W. Andrew Barr - Curriculum Vitae

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Education

2014	University of Texas at Austin. Ph.D., Anthropology.
2008	University of Texas at Austin. M.A., Anthropology.
2005	Tulane University. B.S., Anthropology and French.

Academic Appointments

2019 - Present	Assistant Professor. Center for the Advanced Study of Human Paleobiology. Department of Anthropology. The George Washington University.
2014 - Present	Research Associate. Department of Paleobiology. National Museum of Natural History.
2016 - 2019	Visiting Assistant Professor. Center for the Advanced Study of Human Paleobiology. Department of Anthropology. The George Washington University.
2014 - 2016	Postdoctoral Scientist. Center for the Advanced Study of Human Paleobiology. Department of Anthropology. The George Washington University. Advisor: Bernard Wood.

Research Grants and Fellowships

2020	National Science Foundation - Collaborative Research: Catching Fire: Pyrotechnology and Ecosystem Change in the Turkana Basin. Role: Co-PI. $237,661.
2019	National Science Foundation - Collaborative Research: REU Site: Past and Present Human-Environment Dynamics in the Turkana Basin, Kenya. Role: Senior Personnel. $305,846
2019	National Science Foundation - HRRBAA: Paleontology and paleoanthropology of a potential Late Miocene site in the Laikipia highlands. Role: PI. $26,581.
2018	American Association of Physical Anthropologists - Professional Development Award. Tumbili (late Miocene, Kenya): A new window into eastern African mammalian evolution at the dawn of the hominin lineage. $7,500
2013	University of Texas at Austin - Named Continuing Fellowship. $29,000.
2012	Wenner-Gren Foundation - Dissertation Fieldwork Grant. $13,317.
2007	National Science Foundation - Graduate Research Fellowship. $90,000.
2007	University of Texas at Austin - Liberal Arts Graduate Research Fellowship. $1,800.

Peer-Reviewed Publications

21. Faith JT, Rowan J, Du A, **Barr WA**. The uncertain case for human-driven extinctions prior to *Homo sapiens*. *Quaternary Research*. In Press. doi:10.1017/qua.2020.51

20. Alemseged Z, Wynn JG, Geraads D, Reed DN, **Barr WA**, Bobe R, McPherron S, Deino A, Alene M, Sier M, Roman D, Mohan J. 2020. Fossils from Mille-Logya, Afar, Ethiopia, shed light on the link between late Pliocene

environmental changes and the origin of *Homo*. *Nature Communications*. 11:2480. doi:10.1038/s41467-020-16060-8

19. Geraads D, Didier G, **Barr WA**, Reed D, Laurin M. 2020. The fossil record of camelids demonstrates a late divergence between Bactrian camel and dromedary. *Acta Palaeontologica Polonica*. 65(2):251-260. doi:10.4202/app.00727.2020

18. **Barr WA**. 2020. The morphology of the bovid calcaneus: function, phylogenetic signal, and allometric scaling. *Journal of Mammalian Evolution.* 27:111-121. doi:10.1007/s10914-018-9446-9

17. Geraads D, **Barr WA**, Reed DN, Laurin M, Alemseged Z. 2019. New remains of *Camelus grattardi* (Mammalia, Camelidae) from the Plio-Pleistocene of Ethiopia and the phylogeny of the genus. *Journal of Mammalian Evolution*. doi:10.1007/s10914-019-09489-2

16. Tóth, AB, Lyons SK, **Barr WA**, Behrensmeyer AK, Blois JL, Bobe R, Davis M, Du A, Eronen J, Faith JT, Fraser D, Gotelli NJ, Graves GR, Jukar AM, Miller JH, Pineda-Munoz S, Soul LC, Villaseñor A, Alroy J. 2019. Reorganization of surviving mammal communities after the end-Pleistocene megafaunal extinction. *Science.* 365:1305-1308. doi:10.1126/science.aaw1605

15. Patterson DB, Braun DR, Allen K, **Barr WA**, Behrensmeyer AK, Biernat M, Lehmann SB, Maddox T, Manthi FK, Merritt SR, Morris SE, O'Brien K, Reeves JS, Wood BA, Bobe R. 2019. Comparative isotopic evidence from East Turkana is consistent with a dietary shift between early *Homo* and *Homo erectus*. *Nature Ecology and Evolution*. 3:1048-1056. doi:10.1038/s41559-019-0916-0

14. **Barr WA**. *Ecomorphology*. 2018. In: Croft DA, Simpson SW, and Su DF (eds.), *Methods in Paleoecology: Reconstructing Cenozoic Terrestrial Environments and Ecological Communities*. Springer (Vertebrate Paleobiology and Paleoanthropology Series), Cham, Switzerland. 339-349. doi:10.1007/978-3-319-94265-0

13. Fraser D, Haupt R, **Barr WA**. 2018. Phylogenetic signal in tooth wear dietary niche proxies: What it means for those in the field. *Ecology and Evolution.* doi:10.1002/ece3.4540

12. Reed, DN, **Barr WA**, Kappelman J. 2018. PaleoCore: an open-source platform for geospatial data integration in paleoanthropology. In: Anemone R, Conroy G (eds.), *New Geospatial Approaches in Anthropology*. University of New Mexico Press. Albuquerque, NM.

11. Fraser D, Haupt R, **Barr WA**. 2018. Phylogenetic Signal In Tooth Wear Dietary Niche Proxies. *Ecology and Evolution*. 8:5355-5368 doi:10.1002/ece3.4052

10. Blondel C, Rowan J, Merceron G, Bibi F, Negash E, **Barr WA**, Boisserie JR. 2018. Feeding ecology of Tragelaphini (Bovidae) from the Shungura Formation, Omo Valley, Ethiopia: contribution of dental wear analyses. *Palaeogeography, Palaeoclimatology, Palaeoecology*. 496:103-120. doi:10.1016/j.palaeo.2018.01.027

9. **Barr WA**. 2017. Signal or noise? A null model method for testing hypotheses about pulsed faunal turnover. *Paleobiology*. 43:656-666. doi:10.1017/pab.2017.21

8. **Barr WA**. 2017. Bovid locomotor functional trait distributions reflect land cover and annual precipitation in sub-Saharan Africa. *Evolutionary Ecology Research*. 18:253-269.

7. **Barr WA**. 2015. Paleoenvironments of the Shungura Formation (Plio-Pleistocene: Ethiopia) based on ecomorphology of the bovid astragalus. *Journal of Human Evolution*. 88:97-107. doi:10.1016/j.jhevol.2015.05.002

6. Reed D, **Barr WA**, McPherron S, Bobe R, Geraads D, Wynn J, Alemseged Z. 2015. Digital Data Collection in Paleoanthropology. *Evolutionary Anthropology*. 24:238-249. doi:10.1002/evan.21466

5. Thompson JC, McPherron S, Bobe R, Reed DN, **Barr WA**, Wynn J, Marean CW, Geraads D, Alemseged Z. 2015. Taphonomy of fossils from the hominin-bearing deposits at Dikika, Ethiopia. *Journal of Human Evolution*. 86:112-135. doi:10.1016/j.jhevol.2015.06.013

4. **Barr WA**. 2014 Functional Morphology of the Bovid Astragalus In Relation To Habitat: Controlling Phylogenetic Signal In Ecomorphology. *Journal of Morphology*. 275:1201-1216. doi:10.1002/jmor.20279

3. **Barr WA** and Scott RS. 2014 Phylogenetic comparative methods complement discriminant function analysis in ecomorphology. *American Journal of Physical Anthropology*. 153:663-674. doi:10.1002/ajpa.22462

2. Scott RS and **Barr WA**. 2014. Ecomorphology and phylogenetic risk: implications for habitat reconstruction using fossil bovids. *Journal of Human Evolution*. 73:47-57. doi:10.1016/j.jhevol.2014.02.023

1. Reed DN, and **Barr WA**. 2010. A preliminary account of the rodents from Pleistocene levels at Grotte des Contrebandiers (Smuggler's Cave), Morocco. *Historical Biology*. 22:286-294. doi:10.1080/08912960903562192

Honors and Awards

2015	Travel Grant - Paleoanthropology Society for meetings in Calgary. $500.
2013	Pollitzer Student Travel Award - American Association of Physical Anthropologists. $500.
2008 - 2011	Professional Development Award - Department of Anthropology, University of Texas at Austin.
2007	Student Prize - Texas Association of Biological Anthropologists.

Fieldwork

2018 - Present	Tumbili Paleoanthropology Project, Laikipia County, Kenya (Late Miocene). I am the director of this new collaborative project in a unique geographical context outside the Great Rift Valley. To date we have discovered a moderately rich fossil fauna, and excavations are planned to expand the faunal sample from this poorly represented time period.
2014 - Present	Mille-Logya Research Project, Afar Region, Ethiopia (Plio-Pleistocene). I conduct field research to recover new fossils and to understand the environmental and ecological context of human evolution in this region.
2016	Koobi-Fora Field School, East Turkana, Kenya. I collected fossil data relating to sub-regional faunal variability in the Koobi Fora Formation from 2.0 - 1.4 Ma. I supervised four undergraduate student research projects that were organized around this topic.
2013 - 2014	Great Divide Basin Project, Wyoming. Collected primate and mammalian fossils from Eocene sediments, and prospected for new localities.
2010, 2012	Dikika Research Project, Afar Region, Ethiopia. Surface collection of Plio- Pleistocene hominin and mammalian fossils. Managed GIS data collection with hand-held computers and high-precision GPS base station.
2007, 2008, 2010	Dalquest Research Site, Big Bend Region, Texas. Surface collected primate and mammalian fossils in the Devil's Graveyard Formation. (Eocene: Late Uintan).
2009	Contrebandiers Cave, Temara, Morocco. Excavated site preserving Middle Stone Age archaeology (Aterian) and hominin remains. Performed systematic analysis of rodent fauna.

Synergistic Activities

2015 - Present	External Member. Evolution of Terrestrial Ecosystems Working Group. National Museum of Natural History.
2012 - Present	Research Associate and Software Developer. PaleoCore Project. I am a key member of this NSF Funded project, which aims to create a data-standard for physical anthropology. I contributed heavily to the development of PaleoCore informatics tools for data sharing.

Scholarly Presentations

Invited Talks, Symposia, Workshops

Nov 2019 Invited speaker. *The Environmental Context of Hominin Evolution: Fieldwork, Fossils, and Functional Morphology*. Howard University, Washington, DC.

Oct 2019 Invited speaker. *The Environmental Context of Hominin Evolution: Fieldwork, Fossils, and Functional Morphology*. Colorado State University, Ft. Collins, Colorado.

2018 Invited speaker at symposium: *Advances in Paleoecology*. 2nd Lembersky Conference in Human Evolutionary Studies. Rutgers University. November 14 - 16.

2017 Invited speaker. *Data Analysis, Visualization, and Comparative Methods in R*. February 16-17. University of North Carolina - Greensboro.

2015 Invited speaker at symposium: *Latest methods in reconstructing Cenozoic terrestrial environments and ecological communities*. September 10 - 12. Cleveland Museum of Natural History.

2014 Invited speaker at symposium: *The Role of Mosaic Habitats in Hominin Evolution*. Annual Meeting of the American Association of Physical Anthropologists. Calgary, Alberta.

Published Abstracts from Conference Presentations

*indicates undergraduate under my supervision

2020 **Barr WA**, Geraads D, Reed D, Bobe R, Wynn JG, Alemseged Z. Faunal turnover at Mille-Logya (Plio-Pleistocene, Ethiopia) reflects in situ environmental change: implications for the origins of *Homo*. American Association of Physical Anthropology. In-person meeting cancelled due to COVID-19.

2019 Alemseged Z, Wynn JG, Geraads D, Reed D, **Barr WA**, Bobe R, McPherron S. New hominin remains from Mille-Logya, Afar, Ethiopia and their implication for the origin of *Homo*. Paleoanthropology Society.

2018 Hammond AS, Hunter LE Thompson B, Corniner E, Biernat M, **Barr WA**, Braun DR. Morphology and context of a new early Homo mandible from Koobi Fora, Kenya.

2018 **Barr WA**, Biernat M. Quantifying African habitat heterogeneity and mammalian functional diversity with implications for understanding hominin habitats. American Association of Physical Anthropology.

2017 **Barr WA**. Bovid locomotor traits track land cover and mean annual precipitation: using an ecometric approach to reconstruct paleoenvironments in the Shungura Formation (Plio-Pleistocene, Ethiopia). American Association of Physical Anthropology.

2017 Llera C*, Benitez L*, Biernat M*, Braun DR, Hammond AS, Patterson DB, and **Barr WA**. Subregion-scale heterogeneity in bovid abundance in the Koobi Fora Formation (Pleistocene, Northern Kenya). American Association of Physical Anthropology.

2017 Thompson B, Arenson J, Biernat M*, **Barr WA**, Reeves J, Braun DR and Hammond AS. A preliminary study of primate abundance in East Turkana collection areas relative to outcrop size. American Association of Physical Anthropology.

2017 Enny A*, Biernat M*, Braun DR, Reda W*, Hammond AS, Patterson DB and **Barr WA**. Exploring the impact of collection strategies on interpretations of faunal abundance: a case study from the Koobi Fora Formation (Pleistocene, northern Kenya). American Association of Physical Anthropology.

2017 Benitez L*, Llera* C, Biernat M*, Braun DR, Hammond AS, Patterson DB, **Barr WA**. The Implications of Faunal Abundance for Pleistocene Paleoenvironments in the Turkana Basin, Northern Kenya. Paleoanthropology Society.

2016 **Barr WA**. Signal or noise? Testing hypotheses about faunal turnover. Paleoanthropology Society.

2015 **Barr WA** and Dunn RH. A method for analyzing complex joint surfaces in ecomorphology using slope rasters derived from Digital Elevation Models. American Association of Physical Anthropology.

2015 Thompson JC, McPherron SP, Bobe R, **Barr WA**, Reed D, Wynn J, Marean CW, and Alemseged Z. Taphonomy of fossils from the hominin-bearing deposits at Dikika, Ethiopia. Paleoanthropology Society.

2014 **Barr WA**. Paleoenvironments of the Hadar and Shungura Formations: Synthesizing multiple lines of evidence using bovid ecomorphology. American Association of Physical Anthropology.

2014 Kemp A and **Barr WA**. Rates of homoplasy in the mammalian skeleton. American Association of Physical Anthropology.

2013 **Barr WA**. Ecomorphology of the bovid astragalus: body size, function, phylogeny and paleoenvironmental reconstruction. *American Journal of Physical Anthropology*. 150:74.

2012 **Barr WA**. Ecomorphology in a phylogenetic statistical context: a case study using the bovid femur. *American Journal of Physical Anthropology*. 147:90-91.

2012 Scott RS and **Barr WA**. Ecomorphology and phylogeny among the Bovidae: implications for habitat reconstruction. *American Journal of Physical Anthropology*.

2012 Kappelman JK, Keane P, Reed D, Tenbarge J, Witzel A, **Barr WA**, Nachman BA, Russo GA. eFossils.org: a collaborative website and community database for the study of human evolution. *American Journal of Physical Anthropology*.

2011 Reed DN, McPherron S, **Barr WA**, Alemseged Z, Bobe R, Geraads D, and Wynn J. A new GPS data collection methodology and data schema for integrating multiple project databases: examples from the Dikika Research Project geodatabase. *American Journal of Physical Anthropology*. 144:249-250.

2009 **Barr WA**, Reed DN. Coping with taxonomic ambiguity and inter-observer variation in paleontological and paleoanthropological analyses. *American Journal of Physical Anthropology*. 144:249-250.

2009 Toborowsky CJ, **Barr WA**, Lewis, RJ. Does environmental unpredictability drive lemur life histories? *American Journal of Physical Anthropology*.

2008 **Barr WA**. The effects of allometric scaling patterns on the template method for estimating dimorphism. *American Journal of Physical Anthropology*.

Scholarly Presentations Without Published Abstracts

2013 **Barr WA**, Nachman B, Shapiro L. The Academic Phylogeny of Physical Anthropology. Annual Meetings of the Texas Association for Biological Anthropologists. Austin, TX.

2013 Reed D, **Barr WA**, Urban T. Free as in speech and beer: open source software solutions for spatial data management in physical anthropology. Annual Meetings of the Texas Association for Biological Anthropologists. Austin, TX.

2012 **Barr WA**. Refining hominin paleoenvironmental reconstructions using bovid ecomorphology: the role of phylogenetic comparative methods. Presentation at University of Texas at Austin Paleontology Brown-Bag Seminar Series.

2012 **Barr WA**. Refining hominin paleoenvironmental reconstructions with bovid ecomorphology. Presentation at University of Texas at Austin Informal Physical Anthropology Semininar series.

2011 **Barr WA**. Ecomorphology in a phylogenetic statistical context: a case study using the bovid femur. Annual Meetings of Texas Association for Biological Anthropologists. San Marcos, TX.

2010 **Barr WA**. Pattern or chaos? Exploring a null model of faunal turnover patterns. Annual Meetings of Texas Association for Biological Anthropologists. Waco, TX.

2010 **Barr WA**. Quantitative ecomorphology of mammalian dentitions: Refining a tool for reconstructing early hominin paleoenvironments. Presentation at University of Texas at Austin Informal Physical Anthropology Semininar series.

2008 **Barr WA**. Coping with taxonomic ambiguity and inter-observer variation in paleontological and paleoanthropological analyses. Annual Meetings of Texas Association for Biological Anthropologists. College Station, TX.

2007 **Barr WA**. The effects of allometric scaling patterns on the template method for estimating dimorphism. Annual Meetings of Texas Association for Biological Anthropologists. Austin, TX.

Courses Taught

Introduction to Biological Anthropology. ANTH 1001. Undergraduate survey of the field of biological anthropology. The George Washington University, Anthropology. Taught Fall 2016, Spring 2017.

Analytical Methods in Evolutionary Anthropology. ANTH 6413. I designed this graduate course course covering applied statistical methods (e.g, regression, ANOVA and related techniques, categorical data analysis, resampling approaches) and the R statistical programming language. This is a required course for the Hominid Paleobiology PhD program. The George Washington University, Anthropology. Taught Spring 2015, Fall 2016, Fall 2018.

Climate Change and Human Evolution. ANTH 3491. I designed this upper level undergraduate course covering changes in global climate through evolutionary time and the impacts on evolution, with an emphasis on humans. The George Washington University, Anthropology. Taught Spring 2016, Spring 2017.

Public Understanding of Science. HOMP 8302. Graduate course in which students complete semester-long public service internships. Student projects target underserved Washington, DC-area public schools and general audiences at public museums with a goal of increasing scientific literacy and creating interest in scientific careers. The George Washington University, Anthropology. Taught Spring 2016.

GIS and Remote Sensing for Archaeology and Paleontology. ANT 391 / GRG 396. Teaching Assistant. University of Texas at Austin, Anthropology. 2010.

Human Variation. ANT 394C. Teaching Assistant. University of Texas at Austin, Anthropology. 2009.

Introduction to Physical Anthropology. ANT 301. Teaching Assistant. University of Texas at Austin, Anthropology. 2006, 2007, 2010, 2011, 2012.

Advising

Postdoctoral Researchers

2019-present	Enquye Negash (The George Washington University)

PhD students, committee member

In progress	Victoria Lockwood (The George Washington University)
In progress	Kim Foecke (The George Washington University)
In progress	Maryse Biernat (Arizona State University)
2019	Eve Boyle (The George Washington University)
2018	Laurence Dumouchel (The George Washington University)
2018	Vance Powell (The George Washington University)
2017	Chrisandra Kufeldt (The George Washington University)
2016	David Patterson (The George Washington University)

Masters Students - Primary or Co-Advisor

In progress	Nicholas Burns (The George Washington University)
In progress	Annelise Beer (The George Washington University)
In progress	Monica Cheung (The George Washington University)

Undergraduate Research Associates

2019 - 2020	Rowan Sherwood (The George Washington University)
2018 - 2019	Jane Meiter (The George Washington University)
2018 - 2019	Paulette Ma (The George Washington University)
2016 - 2017	Maryse Biernat (Stockton University)
2016 - 2017	Elliot Greiner (The George Washington University)

Koobi Fora Field School Students

2018	Suzy Strubel (University of Minnesota)
2018	Joshua Porter (The George Washington University)
2018	James Frazier (Bryn Mawr)
2018	Annalys Hanson (Emory University)
2016	Lorena Benitez (Harvard University)
2016	Alyssa Enny (Stockton University)
2016	Catherine Llera (University of Florida)
2016	Weldeyared Reda (Aksum University, Ethiopia)

Departmental and Professional Service

2019 - 2020	Library representative - Served as liason to GWU libraries on all aspects of library services on behalf of the Anthropology department.
2017 - Present	Webmaster, Center for the Advanced Study of Human Paleobiology. I maintain the website and mailing list for our research center.
2014 - 2015	Coordinator, Capstone Seminar - Coordinated speakers and organize the academic program for this departmental seminar in the Center for the Advanced Study of Human Paleobiology at The George Washington University.
2013 - present	Academic Phylogeny of Biological Anthropology - In collaboration with Liza Shapiro and Brett Nachman, I created this website as a public resource that tracks academic lineages of Biological Anthropology PhDs. The site has had over 2200 user submissions.
2008	Reviewer - University of Texas Liberal Arts Graduate Research Fellowship. Evaluated grant proposals from students competing for $50,000 in grant funds.

Public Outreach and Science Communication

May 16, 2018	*The Scientist is In*. National Museum of Natural History. I interacted directly with over a hundred visitors to the National Museum of National History's Hall of Human Origins and answered their questions about human evolution.
March 30, 2017	*Survivors: What Fossils Tell Us About the Past and Future*. I answered questions for the general public at the National Museum of National History as part of the 30th anniversary celebration of the Evolution of Terrestrial Ecosystems program, of which I am a member.
2016 - Present	Faces of Fieldwork - I created Faces of Fieldwork because I believe people engage more with science when they understand who we are and what we do. This site features weekly photographic posts highlighting the good, the bad, and the ugly of real people doing real research.
2014-2015	Volunteer, Explore UT - University wide K-12 educational open house. Helped organize and run activity "Leaping Lemurs of Madagascar" on locomotion and conservation of lemurs.

Media Coverage

2019	Tóth et al. paper on extinction impacts covered by 11 news outlets, including Smithsonian.com. altmetrics link
2017	Online coverage of *Signal or noise? A null model method for testing hypotheses about pulsed faunal turnover* in Science Daily, phys.org, GW Today and others.
2017	Feature on theguardian.com highlighting several contributors to Faces of Fieldwork.
2015	*GWU aims to be among top research schools.* Washington Post.

Manuscript and Grant Reviews

The Leakey Foundation
Journal of Human Evolution
Nature Ecology & Evolution
Journal of Vertebrate Paleontology
Methods in Ecology and Evolution
PLoS One
Quaternary Research
Comptes Rendus Palevol
International Journal of Primatology
Manning Publications (book proposal review)

Professional Memberships

American Association of Physical Anthropologists

Paleoanthropology Society