps and Google Earth images to find junctions and roads. Camp 6 is a small encampment in Belize, just north of the Chiquibul Forest that has a hard-to-find history. Back in the 1920s it was the headquarters for the Mengel logging company which used it as a base of operations and the head of their rail line to extract mahogany from the forest. Before that—long, long before that—it was on the outskirts of the Mayan Caracol city-state and still has several small Mayan ruins. In a 1931 report to the Field Museum of Natural History in Chicago, J. Eric Thompson, then a lead archeologist in studies of the Mayan civilization, mentioned Camp 6 and the logging connection in his description of the route from El Cayo, central Belize, to the then-largest known ruin site complex called Mountain Cow. Thompson would do that route by foot with donkeys, but I wanted to trace it by vehicle.

In 2010 we planned to go from Caracol—a Mayan site so large that Mountain Cow has all but been forgotten—



north to Camp 6 and then on from there. Knowing that the track existed is one thing, but finding it on the ground in the dense jungle was something else. In what I consider a navigation coup, I was able to pull a waypoint off a 1:400,000 scale map that showed the track and then find the track on the ground less than 50 meters from the waypoint. That was the start. Our group of eight in two Land Rover Defender 110s (sad that I have to mention they were 'classic' Defenders, not the new thing Land Rover gave the same name) started up the track at less than walking pace, clearing thick jungle overgrowth that had not (I later learned) been disturbed for at least two years.

By nightfall we had penetrated 1.7 kilometers into the jungle after an immense amount of machete work, and found a clearing of sorts to make camp. In my hammock

at midnight I heard the rain start to fall. Not just light rain, but a real jungle downpour that went on and on. I knew there was no way we could continue to Camp 6, due to the time constraints of having to complete this inaugural trip and get clients to their flights back to the U.S. on time.

The morning brought no let-up in the rain; the rapidly deteriorating track surface was quickly becoming a river. The return 1.7 kilometers was done one 80-foot winch pull at a time and took all day as the rain continued. By evening we had found a nice lodge with plenty of beer and welcome warm showers. That trip continued on to Guatemala, but I was left with the empty feeling of having not completed the route to Camp 6, something that gnawed at me for 13 years, and would be later termed by a friend as my 'vendetta' with Camp 6.



In 2012, again on a tour in the area, we started up the Camp 6 track, but it was more a quick reconnaissance with the vague hope the track was open than a real attempt. After about 50 meters we turned back.

On at least half a dozen subsequent trips in the area, we always passed the turn-off to Camp 6, completely obscured by the jungle again, like a closed door beckoning to be opened to find the mysteries behind.

The intervening years allowed time for many different threads to come together for a new expedition. I would occasionally check on Google Earth to see if newer imagery indicated any changes, but it all seemed very much the same. I would talk at times with my good friend Nick Taylor, who was on the original trip, about

going back to complete the route. Those talks led to more research, which inevitably led to wanting to go back even more.

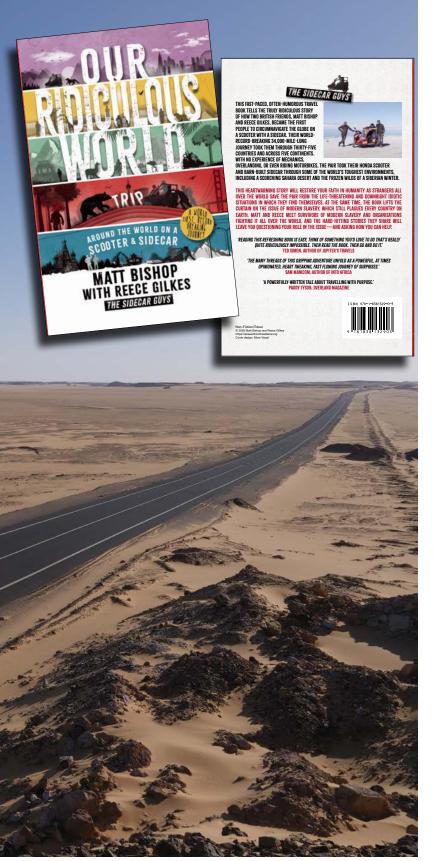
In 2020, I was talking to Will Mathers, who had lived and worked in Belize and had run part of the Camp 6 Road in 2008. He mentioned a new road-building project in Belize to put in a paved highway all the way to Caracol. Checking Google Earth revealed the massive project well underway. With a major artery soon to be in position to bring busloads of tourists to Caracol, the remote secret of Camp 6 Road may be ruined. This led me, after 13 years, to set a date for a return to finally complete Camp 6 Road.





# **SAND & SCORPIONS: SUDAN BY SCOOT**

An excerpt from Our Ridiculous World (Trip) by Matt Bishop and Reece Gilkes. In 2017 the two friends set off on a 15-month, 34,000 journey through 35 countries and became the first people to circumnavigate the planet on a scooter with a sidecar.



# **'ER AND SIDECAR**

Their journey was also to investigate and shed light on the ongoing horror of modern slavery, which thrives globally in every country.

ailing across Lake Nasser heading for Sudan was one of the coolest things I've ever done. Not many overlanders take that route so it was completely authentic. The local guys were really excited to have us, and the captain even invited us onto the top deck for tea. There we were, sailing across this lake, sipping sweet Egyptian tea with the crew, while looking back over the incredible Abu Simbel temples and looking forward to our next country, Sudan. This was adventure.

Well actually there's about another twenty-five miles of brand-new tarmac to Sudan but it's best not to let that get in the way of a good story. We drove the 25 miles and went from the best part of overlanding to the worst, the paperwork. We knew we'd need a fixer to get out of Egypt but we'd heard getting into Sudan was quite a lot simpler. It wasn't.

We paid the fixer and got out of Egypt within an hour or so, and as we drove into Sudan a man came up to us and said in perfect English, "Hey guys, I can help you get into Sudan, no problem."

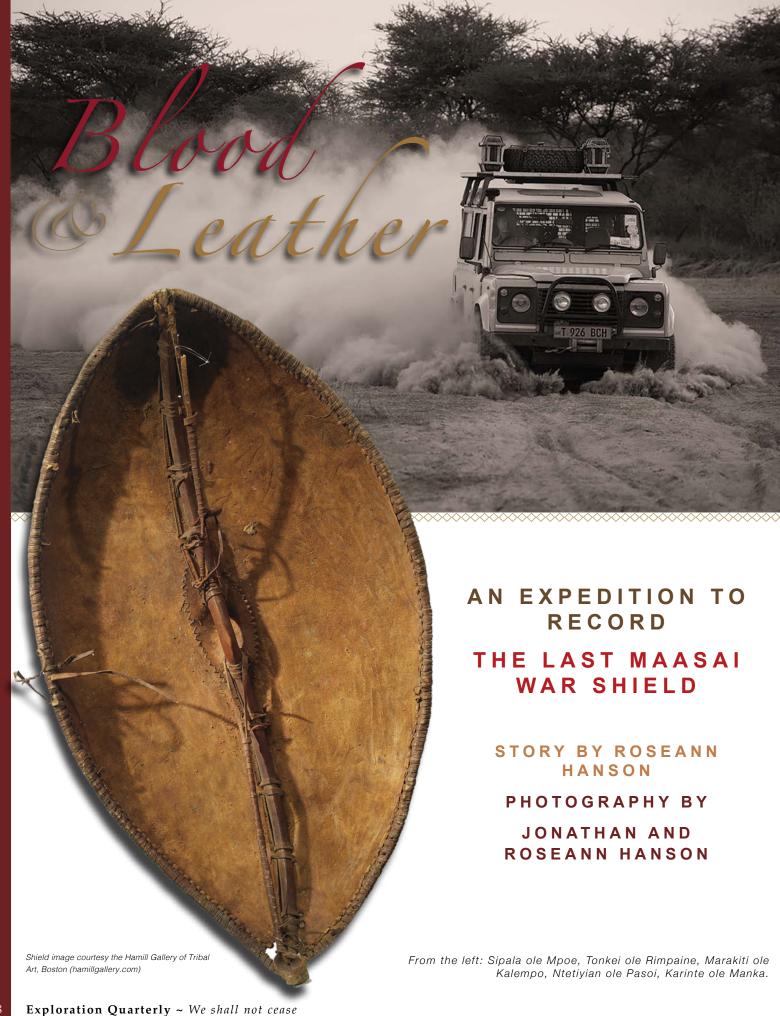
"No thanks," I replied. "We'll be fine on our own."

"No, you won't," he said, laughing.

He was right. Eight hours later we finally admitted defeat and got him to help us get out. It was becoming ever more likely that we would be camping at the border for the night and we were just so desperate to get out of there. It had been a day of aimlessly getting sent from one office to another. The fixer dude helped us out in less than 30 minutes. I like to think that meant we had done most of the stuff, but it probably didn't. We gave him £15 which he was chuffed with, and we were able to press on to the town of Wadi Halfa as the sun disappeared into the desert.

We arrived into the town, splashed out on a £7 hotel room, chucked our stuff down, and went searching for food.

In the town centre, there was no street lighting at all but instead the place was lit up with super-bright LED lights hovering over the shops and food stalls. All of the food stalls were identical, and they were all selling exactly the same thing: bones, with bits of meat attached to them, fried over hot coals in a giant silver pan. Served with super-hot chili sauce and loads



ctober 18, 2012 — It was the height of the dry season in Kenya's Great Rift Valley, the cloudless skies shimmering in the 90-degree haze. The Land Rover rocked and heaved like a ship in the Southern Ocean as we left the gentle green swales of the Ngong Hills west of Nairobi and entered the dessicated and thorny sweep of the valley where the pavement didn't so much as stop but rather gave up.

We were grateful for the coil springs but still the motion created a cacophony of kitchen kit clanging and other sounds whose origins we didn't want to guess; I kept an eye on the stacks of Pelican cases loaded with video equipment, SLR cameras, a drone, and recording gear, to make sure they stayed firmly lashed to the rear deck.

We passed through the sulphur-smelling evaporation pools of the Magadi soda mining plant, owned by the Indian mega-corporation Tata Group, and from there it was another 25 kilometers and a full hour to the Lale'enok Resource Center in Olkiramatian, the road even more crazed with corrugations and baby-head rocks.

I knew the way to the resource center, having worked for several years as a fundraising and communications liaison for the African organization that helped found the center, but we were instructed to head not to the main buildings but off to the southeast on a track to an old boma, or Maasai dwelling site, between the resource center and the Ewaso Ngiro River.

The track wasn't a road, more of a suggestion, and crossed several kilometers of open plain covered in six inches or more of talcum-powder dust. The result was a swirling haboob-like storm growing ever-larger around our tires as we shot forward at increasing speed to keep some of the dust at bay—even though we knew when we stopped there would be no escape.

As we pulled up to the boma and stopped, we saw through the veil of swirling dust the group of Maasai men and women waiting for us under a shady canopy of *tortillis* acacias, and behind that an enclosure of cattle.

We were there to kill a couple of bulls and help save a cultural icon from the forgotten, moth-balled drawers of faraway museums.





he first Europeans to lay eyes on Mount Kilimanjaro, Africa's highest peak, were two Germans, Ludwig Krapf and Johannes Rebman, who were employed by the London-based Church Missionary Society in the 1840s to venture into the interior of what is now Kenya and Tanzania. Their reports of an enormous snow-capped massif nearly straddling the Equator were met with hoots of derision by the scientific community—and Krapf's subsequent description of the icy crag topping nearby Mount Kenya was considered further proof that some tropical disease had spawned delusional brain atrophy in the pair. Not until later expeditions confirmed

the irreducible solidity of both mountains were their accounts accepted.

Krapf also took notes on a heretofore unknown tribe living in the region, his description of whom must have seemed as fanciful as his grasp of geography to the learned men in London:

"(The Maasai) live entirely on milk, butter, honey, and the meat of black cattle, goats, and sheep; having a great distaste for agriculture, believing that the nourishment afforded by cereals enfeebles, and is only suited to the despised tribes of the

mountains . . . when cattle fail them they make raids on the tribes which they know to be in possession of herds. They say that Engai (Heaven) gave them all that exists in the way of cattle and that no other nation ought to possess any . . . They are dreaded as warriors, laying all waste with fire and sword, so that the weaker tribes do not venture to resist them in the open field, but leave them in possession of their herds, and seek only to save themselves by the quickest possible flight."

Just as with Krapf's accounts of the mountains, his seminal impression of the Maasai stood the test of time



as an accurate cultural record. Later expeditions would confirm almost all of it.

In particular that bit about "... dreaded as warriors."

According to their own oral tradition—which more or less jibes with modern anthropological and genetic studies—the Maasai began migrating southward from the region of what is now Sudan sometime in the 15th or 16th century. It is not known what triggered the move, although changes in climate and habitat likely played a part. In any case, the Maasai scattered the resident peoples they encountered like a hawk scatters pigeons (although some were absorbed), and for the next 300 years, the

Maasai morani-warriors-ca. 100 years ago used their spears and shields to protect their families and livestock and to go on raids.

Maasai ruled a broad swath of the Rift Valley region in what is now Ethiopia, Kenya, and Tanzania. As seminomadic pastoralists, they moved their cattle in response to rainfall patterns, mimicking the migration routes of wild game and leaving little or no permanent impact on the land. When they needed more cattle—or when young warriors (*morani*) wanted to test themselves and indulge in a bit of sport—they raided other tribes, at times extending their forays as far as the Indian Ocean coast. So pervasive was their reputation that even well-armed Arab slave-trading expeditions avoided Maasai territory (although part of the reason for this may have been that, unlike many nearby tribes, the Maasai never dealt in slaves).

Their legendary bellicosity might have even staved off European intrusion for a time, but in the 1880s and 1890s a series of disasters—epidemics of rinderpest and bovine pleuropneumonia in cattle and smallpox in humans, a severe drought, and, finally, intra-tribal warfare among different groups of Maasai (precipitated at least in part by disease and famine)—diminished Maasai power considerably. In the early 1900s, British colonial officials exploited the nebulous and fractious nature of Maasai leadership to craft several treaties one signed with the thumbprint of a 13-year-old "chief" whose father had been dead but days—that drastically diminished existing Maasai territories and further curtailed the ability of tribal members to move their herds with the rains. The increasingly forced sedentariness of Maasai life became a challenge that continues to this day.

Despite this loss of hegemony and territory, the tribe clung defiantly to its warrior culture. While the British discouraged (with mixed success) raiding other tribes, for at least the first half of the 20th century a young *moran* was free to test his courage in an equally honorable fashion—by facing down and killing a lion while armed with just three implements: a double-edged machete, a spear, and a buffalo-hide shield.

The spear (*imperi* in Maa) comprised a long, double-edged, forged-steel blade, a wood grip, and a pointed steel butt section which balanced the weight of the blade and was equally useful for stabbing into the ground to plant the spear, or as a tip for throwing practice by simply reversing one's grip.

The oblong shield, or *elong'o*, was usually three to four feet tall, and typically made from rigid Cape

buffalo rawhide lashed with lighter, flat leather strips to a bent wood perimeter frame. A heavier vertical center strut provided reinforcement and a grip. The front was decorated with an intricate pattern in various combinations of red, white, yellow, black, and brown.

The functions of the machete and spear were pretty straightforward—but the shield had a secondary significance just as important as its primary use in defense against an enemy spear thrust or a lion's charge. The designs on the face were highly codified and revealed many details about the bearer, from his region and clan to his prowess as a warrior. Furthermore, the shield was the one possession commonly handed on to a chosen successor—not, as one would expect, a son, but more often a young man in a succeeding age group. Maasai boys are initiated into the warrior stage of life in groups of similar ages, and members of these groups remain closer to each other throughout life than they do to blood relatives. Thus a shield would be passed down strictly on merit rather than mere accident of birth. Even marks of personal bravery earned by the original owner would be painted over, so the new bearer might strive for his own.

The image of a Maasai moran crowned with an ostrich-feather or lion-mane headdress, spear in one hand, the other resting on a colorfully painted shield, is probably what 90 percent of us picture when asked to conjure an image of an African warrior. How could it be, then, that this shield—an implement so iconic its image is central on the Kenyan national flag—has not only disappeared from use, but is almost lost to memory among what is already nearly two generations of young Maasai men?

It happened so gradually that no alarm was raised until it was arguably too late. No longer able to move herds of cattle where they pleased through country wellpopulated with lions, and no longer able to raid freely, the need to carry a bulky and heavy shield faded. In 1977 Kenya abruptly banned all hunting in the country, making even the pursuit of cattle-killing lions around permanent villages a crime—and also cutting off access to wild buffalo hide. Faced with all this, and forced increasingly into a modern monetary system, many Maasai men unsentimentally sold their shields to tourists or collectors. Other shields dried and curled in the corners of huts until simply discarded. Any vague intentions to construct new shields were easily put aside for more pressing priorities, such as surviving increasingly more frequent and severe droughts.

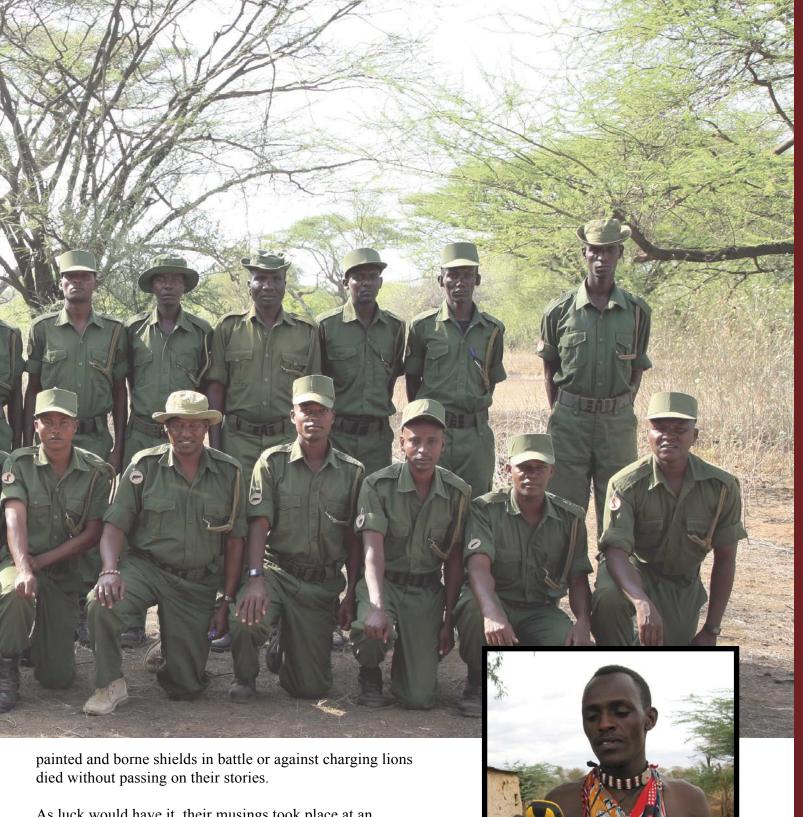




By 2003, when the photojournalist Elizabeth Gilbert published her stunningly photographed book *Broken Spears*, not a single one of her contemporary portraits of Maasai men included a shield. Even the gripping series of images capturing a traditional lion hunt carried out by a group of 14 warriors in Tanzania in the early 1990s reveals not a single shield, despite the extremely hazardous nature of their endeavor. Like an endangered species lost to the wild and found only in zoo exhibits, it seemed the Maasai shield had disappeared from the world except for those kept under glass and fluorescent lighting in museums, or sold now and then through high-end tribal art dealers. Worse yet,

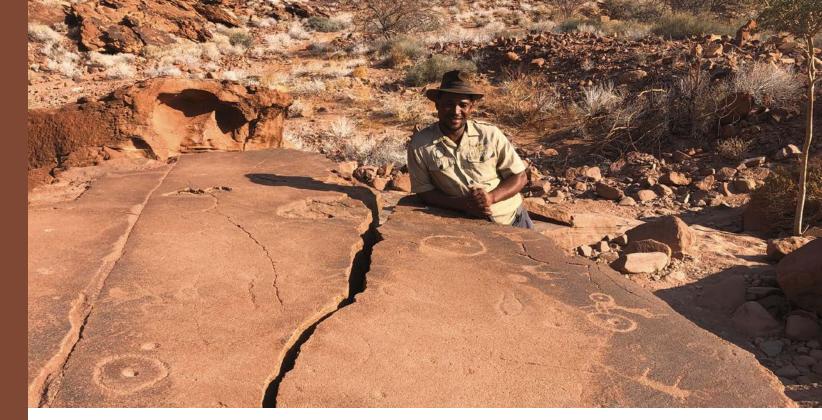
"Maasai shields" could still be purchased easily in any roadside tourist shop in Kenya or Tanzania—undersized, shoddily made, randomly painted shadow facsimiles of the real thing, the equivalent of a squeaking stuffed-toy representation of that endangered species bought from the zoo's gift shop.

And there things might have remained—and ended—but for the foresight of a few Maasai leaders in Kenya's South Rift Valley, who recognized what a tragedy it would be if knowledge of the Maasai shield faded away but for captions under grainy photographs and numbered inventory tags under exhibits; if those who had made and



As luck would have it, their musings took place at an early 2011 board meeting of the South Rift Association of Land Owners, a Maasai community organization that goes by the acronym SORALO; I was present along with Kenyan conservation biologist Dr. David Western. And as it happened, only weeks before Jonathan and I had been discussing the lack of evidence of Maasai shields in any of the communities we had visited over the last five years exploring East Africa, despite the continued abundance of spears. Dr. Western, who has been working with the Maasai

Maasai morani—game rangers—today use GPS and radios instead of spears and shields to protect their livestock and the wildlife.



# On the Historical and Future Importance

of the Field Arts

by Roseann Hanson

xplorers have been recording their discoveries ◀ and travel data in hand-written field notes—with ✓ or without sketches—for hundreds of years. perhaps many millennia. After observing many rock art sites, I've come to believe that early humans were using rock and pigment to record their travels and nature information for hunting and gathering—sharing their critical knowledge with others. Perhaps no other site that I've seen feels more like this than the large complex at the Neolithic Twyfelfontein in Namibia, which includes a large slab etched with what is believed to be a map showing water holes and game (photo, above). Surrounding this huge slab, arrayed throughout cliffs and boulders, is a massive collection of rock art depicting anatomically precise animals, many with matching footprints, and often in motion-suggesting poses such as an ostrich in the act of eating, its neck shown in three stages of lowering to the ground (see journal page, right). There are even penguins and sea lions, recorded by an intrepid Stone Age explorer and

shared for all. Twyfeltontein is in essence a 140-acre field guide, a natural and cultural history encyclopedia.

Humans progressed to scribing on paper after 105 CE when this Han Dynasty invention put the dissemination of knowledge—the fruits of exploration—into hyperdrive and thus into the hands of not just the wealthy few but eventually to everyman, particularly when mass production of paper and pencils flooded the world with their easy means of transferring knowledge.

And so we have the legacy of the field notes of science explorers such as Charles Darwin (1809–1882), Alexander von Humboldt (1769–1859), Edgar Mearns (1856-1916), and Constantine Samuel Rafinesque (1783-1840), which gives us an incalculable wealth of knowledge of the lands they explored and the human cultures and nature they observed. Darwin's sketch in his field notes of a branching tree of evolution with the scribble "I think . . ." never fails to fill me with awe.

From the journals of geographer-explorers such as Thomas Orde-Lees, a member of Shackelton's *Endurance* crew on the Imperial Trans-Antarctic Expedition in 1916, and Meriwether Lewis and William Clark from their Corps of Discovery (1804–1806), we discover new lands and learn first-hand the astonishing courage and skill needed to push the limits of human exploration.

Their meticulously detailed and illustrated field journals are priceless to humanity for their wealth of data, yes, but also as roadmaps of human learning through exploration. Our boundless curiosity coupled with our ability to record what

we see is one of the critical attributes that sets apart humans from other species.

# The Importance of Field Notes Today

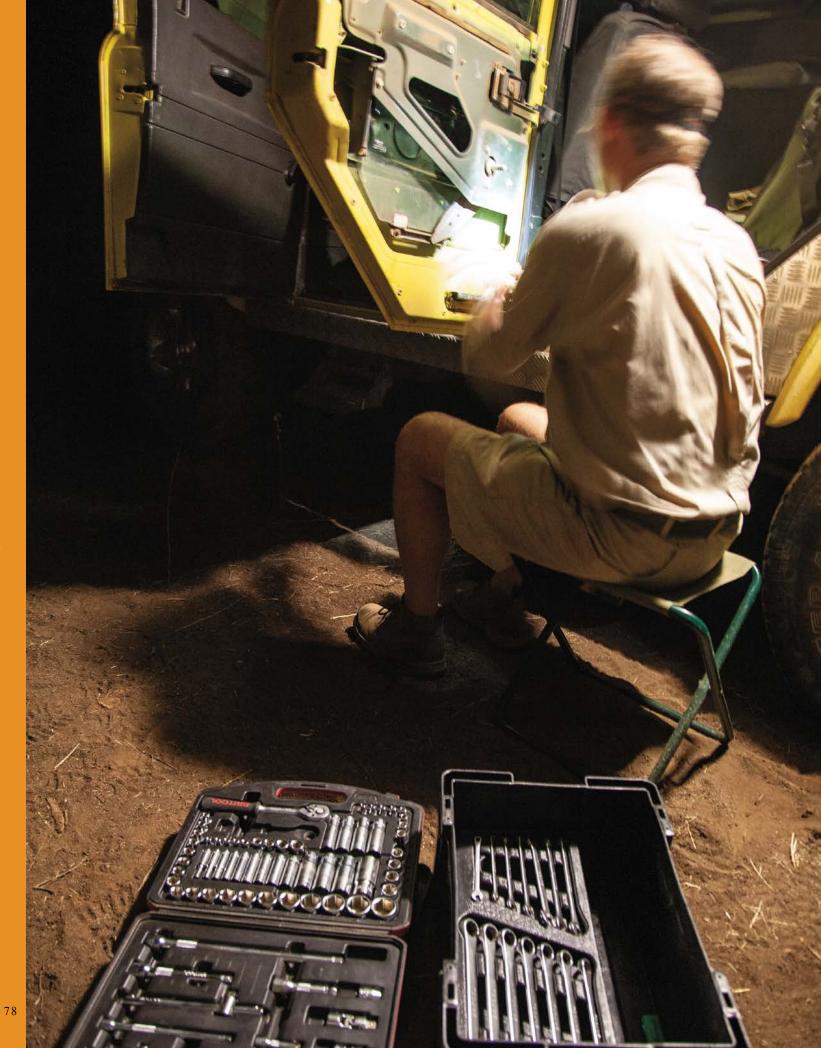
Field notes are still critical tools for scientists and explorers, and yet the practice has all but disappeared with the advent of computers and pocket devices with 48-megapixel cameras. You could say that I have been on a mission for the last several years to not only help save the tradition of venerable, classic field notes but to also spread the love

of exploring, observing, and recording nature to everyone—from children to grandparents.

I call the practice loosely the field arts, which can be defined as the ways we translate data (phenomena, behavior, physical attributes) that we observe on our explorations into symbols (words, pictures, numbers) on tactile media we can share and archive:

- Field arts employ primitive tools rather than modern tech: a pen or pencil, paper, a few pigments and water.
- Field arts use our brains in ways cameras cannot approach: to study something to draw it, one must see, not just look; one learns the very essence of what comprises the leaf or the flower, the deer or the house wren. One cannot draw something and not learn something important about it.





# **Assembling Mission-specific Tool Kits**

## Story and photos by Jonathan Hanson

any of us—at least those of a certain age—like to complain about the complexity of modern vehicles. We boast about remembering how to set the gap on a points distributor with a matchbook cover and adjust the timing by ear, or how to rebuild a mechanical fuel pump in the field, or how to replace a leaking water pump gasket with one cut from shirt cardboard—the list goes on.

The truth is that—despite their complexity—most modern vehicles are far more reliable than their progenitors. We don't even *have* distributors any more; spark and timing are managed by computer and never need adjusting. Intank fuel pumps last the life of the vehicle. Even spark plugs will likely outlast your relationship with the vehicle. In a way, cars and trucks have never been simpler, at least in terms of our need to perform regular adjustments and replace minor components.

Nevertheless. Things still do go wonky and even break, and while some components—ECUs, injection pumps, etc.—are not field serviceable, there are still plenty of issues that can and sometimes must be addressed in the field, from minor annoyances like a buzzing loose screw in the dash, to radiator and heater hoses, serpentine and timing belts—what I call "the soft bits"— up to major repairs that might involve removing and replacing suspension or brake components, wheel bearings, CV joints and birfields, head gaskets, and differentials. And the more "vintage" your vehicle, the more chances there will be for

For fixing anything from that loose screw to a blown differential, you need tools.

things to go wrong.

And from that simple and obvious statement, complexity blooms.

How many tools should you carry? Which ones? Do you need to carry a full set all the time? Is there any point in carrying tools if

you have zero mechanical ability? How good—i.e. expensive—do they have to be?

Over several decades I've cycled through more variations on tool kits than I can remember, as my mechanical competence and my inventory slowly increased. About 15 years ago I started writing articles on the subject, using trial-and-error experience as an amateur mechanic along with a whole bunch of input from pros. (One series of articles took the shape of kit #3, on page 80.) In the last decade several things have changed, notably regarding tool manufacturers. For example, Craftsman tools, originally highly respected as a mid-priced yet professional-level, U.S.-made brand owned by Sears, Roebuck, and Co. declined sharply in quality and suffered from offshore production. Now owned by Stanley Black and Decker, it's a shadow of its former self (although you can still find the U.S.-made stuff used). On the other



A broken-down truck and a storm on the way. It pays to have a good set of tools handy. LEFT: Gary Haynes does late-night work on a recalcitrant Land Rover door in Tanzania.

hand, a newcomer I first noticed at an Overland Expo, Tekton (pronounced "tektun"), has emerged as a powerhouse of rapid proliferation and high quality at reasonable prices.

Eventually, regarding the "How many tools should you carry" question, I arrived at three levels, from elementary to exhaustive:



### 1. THE COCKPIT "I CAN'T STAND THAT BLASTED RATTLE ANY LONGER!" KIT

A compact, basic assemblage that's always within arms reach—in the glove box, center console, or under a seat—suitable for tightening loose bits or addressing other minor issues. Possibly redundant if you have kit #2 and you drive a short-wheelbase 4x4 or a single-cab pickup, but in a large expedition vehicle with interior cabinetry and a comprehensive tool kit that might not be quick to access, it's nice to have something like this at hand. It includes tools anyone can utilize, regardless of mechanical competence.

### 2. THE "ALWAYS IN THE TRUCK" KIT

Probably adequate for addressing 80 percent of field issues, this kit is compact enough not to get in the way of everyday use of the vehicle. For many people this will be all the tool kit they need.

# 3. THE "I'VE BEEN ELECTED DESIGNATED MECHANIC ON A TRANS-AFRICA TREK COMPRISING SIX VEHICLES OF THREE DIFFERENT MAKES, AND I ALSO MIGHT HAVE TO REPAIR A VILLAGE GENERATOR OR WELL PUMP" KIT

This one took several years of experimentation and many changes in contents, as I wanted it to as close as possible render a mechanic completely self-sufficient for virtually any repair, while yet fitting into a single case—a rather arbitrarily selected Pelican 1550—for ease of logistics. The only items I exclude from consideration here, for obvious reasons, are model-specific special service tools, such as, for example, the 54mm hub socket used on many Land Cruisers. (Note that I am in no way qualified to assume the referenced mechanic position.)

Regarding those other questions. First, many people have said to me, "I have zero knowledge of mechanical stuff; carrying tools would be a waste of money." My reply is, first, if something goes wrong somewhere and your alternative to fixing it is a long, long walk out, you might be surprised at your ability to figure out how to replace, say, a broken serpentine belt. Or suppose someone with more mechanical knowledge than you stops and offers to help? The least you can do is to provide the tools for your good Samaritan to use. Besides, anyone can address a loose bolt in a center console.

What about quality, which generally (but not always) rises in lockstep with price? My mantra here has always been: If you've brought out the tools it means something has already gone wrong. Why would you risk compounding the problem by attempting to fix it with a cheap tool that might break and turn what could have been a successful repair into a genuine disaster?

Some years ago I read an article on the subject in an Australian 4x4 magazine, by a jolly bearded bloke recognized as an Outback Expert. His mantra was, "Your tools don't have to be good, just good enough." Perfectly true, but how does one determine that? I don't want to discover in the middle of a field repair that a tool I bought hoping it would be "good enough" turned out not to be.



\$29.95 on eBay. No. Please, just . . . no.

With that said, I'm not suggesting you need to chase down a Snap-on truck and max out your AmEx Platinum (which the rep could do effortlessly for you). The key is determining which tools are the really critical ones, and ensuring those are of unimpeachable quality. Then you can economize on the rest if necessary.

By far the most quality-dependent tool set within your kit is the ratchet and sockets—and particularly the larger, ½-inch set. (If you're not familiar with the



nomenclature, the  $\frac{1}{2}$ -inch designation refers to the diameter of the square post on which you snap sockets to remove or tighten nuts or bolts. The three common sizes for ratchets are  $\frac{1}{4}$ ,  $\frac{3}{8}$ , and  $\frac{1}{2}$  (photo, above).



This is not related to the size of the socket you attach to it, except that bigger ratchets can take larger sockets to handle larger nuts and bolts. The ½-inch ratchet and larger sockets are what you will need if something major goes wrong with the vehicle—and trust me: If your cheap 21mm socket splits removing a transmission bolt, you will *not* get that thing off with pliers. Sockets fail probably more often than all other automotive hand tools combined, and the ratchet itself is a complex mechanism, so if you splurge on one item in your kit, this is the one (photo, above, is the comprehensive and efficiently packaged ¼, ¾ and ½-inch ratchet/socket sets from Tekton).

Virtually all sockets are now made with Snap-on's patented Flank Drive tooth arrangement: The corners of the teeth are rounded rather than sharp, and designed to bear on the flat of the nut or bolt rather than the corner, significantly reducing the chance of rounding off a fastener, while concurrently making it easier to remove one that's already stripped. Sockets

# **Gin and Tonic**

A tale of the protozoan parasite that brought down Rome, the bark that kills it, and the drink that unleashed the British Empire

### by Roseann Hanson

rom Neolithic times to today, the parasite known as *Plasmodium falciparum* has killed hundreds of millions of people, perhaps a billion. In the 20th century alone, malaria claimed an estimated 150 to 300 million lives, compared to 100 million in the same period from wars. Citing the malaria epidemic of 79 AD, scholars speculate that it so devastated the fertile croplands around Rome that vast fields and scores of villages were abandoned for decades, a major contributor to the fall of the Roman

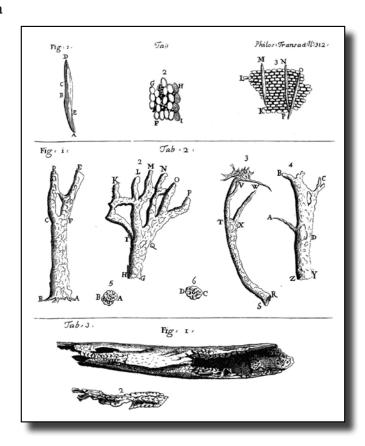
Empire. Widespread malaria in 17th and 18th centuries was the main thing (along with the shipboard nightmare of scurvy) holding back the expansion of the British Empire. Central and west Africa became known as "the White Man's Grave" due to the death rate of would-be colonists from malaria and yellow fever. No colonial power-wannabe could get a foothold because of this formidable microscopic foe. (See Bestiary, page 8.)

Not, that is, until a lucky turn of events brought to the attention of Europe's powers the existence of a powder from Peru that cured "fevers and agues." In 1671 English medical writer William Salmon shared in his *Synopsis Medicinae* that "the Peruvian bark of which the Jesuites powder is made, is an excellent thing against all sorts of Agues."

As you might guess, quinine is the compound found in the bark of a tree that grows in the highlands of Peru. According to legend, the Spanish Countess of Chinchon, wife of the Viceroy of Peru, suffered from fever and chills most likely to be malaria and was treated with powder from

the tree's bark in the 1600s. Supplied by the local priests via the indigenous people, it was known as "Jesuit's powder," "Cardinal's powder," or "Peruvian bark." Eventually it made its way back to Europe and in 1742 Linnaeus named the tree *Cinchona officinalis* after the countess, accidentally omitting the first "h" in her name.

Fast-forward 80 years: two French chemists had succeeded in isolating the alkaloid quinine from *Cinchona* bark and it then became the go-to treatment for intermittent fever. Scottish surgeon and epidemiologist George Cleghorn was the first Briton to verify scientifically that quinine indeed did kill



Anthony Van Leeuwenhoek, F. R. S. I. Microscopical observations on the bark of the chinchona tree. Phil. Trans. 1706 25 2446-2455; doi:10.1098/rstl.1706.0056



the malarial protozoan and so the race was on: British and Dutch botanical explorers combed the Andes for *Cinchona* in order to secure rootstock for plantations in India, Ceylon, and the Dutch East Indies.

Alas, the transplants produced low-yield quinine crops. Eventually, the Dutch government purchased *Cinchona officionalis* seed collected by Charles Ledger, an Englishman living in Peru, and was successful in grafting the high-yield *C. officinalis* onto local species of *Cinchona* in Java, producing a hardy and high-yield plant. It was given the name *Cinchona ledgeriana* and the Dutch

- 3 parts Fever-Tree Premium Tonic Water
- 1 part classic London Dry gin, such as Boodles\*
- Plenty of ice cubes (not crushed)
- · A fresh lime slice
- 1. Fill your glass to the top with ice cubes
- 2. Pour over a measure of gin (1/4) followed by the Fever-Tree Premium Tonic Water (3/4)
- 3. Add lime to finish, perhaps giving it a little squeeze before settling it into the drink
- 4. Toast to Winston Churchill, who is said to have declared: "Gin and tonic has saved more Englishmen's lives, and minds, than all the doctors in the Empire." \*Boodles was purportedly Winston's favorite gin, named after and served at his favorite London club.



# The Hudson's Bay Point Blanket

by Jonathan Hanson

ow many products are you aware of that have been offered in a 350th anniversary commemorative edition? I can only think of one.

In May, 1670, King Charles II granted a royal charter to "The Governor and Company of Adventurers of England, trading into Hudson's Bay"—later to be known simply as the Hudson's Bay Company. The charter gave the company exclusive trading rights to "Rupert's Land:" the entire 1.4 million-acre watershed of Hudson's Bay, encompassing over a third of modern Canada. This vast expanse of forest and rivers was completely unexplored by Europeans; it would be well over a century before its limits were known.

Over the next few decades, the company established a half dozen trading posts along the shores of Hudson's Bay. They were called factories

because the manager—the factor—did business from them. And business was so brisk that for some time there was little incentive for the British traders to push farther into the wilderness. The local woodland Cree First Nation people were already familiar with European trade goods, but until then theirs had come via a roundabout route from French territory far south. The new British factories cut out the middlemen of sometimes-hostile tribes, and the Cree flocked to take advantage of the more advantageous exchange rate.

What the British wanted were furs, especially beaver, which made the very finest weatherproof coats and hats. European and Russian beavers had formerly supplied this trade (Chaucer mentions beaver hats in *The Canterbury Tales* from the 14th century), but by 1600 the Eastern Hemisphere beaver population had been nearly wiped out, while the Cree had access to a seemingly inexhaustible supply of the finest, densest beaver pelts from their near-arctic tribal territory.

In return, ships from England arrived at the factories loaded with iron, brass, and copper pots and kettles, knives, hatchets, needles, beads, metal projectile points, and cloth.

And also, wool blankets.

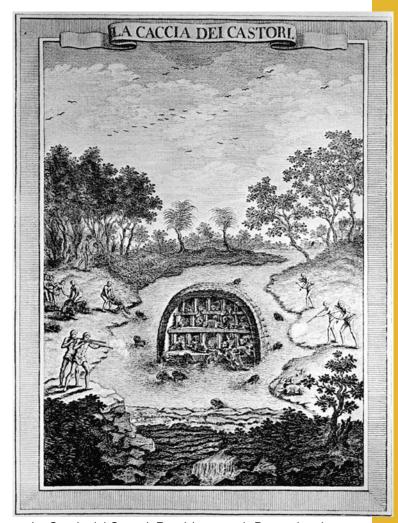
Ironically, the Hudson's Bay Company has never made a Hudson's Bay Blanket. The HBC was and is purely a trading company, and bought wholesale goods from outside suppliers to do its trading. For blankets it turned to the Oxfordshire market town of Witney, the weavers of which had been famous for their high-quality products for centuries already. Up until the 18th century it was strictly a cottage trade—individual weavers collected wool directly from sheep farmers, had it carded and spun by tradesmen, and then produced blankets on small looms. But as the industrial age dawned the process became more amenable to larger-scale production. For nearly a century the HBC had ordered blankets in small quantities, but by the time the company got serious and placed an order for 500 pairs of "point" blankets from the firm of Thomas Empson, in 1779, the looms in use were nine feet wide and operated by two men.

On these looms the blankets were not produced one at a time; rather in a roll of blanket material up to 150 feet in length. According to Harold Tichenor's neat little book *The Blanket—an Illustrated History of the Hudson's Bay Point Blanket*, the twill-woven material for a six-foot-wide blanket actually came off the loom nearly nine feet wide, after which it was scoured to remove added oils, soaked in water and fuller's earth (an absorbent), and then shrunk to final size, resulting in a dense, partially felted, extremely warm and durable fabric prized on both sides of the Atlantic.

On the long edge of each blanket, then and now, you'll see several short, indigo stripes, some about four inches long, others half that. These are the "points" of the point blanket. (The French actually introduced this system in the sixteenth century.) A long-standing myth claims that the points indicated the price of the blanket in beaver pelts. In fact, the points were designed—and positioned on the blanket—so a merchant could quickly determine the size of a folded blanket on a shelf. With that said, the size of a blanket obviously affected its price, so the points were a convenient indication of value; in terms of pelts, however, that price rose and fell with varying

market conditions. Through the years, point blankets have ranged all the way from a one-point, at just three feet by four, to a current eight-point blanket suitable for a king-sized bed at 108 by 100 inches.

The Cree who frequented the Hudson's Bay factories did not trade only for their own needs. They quickly realized the value of becoming middlemen themselves, and began carrying European trade goods farther and farther west, trading them to tribes such as the Blackfeet at suitably inflated prices, given the exertion of freighting goods hundreds of miles by canoe and portage. This extensive network further delayed plans for expansion by the HBC, but eventually the company began building trading posts farther and farther west, usually at the junctures of rivers.



La Cassia dei Castori. Rossi (engraver). Beaver hunting as depicted in an Italian engraving of 1760 published in Monaco. Source: Courtesy of the Hudson's Bay Company Archives, Archives of Manitoba (1987/363- B-20/93, N8170).



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"The real voyage of discovery consists not in seeking new landscapes, but in having new eyes."

- Marcel Proust

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