Translated extract from

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Warum die Menschen sesshaft wurden.
Das größte Rätsel unserer Geschichte
S. Fischer Verlag
Frankfurt am Main 2008
ISBN 978-3-10-062943-2

pp. 5-24

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Why Man Settled.
The Greatest Puzzle in Our History

Translated by Philip Schmitz

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Foreword: We Nomads

By nature we are nomads. Humans have been wandering hunters and gatherers from time immemorial. But approximately 10,000 years ago something remarkable happened. Agriculture was invented in Asia Minor, and an entirely new era began. Prehistory turned into history, cultural history. Everything that came before belongs to natural history. It was only through agriculture that mankind disassociated itself from nature, having been an integral part of it from the outset. Ever since, humans have produced an increasingly large amount of life's necessities through the labors of their own hands. Now it was humans who began to produce, and not only nature. Human societies restructured themselves, setting off in a new direction that quickly led from the first settlements to urban communities. Small, loosely affiliated tribes developed into ethnic groups and states. Substantial population growth previously would have posed a threat to the nomadic groups because the number of people had to balance with the supply of game. But now it offered advantages because hand in hand with the number of people, productivity also rises, and from this “ownership” emerged; people and ownership combined to form power. The new lifestyle proved far superior to the old one. It spawned imitators, spread, and achieved dominance. Nevertheless, Stone Age hunter-gatherer cultures continued to exist, increasingly pushed to the sidelines in the new historical era. Only vestiges of them survive in our present world. Just in time, before they became extinct, their way of life conveyed an approximate impression of the way humans lived during the long ages of prehistory. They consumed what nature produced. They hunted whatever there was to hunt. They used whatever there was to be used. They gathered tubers, berries, fruits, nuts and other plant food. They multiplied only to the degree their environment permitted. Overpopulation did not exist. We conclude from this today that people lived "in harmony with nature." For at least nine-tenths of the time that humans have existed as a biological species, hunting and gathering ensured our survival. Granted, it was

certainly not a paradisiacal existence, but it was apparently successful enough to last for many thousands of years. Suddenly, this other, entirely new way of life emerged. Why was living in settlements able to provide so much more vital security that it proved superior from the start? How is it that hunter-gatherer societies have survived into the present, not in the most favorable locations, but rather in the most inhospitable ones? What transpired during that era and initiated a new beginning?

Historians refer to these events as the "Neolithic Revolution." Revolutions have their reasons, although whether such reasons are good or bad is subject to widely differing opinions both before and after the revolution. In any case, revolutions do not occur *without* reasons. “Revolutionary change,” particularly of the kind that endures for some ten millennia and results in ways of life that didn't exist previously even in rudimentary form, must have had monumental reasons. This book focuses on investigating them. The title conveys its thrust: Why did man settle? At first, only a few groups of humans settled, and only in certain regions. Then their numbers grew finally encompassing almost all of humanity. This is where the course of our history began. Actually, it is our "second history," because the first, the natural history of Homo sapiens and the human species from which our genus emerged, had already preceded it by ages. We will have to hark back to this "first history" in order to understand the second. But will that enable us to solve mankind's greatest puzzle, namely, the origins of civilization?

Introduction

As the German member of the International Union for Conservation of Nature’s (IUCN) environmental commission, I received an opportunity to visit Kakadu National Park in northern Australia in October 1979. It is located east of the city of Darwin, and in the tropical/subtropical regions of the world it numbers among the wilderness areas most untouched by human hands. The sparse, twisted growth of eucalyptus forests extends almost forever, with age-old sandstone outcroppings in places. Rivers, large by Australian standards, have cut bizarre canyons into this primeval landscape. Picturesque scenery lines their banks, where bright green Pandanus trees (known by the unpicturesque name of “screw pines” contrast with the drab, red-brown rock and

the gray of the forests. Close to the riverbanks, they grow on stilt roots and with their generally stunted size look like a cross between a mangrove and a palm. White cockatoos fly about in flocks, screeching. Occasionally, a distinct white bird separates from the multitudes of cockatoos, which attract no particular interest from other birds. In the manner of a raptor it launches into an attack flight, thereby revealing itself as a white hawk (Accipiter novaehollandiae) that had mingled among the Corella cockatoos (Cacatua pastinator) and remained undetected in their swarms. The enemy attack coming from the cockatoo flock catches the small birds hunted by the hawk completely off guard. Where there are no white cockatoos, this hawk is seen in so-called “gray phase.” It does not attack the cockatoos. They would be too strong for it, as well as too dangerous with their powerful beaks.

Australia has many peculiarities, especially seen from our European perspective, which make this continent seem like a different world in many respects. In addition, there are discrepancies, because as new discoveries were made there were no appropriate names available for them. For example, several rivers in northern Australia bear the name "Alligator River," even though the region has no alligators. These American crocodilians are nearly harmless compared to the giant salt water crocodiles (Crocodylus porosus) that inhabit the rivers draining into the Arafura Sea. Large salt water crocodiles also pose a danger for humans.

As a result, we traveled upstream in roomy aluminum boats with strong outboard motors until the coastal region with its dangerous crocodiles lay far behind. We stopped for lunch on a sandbank under a large eucalyptus stand growing along the riverside. However, the trees offered almost no shade especially since the sun stood directly overhead. Their leaves hang down and allow the sun rays through without obstruction. With an air temperature of about 40 degrees Celsius and hardly a breath of air, a drowsy atmosphere pervaded the canyon. In spite of that, the expedition leader, director of the Australian National Park, asked whether anyone would like to venture into the bush along with an Aborigine who was employed as a park ranger. He would be able to show us the love nest of a bowerbird. Robert E. Ricklefs, a fellow ornithologist and ecologist, wanted to join me and not miss this opportunity. We followed the Aborigine up a steep slope that the river had cut into the plateau and

entered the forest. Walking at a peculiar sauntering pace that would not be too fast for us, he set off for the destination that was known only to him. After only a few minutes, the completely uniform eucalyptus brushwood had enveloped us. The height of the trees must have been only three to five meters. All of the trunks were grayish white, curved, and lacked any pronounced distinguishing features in thickness or manner of growth. Dried leaves covered the ground so that it was like walking on a carpet that produced the same hushed, almost soporific rustle with every step. Our impression was that we were proceeding in a fairly straight line. There were no visible clues to provide any kind of orientation. It was about noon. The shadows of the trees provided no indication of direction, and anyway they were barely discernible. Eager and on the lookout, but without taking our eyes off the ground, we followed the Aborigine. In this kind of terrain it's always good to watch where you step. We failed to keep track of the time, but since a good two hours had passed when we arrived back at camp, we must have covered a distance of roughly eight kilometers. All of a sudden, the Aborigine extended his arm and pointed ahead. And there it was, the "love bower." Twigs had been rammed into the ground. On top they intermeshed and closed, forming a smooth, clean avenue. Dozens of gray-white snail shells lay at both ends of the structure, like course gravel on the driveway in front of a building. The sun-bleached snail shells formed a striking contrast with the dull grays, browns, and pale greens of the forest and could easily be seen through the kruppelholz from meters away. (Fig. 1)

Fig.1: Bower of the Chlamydera nuchalis, decorated with snail shells. Kakadu National Park, northern Australia.

So this was where the great bowerbird (Chlamydera nuchalis) performed his courtship display. With his wings hanging down he would – if excited – display to the female the only spot of color in his gray, scale-like markings, namely, a lilac crest of feathers on the back of his head. Only during an intense courtship does the male display this area of color. Naturally, we would not be treated to the enjoyment of such a performance. For that, our approach had been far too fast and direct. We had no time to wait and hope that a female would actually appear and evoke a display in the bird that had constructed the bower. I photographed the extraordinary structure and

searched for the Great Bowerbird in my bird identification book to see what he looked like, but I refrained from removing one of the snail shells; he had no doubt put considerable effort into collecting them all. After a stay of only a few minutes we headed back through the monotonous brushwood. Only then did I ask myself how the Aborigine might have kept his bearings, finding a location like that with no path leading to it. I concentrated and tried to focus on recognizing trees or stones that would have supplied some indication of direction, but to no avail. Here in the forest there were none of the compass termite mounds so common outside in the flood plains. These are laterite red and stand two, three, or more meters high. They are so flattened on two sides that the narrow blade-like side points exactly in a North-South direction. Yet even compass termites aren't much help in determining a certain direction if you don't have a watch and the sun is directly overhead and casts no shadow.

As the Aborigine's bare feet glided over the leaf covering on the ground and skirted the crooked trees, only to take up the original direction again immediately afterwards, I began to find his ability to orient himself increasingly puzzling. Neither of us accompanying him had any doubt that he would return us with the same degree of certainty he had shown in locating the small area of ground with the bower, although it was reassuring to hear the voices of our party once again. "Yes, the Aborigines can do that. They don't need a compass," the director of the national park told us. It was something he took for granted. And perhaps it wasn't as special as I imagined. The Aborigines, conversely, probably marveled at everything we needed to move through the bush for only one short hour. The forest is their world, at least it was until a lifetime ago when Europeans penetrated and settled the last Australian wildernesses and exploited the land wherever there was anything worth taking, from their perspective.

Fig. 2: Rock formations jutting out of the landscape served the Aborigines not only as landmarks on their extended migrations but also as cult sites, as petroglyphs indicate. The Ice Age paintings in the Kalahari and the Sahara were created at comparable locations.

They had arrived with other skills than the Aborigines. They took a different view of the land and within only two centuries changed Australia so radically that it was transformed into an offshoot of Europe, a "Neo-Europe" (Crosby 1986). Pristine Australia survived only in a small number of very remote regions of the subcontinent. The European settlers pushed the original inhabitants, the Aborigines, to the sidelines, marginalizing them along with their lifestyle. The Aborigines had no means of opposing the abilities of the newcomers and were at a hopeless disadvantage. Their extinction was only a matter of time because "admitting" them to reservations closed off their future. As in various other regions, Darwin's "survival of the fittest" held sway. The Europeans were the fitter, superior ones, and not the Aborigines who had undergone ten thousands of years of selection through nature in Australia. They had adjusted to the wilderness. Now the wilderness was being cultivated and adapted to suit European concepts.

The Aborigines and Australia –
Cursory Thoughts

The process of Europeanization in Australia clearly illustrates two points. This continent, which had remained isolated from the vast majority of other continents for many millions of years, would indeed have permitted agriculture. But the Aborigines had not developed it. Why was that the case? What prevented them from at least cultivating some type of nutritious garden crops like the Papua, their neighbors and close relatives in New Guinea? This would have enabled them to store food and establish their nomadic lives on a more reliable footing. It would have been feasible, at least in Australia's tropical North and the wet Northeast, where precipitation falls at sufficiently regular intervals. In the Interior, rain falls too irregularly to adapt by cultivating crops. Yet Australia consists not only of the continent’s “barren heart” but also of broad peripheral areas that are sufficiently fertile, even for demanding Europeans. In principle, anyone who could observe and interpret nature in such fine detail as the Aborigines and who, like they, was able to develop the boomerang as a hunting weapon, can from the outset hardly be denied the ability to learn the secrets of agriculture and animal husbandry. Nature is not exactly generous in Australia. The dearth of huntable game and useful plants should have been reason enough to

lessen one’s dependency on the laborious and time-consuming hunt. The paucity of game is expressed in the throwing technique of the boomerang, which is well-suited for hurling at smaller kangaroos and several other Australian animals. If the throw missed, the weapon was not lost like the many arrows that were loosed but failed to strike their targets. A boomerang returns to the thrower if the person has mastered its special technique. But is this special quality of the boomerang enough to explain why Australian Aborigines did not develop agriculture or animal husbandry of any sort? Most certainly not. The problem becomes even greater when one considers that Australia was settled very early by humans. The ancestors of the Aborigines reached the island continent at least 40,000 years ago, probably even earlier. At the time, Europe was experiencing an Ice Age and was inhabited by Neanderthals. The Aborigines arrived in Australia at the forefront of the first major migration wave of our species of human beings who left Africa and migrated along the coasts of the Indian Ocean. At the time, sea levels were a good 100 m lower than today. As a result, the region between Southeast Asia and the Lesser Sunda Islands consisted of continuous dry land, and not the archipelago it is today. On the opposite side, New Guinea was connected with Australia. Thus, Australia and Southeast Asia were separated by only two or three narrow arms of the sea that stretched from the Pacific to the Indian Ocean. The Aborigines' ancestors must have crossed these on rafts; reaching Australia on dry land was never possible. The Aborigines therefore already brought this kind of knowledge along with them. They had mastered working in wood and stone. In Australia they created magnificent, naturalistic rock paintings (Fig. 3) similar to those found in Europe in the Late Ice Age caves of France and Spain. In spite of that, they had not yet tamed and domesticated any Australian animals. The Dingo, a descendant of Southeast Asian domestic dogs, became their sole domestic animal, but the dingo does not show a particularly strong attachment to humans. At the time, however, the Aborigines had already inhabited Australia for several ten thousands of years. They probably obtained the ancestors of the Dingo from people in Southeast Asia, because the Dingo is most closely related to dogs living in New Guinea. Dingo's were not native to Australia. These dogs reached the continent of the marsupials during a time when the sea levels were still low enough and the island was connected to Australia. The wolf (Canis lupus) forms the common ancestor of all

domestic dogs (Canis familiaris), with the domestication of the dog occurring in Eurasia toward the end of the last Ice Age, i.e., 10,000 to 12,000 years ago.

Fig. 3: Naturalistic rock painting of a turtle in Kakadu National Park, Northern Australia.

The ancestors of the Dingos could have reached the Aborigines just in time, during the period when Australia and New Guinea were still connected because of the low sea level; in other words, they came from Southeast Asia. Cultural exchanges were surely easier to conduct via the land route than by sailing with primitive rafts. Yet they appear to have remained rare because the Aborigines in Australia developed quite autonomously, as did the Papua on New Guinea. There appears to have been almost no contact with other populations on the Southeast Asian islands. Rising sea levels following the Ice Age made opportunities to interact considerably more difficult. New Guinea became an island and Australia an island continent. The Aborigines have lived in isolation ever since. No further knowledge about cultivating plants reached them during the last 10,000 years. Thus, in Australia the inhabitants' original way of life was preserved, which they had brought with them when they migrated from Africa to Asia a good 70,000 years ago. Only with the advent of the Europeans some 200 years ago did the Aborigines resume cultural contacts with other people. Did their close relatives, the Papua of New Guinea, discover gardening independently in the meantime? Or did the knowledge reach them from Southeast Asia just in time before the rising sea level turned their territory into an island? For the Papua, in contrast to the Australian Aborigines, had largely formed sedentary communities thousands of years ago. They planted garden crops surrounding their villages and developed an astonishing diversity of entirely independent languages. The Aborigines, however, remained hunter-gatherers. Their Stone Age culture continued essentially unchanged until it foundered after a head-on collision with the European lifestyle during our times. Bruce Chatwin has written a highly impressive description of the process. Aboriginal mythology is very closely tied to the land in which they lived and in which there had been no boundaries other than the Ocean surrounding the perimeter of the Australian continent. Nevertheless, they were not a primitive, marginal group of humans. In their way, they lived autonomous lives

comparable to the Prairie Indians of North America before the coming of the Europeans. American Indians are much more closely related to Europeans than the Aborigines are. Yet they had remained hunter-gatherers. During the days of the Prairie Indians, however, advanced agricultural civilizations already flourished along the southern tier of the North American continent, where they even built pyramids. Prior to the times of the Prairie Indians and further south, in Central and South America, maize and potatoes had been cultivated, currently two of the world's five most important crops. Today, the Indians' former lands, the North American prairies, number

Fig. 4: Petroglyphs made by Aborigines in the "x-ray" style, Kakadu National Park, Northern Australia.

among the world's most productive wheat farming regions. High-quality wheat also grows in Australia on land formerly belonging to the Aborigines. In other words, their territories, too, were in principle suited for agriculture. Hunter-gatherer cultures by no means persisted only in climatically extreme regions where agriculture was unfeasible or would not have provided sufficient yield using simple tools. But why was agriculture "invented" in only a handful of regions that were additionally far removed from each other? These were the thoughts running through my mind as I viewed Aboriginal "x-ray style" petroglyphs (Fig. 4). No, they certainly had no lack of intelligence, nor did all of the other "primitive peoples" who remained hunter-gatherers or roamed across the lands as nomadic shepherds, until the new strength of the agriculturalists relegated them to the inhospitable fringes of the earth. But then what was missing? What secret does the phrase "the invention of agriculture" conceal?