

For Early Man, It Wasn't Easier Being Green

by CHRISTOPHER JOYCE

August 23, 2009

text size **A A A**

Archaeologists who study early hunter-gatherer societies are discovering that even the simplest cultures altered their environments, whether they meant to or not.

For example, aboriginal people in Australia burned huge areas to change the landscape so they could hunt animals more easily. Perhaps the most famous example is the way mastodons and giant sloth and other ice-age animals were killed off by roving bands of hungry humans.

Torben Rick, an archaeologist at the Smithsonian Institution in Washington, says the notion of hunter-gatherers living in perfect harmony with their environment is going the way of the dodo. He says he's discovered that indigenous people even altered America's coastlines, thousands of years ago.

In a big, sunny laboratory at the Smithsonian, Rick pulls a palm-sized shell out of a plastic bag to show what he means.

"These are red abalones," he says. "This one is 6,500 years old." He says people living on the islands of California dumped these shells after eating the abalone and, unknowingly, became "dune-builders."

"So there might have been a five-foot dune there at one time right above the beach," Ricks says, "and a group of hunter-gatherers came in, lived on top of that dune, dumped their refuse there and left. And this creates a pavement there that anchors that sand."

Small dunes eventually became big ones, built up like a layer cake, with trash dividing each layer.

Intentional Changes

Then there were intentional changes that people wrought, like the clam gardens of the Pacific Northwest.

People built rock walls into the ocean shallows.

"What these rock walls do," says Rick, "is they create behind them an area of sandy substrate that's really good for clams. You can kind of think of them like a terraced garden."

Rick has also found layers of sea otter bones thousands of years old in California's Channel Islands. The layers *above* just had sea urchin remains. He thinks people killed the otters because they ate too many shellfish. Since otters also prey on sea urchins, the urchin population exploded. All those urchins ate up the kelp forests, creating what Rick calls an "urchin barren."

The take-home point to some extent is that humans do things to make their life easier.

- University of Nebraska anthropologist Raymond Hames

Changes Can Lead To Disaster

Rick says intentionally or not, hunter-gatherers altered the environment for a long, long time, long before agriculture emerged. University of Nebraska anthropologist Raymond Hames, who studies how people interact with their environment, says they had no choice.

"The take-home point to some extent is that humans do things to make their life easier," Hames says. "It was really hard to make a living back then, so you know, you took advantage of the knowledge and skills you had in order to make the environment useful to you."

Hames says sometimes in early human history, changing the environment led to disaster.

"The problem is that your successes lead to population growth, which then leads to more pressure on the system to produce more resources," he says. "Your successes can set you up for even greater failures."

Many archaeologists argue that societies like the Easter Islanders and the Mayans suffered after over-exploiting their forests and land.

Rick notes that human activity is now threatening places like the Everglades and the Chesapeake Bay. Scientists are trying to restore them, but to what condition? He says archaeology can provide snapshots of what these places looked like at different moments in time, and how much people had altered them.

Rick's research on coastal exploitation appears in [the journal Science](#).

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Recent First

Greg Stewart (gwmsfl) wrote:

I'm confused! Being born alters the environment, for Pete's sake, let alone eating. In this respect, I agree with nanfischer below. What I do not agree with, though, is that ealry vs.



modern humans is like apples and oranges. A human is a human, now or then. We have iPhones. That's about it!

What Atarimark refers to in the previous post is called the ecosystems carrying capacity, represented by K in a very specific formula. Every ecosystem has a calculable carrying capacity relevant to every species within it, including the human species.

What we need to focus on are long-term sustainable needs rather than short-term goals. As Atarimark points out, Nature will win. Period.

Tuesday, August 25, 2009 10:12:24 AM

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Mark Knight (Atarimark) wrote:

Think of the planet earth as an empty glass. Every day that passes with more humans being born then are dying, adds a drop of water into that glass. At some point in time, that glass becomes full and begins to over flows.

Nature has in its inherent self the tools to balance its existance. Its when that balanced is tipped (by say humans trying to master there domain) that natures system fail.

Human being are too smart for their own good.

Monday, August 24, 2009 6:21:34 PM

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Nick Mathews (lobf) wrote:

Alexander King:

Jared Diamond would disagree with you that humans weren't responsible for megafauna extinction in America and Australia. Consider this: why did these giant beasts survive countless droughts and natural disasters for millions of years, and then suddenly disappear as soon as humans arrived? (in geological terms)

There is evidence for their existence up until the moment humans arrive. How do you account for this?

Monday, August 24, 2009 1:57:13 PM

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nan fischer (nanfischer) wrote:

The human population 6500 years ago was more in-tune with the planet than the human population of today, so I would see 'our' activity back then as more like that of an animal. Animals are always 'altering' their environment by eating, building and surviving. I don't see throwing out abalone shells as altering the environment. I see it as a natural response to having had a meal, and as natural as an animal today digging for food, disturbing the soil and dispersing seeds and little critters. Each had a natural consequence, which is part of the ecological cycle.

The author compares today's humans with yesterday's humans, which, to me, are two different populations, or apples and oranges, to be cliché-ish.

Monday, August 24, 2009 8:25:59 AM

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Alexander King (Ememqut) wrote:

Amazing how much sloppy scholarship and twisted facts got into this report. All the archaeologists I respect scoff at the idea that humans were responsible for megafauna extinction in America. That theory is based on analogy from things known about the human impact on animal species on small islands, and it doesn't hold for a large continent. It also

doesn't explain at all why all the other small animals, bugs, and plants went extinct about that same time.

Anthropologist have known that hunters and gatherers and pastoralists have had a large impact on their environment for a long time. 30 years ago ethnographers began reporting how H&G people manage tropical forest diversity by cutting and planting trees and other plants, selective hunting and moving camps in ways that spread the impact of harvesting wild plants and animals.

The division between people and 'nature' and/or the 'environment' betrays a fundamental misconception of our role in the history of the planet. We are part of the environment, just like any other species, and of course our actions affect the environment.

Monday, August 24, 2009 4:49:23 AM

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Tom Snizek (Tamarack) wrote:

I should think that it is pretty obvious to anyone these days that humans alter the environment, that's what humans do...

However, I am surprised that "Science" (and NPR) would publish an article with blatant factual errors. For example, unless you consider people who were alive from 1600 to 1700 "early humans", you should not say that the Dodo was killed by early humans. The Dodo was discovered by Europeans around 1600 AD and went extinct before 1700 AD. I for one would not call that cause by "early humans"

Sunday, August 23, 2009 10:21:46 PM

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William Smith (blues_player) wrote:

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Sunday, August 23, 2009 8:24:48 PM

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RainyDay Magazine (RainyDayInterns) wrote:

We live, we alter, we adapt...this is the way for us for now. We have the ability to understand, but it does not necessarily mean we have the ability to control.

Sunday, August 23, 2009 7:52:44 PM

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Bruce Howard (toomnypl) wrote:

Hames says sometimes in early human history, changing the environment led to disaster. "The problem is that your successes lead to population growth, which then leads to more pressure on the system to produce more resources," he says. "Your successes can set you up for even greater failures."

That is Thomas Malthus's basic tenet, still standing, unrefuted: Unending growth leads to a maximum of suffering people. The agricultural green revolution of the 1970's increased crop yield, and our population increased. We now feed about 5 billion of the 6 billion on earth. Growing food from oil was clever; BUT we can see the end of our oil.

I was happy to hear Malthus's words rephrased; yet, sad not to hear your guest point out that the demand vs. supply/environment of island hunter/gatherers is still applicable for us today on island Earth.

Sunday, August 23, 2009 6:10:41 PM

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Miguel Gallegos (zenmonkman) wrote:

It's interesting to note that there are many more sides to the survival story than our humanistic POV. We can act in a good or bad way but in the end, Nature makes its own inscrutable vote. We need to remember, we are only guests in this house and our visitation rights may be revoked at anytime.

Sunday, August 23, 2009 3:47:29 PM

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