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How can evolutionary and biological anthropologists engage broader audiences?

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Abstract

Objectives: With our diverse training, theoretical and empirical toolkits, and rich data, evolutionary and biological anthropologists (EBAs) have much to contribute to research and policy decisions about climate change and other pressing social issues. However, we remain largely absent from these critical, ongoing efforts. Here, we draw on the literature and our own experiences to make recommendations for how EBAs can engage broader audiences, including the communities with whom we collaborate, a more diverse population of students, researchers in other disciplines and the development sector, policymakers, and the general public. These recommendations include: (1) playing to our strength in longitudinal, place-based research, (2) collaborating more broadly, (3) engaging in greater public communication of science, (4) aligning our work with open-science practices to the extent possible, and (5) increasing diversity of our field and teams through intentional action, outreach, training, and mentorship.

Conclusions: We EBAs need to put ourselves out there: research and engagement are complementary, not opposed to each other. With the resources and workable examples we provide here, we hope to spur more EBAs to action.

1 | INTRODUCTION

Anthropologists have the capacity to contribute to debates about matters of pressing social importance, from climate change to crises of morbidity and mortality, poverty, migration, parochialism and tolerance, and beyond.

James Holland Jones and Anne C Pisor authors contributed equally to this study.

Indeed, a large subdiscipline of practicing and applied anthropologists has devoted itself to such causes. However, there is a genre of opinion pieces extolling the virtues of anthropology for helping to solve societal and environmental problems, generally written by anthropologists who do not identify as applied practitioners (e.g., Barnes et al., 2013; Ingold, 2018; Stellmach et al., 2018). With few exceptions (e.g., Gibson & Lawson, 2015; Tucker & Rende Taylor, 2007), these pieces restrict themselves to promoting some form of qualitative socio-cultural anthropology that helps provide context or raise questions of what is, by implication, the "real" research of climate scientists, medical professionals, or development economists. We believe that this is an incomplete representation of anthropology and, more importantly, an impoverished vision of what anthropology and anthropologists can do.

Throughout this special issue of the *American Journal of Human Biology*, authors highlighted some contributions to the study of climate change and climate-change adaptation made by evolutionary and biological anthropologists (EBAs). What specifically distinguishes EBAs? We suggest four key qualities: (1) a commitment to studying the material basis of human experience, (2) asking questions motivated from the rich theory of modern evolutionary science, (3) both a long and wide view of human biology and behavior, and (4) serving as bridges between groups at very different positions on existing gradients of political and economic power. We have the tools, experience, and perspectives to understand the diverse range of human-environment interactions, past and present, and to unify scattered empirical observations about human biology and behavior from across disciplines, often under approaches like Indigenous studies or political economy (Gibson & Lawson, 2015; Jones, 2009; Smith, 2013). We can bring diversity to conversations about policy and human nature by injecting data from contemporary peoples whose perspectives are often absent (Bliege Bird & Bird, 2021; Broesch et al., 2020; Hazel et al., 2021; Kramer & Hackman, 2021; Pisor & Jones, 2021b; Ready & Collings, 2021), as well as past peoples whose experiences are instructive but often forgotten (Douglass & Rasolondrainy, 2021; Kohler & Rockman, 2020). Given that the story of human evolution is one of adaptation to changing climates (Behrensmeyer, 2006), EBAs are exceedingly well-positioned to contribute to debates about current and future adaptation to climate change (Pisor & Jones, 2021a)—and contribute we should, *now*, as climate change threatens to displace 2–4 billion people in the next 50 years (Xu et al., 2020).

However, EBAs remain almost entirely absent from these conversations. It turns out that this feeling of exclusion from debates about climate change is common among many social scientists, suggesting that the range of apparently acceptable social science is highly constrained (Castree et al., 2014). However, the absence of EBAs from important policy debates is not a simple story of exclusion. As Borgerhoff Mulder (2014) notes, the research of EBAs is the most likely of all anthropology to contribute to evidence-based policy, but EBAs must work much harder to reach broader audiences.

How can we, EBAs, engage broader audiences, including researchers from other disciplines, policymakers, the development sector, and the general public, so that we can put our knowledge to use in promoting workable solutions to problems of pressing social importance? How can we work toward solutions that actually involve local communities and honor what they already know? In this toolkit paper, written by EBAs for EBAs, we draw both on the literature and our collective experience engaging broader audiences to make concrete suggestions for how EBAs can disseminate our research and ideas. These recommendations are highlighted in Table 1. We highlight examples of what has worked for us—in our work on climate change, sustainability, epidemiology, and more—in the hopes of helping others avoid pitfalls, as we continue to learn and improve in our own outreach to broader audiences.

2 | WHAT IS ANTHROPOLOGY GOOD FOR?

To understand how we can engage broader audiences with our work, it is important to think about what it is we actually do. What does anthropology contribute to the domain of climate-change research and other pressing 21st-century issues? The list of contributions is overwhelming, so we focus here on three crucial ones. For examples of EBA's contributions to other pressing issues, see the edited volume *Applied Evolutionary Anthropology* (Gibson & Lawson, 2014) and a past special issue of *Human Nature* (Tucker & Rende Taylor, 2007). For further background on the relevant expertise of EBAs more generally, see Pisor and Jones (2021a).

2.1 | Contribution #1: A place-based understanding of climate-change adaptation

In one of the very few reviews of the role of anthropology in climate-change research and action, Barnes et al. (2013) recognize anthropology's strengths as: (1) drawing attention to the way both cultural values and political relations shape the production of knowledge

TABLE 1 A summary of our suggestions for engaging broader audiences

Category	Recommendations	Examples of how to implement
Working together	Work across disciplinary boundaries	1. Get involved with interdisciplinary institutes and grantors 2. Speak their language
	Work with development partners and policymakers	1. Speak their language 2. Collaborate with local stakeholders
	Work with local, Indigenous, and descendant communities	1. Make collaborative projects collaborative from their inception 2. Invest in collaboration with and training of local researchers
Science communication	Tell a story	1. Use narrative and personification to transport the reader 2. Keep the story simple: Everything should have a take-home message
	Share your papers	1. Write a nontechnical summary for every paper 2. Disseminate your summary through an outlet, like social media, your press office, or reporters
	Share your other ideas	1. Record talks or lectures for a popular audience 2. Provide easy access to tools for learning
Open science	Make science of EBA as open and transparent as possible	1. Publish open access 2. Share your code and, when possible, your data 3. Preregister data collection and analyses
Diversify our discipline	Take an active role in increasing diversity of EBA practitioners	1. Collaborate with diverse co-authors 2. Commit to mentoring diverse students and early-career researchers

surrounding climate change, (2) providing time-depth through archeological investigation, and (3) a "broad, holistic view of human, and natural systems" (541). However, they recommend that anthropologists should focus on science studies and the analysis of power dynamics within the study of climate change itself, rather than participant-observation with specific communities. Following Lahsen (2007), they suggest that anthropology risks marginalizing itself from broader scientific and policy debates if it contents itself with simply studying "vulnerable" populations.

We strenuously disagree that anthropology should focus on science studies, instead taking a position more in line with Crate's (2011) vision of climate ethnography, which is collaborative, multi-sited, and integrated with broader science. We believe that anthropology is most powerful when it engages with communities (whether they are considered "vulnerable" or not, a value-laden and highly politicized term), plays to its strength in longitudinal, place-based research, and works to document the "range of evidence-based, reasoned responses" that people adopt dynamically to adapt to a changing climate (Castree et al., 2014, p. 765) and other features of their physical, biotic, and social environments.

Indeed, perhaps one of the most relevant contributions EBAs can make to larger conversations about climate change is our understanding of the *adaptation* in "climate-change adaptation." Climate change has been a major selection pressure affecting human evolution over the last 5–7 million years (Pisor & Jones, 2021a)—likely contributing to the extinctions of other species of *Homo* (Raia et al., 2020)—and anthropologists have been studying adaptation for the last century (Jones et al., 2021). Our focus on the time depth of human adaptation through paleoanthropology and archaeology gives us insight into how humans have responded, and can respond in the future, to large environmental perturbations (Behrensmeyer, 2006; Kohler & Rockman, 2020; Xu et al., 2020). Our focus on the geographic and cultural breadth of adaptation gives us a powerful foundation from which to find solutions that work (Jones et al., 2021).

Just as importantly, many studies by EBAs provide substantive context for formulating policy—and we can do even more of this. "Providing context" is used as a vague talking point in defenses of the usefulness of anthropology (Cernea, 1996), but by actually measuring the quotidian features of people's lived experience, such as foraging effort, return rates, and economic transfers, or adiposity, growth rates, and metabolic expenditures, EBAs have a unique capacity to truly provide context (e.g., Borgerhoff Mulder, 2014).

Finally, we should not underestimate the attachment that many local stakeholders feel for archeological sites in their neighborhoods or regions. Large numbers of

coastal resources are threatened by sea-level rise (Anderson et al., 2017), and in many cases this is happening fast enough to be readily discernible. Research based in such places can engage publics that are not normally interested in climate change (Dawson et al., 2020), and many sites have additional stories to tell about long-term adaptation to changing climates that go beyond the current urgent threat to their existence.

2.2 | Contribution #2: The integration and analysis of many different data

Pursuing the model advocated by Crate (2011), EBAs have succeeded in studying human social life at greater scale by collaborating and by aggregating their data—quantitative and qualitative alike—on adaptations. Some key examples of this sort of collaboration and aggregation include work on the intergenerational transmission of wealth and inequality (Borgerhoff Mulder et al., 2009; Gurven et al., 2010; Shenk et al., 2010; Smith et al., 2010), the ontogeny of prosocial norms (House et al., 2013; 2020), and the acquisition of hunting skills across the lifespan (Koster et al., 2020). EBAs' success at collaborating and aggregating was also facilitated by our early adoption of statistical methodologies that allow for rigorous pooling of data (e.g., Jones et al., 2010; Sear, 2007; Sear & Mace, 2008). We have now emerged as leaders in this area (e.g., McElreath, 2020a, 2020b).

Data collection at many of our field sites spans recent and pronounced climate fluctuations. This is especially the case for archeological sites (Douglass & Cooper, 2020; Kohler & Rockman, 2020), but is also true of work with contemporary communities. By collecting detailed, longitudinal data focused on the effects of climate change—or the local relevance of its indirect effects (Kramer & Hackman, 2021; Ready & Collings, 2021)—we can tackle causal relationships and observe human responses in real time instead of relying on retrospective data collection or predictive modeling. As reflected in the increasing prevalence of mixed-effect models in our journals, EBAs are well-prepared to analyze these longitudinal data as we produce them.

2.3 | Contribution #3: Diverse training

As EBAs, we are often trained in several fields; not only in archaeology, ethnography, laboratory methods, or ethology, but also in biology and ecology, demography, geography, economics, or psychology, to name a few. Because we are steeped in both evolutionary theory and anthropology more broadly, we understand the importance of integrating levels of explanation. We have expertise in negotiating the complexities of explanation that move between culture, genetics, physiology, ecology, and social structure: "Each of these individual areas is studied by other disciplines, but no other field provides the grounding in all, along with the specific mandate to understand the scope of human diversity. The anthropologist stands in a unique position to serve as the fulcrum upon which the quality of an interdisciplinary research team balances" (Jones, 2009, p. 5). Indeed, EBAs can combine our theoretical training with our place-based focus to adjudicate among different understandings of adaptation (Thornton & Manasfi, 2012); to know how, where, and when a particular form of adaptation is being predicted, observed, or measured; and to produce work that can integrate across these different forms (Jones et al., 2021).

Our grounding in evolutionary theory especially prepares us to organize disparate observations from across disciplines. First, it provides us with tools for rigorously thinking about how innovations—both innovations related to climate change and innovations in general—originate and spread through populations (e.g., Derex & Boyd, 2016; Fogarty et al., 2015; Jones et al., 2021). Second, it helps us make a priori predictions about human-environment interactions (e.g., Binford, 2001; Hill, 1984; Kelly, 2013; Winterhalder & Kennett, 2006). Third, it helps us avoid applying the functionalist fallacy to adaptations, mistaking the current utility of an adaptation for its evolutionary origin (Ensminger, 1994; Pisor & Jones, 2021a). However, we must always be aware that due to anthropology's history of perpetuating racist ideas, often bolstered by misunderstandings of evolutionary theory among broader audiences, using evolutionary theory to integrate observations continues to raise hackles in some circles (Section 4). This is why clear communication, both across disciplinary boundaries (Section 3) and beyond academia (Section 4), and why ensuring the diversity of our field (Section 6) are so essential.

3 | WORKING TOGETHER

Anthropology has a rich understanding of the importance of forming and maintaining social networks. Despite an extensive anthropological literature on the importance of social networks to almost every aspect of human life, anthropologists themselves can do more to link local, Indigenous, and descendant (LID) communities to the climate community, including researchers in other disciplines, development partners, and policymakers. We propose that EBAs build these linkages to facilitate the translation and flow of information across diverse communities of knowledge holders (e.g., Crate, 2011).

3.1 | Strategies for working with members of other disciplines

There are many ways in which EBAs can develop connections with researchers in other disciplines. A key element of this is identifying interdisciplinary concepts and theories (e.g., niche construction, shifting baselines, resilience, etc.), knowing debates in cognate disciplines, and seeing opportunities where anthropological knowledge or perspectives might help (Broesch et al., 2020; Cernea, 1996; Crate, 2011). Below we highlight two means through which to begin building interdisciplinary connections, but EBAs can also prioritize attending interdisciplinary conferences, publishing in general-science journals, and developing collaborative projects with researchers in different fields.

3.1.1 | Recommendation #1: Get involved with interdisciplinary institutes and grantors

For some EBAs, institutional infrastructure, including but not limited to internal grant programs, interdisciplinary institutes, and shared appointments, facilitate interdisciplinary work and collaboration. For example, fellowship opportunities offered by interdisciplinary institutes (e.g., Center for Advanced Study in the Behavioral Sciences, Toulouse Institute for Advanced Study) are important venues for developing new collaborations with scientists in other fields and often result in future invitations to participate in interdisciplinary publications, give high-profile talks, and access funding sources for interdisciplinary projects. EBAs, though ideally positioned to participate in these kinds of fellowship programs, are often underrepresented in applicant pools. Another example is volunteering to review interdisciplinary grants, often by writing the grant or program officer directly (e.g., the US National Science Foundation [NSF], the Canadian Social Sciences and Humanities Research Council). This creates opportunities for EBAs' expertise to have a seat at the table when it comes to the directions of future research on climate change and provides insights into how to develop successful proposals for EBAs interested in applying to these funding programs themselves.

3.1.2 | Recommendation #2: Speak their language

To cut across disciplinary boundaries, EBAs must learn to speak in a language that their colleagues in other disciplines can understand. A first step in improving our communication with colleagues beyond anthropology is recognizing the barriers to communication. For EBAs working with archeological data, for example, an effort must be made to clearly address issues of equifinality, data quality, and the resolution of archeological data. To put it a different way, how do we know what we say we know and "are we measuring what we think we are measuring" (Wolverton et al., 2016, p. 9)? To this point, Kramer and Hackman (2021) address how scale and resolution shape the inferences we can make from data derived from archeological versus contemporary contexts. EBAs also must take another look at the terminology we use, as often these terms are understood differently in different fields (e.g., "adaptation"; Jones et al., 2021) and even within anthropology (e.g., "site"; Davis, in press), creating more confusion and barriers to interdisciplinary translation; we must be prepared to explain our use of these terms and find common-ground definitions that aid in communication.

3.2 | Strategies for working with development partners and policymakers

Many of the pointers for working with scholars from other disciplines, above, apply to network-building with development partners (e.g., nongovernmental organizations, nonprofits, governmental organizations implementing policy) and policymakers.

3.2.1 | Recommendation #1: Speak their language

Familiarity with the relevant frameworks and language of partners and policymakers will help EBAs communicate what we bring to the table. For partners and policymakers, data are often a means to an end, not the goal of a project (Nolan, 2002); EBAs can use scientific communication skills (Section 4) to convey why our existing data are relevant to the development of project goals. Once we have successfully communicated our approach and relevant ideas to a partner or policymaker, we may then consider collaborating to address pressing issues and meet the goals of both parties (which, for an EBA, are likely to include doing basic science). However, collaborating with partners and policymakers raises ethical issues, as discussed at length in the anthropology of development literatures. We address responsible collaboration with LID communities below; for primers on the relevant frameworks and language of partners and policymakers, and on how to work with them, see

Borgerhoff Mulder and Coppolillo (2005) and Nolan (2002; Chapter 10) respectively.

3.2.2 | Recommendation #2: Collaborate with local stakeholders

Important contacts and networks for influencing policy are often made in the field. Teachers and nurses in local communities frequently go on to be administrators or curriculum developers; local officials move up the ladder. Engaging with these professionals, sharing ideas, and seeking their feedback builds mutual respect that can last a lifetime (see the nonprofit Olanakwe Community Fund for an example of this). Similarly, collaborating with scientists and educators at local universities and ministries can help build trust, facilitate knowledge transfer, and help promote increased engagement. Where possible, anthropologists conducting fieldwork should build these networks. We can improve the potential for local impacts when we communicate and actively collaborate with partners and policymakers beyond the basic formalities of acquiring local research permission.

3.3 | Strategies for working with LID communities

LID communities should be included in the development and planning of all phases of research to facilitate the integration of LID knowledge, improve the quality and rigor of the science, and ensure more equitable and concrete outcomes of research (Broesch et al., 2020; Douglass et al., 2019). Many communities even require such collaboration before their local review boards will approve research. The inclusion of LID communities is particularly critical when engaging in work that has significant implications for LID livelihoods, such as climate-related research. Extending one's network to develop more ties to these different groups involves careful and intentional work—and usually learning the local language, if you have not already. Unfortunately, there is virtually no professional training for anthropologists on how to build these kinds of multi-scalar networks. In fact, some aspects of academic anthropology de-incentivize network building, particularly when it comes to the work involved in building meaningful ties with LID communities, which often requires returning to communities to discuss results and plan ways forward (Broesch et al., 2020). From our experience, the following two strategies can help researchers begin the process of building these networks.

3.3.1 | Recommendation #1: Make projects collaborative from their inception

Collaborative projects are more than just consultation and nominal community engagement, for example, holding a few meetings and reporting on the results of your work. Truly collaborative projects entail different stakeholders working in complementary ways that reinforce and build on each other, rather than simply joining multiple projects under the same title. A genuinely collaborative project that builds substantive engagement with the community is collaborative from its inception, by designing research questions that are of interest to both parties, and integrating across different realms of knowledge in a way that mirrors local ways of knowing.

Once you have established relationships with the community, there is no one-size-fits all approach to building a collaboration with community members (Broesch et al., 2020). In some cases, collaborations may be formed by community members reaching out to ask for particular work to be done, such as to document knowledge and practice to inform negotiations with conservation and wildlife agencies (e.g., Hunn et al., 2003). In others, community members who are also academic researchers have forged co-funded collaborations (Smithwick et al., 2019). Researchers working with communities with little experience or knowledge of scientific approaches and methodologies can nonetheless build collaborative projects by identifying common interests and using culturally appropriate methods.

For example, when Bliege Bird and Bird were first invited to visit Martu communities in Western Australia (e.g., Bliege Bird & Bird, 2021), elders expressed interest in their focus on hunting and gathering, stressing how the lack of knowledge about fire and its links to hunting and the health of both country and people was the source of conflict with local pastoralists and tourists. It was also clear that employing people as research assistants perpetuated colonial structures of inequality by forcing both researchers and Martu into "boss" and "worker" roles. Martu emphasized (through storytelling) that research methods should involve learning through shared experience and not just taking information from others (or telling the stories of others without earning the right to do so); by learning through shared experience, researchers would not only have a deeper understanding of the ecological principles behind the use of fire, they would be able to take that "right way" knowledge and teach a generally misinformed public the paramount importance of maintaining traditional fire regimes. Community members collaborated as equals by defining how they would collaborate: in structuring the general

research question, contributing testable hypotheses through sharing knowledge, and acting as teachers and mentors, taking researchers on hunts and sharing opportunities for them to gain experience. Researchers, in turn, earned the right to tell the story of fire and hunting through their commitment to doing it the Martu way.

3.3.2 | Recommendation #2: Invest in collaboration with and training of local researchers

Finally, collaborate with researchers at in-country universities and organizations, and collaborate with and develop training opportunities for research assistants, students, and other members of collaborating communities. When possible, EBAs should build collaborations with researchers in the countries where they conduct fieldwork, giving individuals from low- and middle-income countries "equal opportunity to lead rather than simply participate" in research (Urassa et al., in press, p. 6)—for example, to contribute to the design of a project rather than just help EBAs obtain permits (Douglass et al., 2019). Assuming that there are not local researchers with expertise relevant to our work is not only paternalistic (Urassa et al., in press), but puts EBAs at risk of pursuing research questions that do not reflect the existing literature and data (Douglass et al., 2019). It may take more time or research funds to build these connections (Douglass et al., 2019) but these efforts can go a long way to supporting in-country research infrastructure and equitable academic involvement (Urassa et al., in press) Beyond collaborating with researchers from same-country universities and organizations, EBAs should also prioritize facilitating access to higher education for members of collaborating LID communities. Providing support for students in navigating the challenges of post-secondary education can be especially valuable and provide tremendous returns to quite modest investment (Douglass et al., 2019); see the nonprofit One Pencil Project for an example of this (www.onepencilproject.org).

4 | SCIENCE COMMUNICATION

It is clear from the remarkable commercial success of trade books, popular articles, television series, and documentaries on topics central to EBA that there is an appetite among the general public to understand our species' evolution, our connections to the environment, and how our past shapes our lives today. Yet when one examines the authors producing these pieces for broad audiences, EBAs are conspicuously absent. For example, the current best-selling book on human evolution was written by a historian (Harari, 2015), the landmark popular books on human-environment interaction through deep time were written by a trained biochemist (Diamond, 2005, 2011), and the latest bestseller on human origins and race was written by a geneticist with training in physics and zoology (Reich, 2019). EBAs have critiqued these and other popular pieces of science communication but have offered little to replace them—although one of us is having a go (Pontzer, 2021), with possible others to follow. Rather than criticizing from the sidelines and ceding this broad public space to writers in other disciplines, EBAs need to take the initiative as producers and communicators of public science.

EBAs need to recognize that we frequently face challenges to integration with broader academic audiences not faced by practitioners of other disciplines. This is a result both of our discipline's racist history and because of out-dated and misinformed perceptions about what EBA actually entails. We need to be aware of the fact that many critics from cognate social sciences, including from within anthropology, have little understanding of human biology, or of how human behavior is studied from an evolutionary perspective, beyond that broadcast by popular books and other forms of public communication. A call to integrate EBA into broader research agendas is not simply another of the "thinly disguised attacks" on humanistic cultural anthropology or an effort at reductionism (Segal & Yanagisako, 2005, p. 11). It is, rather, exactly what we suggest: an integration of the useful knowledge we hold on the human condition, history, diversity, and adaptation into key debates about our collective fate.

The broader participation of EBAs in the important scientific policy debates of our time—like adaptation to climate change—requires our taking ownership of and responsibility for our message. This, in turn, requires a degree of public engagement. To accomplish this, we must (1) acknowledge how we are perceived by our colleagues and then work to recapture the terms of the debate, and (2) commit to a degree of public engagement. One way to work toward this is by crafting compelling narratives that communicate our knowledge.

4.1 | Strategies for storytelling in science

EBAs looking to improve outreach should carefully attend to the narratives of their work. Telling a good story is an excellent way to be understood (Alda, 2017; Bik et al., 2015; Savage & Yeh, 2019). Stories get under the skin, creating a physiological response, through activation of the HPA axis and potentially other

mechanisms, that increases the experience of the salience of a story (Barraza & Zak, 2009). Stories that engage us in this way are entertaining, informative, and memorable. However, we may not always have the right to tell those stories: researchers need to be sensitive to how and whether people want their stories told (see Section 3.3 for an example).

4.1.1 | Recommendation #1: Use narrative and personification to transport the reader

Krzywinski and Cairo (2013) and Dahlstrom (2014) argue that narratives are inherently persuasive and suggest that they offer scientists "tactics for persuading otherwise resistant audiences" (Dahlstrom, 2014, p. 13614). Why are narratives particularly useful? First, people and policymakers are often overwhelmed and must use heuristics to filter information (Cairney & Kwiatkowski, 2017). Narratives provide frameworks allowing policymakers to filter information in a manner that works in favor of the research.

Second, narrative typically offers personification (Glaser et al., 2009), a powerful mechanism for humanizing scientists. There is a body of research indicating that the general population views scientists as morally suspect (e.g., Rutjens & Heine, 2016). The public respects scientists but feels ambivalent about their trustworthiness (Fiske & Dupree, 2014). When readers can relate to the protagonist being personified, there is an opportunity for greater humanization of the scientific process and greatly improved understanding (Shedlosky-Shoemaker et al., 2014). This can be achieved through creating a story with a fictional character (Glaser et al., 2009) or can involve personifying *yourself* or one of your participants when communicating about your work. (See Shostak's *Nisa* (2000) for a classic example.) Field anthropologists understand the importance of building narrative and generating rapport with participants and communities because it is an essential tool for obtaining reliable ethnographic data. We should encourage this practice throughout the life of a study so that narrative and connection are built into dissemination as well. Talk about your experience conducting the work and the process of discovery; it makes you more accessible as a person and as a scholar. There are numerous possible outlets that enable and encourage this type of storytelling, including online resources like Sapiens (www.sapiens.org).

Third, a compelling story must capture and hold the reader's attention (Zak, 2015). Anthropologists have interesting stories: many EBAs work on topics of direct relevance to people's lived experience (e.g., finding food, making a living, forming political alliances, caring for children). We should excel at this and, at times, we have. Two recent examples illustrate the potential broad appeal of EBA studies when framed the right way: media coverage emphasizing that the Tsimane' of Bolivia have "the healthiest hearts in the world" (e.g., Gallagher, 2017) and that pregnant women "are basically endurance athletes" (e.g., Sparks, 2019). We should also attend to the techniques journalists use to popularize our work and, when they characterize our work correctly, emulate them (e.g., *An Epidemic of Absence* by Moises Velasquez-Manoff).

4.1.2 | Recommendation #2: Keep the story simple: Everything should have a take-home message

Effective scientific communicators have to develop a voice that is less concerned with nuance and detail and is instead more accessible for general audiences: simpler stories that are accurate but digestible. There are useful guides (e.g., Blum et al., 2006) and workshops (e.g., The OpEd Project, www.theopedproject.org) for translating research in this manner. For practitioners of a discipline that often emphasizes nuance, keeping stories simple can be difficult, but as the sociologist Kieran Healy (2017) notes in not so many words, nuance is not useful for theory and often inhibits scientific communication.

Storytelling involves professional presentation too. If you want people to listen to you, give a good talk. A big part of this is ditching boring bullet-listed powerpoints. Work on your presentation, your personal style, and bring aesthetic sensibilities to bear on your public persona. Start with your classes: if you are an academic, you have plenty of chances to practice! Consider Toastmasters International (http://www.toastmasters.org/) if you want pointers on public speaking or delivering a digestible message. Many universities also have centers dedicated to improving teaching and learning. Have a lecture video-recorded and then go over it with a teaching professional. We can guarantee that it will be one of the most excruciating experiences of your (professional) life, but it is likely to pay tremendous dividends for your public presentation of ideas.

4.2 | Strategies for sharing your papers

Having your work reach a broader audience requires some effort. There are a few small tasks that can greatly increase the reach of your work.

4.2.1 | Recommendation #1: Write a nontechnical summary for every paper

How does one write a nontechnical summary? Consistent with the storytelling tips above, keep it short, keep it simple. Even though you know it is complicated, nontechnical summaries are not the place to dwell on unnecessary complexity. Focus on a single, important theme: emphasize some aspect of the work that is surprising because surprise grabs people's attention (Boyer & Ramble, 2001).

An example from some of our own work is illustrative here. Consider the riddle of what happens to a (nearly) universally fatal infectious disease after it has killed off all the hosts in a local population. How is such a disease maintained when all the hosts apparently die? Salkeld et al. (2010) combined extensive mathematical analysis and computer simulation with field data on prairie dog ecology to test a series of competing hypotheses about how plague persists and why it occasionally wipes out whole prairie dog towns. On face value, this does not sound promising as a media hit, but the Stanford press officer hit upon the fact that carnivory by grasshopper mice (*Onychomys leucogaster*) plays a key role in the maintenance of plague in prairie-dog communities. Who had ever heard of *carnivorous mice*? Of course, many scientists have, but apparently not the general public. Suggesting that mouse carnivory is actually central to the amplification of plague outbreaks in prairie dog towns (they liked the "plague" and "towns" bits too) clearly played a major role in the popularity of this work (including interviews on NPR, Colorado Public Radio, and stories in multiple national and international publications). Surprise pays.

4.2.2 | Recommendation #2: Disseminate your summary through an outlet

Avenue 1: Social media. No matter how "niche" your paper, you should post a summary on social media every time something comes out. Promoting a paper on social media substantially increases its impact. A paper's Altmetric Attention Score (AAS), a measure of media engagement, correlates with how often a paper is cited (Finch et al., 2017; Lamb, 2020; Lamb et al., 2018); the main contributor to AAS is usually Twitter mentions. Researchers can promote their work by (1) having a Twitter account, (2) using it to tweet about publications, and (3) "tagging" funding bodies who supported the work, professional societies, and relevant institutions. Cheplygina et al. (2020) provide an excellent guide to getting started with science communication on Twitter. A key lesson that can be very difficult for many academics starting with social media is that you need to actually use the platform. This not only gets you in the habit of posting material, but it builds a following and provides a community from which to base your communication.

Avenue 2: Your press office or out-of-institution science writers. Not every paper will warrant a press release: press officers use their best judgment on what will garner public interest. However, there is no cost to reaching out to your press office and/or science writers every single time. Press officers often understand what will capture a broader audience. In the case of the plague paper we discussed above (Salkeld et al., 2010), an experienced journalist picked up on the mouse carnivory and emphasized it in the Stanford press release. In another recent, highly technical paper (Price & Jones, 2020), a press officer picked up on a discussion in the paper of camels and goats. The extent of the press and the paper's AAS were much higher than one might predict from the highly technical nature of the paper's content. Working with the science writers, and following their intuition of what will be generally interesting, clearly works.

There are four strategies we have found to be particularly useful for working with press officers or science writers: (1) Make sure they know about your work. Practice your science communication by introducing yourself (or, if you already know the office, your latest projects) with a short, accessible blurb. (2) Send your nontechnical summary to the press officer each time a paper comes out—they will let you know whether or not the paper is of sufficient public interest. However, it is the responsibility of the researcher to write the best nontechnical summary that *demonstrates* the potential angle for public interest (the principle of show, do not tell applies here). The easier you can make the press officer's job, the more likely they are to work with you (and in your favor). (3) If you know science writers outside your institution, send them a nontechnical summary. If you do not know them, reach out and introduce yourself with that accessible blurb, especially if you have a paper that you think is likely to be high-impact. Become known as that person who can give nontechnical summaries in general. If you can do it for your own work, you can likely do it for others' work as well. (4) When you know that you are going to be contacted by a reporter, predict questions and write down the most important things you want to say. Even if you do not refer to your notes, they will focus your mind. (5) Recognize the mutualism of your relationship. Simply by being easy to contact, open, and responsive with interesting perspectives, the researcher makes journalists' work easier—and remember, nearly all journalists are working under a deadline. Journalists will come back to researchers who have these characteristics,

and the more they feature you, the more the public will know about your work.

Note that, as with everything, there are inherent trade-offs associated with making your work more "policy relevant" (Sarkki et al., 2013). Every single line in news pieces needs to be reviewed for how it might be taken out of context or misinterpreted (with sometimes unfriendly intent) in ways that might work against the interest of communities with whom you collaborate. This is particularly important in light of our discussion of nuance above. It is critical to be aware of such risks for LID communities and to consult with them over your summaries, press releases, and coverage in the popular press. Do not be timid about asking press officers and reporters if you can approve the final version of their piece, for example. However, it is important to note that some of the risks to LID communities are mitigated when a researcher's networks are built to include these communities, as described in Section 3.3, such that LID communities know how you will be describing them, and the research on which you collaborated, in advance.

4.3 | Strategies for sharing your other ideas

4.3.1 | Recommendation #1: Record talks or lectures for a popular audience

The Internet provides opportunities that can reach huge audiences as well as do some good. In conjunction with his textbook on Bayesian statistical methods (McElreath, 2020a, 2020b), evolutionary anthropologist Richard McElreath (2019) recorded a series of lectures that he posted to YouTube. At the time of this writing, these lectures have been viewed more than a hundred thousand times. Similarly, the neuroscientist/primatologist Robert Sapolsky (2019) has recorded all of his lectures for his Stanford class, Human Behavioral Biology. These videos have garnered hundreds of thousands of views. Obviously, it helps that Sapolsky is an important public intellectual and popular author, but these things feed off of each other: becoming a public intellectual involves taking one's ideas public. Evolutionary anthropologist Katie Hinde (2017) has a TED talk with more than 100 000 views. These are *much* larger audiences than nearly any other imaginable form of outreach or public communication could achieve. Videos of lectures for things that people find useful, interesting, or both (!) are an obvious area for expansion. We need to tell our stories because our stories are interesting.

4.3.2 | Recommendation #2: Provide easy access to tools for learning

However, there are other opportunities for providing people with high-quality educational material, even if they do not have direct access to universities. People are interested in the material that anthropologists, particularly EBAs, teach. Providing access to course or workshop notes or syllabi via the Internet is a simple way to share our knowledge with broader audiences and to counteract the misinformation about evolutionary science purveyed by writers outside of our discipline. For example, to support the workshops on social network analysis that they teach at the annual American Association of Physical Anthropologists (AAPA) meeting, Jones et al. (2018) have posted the workshop notes. Similarly, Jones (2020) has made all his notes for his course on Life History Theory publicly available. That said, we believe that more intentional creation of content could do a great deal to elevate our collective recognition, both in scholarly communities and the broader public. This is something McElreath (2020a, 2020b) has done: complementary to his YouTube lectures, he provides all his slides, notes, and code on an open web page.

4.4 | How to maintain credibility as both a scientist and a scientific communicator

There is much to be said for being a public communicator of science. Some scholars hold chairs specifically dedicated to public communication of science (e.g., Alice Roberts), while others make the transition later in their careers as part of their academic life cycle (e.g., Robert Sapolsky, Jared Diamond). For most researchers, remaining active scientists is probably important to being an effective science communicator. Indeed, the great Harvard evolutionary biologist Lewontin (2008) argues that remaining a practicing scientist is essential for one's credibility as a public intellectual and critic of science. Bik et al. (2015) provide an important piece of advice, which is to stop treating research and outreach as separate activities, but rather to see them as complementary aspects of the same process.

If you find yourself assuming a reputation as a scientist who knows things, is a good communicator, and is available to the press, you are likely to be asked to comment on subject matter outside your specific expertise. For most, it is probably a good idea to stick to what you know. If you start speaking to the public and venture outside what you know, you can quickly lose credibility. Of course, there is a public-communications strategy in which scientists actively seek out provocative positions

by publicly commenting on topics outside their professional expertise. Writers associated with the so-called "Intellectual Dark Web"—a loose confederation of self-proclaimed philosophers who often champion justifications of social inequality based on innate properties of the individual (Brooks, 2020)–are prime examples of this approach. We suspect that this is not a path that holds much interest for most EBAs.

5 | OPEN SCIENCE CAN WORK FOR ANTHROPOLOGY TOO, BUT IT IS COMPLICATED

Open science is an important movement (Royal Society, 2012). Its potential benefits include increased citation and impact, increased trust in both scientific results and process, greater community engagement, and even greater likelihood of publication in the first place (Allen & Mehler, 2019). However, the nature of anthropological research presents a number of logistical and ethical challenges for the standard recommendations for achieving open science.

Whether or not an anthropologist can ethically share data, there remain many open-science practices that can help them increase engagement and impact. These include publishing in OA outlets and facilitating replication, including (1) the replication of analyses by using freely-available analysis tools, sharing de-identified or simulated data, and preregistering analyses, and (2) the conceptual replication of studies by preregistering data collection and sharing metadata.

5.1 | Recommendation #1: Publish open-access when possible

Publishing in open-access (OA) journals greatly increases citations, conditional on the overall quality of the journal (Eysenbach, 2006; Li et al., 2018; McKiernan et al., 2016). For example, choosing the OA option at the prestigious general-science journal, *Proceedings of the National Academy of Sciences*, increases the odds of being cited by a factor of two within 6 months and a factor of three within a year (Eysenbach, 2006). The small budgets of grants to anthropologists may make paying article processing charges (APCs) for open-access articles seem impractical; however, grantors and universities are increasingly changing the incentive structure by requiring researchers to make their articles publicly accessible (e.g., within 12 months for the NSF). This provides leverage for anthropologists to approach department chairs, deans, and heads of research centers for support to pay APCs.

That said, the APC system still places OA publishing out of reach of many scholars, particularly those in the Global South (Smith et al., 2020). If the cost of an APC is infeasible, consider publishing a preprint instead, if permitted by the journal (a journal's author guidelines often state its preprint policy explicitly). As an added bonus, at least in biology, preprints increase the AAS score and citations of the published article that follows by 49 and 36%, respectively (Fu & Hughey, 2019); in short, even if you do eventually publish the paper in an OA format, publishing a preprint still increases the impact of your work. BioRxiv (www.biorxiv.org), Open Science Framework (www.osf.io), and PsyArXiv (www.psyarxiv.org) offer preprint platforms likely to fit the needs of most EBAs.

5.2 | Recommendation #2: Share your code and, when possible, your data

Strict replication is often difficult in field anthropology since local context matters for outcomes and, for both ethical and practical reasons, we are not likely to have different groups of investigators re-visiting communities to recreate previous research. That said, even an armchair researcher can replicate the results of a study if they have access to the code used for analyses and either the de-identified dataset or simulated data. It is easier for researchers in all contexts—including researchers working at lesser-resourced universities and colleges or in development partners working with LID communities—to replicate results if the analytic tools used to conduct analyses are freely available, like R, Julia, and MySQL.

Open data increase citations (Piwowar et al., 2007; Piwowar & Vision, 2013). However, open data access can be fraught for LID communities (Broesch et al., 2020). Communities have agreements with particular researchers that have been built on trust; there is no such relationship established with potential future users. In many cases, communities do not want open access (OA) to data produced through their collaborations. This is especially true for communities with long histories of being exploited by researchers (e.g., Native Americans, Indigenous Australians, First Nations, Inuit and Métis in Canada). It is also important to recognize local traditions surrounding ownership of data, ideas, and knowledge. In these circumstances, it is inconsistent with the goals of decolonizing anthropology to assume that an open approach to data-sharing is positive or equitable for all concerned. As with other issues of cooperative science, data-sharing arrangements must be agreed upon in collaboration with participating communities. If an EBA cannot ethically share their data, they can simulate a data

set much like the original; this can be used by readers to replicate analyses (Shepherd et al., 2017). See coding2share (2019) for examples of how to simulate a data set.

Preregistering analyses also aid readers in replication, as they can use the preregistration to understand why analyses were performed the way they were. Further, preregistering analyses limits the temptations to engage in what is colloquially called "fishing expeditions" or "p-hacking"—conducting different permutations of analyses until results uphold predictions or seem exciting (Nosek et al., 2018). Even if you did not preregister your data collection (see below), you can still preregister your analyses before running your code. The Open Science Framework provides an easy-to-use platform for preregistration, including templates and how-tos.

5.3 | Recommendation #3: Preregister data collection and analyses

Instead of strict replication, anthropology lends itself to conceptual replication—results may be qualitatively similar across sites, or across slightly modified methodological approaches, even if not quantitatively the same (Pisor et al., 2020). To help other researchers who wish to engage in conceptual replication, EBAs can preregister their data collection and, at the time of publication, publicly share metadata from their study. Preregistering data collection may seem impossibly constraining for field anthropologists, as even our best predictions for how interviews, focal follows, bio-specimen collection, or archeological surveys will work on the ground can be highly inaccurate. However, updating one's preregistration on platforms like the Open Science Framework can be as simple as starting a new registration under the same project; an EBA can update their preregistration to reflect the *reality* of data collection. At the time of publication, detailing how data were collected—not only in the main text and supplement of a manuscript, but also in a metadata file made available to readers—will further aid in conceptual replication, permitting researchers to use the method at other sites. Metadata can be easily shared on the Open Science Framework or GitHub (www.github.com).

6 | DIVERSIFY EBA

EBAs need to work *actively* to diversify our science. Unfortunately, EBA remains one of the least diverse academic disciplines: for example, 87% of members of the AAPA identified as white in a 2014 survey (Antón et al., 2018), compared to 60.1% of the population of the US who identified as non-Hispanic white in 2015–2019 (US Census Bureau, 2020). There is a profound irony that the composition of the science of human diversity is itself so homogenous. Antón et al. (2018) have recently discussed institutional and historical barriers to the recruitment and retention of minority scholars in EBA in the US, including low representation of the discipline in minority-serving institutions and the role of racist science in the history of the field. These factors are compounded by anthropology's rugged-individualist model of scholarship and, by extension, mentorship. In contrast, most other areas of science, especially where the science is organized around a physical laboratory, have strong models of professional mentorship. This is particularly important for early-career Black, Indigenous, and People of Color (BIPOC) faculty.

6.1 | Recommendation #1: Collaborate with diverse co-authors

Diversity makes us smarter. Hong and Page (2004) famously found that simulated teams with diverse abilities solve problems better than teams formed exclusively of top-performers. A diversity of experiences, abilities, and perspectives will out-perform uniformity, even if the uniformity is high-level. Moving out of simulated worlds, diversity also has measurable effects on the quality and impact of scientific research (Page et al., 2019). Adams (2013) shows that international collaboration increases the quality of science. Freeman and Huang (2015) find that ethnically-homogenous groups of authors publish in less-prestigious journals and are cited less frequently than expected by chance, controlling for obvious confounding variables like total number of authors. AlShebli et al. (2018) take this further, demonstrating that author diversity is, in fact, the best predictor of a paper's impact. This scientometric finding makes sense in terms of the filling of structural holes in scientific networks (e.g., Burt, 1992): network diversity increases the reach of one author (or publication) to many other nodes. This result has special relevance for anthropologists since, as we have argued in Section 3, we are natural bridgers between various groups of scientific perspectives and stakeholders.

6.2 | Recommendation #2: Commit to mentoring diverse students and early-career researchers

Mentorship also increases diversity by attracting researchers to EBA and supporting them such that they

wish to stay. Having a mentor increases junior researchers' satisfaction with their time allocation and self-efficacy (Feldman et al., 2010). Positive mentoring also predicts future academic success and is the best predictor of degree attainment (Pfund et al., 2016). Mentorship of undergraduate researchers, particularly from underrepresented minorities, increases the likelihood that they will pursue graduate study (Hathaway et al., 2002). In a large empirical study across the biological sciences, Liénard et al. (2018) found that postdoctoral advisors are actually more instrumental in the success of scientists than are doctoral advisors and that future researchers were more likely to succeed if their postdoctoral training was complementary to their doctoral studies. This suggests that integration is key. Importantly, Liénard et al. find that, in general, network measures associated with particular researchers were better predictors of success than attributes of their publications per se (see also Clauset et al., 2015). This suggests that equity of representation—and the improved quality of science that follows from diverse scientific teams—requires intentional effort at recruiting, training, and retaining diverse groups.

Training opportunities for students and early-career scholars show promise in helping to diversify our field; here, we highlight just a few. The Human Biology Association, European Human Behavior and Evolution Association, International Society for Evolution, Medicine, and Public Health, Cultural Evolution Society, and AAPA offer opportunities for early-career scholars, including round-tables and training workshops, that build skill sets and foster networking. Indeed, the mission of the Increasing Diversity in Evolutionary Anthropological Sciences (IDEAS) AAPA subcommittee is to encourage diversity among EBAs (Antón et al., 2018). There are several long-standing training programs supported by the NSF that provide an excellent model for EBA. The cultural anthropology methods program (CAMP) currently organized by Amber Wutich, Russell Bernard, and colleagues has now trained hundreds of students through the years. Likewise, Research Experiences for Undergraduates (REUs), offered as supplementary funding by the NSF, are a particularly powerful tool for promoting diversity, including by providing bridges for under-represented groups who may have less high-school preparation in science (Estrada et al., 2016; Sto. Domingo et al., 2019; Tsui, 2007).

7 | CONCLUSIONS

Because of the scientific approach and materialist orientation of our research, EBAs have enormous potential for contributing to key scientific and policy debates of our time (Borgerhoff Mulder, 2014; Gibson & Lawson, 2015). However, EBAs in general are not deeply engaged in applied research, and especially not in the vital problem of human adaptation to a rapidly-changing global climate. To complement our special issue on anthropology and climate change, we have written this paper to provide some guidance on how EBAs can become more engaged in pressing social issues more generally.

An important first step for engagement is understanding what it is we do well and how that may fill gaps in current expertise outside of our discipline. While some critics have suggested that anthropological investigation is undertaken at the wrong scale for the global problem of climate change (Barnes et al., 2013), we suggest that the intensive, longitudinal, place-based research that typically characterizes the work of EBAs is exactly the strength we bring to the table. A fundamental aspect of this research is our capacity for forming collaborations with the people, local and regional authorities, and institutions that comprise our field research sites. We do this, but we need to do even more of it. In an essay on the future of scientific anthropology, Jones (2009) mused that scientific anthropologists could serve as key brokers between different stakeholders and different disciplines, providing the necessary leadership in an era of increasingly interdisciplinary investigation. As many cultural anthropologists have shifted to a more humanistic frame for their research, this ability (and responsibility) now falls squarely on the shoulders of EBAs.

However, there are substantial challenges. The message of EBA research has been distorted, not only by popular communication of evolutionary science that is highly nonrepresentative of our actual research, but also by a lack of familiarity with the principles of evolution and human biology among social scientists. As four-field anthropological education continues to fade into the past, this lack of familiarity can be particularly acute among our own departmental colleagues. This academic and popular landscape makes it incumbent upon EBAs to take ownership of the stories of our research, reach broader audiences, and advocate for the utility of our work. Our stories are inherently interesting and the lessons drawn from our research are potentially far-reaching.

In this spirit, we have suggested that EBAs work to get our research out. Our recommendations are summarized in Table 1, but we highlight the most central here:

Providing comprehensible and digestible summaries of our research is an essential step in broader communication (Tucker,). Taking the lessons of storytelling—for example, the importance of humanization, personification, and narrative structure—to heart greatly aids

scientific communication. A presence on social media is a low-cost approach to increasing the visibility of research.

As anthropologists, we understand the central importance of social relations to the human condition. It should come as no surprise then that investing in personal relationships with our institutions' public relations professionals and fostering ties with science writers can yield dividends for the visibility and reach of our scientific work.

This is, in fact, a quite general point: much of the work that we do as a part of our jobs can be thought of as investment. While serving on a review panel can seem like extra work, service on interdisciplinary panels for funding agencies (or even within universities) can provide exposure for anthropologists' ideas to program officers and colleagues from other (perhaps more prestigious or at least better-funded) disciplines.

Open-science practices improve the quality and trustworthiness of research. Anthropologists face particular challenges when it comes to some aspects of open science. In particular, the all-important relationship of trust that EBAs establish with collaborating communities can make OA to data ethically infeasible. However, there are still many open-science practices that are available to EBAs. Key among these are publishing OA papers (or at least posting preprints), using free software, posting code and metadata used for analyses, and preregistering research protocols and analyses. Given the likelihood that we are collaborating with communities and researchers in low-resource contexts, making our research tools and findings OA seems particularly important for keeping up our end of the collaborative bargain. Translating papers to the language spoken by the communities with whom we collaborate helps too.

Finally, a consciousness of the importance of diversity for innovation, problem-solving, and scientific impact is a mindset we need to actively cultivate. In addition to the moral benefits of having our institutions be more representative of the populations they serve, there is a clear instrumental benefit. Diverse teams out-perform homogeneous teams (Page et al., 2019). While our collaborations with communities put us in a strong position for having diverse teams, the diversity of researchers within the academic EBA community lags badly (Antón et al., 2018). There are several steps that EBAs can take to improve the diversity of their fields. Not surprisingly, these start with taking an active interest in increasing diversity. Strong mentorship and active participation in research experiences for diverse groups (e.g., summer bridge institutes) are proven routes to increasing diversity in science. Anthropology has a mixed history in terms of active scientific mentorship because of the individual orientation of much of anthropology. Given the inherent interdisciplinarity of much EBA research, EBAs should have a major advantage in creating research groups with a strong commitment to mentorship and training. Furthermore, providing training materials (e.g., through YouTube, on a research web site, or in conjunction with a professional meeting) can provide access to cutting-edge methodologies that might otherwise not be available to students from less well-resourced educational institutions.

We firmly believe that EBAs can make important contributions to debates about climate-change adaptation and other important societal problems. Our longitudinal, place-based research on the material conditions and lived experience of actual people provides more than simply the "context" or "nuance" that is typically seen as the anthropologist's contribution to global debates. However, in order to realize this impact, EBAs need to take a more active role in sharing their stories, shaping their narratives, and creating diverse teams to achieve maximal impact. We hope that we have contributed to this goal by expanding on previously-started conversations (e.g., Gibson & Lawson, 2015; Tucker,) through this review.

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CONFLICT OF INTEREST

The authors declare no conflict of interest.

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REFERENCES

Adams, J. (2013). The fourth age of research. *Nature*, *497*(7451), 557–560. https://doi.org/10.1038/497557a

Alda, A. (2017). *If I understood you, would I have this look on my face?: My adventures in the art and science of relating and communicating*. Random House.

Allen, C., & Mehler, D. M. A. (2019). Open science challenges, benefits and tips in early career and beyond. *PLOS Biology*, *17*(5), e3000246. https://doi.org/10.1371/journal.pbio.3000246)

AlShebli, B. K., Rahwan, T., & Woon, W. L. (2018). The preeminence of ethnic diversity in scientific collaboration. *Nature Communications*, *9*(1), 5163. https://doi.org/10.1038/s41467-018-07634-8)

Anderson, D. G., Bissett, T. G., Yerka, S. J., Wells, J. J., Kansa, E. C., Kansa, S. W., Myers, K. N., DeMuth, R. C., & White, D. A. (2017). Sea-level rise and archaeological site destruction: An example from the southeastern United States using DINAA (digital index of north American archaeology). *PLoS One*, *12*(11), 1–25. https://doi.org/10.1371/journal.pone.0188142

Antón, S. C., Malhi, R. S., & Fuentes, A. (2018). Race and diversity in U.S. Biological Anthropology: A decade of AAPA initiatives. *American Journal of Physical Anthropology.*, *165*(S65), 158–180. https://doi.org/10.1002/ajpa.23382

Barnes, J., Dove, M., Lahsen, M., Mathews, A., McElwee, P., McIntosh, R., Moore, F., O'Reilly, J., Orlove, B., Puri, R., Weiss, H., & Yager, K. (2013). Contribution of anthropology to the study of climate change. *Nature Climate Change*, *3*(6), 541–544. https://doi.org/10.1038/nclimate1775

Barraza, J. A., & Zak, P. J. (2009). Empathy toward strangers triggers oxytocin release and subsequent generosity. *Annals of the New York Academy of Sciences*, *1167*(1), 182–189. https://doi.org/10.1111/j.1749-6632.2009.04504.x

Bik, H. M., Dove, A. D. M., Goldstein, M. C., Helm, R. R., MacPherson, R., Martini, K., Warneke, A., & McClain, C. (2015). Ten simple rules for effective online outreach. *PLOS Computational Biology*, *11*(4), e1003906. https://doi.org/10.1371/journal.pcbi.1003906)

Behrensmeyer, A. K. (2006). ATMOSPHERE: Climate Change and Human Evolution. *Science*, *311*,(5760), 476–478. http://dx.doi.org/10.1126/science.1116051.

Bliege Bird, R., Bird, D. W. (2021). Climate, landscape diversity, and food sovereignty in arid Australia: The firestick farming hypothesis. *American Journal of Human Biology*, *33*(4), e23527. http://dx.doi.org/10.1002/ajhb.23527.

Binford, L. R. (2001). *Constructing Frames of Reference: An Analytical Method for Archaeological Theory Building Using Ethnographic and Environmental Data Sets*, Berkeley and Los Angeles: University of California Press.

Blum, D., Knudson, M., & Henig, R. M. (2006). *A field guide for science writers*. Oxford University Press.

Borgerhoff Mulder, M. (2014). Preface. In M. A. Gibson & D. W. Lawson (Eds.), *Applied evolutionary anthropology: darwinian approaches to contemporary world issues* (pp. v–vii). Springer New York.

Borgerhoff Mulder, M., Bowles, S., Hertz, T., Bell, A., Beise, J., Clark, G., Fazzio, I., Gurven, M., Hill, K., Hooper, P. L., Irons, W., Kaplan, H., Leonetti, D., Low, B., Marlowe, F., McElreath, R., Naidu, S., Nolin, D., Piraino, P., ... Wiessner, P. (2009). Intergenerational wealth transmission and the dynamics of inequality in small-scale societies. *Science*, *326*(5953), 682–688. https://doi.org/10.1126/science.1178336)

Borgerhoff Mulder, M., & Coppolillo, P. (2005). *Conservation*. Princeton University Press.

Boyer, P., & Ramble, C. (2001). Cognitive templates for religious concepts: Cross-cultural evidence for recall of counter-intuitive representations. *Cognitive Science*, *25*(4), 535–564. https://doi.org/10.1207/s15516709cog2504_2

Broesch, T., Crittenden, A. N., Beheim, B., Blackwell, A. D., Bunce, J., Colleran, H., Hagel, K., Kline, M., McElreath, R., Nelson, R. G., Pisor, A. C., Prall, S., Pretelli, I., Purzycki, B., Quinn, E. A., Ross, C., Scelza, B., Starkweather, K., Stieglitz, J., & Borgerhoff Mulder, M. (2020). Navigating cross-cultural research: Methodological and ethical considerations. *Proceedings of the Royal Society B: Biological Sciences*, *287*, 20201245. https://doi.org/10.1098/rspb.2020.1245)

Brooks, M. (2020). *Against the web: A cosmopolitan answer to the new right*. Zero Books.

Burt, R. S. (1992). *Structural holes: The social structure of competition*. Harvard University Press.

Cairney, P., & Kwiatkowski, R. (2017). How to communicate effectively with policymakers: Combine insights from psychology and policy studies. *Palgrave Communications*, *3*(1), 37. https://doi.org/10.1057/s41599-017-0046-8)

Castree, N., Adams, W. M., Barry, J., Brockington, D., Buscher, B., Corbera, E., Demeritt, D., Duffy, R., Felt, U., Neves, K., Newell, P., Pellizzoni, L., Rigby, K., Robbins, P., Robin, L., Rose, D. B., Ross, A., Schlosberg, D., Sorlin, S., ... Wynne, B. (2014). Changing the intellectual climate. *Nature Climate Change*, *4*(9), 763–768. https://doi.org/10.1038/nclimate2339

Cernea, M. M. (1996). *Social organization and development anthropology, social organization and development anthropology*. World Bank.

Cheplygina, V., Hermans, F., Albers, C., Bielczyk, N., & Smeets, I. (2020). Ten simple rules for getting started on twitter as a scientist. *PLOS Computational Biology*, *16*(2), e1007513. https://doi.org/10.1371/journal.pcbi.1007513)

Clauset, A., Arbesman, S., & Larremore, D. B. (2015). Systematic inequality and hierarchy in faculty hiring networks. *Science Advances*, *1*(1), 6. https://doi.org/10.1126/sciadv.1400005)

coding2share. (2019). Reproducible research toolkit. Retrieved from https://coding2share.github.io/ReproducibilityToolkit/.

Crate, S. A. (2011). Climate and culture: Anthropology in the era of contemporary climate change. *Annual Review of Anthropology*, *40*, 175–194. https://doi.org/10.1146/annurev.anthro.012809.104925

Dahlstrom, M. F. (2014). Using narratives and storytelling to communicate science with nonexpert audiences. *Proceedings of the National Academy of Sciences*, *111*(Supplement 4), 13614–13620. https://doi.org/10.1073/pnas.1320645111

Davis, D. S. (2020). Defining what we study: The contribution of machine automation in archaeological research. *Digital Applications in Archaeology and Cultural Heritage*, *18*, e00152. http://dx.doi.org/10.1016/j.daach.2020.e00152.

Dawson, T., Hambly, J., Kelley, A., Lees, W., & Miller, S. (2020). Coastal heritage, global climate change, public engagement, and citizen science. *Proceedings of the National Academy of Sciences*, *117*(15), 8280–8286. https://doi.org/10.1073/pnas.1912246117

Derex, M., & Boyd, R. (2016). Partial connectivity increases cultural accumulation within groups. *Proceedings of the National Academy of Sciences*, *113*(11), 2982–2987. https://doi.org/10.1073/pnas.1518798113

Diamond, J. (2005). *Guns, germs, and steel: The fates of human societies*. W. W. Norton & Company.

Diamond, J. (2011). *Collapse: How societies choose to fail or succeed*. Penguin Books.

Douglass, K., & Cooper, J. (2020). Archaeology, environmental justice, and climate change on islands of the Caribbean and southwestern Indian Ocean. *Proceedings of the National Academy of Sciences of the United States of America*, *117*(15), 8254–8262. https://doi.org/10.1073/pnas.1914211117

Douglass, K., Morales, E. Q., Manahira, G., Fenomanana, F., Samba, R., Lahiniriko, F., Chrisostome, Z. M., Vavisoa, V., Soafiavy, P., Justome, R., & others. (2019). Toward a just and inclusive environmental archaeology of Southwest Madagascar. *Journal of Social Archaeology*, *19*(3), 307–332.

Douglass, K., & Rasolondrainy, T. (2021). Social memory and niche construction in a hypervariable environment. *American Journal of Human Biology*, *33*(4), e23557. http://dx.doi.org/10.1002/ajhb.23557.

Ensminger, J. (1994). The political economy of religion: an economic anthropologist's perspective (4). *Journal of Institutional and Theoretical Economics (JITE) / Zeitschrift für die gesamte Staatswissenschaft*, *150*(4), 745–754.

Estrada, M., Burnett, M., Campbell, A. G., Campbell, P. B., Denetclaw, W. F., Gutiérrez, C. G., Hurtado, S., John, G. H., Matsui, J., McGee, R., Okpodu, C. M., Robinson, T. J., Summers, M. F., Werner-Washburne, M., & Zavala, M. (2016). Improving underrepresented minority student persistence in STEM. *CBE—Life Sciences Education*, *15*(3), es5. https://doi.org/10.1187/cbe.16-01-0038

Eysenbach, G. (2006). Citation advantage of open access articles. *PLOS Biology*, *4*(5), e157. https://doi.org/10.1371/journal.pbio.0040157)

Feldman, M. D., Arean, P. A., Marshall, S. J., Lovett, M., & O'Sullivan, P. (2010). Does mentoring matter: Results from a survey of faculty mentees at a large health sciences university. *Medical Education*, *15*(1), 5063. https://doi.org/10.3402/meo.v15i0.5063

Finch, T., O'Hanlon, N., & Dudley, S. P. (2017). Tweeting birds: Online mentions predict future citations in ornithology. *Royal Society Open Science*, *4*(11), 171371. https://doi.org/10.1098/rsos.171371

Fiske, S. T., & Dupree, C. (2014). Gaining trust as well as respect in communicating to motivated audiences about science topics. *Proceedings of the National Academy of Sciences*, *111*(Suppl 4), 13593–13597. https://doi.org/10.1073/pnas.1317505111

Fogarty, L., Creanza, N., & Feldman, M. W. (2015). Cultural evolutionary perspectives on creativity and human innovation. *Trends in Ecology & Evolution*, *30*(12), 736–754. https://doi.org/10.1016/j.tree.2015.10.004

Freeman, R. B., & Huang, W. (2015). Collaborating with people like me: Ethnic coauthorship within the United States. *Journal of Labor Economics*, *33*(S1), S289–S318. https://doi.org/10.1086/678973

Fu, D. Y., & Hughey, J. J. (2019). Meta-research: Releasing a preprint is associated with more attention and citations for the peer-reviewed article. *eLife*, *8*, e52646.

Gallagher, J. (2017). Healthiest hearts in the world found. *BBC News*, March 18, 2017. Retrieved from https://www.bbc.com/news/health-39292389

Gibson, M. A., & Lawson, D. W. (2014). *Applied evolutionary anthropology: Darwinian approaches to contemporary world issues*. Springer.

Gibson, M. A., & Lawson, D. W. (2015). Applying evolutionary anthropology. *Evolutionary Anthropology*, *24*(1), 3–14. https://doi.org/10.1002/evan.21432

Glaser, M., Garsoffky, B., & Schwan, S. (2009). Narrative-based learning: Possible benefits and problems. *Communications*, *34*(4), 429. https://doi.org/10.1515/COMM.2009.026)

Gurven, M., Mulder, M. B., Hooper, P. L., Kaplan, H., Quinlan, R., Sear, R., Schniter, E., von Rueden, C., Bowles, S., Hertz, T., & Bell, A. (2010). Domestication alone does not lead to inequality: Intergenerational wealth transmission among horticulturalists. *Current Anthropology*, *51*(1), 49–64. https://doi.org/10.1086/648587

Harari, Y. N. (2015). *Sapiens: A brief history of humankind*. Harper.

Hathaway, R. S., Nagda, B. A., & Gregerman, S. R. (2002). The relationship of undergraduate research participation to graduate and professional education pursuit: An empirical study. *Journal of College Student Development*, *43*(5), 614–631.

Hazel, A., Meeks, G., Bharti, N., Jakurama, J., Matundu, J., Tjinginda, K., & Jones, J. H. (2021). Women's responses to climate change in rural namibia: subsistence, social ties, and reproductive health. *American Journal of Human Biology*, *33*(4), e23633.

Healy, K. (2017). Fuck Nuance. *Sociological Theory*, *35*(2), 118–127. https://doi.org/10.1177/0735275117709046

Hinde, K. (2017). What we don't know about mother's milk. April 19, 2017. Retrieved from https://www.youtube.com/watch?v=Bo8YN3oB0Cw

House, B. R., Silk, J. B., Henrich, J., Barrett, H. C., Scelza, B. A., Boyette, A. H., Hewlett, B. S., McElreath, R., & Laurence, S. (2013). Ontogeny of prosocial behavior across diverse societies. *Proceedings of the National Academy of Sciences.*, *110*(36), 14586–14591. https://doi.org/10.1073/pnas.1221217110

Hill K., Hawkes K., Hurtado M., Kaplan H. (1984). Seasonal variance in the diet of ache hunter-gatherers in eastern paraguay. *Human Ecology*, *12*,(2), 101–135. http://dx.doi.org/10.1007/bf01531269.

Hong, L., & Page, S. E. (2004). Groups of diverse problem solvers can outperform groups of high-ability problem solvers. *Proceedings of the National Academy of Sciences of the United States of America*, *101*(46), 16385–16389. https://doi.org/10.1073/pnas.0403723101

House, B. R., Kanngiesser, P., Barrett, H. C., Broesch, T., Cebioglu, S., Crittenden, A. N., Erut, A., Lew-Levy, S., Sebastian-Enesco, C., Smith, A. M., Yilmaz, S., & Silk, J. B. (2020). Universal norm psychology leads to societal diversity in prosocial behaviour and development. *Nature Human Behaviour*, *4*(1), 36–44. https://doi.org/10.1038/s41562-019-0734-z

Hunn, E. S., Johnson, D. R., Russell, P. N., & Thornton, T. F. (2003). Huna Tlingit traditional environmental knowledge, conservation, and the management of a "wilderness" park. *Current Anthropology*, *44*(S5), S79–S103. https://doi.org/10.1086/377666

Ingold, T. (2018). *Anthropology: Why it matters*. John Wiley & Sons.

Jones, J. H. (2020). Life history theory in ten papers. Updated December 1, 2020. Retrieved from https://eehh-stanford.github.io/life_history_in_ten_papers/

Jones, J. H., Ready, E., & Hazel, A. (2018). Social network analysis for anthropologists: materials for short course. Updated April 30, 2018. Retrieved from https://eehh-stanford.github.io/SNA-workshop/

Jones, J. H., Wilson, M. L., Murray, C., & Pusey, A. (2010). Phenotypic quality influences fertility in Gombe chimpanzees. *Journal of Animal Ecology*, *79*(6), 1262–1269. https://doi.org/10.1111/j.1365-2656.2010.01687.x

Jones, J. H., Ready, E., & Pisor, A. C. (2021). Want climate-change adaptation? Evolutionary theory can help. *American Journal of Human Biology*, *33*(4), e23539. http://dx.doi.org/10.1002/ajhb.23539.

Jones, J. H. (2009). Anthropology as biosocial science: the future of cross-cutting research. *Anthropology News*, *50*(9), 5.

Kelly, R. L. (2013). *The Lifeways of Hunter-Gatherers: The Foraging Spectrum*, Cambridge University Press.

Kohler, T., & Rockman, M. (2020). The IPCC: A primer for archaeologists. *American Antiquity*, *85*(4), 627–651. https://doi.org/10.1017/aaq.2020.68

Koster, J., R. McElreath, K. Hill, D. Yu, G. Shepard, N. van Vliet, M. Gurven, B. Trumble, R.B. Bird, D. Bird, B. Codding, L. Coad, L. Pacheco-Cobos, B. Winterhalder, K. Lupo, D. Schmitt, P. Sillitoe, M. Franzen, M. Alvard, V. Venkataraman, T. Kraft, K. Endicott, S. Beckerman, S.A. Marks, T. Headland, M. Pangau-Adam, A. Siren, K. Kramer, R. Greaves, V. Reyes-García, M. Guèze, R. Duda, Á. Fernández-Llamazares, S. Gallois, L. Napitupulu, R. Ellen, J. Ziker, M.R. Nielsen, E. Ready, C. Healey, and C. Ross. 2020. The life history of human foraging: Cross-cultural and individual variation. *Science Advances*, *6*(26), eaax9070. https://doi.org/10.1126/sciadv.aax9070

Kramer, K. L., & Hackman, J. (2021). Scaling climate change to human behavior predicting good and bad years for Maya farmers. *American Journal of Human Biology*, *33*(4), e23524. http://dx.doi.org/10.1002/ajhb.23524.

Krzywinski, M., & Cairo, A. (2013). Storytelling. *Nature Methods*, *10*(8), 687–687. https://doi.org/10.1038/nmeth.2571

Lahsen, M. (2007). Anthropology and the trouble of risk society. *Anthropology Newsletter*, *48*, 9–10.

Lamb, C. T., Gilbert, S. L., & Ford, A. T. (2018). Tweet success? Scientific communication correlates with increased citations in ecology and conservation. *PeerJ*, *6*, e4564. https://doi.org/10.7717/peerj.4564)

Lewontin, R.C. (2008). Richard C. Lewontin—Conversations with history. March 13, 2008. Retrieved from https://youtu.be/iBZJWyGh1EI

Li, Y., Wu, C., Yan, E., & Li, K. (2018). Will open access increase journal CiteScores? An empirical investigation over multiple disciplines. *PLoS One*, *13*(8), e0201885. https://doi.org/10.1371/journal.pone.0201885)

Liénard, J. F., Achakulvisut, T., Acuna, D. E., & David, S. V. (2018). Intellectual synthesis in mentorship determines success in academic careers. *Nature Communications*, *9*(1), 4840. https://doi.org/10.1038/s41467-018-07034-y)

McElreath, R. (2019). Statistical rethinking winter 2019. Updated March 1, 2019. Retrieved from https://youtube.com/playlist?list=PLDcUM9US4XdNM4Edgs7weiyIguLSToZRI

McElreath, R. (2020a). Statistical rethinking: A Bayesian course (with Code Examples in R/Stan/Python/Julia). Updated November 19, 2020. Retrieved from https://github.com/rmcelreath/stat_rethinking_2020/blob/main/README.md

McElreath, R. (2020b). *Statistical rethinking: A Bayesian course with examples in R and Stan*. CRC Press.

McKiernan, E. C., Bourne, P. E., Brown, C. T., Buck, S., Kenall, A., Lin, J., McDougall, D., Nosek, B. A., Ram, K., Soderberg, C. K., Spies, J. R., Thaney, K., Updegrove, A., Woo, K. H., & Yarkoni, T. (2016). How open science helps researchers succeed. *eLife*, *5*. https://doi.org/10.7554/eLife.16800

Nolan, R. (2002). *Development anthropology: Encounters in the real world*. Westview Press.

Nosek, B. A., Ebersole, C. R., DeHaven, A. C., & Mellor, D. T. (2018). The preregistration revolution. *Proceedings of the National Academy of Sciences*, *115*(11), 2600–2606. https://doi.org/10.1073/pnas.1708274114

Olanakwe Community Fund. (2020). Retrieved from https://www.olanakwe.org/

Page, S. E., Cantor, N., & Phillips, K. (2019). *The diversity bonus: How great teams pay off in the knowledge economy*. Princeton University Press.

Pfund, C., Byars-Winston, A., Branchaw, J., Hurtado, S., & Eagan, K. (2016). Defining attributes and metrics of effective research mentoring relationships. *AIDS and Behavior*, *20*(2), 238–248. https://doi.org/10.1007/s10461-016-1384-z)

Pisor, A. C., Gervais, M. M., Purzycki, B., & Ross, C. T. (2020). Preferences and constraints: The value of economic games for studying human behaviour. *Royal Society Open Science*, *7*(6), 192090. https://doi.org/10.1098/rsos.192090

Pisor, A. C., & Jones, J. H. (2021a). Human adaptation to climate change: An introduction to the special issue. *American Journal of Human Biology*, *33*(4), e23530. https://doi.org/10.1002/ajhb.23530.

Pisor, A. C., & Jones, J. H. (2021b). Do people manage climate risk through long-distance relationships?. *American Journal of Human Biology*, *33*(4), e23525. https://doi.org/10.1002/ajhb.23525.

Piwowar, H. A., Day, R. S., & Fridsma, D. B. (2007). Sharing detailed research data is associated with increased citation rate. *PLoS One*, *2*(3), e308. https://doi.org/10.1371/journal.pone.0000308)

Piwowar, H. A., & Vision, T. J. (2013). Data reuse and the open data citation advantage. *PeerJ*, *1*, e175. https://doi.org/10.7717/peerj.175)

Pontzer, H. (2021). *Burn: New research blows the lid off how we really burn calories, stay healthy, and lose weight*. Penguin Random House.

Price, M. H., & Jones, J. H. (2020). Fitness-maximizers employ pessimistic probability weighting for decisions under risk. *Evolutionary Human Sciences*, *2*, e28. https://doi.org/10.1017/ehs.2020.28)

Raia, P., Mondanaro, A., Melchionna, M., Di Febbraro, M., Diniz-Filho, J. A. F., Rangel, T. F., Holden, P. B., Carotenuto, F., Edwards, N. R., Lima-Ribeiro, M. S., Profico, A., Maiorano, L., Castiglione, S., Serio, C., & Rook, L. (2020). Past extinctions of *Homo* species coincided with increased vulnerability to climatic change. *One Earth*, *3*(4), 480–490. https://doi.org/10.1016/j.oneear.2020.09.007)

Ready, E., & Collings, P. (2021). "All the problems in the community are multifaceted and related to each other": Inuit concerns in an era of climate change. *American Journal of Human Biology*, *33*(4), e23516. https://doi.org/10.1002/ajhb.23516.

Reich, D. (2019). *Who we are and how we got here: Ancient DNA and the new science of the human past*. Vintage.

Royal Society. (2012). Final Report—Science as an open enterprise. June 21, 2012. Retrieved from https://royalsociety.org/topics-policy/projects/science-public-enterprise/report/

Rutjens, B. T., & Heine, S. J. (2016). The immoral landscape? Scientists are associated with violations of morality. *PLoS One*, *11*(4), e0152798. https://doi.org/10.1371/journal.pone.0152798)

Salkeld, D. J., Salathe, M., Stapp, P., & Jones, J. H. (2010). Plague outbreaks in prairie dog populations explained by percolation thresholds of alternate host abundance. *Proceedings of the National Academy of Sciences*, *107*(32), 14247–14250. http://dx.doi.org/10.1073/pnas.1002826107.

Sapolsky, R. (2019). Human Behavioral Biology (Robert Sapolsky) 25 lectures. Updated June 7, 2019. Retrieved from https://www.youtube.com/playlist?list=PL150326949691B199

Sarkki, S., Niemelä, J., Tinch, R., van den Hove, S., Watt, A., & Young, J. (2013). Balancing credibility, relevance and legitimacy: A critical assessment of trade-offs in science–policy interfaces. *Science and Public Policy*, *41*(2), 194–206. https://doi.org/10.1093/scipol/sct046

Savage, V., & Yeh, P. (2019). Novelist Cormac McCarthy's tips on how to write a great science paper. *Nature*, *574*, 441–442. https://doi.org/10.1038/d41586-019-02918-5

Sear, R. (2007). The impact of reproduction on Gambian women: Does controlling for phenotypic quality reveal costs of reproduction? *American Journal of Physical Anthropology*, *132*(4), 632–641. https://doi.org/10.1002/ajpa.20558

Sear, R., & Mace, R. (2008). Who keeps children alive? A review of the effects of kin on child survival. *Evolution and Human Behavior*, *29*(1), 1–18.

Segal, D. A., & Yanagisako, S. J. (2005). *Unwrapping the sacred bundle: Reflections on the disciplining of anthropology*. Duke University Press.

Shedlosky-Shoemaker, R., Costabile, K. A., & Arkin, R. M. (2014). Self-expansion through fictional characters. *Self and Identity*, *13*(5), 556–578. https://doi.org/10.1080/15298868.2014.882269

Shenk, M. K., Borgerhoff Mulder, M., Beise, J., Clark, G., Irons, W., Leonetti, D., Low, B. S., Bowles, S., Hertz, T., Bell, A., & Piraino, P. (2010). Intergenerational wealth transmission among agriculturalists: Foundations of agrarian inequality. *Current Anthropology*, *51*(1), 65–83. https://doi.org/10.1086/648658

Shepherd, B. E., Blevins Peratikos, M., Rebeiro, P. F., Duda, S. N., & McGowan, C. C. (2017). A pragmatic approach for reproducible research with sensitive data. *American Journal of Epidemiology*, *186*(4), 387–392. https://doi.org/10.1093/aje/kwx066

Shostak, M. (2000). *Nisa: The life and words of a !Kung woman*. Harvard University Press.

Smith, A. C., Merz, L., Borden, J. B., Gulick, C., Kshirsagar, A. R., & Bruna, E. M. (2020). Article processing charges, the geographic diversity of author communities, and barriers to publication for authors in the global south. *MetaArXiv*. (https://doi.org/10.31222/osf.io/s7cx4

Smith, E. A. (2013). Agency and adaptation: New directions in evolutionary anthropology. *Annual Review of Anthropology*, *42*(1), 103–120. https://doi.org/10.1146/annurev-anthro-092412-155447

Smith, E. A., Hill, K., Marlowe, F. W., Nolin, D., Wiessner, P., Gurven, M., Bowles, S., Borgerhoff Mulder, M., Hertz, T., & Bell, A. (2010). Wealth transmission and inequality among hunter-gatherers. *Current Anthropology*, *51*(1), 19–34. https://doi.org/10.1086/648530

Smithwick, E. A. H., Caldwell, C., Klippel, A., Scheller, R. M., Tuana, N., Bird, R. B., Keller, K., Vickers, D., Lucash, M., Nicholas, R. E., Olson, S., Ruckert, K. L., Oyler, J., Helgeson, C., & Huang, J. (2019). Learning about Forest futures under climate change through Transdisciplinary collaboration across traditional and Western knowledge systems. In S. G. Perz (Ed.), *Collaboration across boundaries for social-ecological systems science: Experiences around the world* (pp. 153–184). Springer International Publishing. https://doi.org/10.1007/978-3-030-13827-1_5

Sparks, H. (2019). Pregnant women are basically endurance athletes: Study. *New York Post*, June 11, 2019. Retrieved from https://nypost.com/2019/06/11/pregnant-women-are-basically-endurance-athletes-study/

Stellmach, D., Beshar, I., Bedford, J., du Cros, P., & Stringer, B. (2018). Anthropology in public health emergencies: What is anthropology good for? *BMJ Global Health*, *3*(2), e000534. https://doi.org/10.1136/bmjgh-2017-000534)

Sto. Domingo, M. R., Sharp, S., Freeman, A., Freeman, T., Harmon, K., Wiggs, M., Sathy, V., Panter, A. T., Oseguera, L., Sun, S., Williams, M. E., Templeton, J., Folt, C. L., Barron, E. J., Hrabowski, F. A., Maton, K. I., Crimmins, M., Fisher, C. R., & Summers, M. F. (2019). Replicating Meyerhoff for inclusive excellence in STEM. *Science*, *364*(6438), 335–337. https://doi.org/10.1126/science.aar5540

Thornton, T. F., Manasfi, N. (2010). Adaptation—genuine and spurious: demystifying adaptation processes in relation to climate change. *Environment and Society*, *1*(1), 132–155. http://dx.doi.org/10.3167/ares.2010.010107.

Tucker, B., & Rende, T. L. (2007). The human behavioral ecology of contemporary world issues. *Human Nature*, *18*, (3), 181–189. http://dx.doi.org/10.1007/s12110-007-9013-1.

Tsui, L. (2007). Effective strategies to increase diversity in STEM fields: A review of the research literature. *The Journal of Negro Education*, *76*(4), 555–581.

United States Census Bureau. (2020). Quick facts: United States. Updated December 10, 2020. Retrieved from https://www.census.gov/quickfacts/fact/table/US/PST045219

Urassa, M., Lawson, D. W., Wamoyi, J., Gurmu, E., Gibson, M. A., Madhivanan, P., & Placek, C. (in press). Cross-cultural research must prioritize equitable collaboration. *Nature Human Behaviour*.

Winterhalder, B., & Kennett, D. J. (2006). *Behavioral Ecology and the Transition to Agriculture*, Berkeley and Los Angeles: University of California Press.

Wolverton, S., Nagaoka, L., & Rick, T. C. (2016). In R. L. Bettinger & G. M. Feinman (Eds.), *Applied zooarchaeology: Five case studies*. Eliot Werner Publications, Inc 117 p.

Xu, C., Kohler, T. A., Lenton, T. M., Svenning, J.-C., & Scheffer, M. (2020). *Future of the human climate niche*. Proceedings of the National Academy of Sciences. https://doi.org/10.1073/pnas.1910114117), https://doi.org/10.1073/pnas.1910114117)

Zak, P. J. (2015). Why inspiring stories make us react: the neuroscience of narrative. *Cerebrum*. 2. February 2, 2015. Retrieved from https://www.dana.org/article/why-inspiring-stories-make-us-react-the-neuroscience-of-narrative/

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