Men are hunters, women are gatherers. That was the assumption. A new study upends it.

By Nurith Aizenman

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For decades, scientists have believed that early humans had a division of labor: Men generally did the hunting and women did the gathering. And this view hasn't been limited to academics. It's often been used to make the case that men and women today should stick to the supposedly "natural" roles that early human society reveals.

Now a new study suggests the vision of early men as the exclusive hunters is simply wrong – and that evidence that early women were also hunting has been there all along.

Specifically, the new research upends one of the key strands of evidence that scientists have relied on to infer what life was probably like during the period that started roughly 200,000 years ago, when homo sapiens first emerged as a species.

Direct evidence is limited because that phase ended about 9,000 years ago, as people slowly began to develop agriculture and settlements. But all over the world, there have been groups, often in remote areas of low- and middle-income countries, who still live a hunting and foraging life. So scholars look to them as a sort of window into humanity's past. Anthropologists and other specialists have gained these groups' permission to live alongside them and have produced detailed observational reports.

Until now, the general sense among scientists has been that these accounts overwhelmingly pointed to men mainly hunting and women mainly gathering, with only occasional exceptions, says Robert Kelly, professor of anthropology at the University of Wyoming and the author of influential books and articles on hunter-gatherer societies.

But Kelly says that the views he and others held of the typical gender divisions around hunting were based on anecdotal impressions of the reports they'd been reading, combined with the field work many had engaged in personally. "No one," says Kelly, had done a systematic "tally" of what the observational reports said about women hunting.

Enter the researchers behind the new study: a team from University of Washington and Seattle Pacific University. "We decided to see what was actually out there" on hunting, says the lead researcher Cara Wall-Scheffler, a biological anthropologist.

A fresh look at old evidence

Wall-Scheffler and her collaborators combed through accounts from as far back as the 1800s through to present day. And rather than relying on summaries of those accounts – as scientists often do when analyzing large numbers of them – Wall-Scheffler notes "our goal was to go back to the original ethnographic reports of those populations and see what had actually been written about the hunting strategies."

Their findings — published in the journal PLOS One this week — is that in 79% of the societies for which there is data, women *were* hunting.

Moreover, says Wall-Scheffler, this wasn't just opportunistic killing of animals that the women happened upon. The vast majority of the time, she says, "the hunting was purposeful. Women had their own toolkit. They had favorite weapons. Grandmas were the best hunters of the village."

In other words, "the majority of cultures for whom hunting is important train their girls and their women to make their tools and go hunting," she says. Wall-Scheffler says she was expecting to find evidence of women hunting – but not to this extent. "That piece has just been really underappreciated," she says, "even though it's right there in literature."

The implications of these results are potentially enormous, says Kimberly Hamlin, a professor of history at Miami University in Oxford, Ohio who specializes in ways that evolutionary science has figured in the wider culture.

"I think that next to the myth that God made a woman from man's rib to be his helper, the myth that man is the hunter and woman is the gatherer is probably the second most enduring myth that naturalizes the inferiority of women," says Hamlin.

It has fueled the idea, she says, that "men are supposed to be violent, they're supposed to be aggressive – one of the core elements in the soup of toxic masculinity" used to excuse damaging male behaviors, including rape.

The popular narrative of man as the sole – or at least almost exclusive – hunter has also been used implicitly and even explicitly to argue for policies that prioritize men's role as the "natural breadwinner" – and that also limit them to that role by, for instance, denying them paternity leave, adds Hamlin.

By the same token, she maintains, "this idea that somehow women are naturally preordained to be caretakers and maternal figures, whether they like it or not," often underlies policies that effectively "force motherhood on women" – including policies that restrict access to abortion and contraception.

So the new study's findings are "thrilling," concludes Hamlin. "It's really going to encourage us to call into question a lot of these ideas about what men and women are supposedly naturally like."

For scientists, a shifting narrative about hunters

As to how consequential the study's findings are for science, scholars say they add to a body of evidence that has been building for years.

Kelly says that notwithstanding the endurance of stereotypes around early human hunting in popular culture, scientists had already moved to a more nuanced picture.

As far back as the mid-1960s, says Kelly, scientists were coalescing around evidence that most of the diet in hunter-gatherer societies has come from plant food gathered by women. "People were saying, 'We should call them 'gatherer-hunters' to emphasize that.' "

By the 1980s, adds Kelly, many more women had entered the field of anthropology. Compared to their male predecessors, these women scientists were often able to gain more access to women in foraging societies. The result was a slew of new descriptions of women's activities – including more accounts of women hunting.

So Kelly's initial reaction to Wall-Scheffler's study is that, while its organization and tabulation of the data is "genuinely new and useful," when it comes to the picture it paints of the hunting practices of women, "there wasn't anything that struck me as eye-opening. I sort of knew all of this."

Yet one finding did stick out to Kelly. He says that the current consensus view holds that even when women do *some* hunting, they engage in a very different form of hunting than the kind done by men.

"The general pattern is that men intentionally go out to hunt large game," says Kelly. "And women intentionally go out to gather plant food and also intentionally or opportunistically will hunt the smaller, more reliably-gathered game" – meaning animals like lizards and rabbits.

By contrast, the new study found that in a third of societies for which there is data, the women hunt *large* game. In other words, they do go after the kind of big mammals associated with the stereotype of male hunters.

"I would consider that something new," Kelly concedes, adding "I'd really like to go look at those ethnographies" that were the source.

Vivek Venkataraman of the University of Calgary is another anthropologist expressing doubts.

He notes that Wall-Scheffler and her colleagues had to limit themselves to societies for which there were explicit accounts of not just hunting practices, but precisely who was doing the hunting. The result is that the study is based on observations of 63 groups.

"But of course there are several hundred foraging societies," says Venkataraman. "We need to know what's going on there before we can draw any sweeping conclusions."

Key clues that were overlooked

Randy Haas disagrees with the critics of the study. An anthropologist at Wayne State University, Haas notes that the societies Wall-Scheffler's study analyzes are well distributed across the globe. Furthermore, says Haas, "more data is not always better. My sense is that [the evidence used in the study] is a well-structured, high quality sample that is actually more likely to yield a reliable result than a larger sample of lower quality observations."

What's more, Haas says, his own experience illustrates how the "near universal" view of men as the sole big-game-hunters may be warping researchers' ability to recognize data to the contrary. In addition to creating blind spots in the understanding of modern hunter-gatherer societies, Hass says it also appears to have led scientists to overlook key clues from the other main source of evidence on early humans: ancient burial sites and the human remains and artifacts found there.

In 2018 Haas was part of a team in Peru that found a 9,000-year-old person buried with an unusually large number of hunting tools. "We all just assumed this individual was a male," he recalls. "Everybody is sitting around, saying things like, 'Wow! This is amazing. He must have been a great hunter, a great warrior. Maybe he was a chief!' "

Haas didn't even think to question the person's gender until about a week later, when a colleague who specialized in analyzing bone structure arrived and delivered a bombshell assessment: The remains seemed to be female.

The team then used a technology newly available to the field. Scraping the enamel from the teeth found in the grave, they found proteins that confirmed it unequivocally: This apparent master hunter was female.

Stunned, Haas and his collaborators decided to review the records of similar finds across the Americas over the previous 70 years. In 27 gravesites of individuals found with hunting tools, they found 11 cases in which the person was female.

They ran a statistical analysis that finds that this ratio is associated with the probability that between 30-to-50% of individuals buried with hunting tools in ancient American gravesites are female. In other words, says Haas, "Large mammal hunting during this time in the Americas was a gender neutral activity, or at least nearly so."

Why did this take so long?

Why hadn't these findings commanded the world's attention sooner?

Haas says in one of the excavation records he and his collaborators re-analyzed – the 11,000-year-old remains of a female found in the 1970s with a pointy stone tip laid under her head – the scientists who had originally uncovered the grave had effectively ignored their own discovery.

Says Haas, "They had written something to the effect of, 'Had this [pointy stone] been associated with a male we would have assumed this to be a hunting weapon. But given its association with a female, its use as a kitchen tool would make more sense." Haas and his co-authors decided it should be reclassified as a hunting tool.

Yet what's even more notable, says Haas, is that in all but one other case, his team did not need to revise the conclusions of the original excavators: Those scientists had already determined that the individuals they'd found were females buried with hunting weapons. Just as with the findings in Wall-Scheffler's study, the archaeological evidence had been available the whole time – hiding in plain sight.

"Everybody had just taken this man-the-hunter hypothesis for granted. So no one really decided to evaluate it," says Haas. "It wasn't really a question on a lot of people's minds."

But Cara Wall-Scheffler had seen Haas's findings, and they were precisely what prompted her to launch her review of the modern-day accounts.

Wall-Scheffler says the episode offers a reminder of why it's so important to ensure the scientific community includes people of diverse backgrounds.

"The preconceptions that we all have when we look at a data set really shape the outcome," she says. "I'm really hoping that people take second looks at some of the data that they already have to see what new questions we can ask."

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