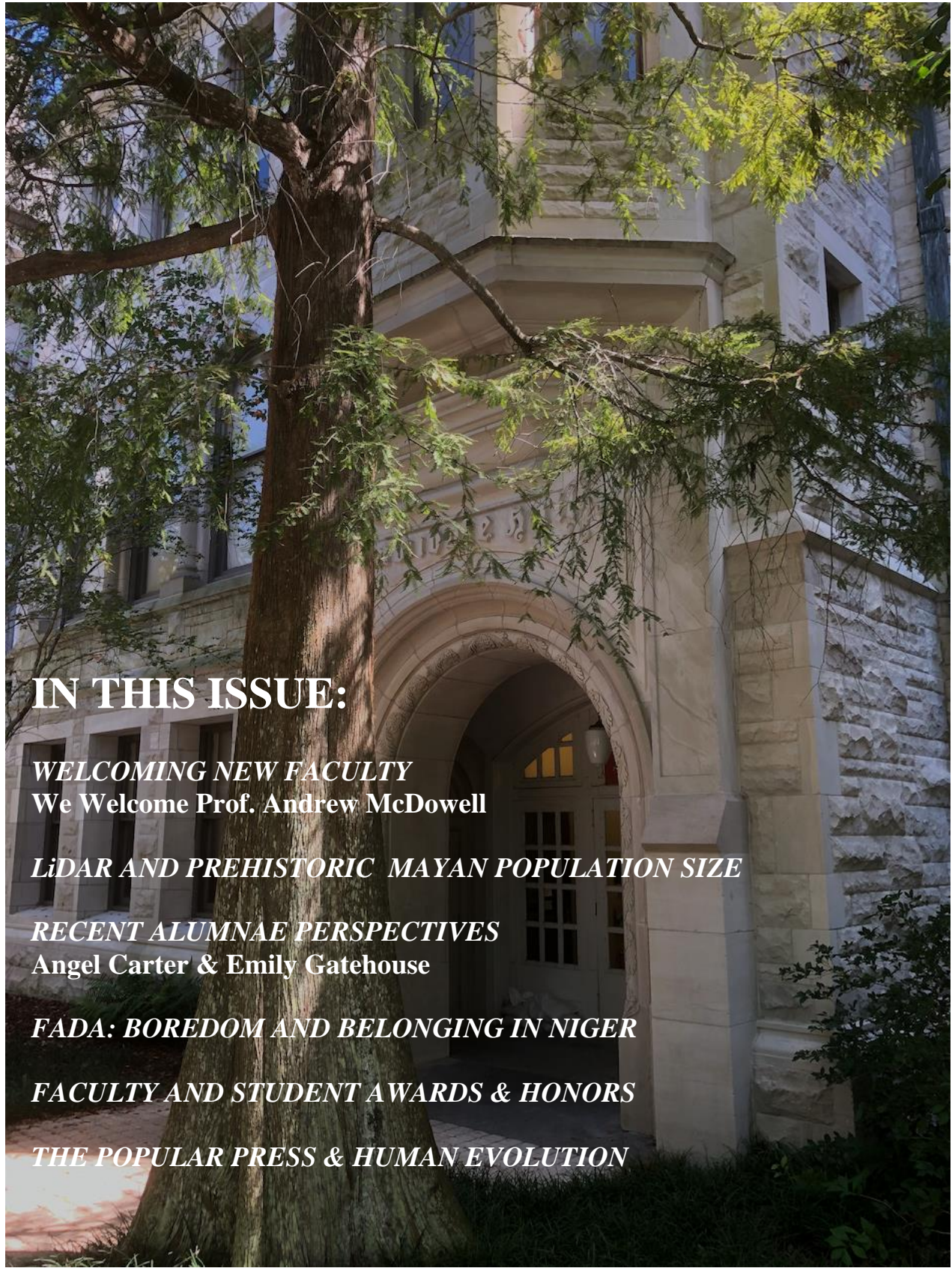


ANTH NEWS

NEWS & UPDATES FROM THE DEPARTMENT OF ANTHROPOLOGY
AT TULANE UNIVERSITY



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Letter from the Chair

Dear friends of Tulane Anthropology,

The 2019-2020 academic year is already upon us, and as I look back on the last academic year, I have an immense sense of pride with regard to the accomplishments of our faculty, students, graduates, and alumni. As you will see reading this year's newsletter, the Department of Anthropology at Tulane University has had a banner year.

First, we wish to congratulate our faculty colleagues who were promoted to the rank of associate professor with tenure: Profs. Jason Nesbitt and Tatsuya Murakami.

Second, we are excited to welcome to our faculty Prof. Andrew McDowell, who was officially hired in 2018, but who asked to delay his arrival so he could finish his post-doctoral fellowship in Paris. What kind of chair (indeed, what kind of person) would I be had I turned down such a reasonable request? Prof. McDowell will deepen the Department's offerings in medical anthropology and will bring the study of the Indian subcontinent into our midst for the first time ever.

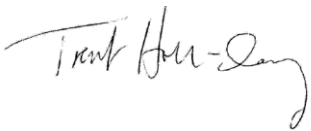
We are also excited to welcome back Prof. Adeline Masquelier, who spent the last year in Denmark working on her next book. I suspect it will take her some time to get re-acclimated to the subtropics!

While we welcome Adeline back, we must congratulate our faculty colleagues who will spend the 2019-2020 academic year on leave: Profs. Bill Balée, Allison Truitt, and Tatsuya Murakami. Note that you'll find more information about what, exactly, Prof. Balée is doing while on leave in this issue of the newsletter.

Finally, this is my last year as chair of the Department. I am therefore taking the opportunity to write an essay for this issue of the newsletter, and while we have a busy year ahead, I am nonetheless very much looking forward to my sabbatical next year.

I hope you enjoy this year's newsletter. Please let us know of your news, as we are always interested in profiling your accomplishments!

All the best,



Trenton W. Holliday
Chair



WELCOMING NEW FACULTY

The Department is proudly welcoming a new faculty member during the upcoming academic year.

Prof. Andrew McDowell joins the Tulane Anthropology Faculty

Andrew McDowell joins the Tulane Anthropology faculty for the fall 2019 semester. Andy earned his B.A. at the University of Iowa and completed his A.M. as well as Ph.D. in sociocultural anthropology at Harvard University. He conducted postdoctoral research at McGill University's Department of Social Studies of Medicine and the McGill International TB Centre before beginning a longer postdoctoral research project hosted by the Center for Research in Medicine, Science, Health, Mental Health, and Society in Paris. He is also an associated researcher the Foundation for Medical Research, Mumbai and Harvard Medical School's Department of Global Health and Social Medicine. His work has been published in sources ranging from *Medical Anthropology Quarterly* to *PLoS ONE* to *The Journal of African and Asian Studies*. His paper "Mohit's pharmakon: Symptom, rotational bodies, and pharmaceuticals in rural Rajasthan" won the Society for Medical Anthropology's 2018 Steven Polgar Professional Paper Prize.

Prof. McDowell specializes in medical anthropology, South Asia, the anthropology of science, and global health. His research interests center in India on the interplay between forms of social life and tuberculosis. He conducted ethnographic research in rural Rajasthan, India. There he lived with people and families affected by tuberculosis to observe and participate in processes of care, aspiration, and mourning. He is developing this dissertation research in a book. In it he examines what these tubercular processes and breathy relations might say about *atmospheres* as units of social analysis.

Prof McDowell also researches medical practice and global health interventions in Mumbai's private-sector clinics. Observing health care in areas of the city official designated as 'slum,' he studies the social, technical, financial, and epistemological processes that physicians mobilize to identify a single disease—tuberculosis—in a landscape dense with pathologies, physicians, and pharmaceuticals.

This fall he will teach Introduction to Cultural Anthropology and Anthropology of Science. Andy is very excited to join the department and Tulane community.



A Perspective from a Recent Alumna

By Emily Gatehouse



When I was in 6th grade I decided I was going to be an anthropologist - whatever that meant. Seven years later I enrolled at Tulane with a declared major in Anthropology. That was the last linear life choice I ever made. Now I'm a Spanish teacher for Pre-K, 2nd, and 3rd graders at Morris Jeff Community School in MidCity. Wait, what?

One of the hardest things for me to understand and accept was that I could do all the things I was supposed to do and still not attain my goals. I checked all the boxes: I made honor roll (mostly) in high school, I got into the college I wanted, I had the major I wanted, I made the Dean's list (mostly), I got my Master's (also from Tulane - 4+1 in Anthropology), and I graduated. Then, I couldn't get hired. This is my story of how I

went from an Anthropology student to a second-year elementary Spanish teacher. When I first started at Tulane, I wanted to be a forensic anthropologist. I immediately enrolled in Dr. John Verano's Intro to Forensic Anthropology class. I was hooked. I continued down the physical anthropology path with Osteology, Bones, Bodies and Disease, and I also picked up a Latin American Studies double major somewhere along the way. With the Latin American Studies double major, I focused on dictatorships, genocide, and political uprisings - all of which supported my ambition to be a forensic anthropologist.

By second semester junior year I was sure, very sure, that I wanted to be a forensic anthropologist working on mass grave projects to identify and reunite families with their loved ones. Then, I studied abroad in Buenos Aires, Argentina and everything changed. My focus in Argentina was political human rights with a lens towards memorialization. I also, accidentally, had an internship at Parque de la Memoria. It was in Argentina that I realized I liked working with the living rather than the dead. I also decided that I was more interested in reconciliation and memorialization after a disaster.

Remember, I decided this at the end of second semester junior year.



Senior year I changed my academic focus from Anthropology to Latin American studies and spent all of my time and energy learning about memorials and memorialization. Senior year was over, and I was not ready to find a job. Luckily, I had already been accepted into the Anthropology 4+1 program. Honestly, there's not much to report from 4+1; it served its purpose of postponing my entry into the "real world" and gave me an MA on my resume. Then it was time to graduate. I panicked. I still didn't know what I was going to do, where to begin, or even what I was really interested in.

But it didn't matter; I needed a job. I applied for anything and everything, including TeachNOLA, where I would have earned my teaching certificate, but I did not want to be a teacher. Finally, I was hired part-time to tutor high school in humanities. Then I was hired part-time to help run an after-school arts program. On the side I volunteered (40 hours a week) with a social arts program, One Million Bones, to help raise awareness about genocide - the only job related to my interests and goals from college.

Within six months I was fired from the arts program and promoted at the tutoring center. A year later One Million Bones ended, and I was still working only 30 hours a week at the tutoring center. Fast forward another year and I quit the tutoring center - now leaving me jobless. For the next three and a half months I desperately tried to find another job, preferably full-time with health insurance. During this time, I truly could not get hired anywhere. I had two higher education degrees, three years' experience, and all the drive in the world. It didn't matter. Eventually I was hired as a



part-time hostess at Jacques-Imo's. I continued applying for jobs; I even applied for a job at Tulane. I made it to the second round of interviews but didn't get the job.

This was one of the most demoralizing experiences. I didn't understand how it was possible that I had done all the right things, checked all the boxes, done everything I was told would get me a job - and it didn't matter.

I cried. A lot.

Through all of this I stayed in contact with professors from Tulane and with my bosses from One Million Bones. It just so happened the directors of One Million Bones were launching a new social arts program in Santiago, Chile. Three and a half months after quitting my tutoring job and getting hired as a hostess I was on a plane back to South America. Working in Chile on the project *En la Luz* was the closest I have ever come to my dream job. Unfortunately, my dream job came to an abrupt end when funding for my position didn't pan out. That's right, eight months after I left for South America I was back in New Orleans and jobless, again.

Once again, I was applying to any and all jobs, I might be remotely interested in. I also started working at Jacques-Imo's again. I also applied for the same position at Tulane I interviewed for a year earlier. (I actually applied for many jobs at Tulane and got no interviews). This time, I had an interview with Tulane and within a week of returning, I was gainfully employed. Three years after I graduated, I was back at Tulane and for the first time working a full-time job with benefits.

I worked five jobs in three years.

I spent the next three years working an entry level job. Two years into my job it was time for a change, and I began applying for jobs that met my new career ambitions. By now I decided I wanted to work at a museum in outreach and education - this would be a good mix of my professional experiences and my aspirations from college. I applied for jobs at museums, universities, non-profits, and everything in between. (Sidenote: I kept working at Jacques-Imo's this whole time. In total, Jacques-Imo's was my longest and most stable job.)

Just as before, I maintained my relationships with professors from Tulane and connections from my previous jobs. This time Edie Wolfe mentioned that Morris Jeff was looking for a Spanish teacher. There were two things that terrified me: speaking Spanish professionally and teaching. Remember when I said I *mostly* made honor roll in high school? Spanish was the only class in which I consistently made Cs. And teaching, well I was pretty sure I didn't want to teach, that's why I didn't accept TeachNOLA's offer. But I needed a change, so I figured why not?

One year later - seven years after graduating from Tulane - I could not be happier. Teaching elementary Spanish has been the most challenging and satisfying experience. Sometimes I feel silly that I didn't accept the TeachNOLA offer, and I used to be mad that I got fired from the after-school program, and I used to be frustrated that I wasn't offered the Tulane job the first time around. But I can wholeheartedly say that if I had taken the TeachNOLA job right after graduation I wouldn't have been ready, and I would have been burned out. If I hadn't been fired from the after-school



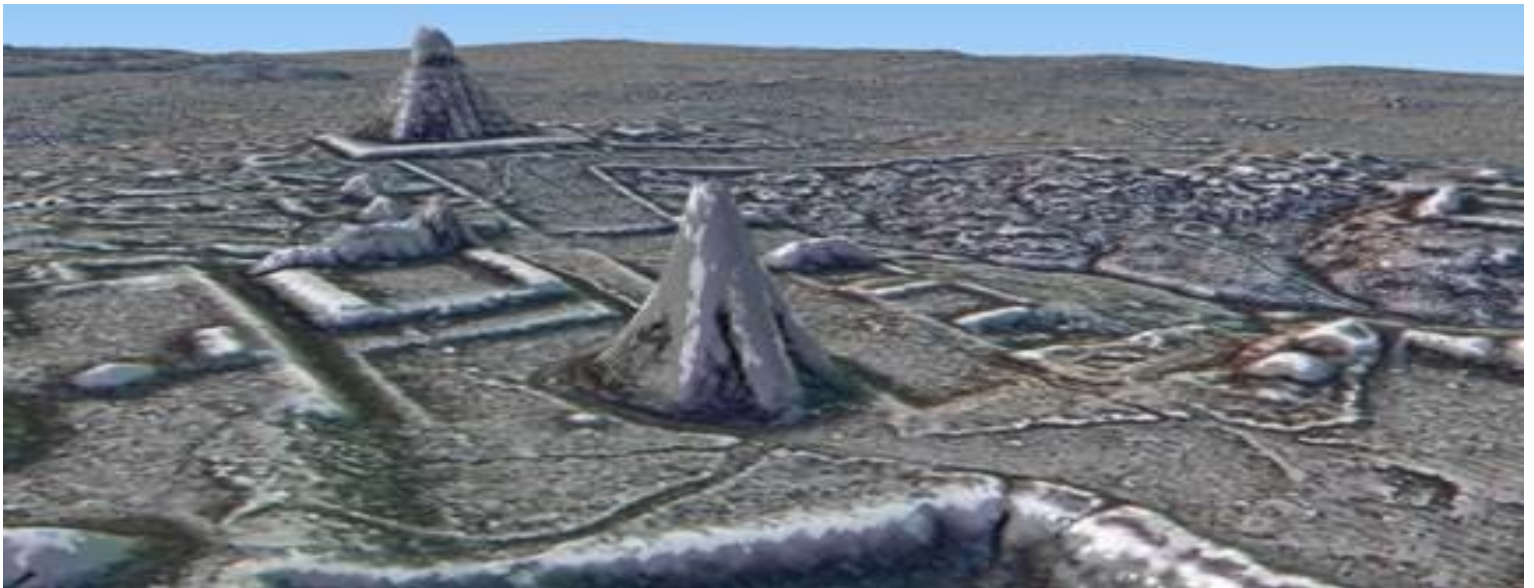


program, I wouldn't have been able to advocate for my promotion at the tutoring center. If I had been offered the job at Tulane the first time, I never would have been able to live abroad and do my dream job, even if it was only for five months. I don't know why my post-graduate path has taken me where it has, but I can say that I wouldn't change it (ok, I would have liked health insurance a little sooner and I could do without some of the crying) because it has truly prepared me to be where I am supposed to be right now.

Profs. Canuto & Estrada-Belli's LiDAR Work Pays Off

The last academic year has been an amazing one for Prof. Marcello Canuto, Professor of Anthropology and Director of the Middle American Research Institute (MARI). First, in September 2018, he and his colleagues on the La Corona Regional Archaeological Project (PRALC) in northern Guatemala uncovered at La Corona an altar, engraved with hieroglyphics, and dating to 544 CE, that provided evidence for a previously unknown king, Chak Took Ich'aak, who had ties to both Dzibanche, the capital of the Kaanul kingdom, and also the neighboring city of El Peru-Waka.

Then, in September 2018, Prof. Canuto, Tulane Research Assistant Professor (and Director of the Holmul Archaeological Project) Francisco Estrada-Belli and their colleagues published an important paper entitled "Ancient lowland Maya complexity as revealed by airborne laser scanning of northern Guatemala" in the prestigious journal *Science*. This contribution detailed the discovery of dozens of ancient cities in lowland Guatemala via the use of LiDAR (Light Detection and Ranging) technology. This technology greatly increases survey capacity, by penetrating dense jungle plant cover from the air, revealing a much denser settlement in the region than anyone had previously imagined. Among the many findings of note, via LiDAR Canuto, Estrada-Belli, and their team discovered 61,480 ancient structures, yielding an estimated population size in northern Guatemala of around seven to eleven million people during the height of the Late Classic period (ca. 650-800 CE).



View of the famous Maya site of Tikal (looking strikingly similar to the forest moon of Yavin IV) produced with LiDAR data. Credit: PACUNAM/MARI Director, Marcello Canuto and Luke Auld-Thomas, PhD candidate. Photo by Paula Burch-Celentano

Anthropology: Who Would Have Guessed It?

By: Angel Carter

When I first started college, I wanted to become a Doctor of Medicine. I came in being like “Pre-Med, Cell and Molecular Biology major, and Medical School? SIGN ME UP!” So, I started taking all the classes and fell in love with the science of it all (pun intended). I just continued to take science courses and rake them in through freshman year. It wasn’t until the very end of freshman year that I went through a little bit of a meltdown about what it is that I wanted to do. I was at the end of my second general chemistry, and I was struggling to get to that last little bit before the final and really couldn’t handle the daunting task of even thinking about organic chemistry. I felt as if I was volunteering for tribute every time my academic adviser would remind me that I had to take it sophomore year. I felt suffocated.

I was going through the motions and taking courses because they were “required”, but I didn’t really enjoy them. Not because of my teachers or classes, but because I had lost my love for the sciences. I was a “has been” after one year. So, I told myself that sophomore year I would take a single class that I wanted, that wasn’t a requirement, just something I had always been interested in. I looked at a selection of courses and found Anthropology. My first thought like any student obsessed with movies was “*gasp* Indiana...Jones”. From when I was a little girl, I had always loved archaeology and the fantasy worlds that Harrison Ford created, however, I knew that was fantasy and I wanted to do archaeology...for real. Enter: Professor Tatsuya Murakami and his “Introduction to Archaeology” course. I don’t mean to sound dramatic, but let’s just say choosing to take that course was one of the single best days of my college career. From the first moment I stepped into that classroom I knew that I no longer wanted to be pre-med or a Doctor of Medicine, I wanted a Ph.D. in Anthropology and I wanted a background in Public Health to eventually one day work for the Center for Disease Control or the FBI. I dropped pre-med, took up a double major in Anthropology and Cell and Molecular Biology and never looked back.

Let me just say that I have NEVER felt more certain of myself than I did doing my anthropology major. The one Professor, who I will never forget, who single handedly confirmed my beliefs about my career goals was Dr. Melina Calmon-Silva. At the time that I was still fresh and entering the Anthropology world, she was



a graduate student pursuing her Ph.D. and she just so happened to be teaching a forensics course that I had the absolute pleasure of taking. Over the course of that semester sophomore year and then eventually into present day, she worked with me and became a teacher, friend, and mentor.

It was so refreshing to be engaged with professors like her that truly cared about what I was interested in and willing to push me to challenge myself within my work. Every class I took with Dr. Rodning, Dr. Verano, Dr. Masquelier, or Dr. Zender all led me to believe that I had made the right decision. Being an anthropology student taught me more about the world, how to think critically, and genuinely understand people for who they are and where they come from. It’s taught me that there is so much more to the world than we think and to open my mind to truly understand that. It helped me to connect with different cultures, societies, environments, languages, and literally every other aspects of our life that you can think of. I ended up graduating early from Tulane with a B.S. in both Anthropology and Cell and Molecular Biology and am quite pleased to say that I have no regrets.

I was fortunate enough to get a job as an Admission Counselor this past March in Tulane’s Office of Undergraduate Admission, and this job is all about connecting with people from all over the world no matter the background or culture they come from. Anthropology has impacted my view a lot in that it’s a study of what makes us “us,” in all its complexity, and my job as an admission counselor is to do just that. It’s to “study” what makes a student unique and what experiences have helped them to become who they are at the time they are applying

to college. Furthermore, whenever I start to read an application, or visit a high school, or talk with students, I know I'm going to try and constantly remind myself of this. I want students to feel that no matter their background they can feel represented on this campus, and whenever students come to me asking about university issues, I can truly be the best representative while also making sure they understand the real deal about our university's flaws and strengths.

So...long story short, Anthropology has made a big impact in my life. It has encouraged me to take a step back and look around at the interactions and relationships that people build and the cultures that are so unique to every single one of us that there is no way we can say that there is just one way to be human. Therefore, for anyone reading this who may be interested in looking into the vast world that is Anthropology, I highly recommend you start with one class...one professor...and find one anthropology student to nag because at the end of the day all we, as students, want to do is tell you all the things we love about our anthropology department. I know that for me at a time that most college students were discovering themselves, I was simultaneously discovering a much bigger world than I'd ever imagined. I caught a glimpse of the many ways there were of being happily human and trying to understand others gave me a clearer sense of who I am. It is my hope that it does the same for you.

Professor Adeline Masquelier Spends 2018-2019 Academic Year in Denmark

The Department is delighted to welcome back to New Orleans our friend and colleague Professor Adeline Masquelier, who was awarded a prestigious AIAS-COFUND fellowship from the Aarhus Institute of Advanced Studies to spend the 2018-2019 academic year at Aarhus University, on the east coast of Jutland in Denmark. The project on which she spent the year working is "Haunted Schools: Schooling, Possession, and Ecology in Niger," which promises to be the title of her fourth sole-authored book.

Professor Masquelier has had a long research interest in spirit possession, and her new book will focus on schoolgirls in Niger who have become possessed by spirits – spirits made homeless by the felling of trees to build new schools and/or expand existing ones. What she finds fascinating about these particular spirit possessions is how they highlight the ways in which schools have become a nexus in that they are loci in which the future is created (i.e., the education of girls), but at the same time, the spirits in these haunted schools are beings from the past – beings who draw the students back to an ancestral space-time.

Professor Masquelier has been extremely productive in recent years. Her volume *Critical Terms for the Study of Africa*, which she coedited with former Tulane English Professor Gaurav Desai (now at the University of Michigan), was published by the University of Chicago Press in 2018. In 2019, her third sole-authored book, *Fada: Boredom and Belonging in Niger* will also be published by the University of Chicago Press.





CONGRATULATIONS CLASS OF 2019!

Sammi Jo Albucker was graduated BA *summa cum laude* with departmental honors in May 2019 with a double major in Anthropology and Film Studies and a perfect 4.0 GPA. She was elected to the William Wallace Peery Society, established in 1964 in memory of William Peery, Professor of English and Dean of the College of Arts and Sciences. Membership in the society is awarded to those students who have earned the highest cumulative grade point averages over the course of their undergraduate careers. Ms. Albucker was also this year's recipient of the Arden King Award for Excellence in Anthropology. This fall she will begin working toward her MD at the Tulane University School of Medicine.

Jillian Aveni was graduated BS *cum laude* in May 2019 with a double major in Anthropology and French, and a minor in Psychology. This fall she will enroll in the new Pathologist Assistant Program at the Tulane University School of Medicine.

Melina Calmon de Silva was awarded her PhD in May 2019. Her dissertation was entitled "The Increasing Role of Forensic Anthropology in the Investigation of Missing Persons, Unidentified Remains, and Cold Cases." She is already a leading voice in forensic anthropology in Brazil, and in that capacity, she has recently begun a position working for International Red Cross in Baghdad.

Angel Carter was graduated BS in Anthropology with a minor in Cell and Molecular Biology in December 2018. She carried banners at both the unified graduation ceremony and the SLA graduation ceremony this May. She is now an undergraduate admissions counselor here at Tulane.

Juliet Chin was graduated BA *cum laude* in May 2019 with a double major in Anthropology and Digital Media Production. She produced a documentary called "Looking for Mr. Chin."

Hannah Cohen was graduated BA *summa cum laude* in December 2018 with a double major in Anthropology and Environmental Studies. She was also elected a member of the Tulane 34 Award, presented to 34 graduates from Tulane's 10 schools and colleges in recognition of their exemplary leadership, service, and academic excellence. She is currently enrolled in the Department's "4+1" MA program.

Grayson Dinovitz was graduated BA *magna cum laude* in May 2019 with a triple major in Anthropology, Asian Studies, and History, and a minor in Chinese. She is going to Stanford to pursue an M.A. in East Asian studies, with interests beyond that in international law.

Alana Garvey was graduated BA *cum laude* in Anthropology with departmental honors with a minor in History in

May 2019. She was also the recipient of the Robert Wauchope Prize for Excellence in Anthropology and was this year's Senior Scholar in Anthropology. This spring she also won the Stone Center for Latin American Studies student paper prize, and she did summer archaeological fieldwork in Peru in both 2018 and 2019, and will begin our "4+1" MA program this fall.

Emma Hawkes was graduated BA *magna cum laude* with departmental honors in May 2019, with a double major in Anthropology and Economics. She was also elected a member of the Tulane 34 Award, presented to 34 graduates from Tulane's 10 schools and colleges in recognition of their exemplary leadership, service, and academic excellence.

Gillian King-Bailey was awarded her PhD in May 2019. She was elected a member of the Tulane 34 Award, which is presented to 34 graduates from Tulane's 10 schools and colleges, recognizing them for their exemplary leadership, service, and academic excellence. She won this award in part for her work with Girls in STEM, and for teaching at the Louisiana Women's Prison. Her dissertation was entitled "The Behavior and Endocrinology of Dominance in Female White-Faced Capuchin Monkeys (*Cebus capucinus*) in Sector Santa Rosa, Costa Rica." In July she began a position as Graduate Studies Analyst position at Sonoma State University.

Jillian Provost was graduated with a BA in Anthropology and Linguistics in May 2019, and was this year's recipient of the Victoria Bricker Award for Excellence in Linguistic Anthropology. This fall she will begin the "4+1" MA program in Anthropology here at Tulane.

Michael Saunders was awarded his PhD in May 2019. His dissertation was entitled "The Resilient Social-Ecological Landscape of a Maya Community."

Mary Stough was graduated BA *magna cum laude* with departmental honors in May 2019. She had a double major in Anthropology and Psychology, and was awarded the Elizabeth Watts Award for Excellence in Biological Anthropology. This fall she will begin the MA program at the University of Alaska-Fairbanks.



AWARDS & ACCOMPLISHMENTS



Professor Katharine Jack was the 2019 winner of the School of Liberal Arts (SLA) Faculty Research Award, presented at the SLA picnic in May. Professor Jack earned her PhD from the University of Alberta in 2001, and has been on the Tulane faculty since 2003, having most recently been promoted to the rank of Professor in 2016. A biological anthropologist, Prof. Jack is a field primatologist who works with Neotropical nonhuman primates, in particular, white-faced capuchins (*Cebus capucinus*), which aside from humans and chimpanzees are the most highly-encephalized primates. She has recently taken over as director of a long-term (over 30-year) field study of wild primates in the Santa Rosa National Park in northwestern Costa Rica. This critical Neotropical field site has been the source of reams of longitudinal data – data that have answered multiple questions regarding the evolution of primate behavior, and which have uprooted old, almost orthodox ideas. This summer she brought 3 Tulane undergraduates to Santa Rosa to collect new data on the capuchins.

At mid-career, Professor Jack has already amassed an amazing publication record. She is co-author of an astonishing 35 articles in peer-reviewed journals. She has also published an additional 7 entries and other “lesser” publications in a variety of venues, with many papers in various stages of completion. She has also been very active in terms of posters and presentations, having participated in 45 such presentations in her career. This is simply amazing research productivity for a scholar in anthropology and is more in line with the number of publications that come out of highly-funded and well-staffed research laboratories in the “hard” sciences. Her articles have appeared in a host of top-tier anthropological and biological journals such as *Behaviour*, *American Journal of Physical Anthropology*, *Conservation Biology*, *Animal Behaviour*, *General and Comparative Endocrinology*, *American Journal of Primatology*, and *International Journal of Primatology*. Primatological colleagues from other universities describe her as “widely regarded as an international authority in the area of primate behavioral ecology,” “[with a] program of field research [that] is exemplary and stands at the vanguard of the field,” and as “a productive scholar [whose] excellent record of independent empirical research, and ongoing commitment to the Santa Rosa capuchin project and 5-year research statement show every sign that her productivity will continue.” Other scholars emphasize the importance of her commitment to long-term field research. In a letter to the department chair, one notes: “The well-defined research strategy of nearly daily observations has resulted in one of a handful of databases on wild primates that can provide behavioral information on individuals from birth to death, a dataset that now exceeds 25 years.”

As evident from the above, Prof. Jack’s work is widely recognized as important, and as a result has earned significant extramural monetary support – she has secured over \$250,000 in research money from agencies such as the National Geographic Society, the National Science Foundation, the Louisiana Board of Regents (for which her project was ranked #1 in the state), and the L.S.B. Leakey Foundation.

But to focus solely on her number of publications or the amount of dollars she has secured for her research does her work a disservice. Her cutting-edge long-term work on alpha male capuchin monkeys, especially her recent hormonal work, is providing new and exciting insights into nonhuman primate (and even human) reproductive behavior. Specifically, she is attempting to quantify the metabolic costs and reproductive benefits of being the alpha male. This involves the analysis of hormone levels present in monkey feces, as well as determining the parentage of every infant born into the various monkey troops living in Santa Rosa. Given the laboratory science aspect of her research questions, these new insights are aided via Prof. Jack’s collaboration with biologists and psychologists. In addition, three of her doctoral students have completed their PhDs, while two others are currently in the research and/or write-up phase of their dissertations – dissertations that will answer further questions about primate ethology using data from the Santa Rosa capuchin monkeys. Hers is a busy and productive lab group, and importantly, her former students are employed as primatologists and/or conservation biologists!

STUDENT AWARDS & ACCOMPLISHMENTS

Nathalie Clarke and **Nelle Kulick**, both of whom are double majoring in Anthropology and Ecology and Evolutionary Biology, have each been named 2019 Goldwater Scholars. There are only six Goldwater Scholars from the state of Louisiana this year.

Davette Gadison, a current PhD student, was the 2019 graduate winner of the Dean Donald R. Moore Crest Award, which recognizes “one undergraduate and one graduate student who have served in significant leadership positions during the year, have embodied servant leadership, and exhibit exceptional character.” Davette will be working for the United Nations in Geneva this year.

Whitney Karriger, a current PhD student, was the recipient of the 2019 Selley Dissertation Fellowship. This year-long write-up fellowship is given to students in the social sciences whose dissertations deal with Europe. Ms. Karriger’s dissertation investigates cranial growth and development differences between European Neandertals and their “anatomically modern” *Homo sapiens* cousins.

Mary Kate Kelly, a current PhD student, received a prestigious Andrew W. Mellon Predoctoral Fellowship and will take up residence at the American Philosophical Society in Philadelphia this fall.

Tziporah Lax (rising senior) is off to Tanzania for study abroad in Fall 2019, and possibly study abroad in New Zealand in Spring 2020.

Dustin Reuther (current PhD student) was awarded a fellowship from the Gulf Research Program of the National Academies of Science, Engineering, and Medicine for his dissertation investigating climate change and its human impacts in coastal Louisiana.

Sarah Reynolds (current PhD student) was awarded a prestigious pre-doctoral fellowship from the West African Research Association.

Pritika Sharma (rising senior) spent the summer in India working on her honors thesis research.

Rachel Witt (current PhD student) was awarded a Lambda Alpha research grant to facilitate her dissertation investigating pre-Columbian diet, health, and population movements in Peru using stable isotopic data derived from human skeletal remains.

ANTHROPOLOGY ALUMNI NEWS

Benjamin Davis (BA 2014) finished his M.A. in anthropology at the University of Mississippi in May 2019, writing his M.A. thesis on architecture and mortuary practices at a pre-Columbian Native American site in the Yazoo Basin of northwestern Mississippi.

Julian Hahnebohm (BA 2016; MA 2017) is currently enrolled in the Teacher Certification program at Xavier University of Louisiana.

Rachel Horowitz (PhD 2017) is now in her second year as Visiting Assistant Professor of Anthropology at Appalachian State University in Boone, NC.

Maxime Lamoureux-St. Hilaire (PhD 2018) will this fall begin a position as Visiting Assistant Professor at Davidson College in Davidson, North Carolina.

Cristina Pop (PhD 2014) will this fall begin a tenure-track assistant professor position in the Medical Anthropology program at Creighton University in Omaha, Nebraska.

THE POPULAR PRESS AND HUMAN EVOLUTION

by Prof. Trenton Holliday

My spouse is an organic chemist who laments the fact that advances in her field are rarely covered in the popular press. In contrast, my chosen field of study, paleoanthropology (the multidisciplinary study of human evolution), attracts inordinate amounts of attention from the media. Each year brings multiple press reports announcing that scientists have pushed back the geological age for a hominin¹ species (“*Homo sapiens* a 100,000 years more ancient than previously thought!” or “Oldest human ancestor discovered”) – this is standard fare in newspapers and magazines across the globe. More strikingly, however, it sometimes seems that every month brings yet another article claiming scientists have overturned “everything” we previously knew about human evolution. These are the newspaper articles my friends and family send me, asking me to opine on them. If any of my friends or relatives are reading this, please know that nine times out of ten, I have not yet seen the article in question, as it has been “quarantined” prior to its release to the media. On occasion I am fortunate enough to have a quarantined article sent to me for commentary, and I have been the author on a few such quarantined articles myself. This much I can say, though – in no case in my fairly long career (I was awarded my PhD in 1995), have I seen an article that overturned “everything” we previously knew about human evolution – and most such articles have come as no surprise at all. As such, I thought I would use the “bully pulpit” of this newsletter to discuss two flawed ideas on human evolution that have perpetuated in the popular press. In this, I cannot say that the press is solely to blame for any and all misinformation. In many cases, as you will read below, it is the researchers themselves who make the very arguments I intend to debunk in this brief review.

The “Missing Link”

The popular press loves the idea of paleoanthropologists finding “missing links.” This is actually quite an old habit; the notion of a “missing link” between humans and apes has been around since at least the late nineteenth century, when German zoologist Ernst Haeckel predicted that fossils of such an “ape-man” would be discovered in Asia. What has always amazed me is that in 1887, a young Dutch physician named Eugène DuBois took Haeckel’s advice to heart, moving to (then-Dutch) Indonesia to spend his weekends looking for the missing link – and he found it! Specifically, in 1891 in Java at a site called Trinil on the banks of the Solo River, he discovered a primitive-looking, small-brained skullcap (Figure 1) that he later associated with an anatomically modern, clearly bipedal human femur he discovered in 1892. He dubbed this new species “*Pithecanthropus erectus*” (“the upright ape-person”). Today this find (or at least the skullcap thereof) is recognized as the holotype (or type specimen) of the species *Homo erectus*. After making this and other *H. erectus* discoveries, DuBois triumphantly returned to the Netherlands, convinced he had found the “missing link.” Unfortunately for him, many scientists (who have always been a skeptical lot) remained unconvinced, and told him that he had in fact discovered the remains of an extinct giant gibbon. Sadly, following this lukewarm reception for his

¹A “hominin” is a member of the tribe Hominini. A “tribe” is a rank in the Linnaean taxonomy that is more inclusive than a genus, but less inclusive/more restrictive than a subfamily. Perhaps the simplest way to express what a hominin is, is to state that it is any species that is more closely related to *Homo sapiens* (modern humans) than to any member of the genus *Pan* (i.e., the genus that includes chimpanzees and bonobos, humanity’s closest living relatives).

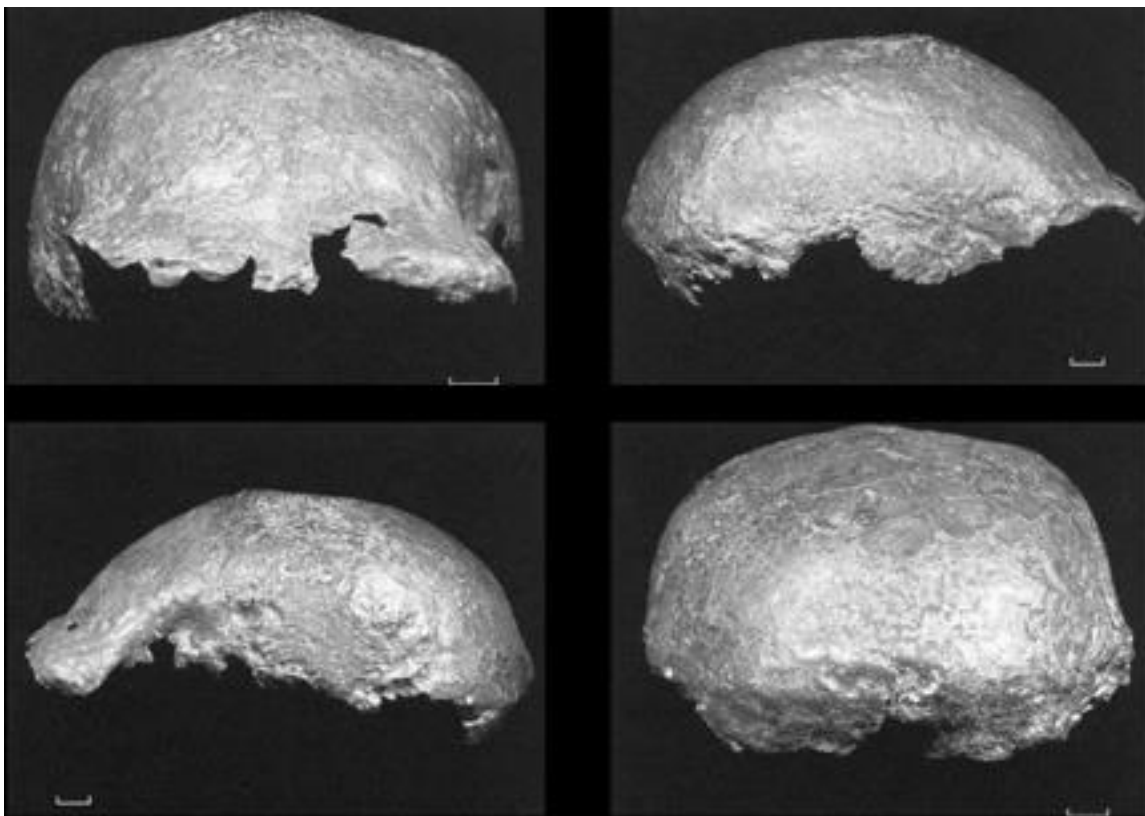


Figure 1. Four views of the Trinil 2 *Homo erectus* skullcap. Clockwise from upper left, frontal, right lateral, posterior, and left lateral views. Photos from Schwartz JH and Tattersall I (2003) *The Human Fossil Record (Volume Two: Craniodental Morphology of Genus Homo [Africa and Asia])*

fossils, DuBois fell into a state of depression, and hid the Trinil and other *H. erectus* fossils under the floorboards of his house, refusing to show them to anyone.

If we “fast-forward” to the twenty-first century, the whole idea of such things as “missing links” in paleoanthropology is antiquated at best, and misguided at worst. First, the idea of “links” implies the existence of a chain or a ladder back through geological time, with each link or rung representing a generation of ancestors and descendants. The notion of human evolution as a chain or ladder is no longer considered a viable explanation for the fossil hominin record – for most of human history, there were multiple species of hominins alive at any one time – such a pattern is better represented as a “bush” or “tree” than by a chain or ladder (Figure 2). In this light, many (if not most) of the hominin fossils we find are not our ancestors, but rather, were members of side branches to our own lineage. As a geneticist friend of mine is so fond of telling me, he knows his genes have ancestors; I cannot know that my fossils have any descendants.

A second issue with such a “chain” through geological time is that we know that the fossil record is not complete; only a very small percentage of organisms that ever lived become fossilized. Many organisms are completely ingested and digested by predators or scavengers. The skeletons of others dissolve away in hot, humid environments and/or acidic soils; still others meet their end as sedimentary rocks undergo enormous heat and pressure to metamorphose into metamorphic rocks. In this sense, then, there are untold millions of “missing links,” as the fossil record is at its core incomplete.

A final problem with the concept of a “missing link” is that it implies that there are no

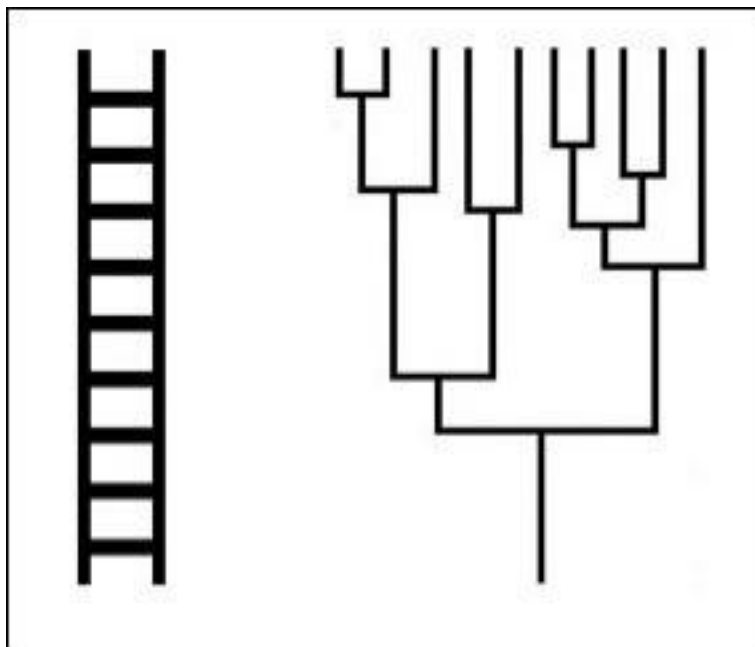


Figure 2. The “old” (left) and “new” (right) ways of looking at human evolution. “Missing links” are more apropos to the “old” (ladder, or chain) way of viewing evolution, and not the “bushy” relationship among ancestor and descendent species on the right.

“transitional” forms in the fossil record. This is simply untrue. As shown in Figure 3, for hominin evolution alone, we have recovered forms with brains smaller than those of chimpanzees. On the other hand, we have found other, later, fossil forms with modern human-sized brains, but brains which are found in a very different anatomical context, in terms of brow ridge size, cranial vault shape, and even limb bone, rib, or vertebral morphology. We have also recovered forms that fall comfortably in between these two extremes, such as our friend DuBois’ *H. erectus* specimens. I half-jokingly tell my students that if they saw a living Neandertal on a New York subway, they

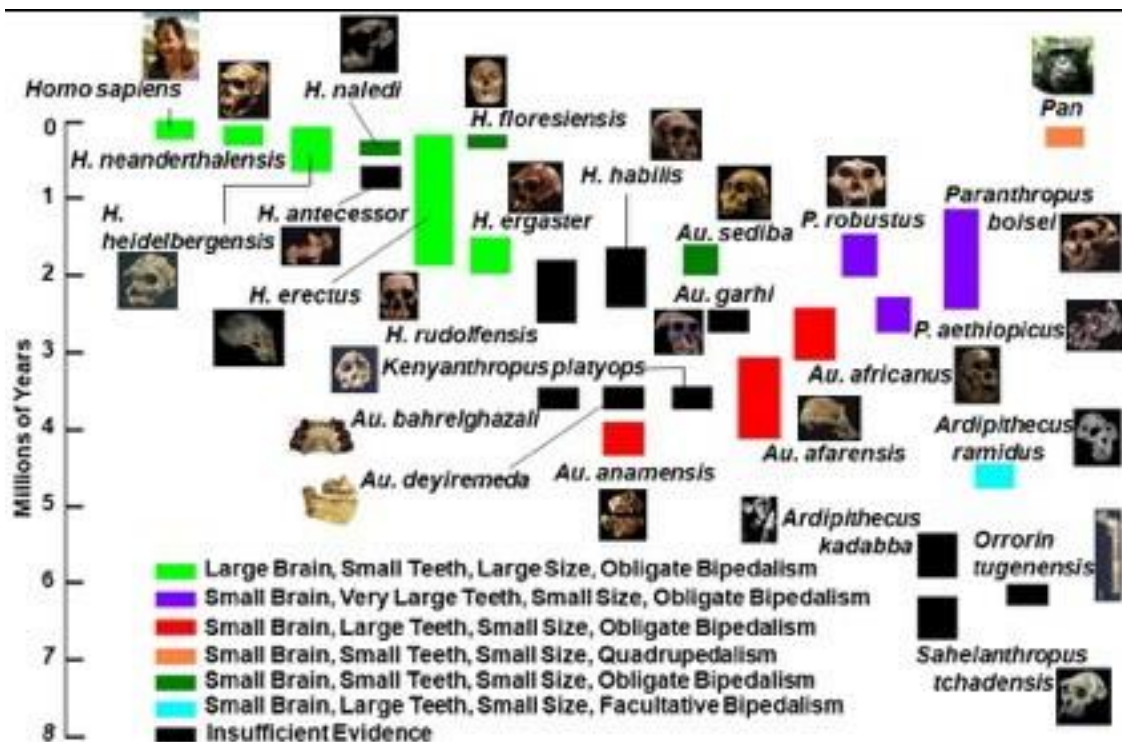


Figure 3. *Homo sapiens* (modern humans) and *Pan troglodytes* (chimpanzees) shown in temporal and anatomical relation to paleospecies of fossil hominins. Note that while I do not recognize all of these paleospecies as legitimate, there are still other species recognized by some paleoanthropologists that I have not included on this figure!

might move to the other side of the car, but were they to spot a live *Australopithecus afarensis* on that same car, they'd call the zoo (Figure 4)! In this sense, then, the fossil record is remarkably complete, and there are no missing links. We should also realize that we are today surrounded by untold numbers of potentially “transitional” forms of life. Try this thought experiment – imagine that multiple millennia in the future, a species of seal takes to living permanently in the sea, as whales and dolphins do. Millions of years in the future, today's seals would almost certainly be recognized as “transitional forms” relative to their completely aquatic descendants.

Neandertals' “Inability” to Interbreed with Modern Humans

Perhaps the most exciting event to occur during my professional career was the sequencing of Neandertal DNA. This was accomplished by two independent laboratories who announced the completion of a draft sequence of the Neandertal genome in the journal *Science* in 2010. What took the press by storm was the revelation that many people alive today have a small number of genes (ca. 2% of their genome) that they inherited from Neandertal ancestors – this, some 30,000 years after the last Neandertals disappeared from the face of the planet. The press were surprised by this because for 20 years they had been telling the story that Neandertals (*H. neanderthalensis*) were an evolutionary “dead end” who had nothing to do with the evolution of modern humans (*H. sapiens*). I wish to emphasize that while the 2010 announcement of the persistence of Neandertal genes was extremely exciting news, it was not a surprise to many of us paleoanthropologists. So, how, exactly, did this long-lived campaign of what I would call misinformation come to be? It started in 1987 with the publication in *Nature* of geneticist Rebecca Cann and colleagues' work on human mitochondrial DNA (mtDNA). The press' hardline anti-Neandertal ancestry position was then subsequently further cemented a decade later, with the 1997 publication in *Cell* of geneticist Svante Pääbo's team's sequencing of the original Neandertal specimen's mtDNA.



Figure 4. A comparison of what a “fleshed out” Neandertal might look like with how a “fleshed out” australopith might appear.

A little background is warranted here: in 1987 Cann specifically chose to work with mtDNA because it evolves quickly, since it lacks the more efficient repair mechanisms present in our chromosomal, or nuclear, DNA (nDNA). Also, as mtDNA is (almost always) maternally inherited, there is no need to control for the “crossing over” of maternal and paternal chromosomal information that one sees in nDNA. These two factors, she felt, would make mtDNA more utile for investigating recent human evolution (i.e., the evolutionary changes that occurred in the past million years or so). Her groundbreaking work analyzed mtDNA from 147 individuals. From these data she argued that the tree linking all living humans’ mtDNA was rooted in Africa (note that she used African Americans as a proxy for Africans). Then, assuming a mutation rate of 2% to 4% per million years, she argued that the last common ancestor of all the forms of mtDNA found today lived in Africa ca. 200,000 years ago (the press unfortunately took to referring to the ancestor who possessed this mtDNA as “Eve”). In addition, the first branch of the tree containing non-African “types” of mtDNA suggested that the expansion of *H. sapiens* beyond Africa occurred ca. 100,000 years ago. These dates were later than the presumed split between *H. sapiens* and *H. neanderthalensis*, and there did not appear to be any ancient mtDNA lineages among humans today, as would be expected had the two species come into secondary contact with each other and interbred. Given these findings, it was argued that the Neandertals contributed no mtDNA to any humans alive today.

Similarly, when the Pääbo group’s paper on Neandertal mtDNA came out in 1997 (with Matthias Krings as first author), the authors argued therein that Neandertal mtDNA sequences were radically different from those of living humans. In fact, the distribution of nucleotide differences between Neandertals and modern humans fell almost halfway between the distributions of nucleotide differences between *H. sapiens* and *Pan troglodytes* (chimpanzees). At the time of publication, their figure demonstrating this phenomenon (Figure 5) reminded me of Marcellin Boule’s 1911-13 publications of the La Chapelle-aux-Saints 1 (LC1) Neandertal specimen in which he took great pains to show how “primitive” and “chimpanzee-like” LC1 was (Figure 6). Surely, even if Neandertals and modern humans were separate species who did not successfully interbreed with each other, they were closely related species. Put simply, there is no reason to assume that the mtDNA of two species who split from each other ca. 300,000 years ago would be ca. “halfway” between the mtDNA of chimpanzees and modern humans, two species who last shared a common ancestor sometime between 6 and 8 million years ago.

Importantly, the “no DNA from Neandertals in modern humans” argument was further bolstered by a 2005 paper published in *PLoS Biology* by David Serre and colleagues (including Pääbo), in which mtDNA data from five early modern humans from Europe (the people who are frequently colloquially referred to as the “Cro-Magnons”) were analyzed. Serre and his team found no Neandertal mtDNA in any of the five early modern human fossils from which they were able to extract mtDNA (*Spoiler Alert: DNA evidence for Neandertal admixture extracted from a “Cro-Magnon” fossil was reported in 2015*).

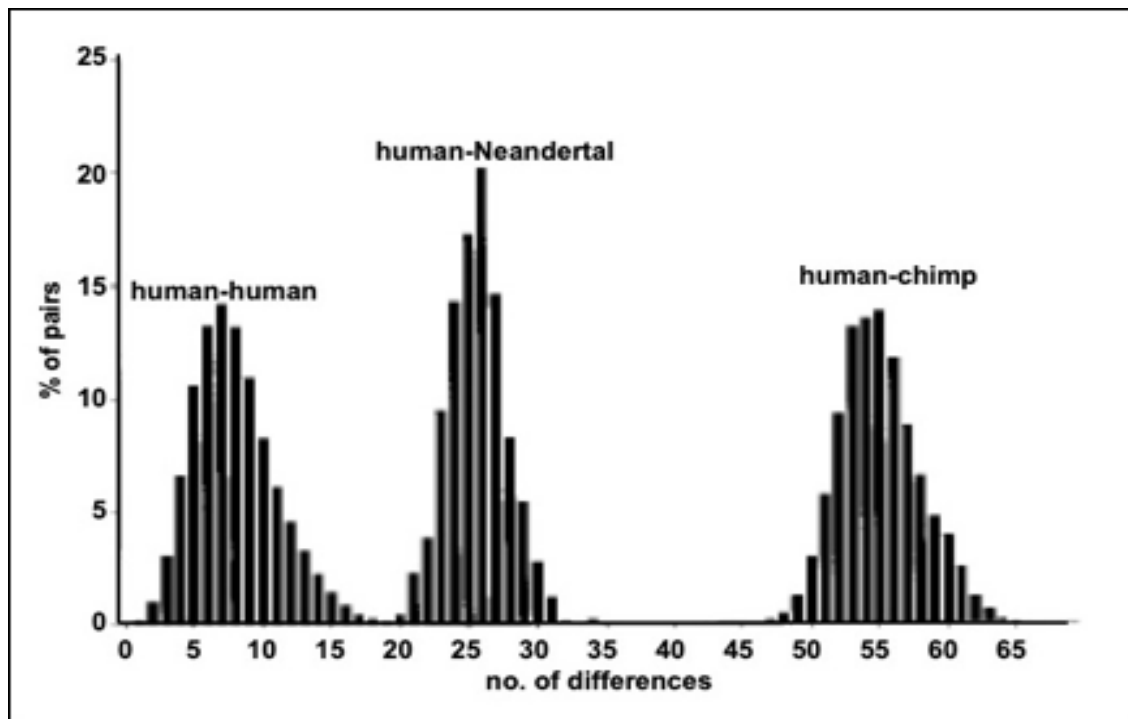


Figure 5. A graph representing the distribution of pairwise mtDNA nucleotide differences within and between a sample of humans, a sample of chimpanzees, and the Neandertal 1 individual. Modified from Krings et al. (1997) *Cell* 90:19–30.

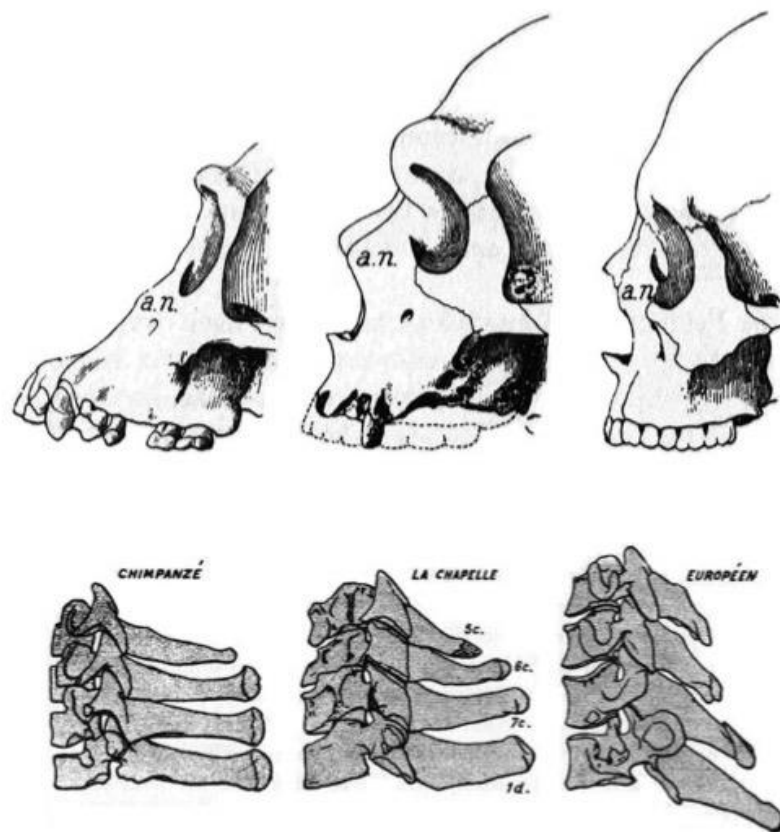


Figure 6. Marcellin Boule’s comparison from left to right of a chimpanzee, the La Chapelle-aux-Saints 1 Neandertal, and a modern European: crania above, lower cervical and first thoracic vertebrae below. Modified from Osborn, HF (1915) *Men of the Old Stone Age*.

Note that despite their rigor and importance, problems with the above papers' methodologies and/or interpretations were published in the 1990s and beyond. With regard to Cann's work, it was pointed out that maternally-inherited genome lineages suffer "extinction" each time a woman gives birth only to sons – sons who cannot pass on her mtDNA. Note that an interesting historical parallel to this phenomenon exists in cemetery studies, which have shown that many European paternally-inherited surnames have gone "extinct" over the last several hundred years when men sire no male children (or have no children at all). Yet another problem is that it is possible the mutation rate of mtDNA was not as high as the Cann et al. (1987) estimate, which could make the last common mtDNA ancestor much earlier than 200,000 years ago. Finally (and most critically), geneticists pointed out that the algorithms in the program Cann and colleagues used (PAUP, or Phylogenetic Analysis Using Parsimony) have a tendency to settle on local "optima" or "islands," and as such, the program needs to be run thousands of times with the data matrix input in multiple different orders. In 1991, geneticist David Maddison did just this; using Cann's data, he found 10,000 trees that were more parsimonious than the one published by Cann et al. (1987). Importantly, many of these trees were not rooted in Africa.

With regard to problems with the first Neandertal mtDNA paper, the authors of that paper themselves noted that the greatest number of nucleotide differences observed between any two recent human individuals was 24 base pairs, while the smallest difference between the Neandertal and any recent human was 22 base pairs. Thus, two of the modern humans were more different from each other than at least one human was to the original Neandertal! The authors of the paper also had to acknowledge that even if the mtDNA showed no evidence of admixture, it was *possible* that Neandertals had



Figure 7. A screencap of a younger me making the case for a Neandertal genetic contribution to modern humans, in the History Channel documentary "Clash of the Cavemen," released in 2008.

contributed nDNA to modern humans (although they deemed this highly unlikely), especially if it had been the male Neandertals who were exchanging genes with *H. sapiens* females. Over the next two decades, these and other problems with what I would deem the over-interpretation of the results of these seminal papers were pointed out in the scientific literature, but with regard to the popular press, such critiques seemed to fall on proverbial “deaf ears.” As far as the press were concerned, Neandertals were an extinct “dead end” species. From a personal perspective, since the late 1990s, I have argued in print multiple times that Neandertals likely contributed genes to at least some modern human populations (if any readers suffer from insomnia, I would be delighted to send you pdf copies of the papers in question!). In this light, I remain proud of the fact that in the (admittedly somewhat silly) History Channel documentary “Clash of the Cavemen,” filmed in 2007, I was the *only* paleoanthropologist interviewed who argued that Neandertals likely contributed genes to modern humans (Figure 7). For this I actually received “hate mail” telling me that I came across in the program as a “spoiled child” unwilling to accept self-evident facts. I sometimes wonder how those email-writers felt when the Neandertal draft DNA sequence was announced in 2010?

PROF. BALÉE TO SPEND YEAR IN FIELD



The Department is pleased to report that Prof. William Balée has this spring received two impressive accolades related to his research. First, he has been named a 2019 Guggenheim Fellow by the John Simon Guggenheim Memorial Foundation, which sponsors scholarship in a host of fields spanning the arts and sciences. This year, almost 3,000 applications were received; only 168 of these prestigious fellowships were given. As a result

of this fellowship, Prof. Balée, a luminary in the field of historical ecology, will spend the 2019-2020 academic year further documenting the historical ecology of the lower Amazon basin. Specifically, Prof. Balée’s work has shown that many seeming “pristine” old-growth areas in the lower Amazon basin have in fact been worked by human societies for centuries, if not millennia. Balée says the fellowship will give him the opportunity to spend the year doing research for his long-planned book on the historical ecology of the lower Amazon basin. Note that Prof. Balée’s work in 2019-2020 will not be limited to the lower Amazon basin, however—he is also Principal Investigator on a recently-funded National Geographic Society grant to study the “Historical Ecology of Waorani Ridgetops, Ecuadorian Amazon.” For this project he will investigate the anthropogenic impact of Waorani indigenous people on their landscapes in Ecuador’s Napo and Nushino River valleys, in the Upper Amazon region.

