

THE WARBLER

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Dear Student, Artist, Thinker,

Humans like to get to know and catalogue things, be they stars in the sky, fish in the sea, or books in a library. We want to understand what different things are so we can better see how they fit in with the rest of the world. Occasionally, we squabble over the definitions of what a thing is, like planets (sorry, Pluto) or debating whether or not a hot dog qualifies as a sandwich (it doesn't. Probably. Maybe.), but overall, we like to think we've got a pretty good handle on most things.

However, one question that has pricked our collective brains for millennia has been the question of **humanity** itself. What does it mean to be "human?" If you're a biologist, you might look at chromosomes and DNA; if you're a psychologist, you might look at neurons and brain functionality; if you're a theologian, you might look at the soul; and if you're a philosopher, you're probably still stuck on the question of "what *is* knowledge?"

In any case, there's not an easy answer. Some people point toward sentience, or our ability to be self-aware, to reason, to think. Yet, if we look closely at the world, we see other creatures that exhibit these abilities. Several species have passed what is called "the mirror test," or the capacity to recognize oneself when looking into a mirror (as opposed to thinking the reflection is a separate animal entirely). Specific kinds of elephants, birds, apes, and even fish have succeeded in recognizing themselves. Many more species are able to demonstrate compassion, humor, and curiosity — other traits we may attempt to use as the essence of humanity.

Personally, I tend to take a simpler view, and it's similar to the mirror test. Instead of looking in a mirror to see myself, I try to see myself by looking in other people, and by encouraging others to see themselves in me. It is a powerful moment to see struggle, discovery, disappointment, frustration, excitement, or relief in another individual and recognize how you've experienced those feelings as well. Being human, for me, is searching for those binding moments, where our common nature is more important than our divisions.

Read on, as humans, and think about what, and who, you see in these pages.

Kyes Stevens and the APAEP Team

“Every one of us is, in the cosmic perspective, precious. If a human disagrees with you, let him live. In a hundred billion galaxies, you will not find another.” CARL SAGAN // American astronomer, astrophysicist, and author

WORDS INSIDE

FROM "WILD BORDERS"...

ephemeral | transitory, or lasting for a short time

ursine | relating to or resembling bears

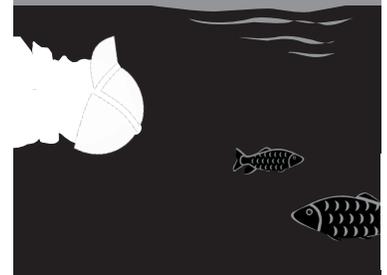
parlance | a particular way of speaking or using words, especially a way common to those with a particular job or interest

reciprocity | the practice of exchanging things with others for mutual benefit

FROM "LOOKING FORWARD"...

indefinitely | for an unlimited or unspecified period of time

moguls | people of perceived importance or power



PERSONAL HISTORY

Wild Borders

BY RUSS MCSPADDEN | *Orion Magazine* | September 23, 2019

My son, just five years old and spry, shambles down a small, dry, high desert wash beneath junipers and ocotillo, mumbling a song. I listen to his words, mostly fun nonsense rhyming words, for a hint that he gets it — gets the wonderful and desperate science of this place. His singing suddenly stops. “Feet!” he yells. He’s found a bear track in the sand near a holdout of water — snowmelt from the nine-thousand-foot peaks of the Chiricahua Mountains that rise just north of the U.S.–Mexico border. We see the claw points, heavy toes, and metacarpal pads dug in deep where the bear leaned in heavy for a drink. We can almost hear an ursine tongue lapping the ephemeral water. Farther on, mouse bones bleach under a sad flower, and my son collects a femur so tiny he has to ask if it’s a butterfly’s bone.

We come to this spot, traditional land of the Apache, several times a year not for its beauty — it must be told that much of the landscape seems to bend with want — but because it sits at the crossroads of four incredibly wild and diverse communities that I monitor with remote wildlife cameras for the Center for Biological Diversity. This area is, to borrow the parlance of Sedona hippies, a vortex of sorts: the bear tracks mark the place where the biotic communities of the Colorado Plateau lumber down from the north to mingle with the biotic communities of the Sierra Madrean archipelago that prowl up from Mexico. Likewise, the drinking hole the bear slurped from sits right where the Sonoran Desert to the west and the Chihuahuan Desert to the east collide, transition, and blur. If biotic communities were recognized nations, then this wash and the hillocks that surround us would definitely be an international highway running through a multicultural border town.

Biogeographic transition zones make strange bedfellows. During one remote camera check not long ago, my son and I flipped through video footage captured over a few weeks and saw coatis, javelinas, deer, ringtails, mountain lions, one human with a metal detector, one human with an assault rifle, three humans with light packs and weary gaits who seemed to be looking for a new start. We saw a roadrunner, a red-tailed hawk, a turkey vulture, a Gould’s turkey, cows, gray foxes, bobcats, and a black bear cub. We saw two mountain lions and a spider crawling across the camera. Then we saw a jaguar.

Yeah, a Jaguar.

We must have sat speechless for almost a minute. Though this would be the third wild jaguar spotted in Arizona since 2015 and the historical record shows they’ve lived in the Southwest for millennia, it’s not

the kind of thing that registers with modern American desert dwellers right away. Most jaguars this side of the border were wiped out by the early twentieth century. In the video clip, a handsome male jaguar sits roughly three feet from our camera, facing the lens, dappled and made more mysterious in the infrared’s black-and-white.

I sometimes bring my child on these work trips to “toughen him up,” but that language is more convenient, saltier, than precise. Besides helping him grow his hiking legs and grit, I want to teach him to be tender and open to the inconspicuous beauty that lurks out here. “Walk smartly,” I say. “Don’t trample a hedgehog cactus or step on a rattler.” I want him to learn to value emptiness and biodiversity. And he does. He pauses at every bug, fungus, and track. He stops at overlooks to look at nothing but distance — range after range unfolding. And despite the number of thorns and incisors and stingers, it’s a delicate place, and it’s in danger. Viewed from newsfeeds, these borderlands are, to some, poorly regarded, empty wastelands. Yet my son and I have experienced firsthand a jaguar rewilding this place, creeping up from the northernmost breeding population some 150 miles south of the border. In 2014, under the Endangered Species Act, more than 750,000 acres of “critical habitat” in southern Arizona and southwestern New Mexico were protected for jaguars. This is no wasteland. This is some of the most outrageously wild land in North America.

I’m hoping my boy senses that not all borders are so rigid, so alien and cold. I hope to teach him that the desert has its own beautiful borders, wild borders that are fragile and built of heart and photosynthesis and hunger and reciprocity. Wild borders that follow the constraints of sky and terrain, rain and sun and longing. ●



JOURNEY WITH-
OUT IT AND YOU
WILL NEVER
PREVAIL, BUT IF
YOU HAVE TOO
MUCH OF IT YOU
WILL SURELY FAIL.
WHICH IS IT?

lifehack.org

Edited
for space

WORD PLAY A Rebus puzzle is a picture representation of a common word or phrase. How the letters/images appear within each box will give you clues to the answer! For example, if you saw the letters “LOOK ULEAP,” you could guess that the phrase is “Look before you leap.” *Answers are on the last page!*

(INCOME)	Scissors Scissors	OFTEN OFTEN OFTEN	NOT
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PRIOFILE

A Lifetime of Planting Trees on a Remote River Island | Meet India's Forest Man

BY JULIE MCCARTHY | *National Public Radio* | December 26, 2017

On a journey to the little known Northeast region of India, you may encounter a dizzying array of traditional tribes, rugged beauty and wildlife, including the rare white rhinos. It's here we discover perhaps an even rarer creature: the "Forest Man of India." A humble farmer from a marginalized tribal community, Jadav Payeng has single-handedly changed the landscape in his state of Assam.

Payeng, 58, is reclaiming an island in the mighty Brahmaputra river where increased flooding has changed the flow and built up sandbars along the long stretch of the river that runs through the middle of Assam.

Payeng keeps the hours of an insomniac. We arrange ourselves in a boat for a short passage with him to his river island. By 4:30 a.m. we're gliding across a moonlit channel. A fish jumps — making perfect ripples on the water's still surface.

We alight on Payeng's island as the pink sky begins to push out the stars. The riverbanks are home to some 250 families from the Mishing tribe. Payeng explains that they have inhabited the area for eons, and there are no deeds or titles to land.

He hauls his boat ashore, unloads his bicycle and begins the daily 2-mile trek to his vegetable farm and his life's mission: reviving the ecosystem here.

When Payeng was a boy, the son of a poor buffalo trader, this strip of land in the middle of the river was attached to the mainland. Erosion from powerful river waters of the Brahmaputra severed it. He bends down to pick up a handful of earth to explain how the island's landscape has changed.

"Earlier, this was all sand. No trees, no grass — nothing was here. Only driftwood. Now, seeds of grass carried downriver from China wash up, and pollinate, on their own."

Today fields of swaying grasses stretch into the distance. Along with emerald pastures dotted with cows, cotton trees stand straight in rows as far as the eye can see — "excellent plywood," Payeng says. He planted them, his hands transforming this once barren island the size of Martha's Vineyard.

"First with bamboo trees, then with cotton trees. I kept planting — all different kinds of trees," Payeng says.

"It's not as if I did it alone," says the self-styled naturalist. "You plant one or two trees, and they have to seed. And once they seed," he adds reverentially, "the wind

knows how to plant them, the birds here know how to sow them, cows know, elephants know, even the Brahmaputra river knows. The entire ecosystem knows."

Jadav sought no permission to plant a forest. He just grew it, carrying on what he says is his Mishing tribe's tradition of honoring nature.

Payeng started planting here in 1979, stirred by a freakish site: dead snakes piled on sand in scorching temperatures, perished for lack of shade or tree cover.

"When I saw it, I thought even we humans will have to die this way in the heat. It struck me. In the grief of those dead snakes, I created this forest."

Over the course of nearly four decades, Payeng says he's planted so many trees, he's "lost count." He estimates there are "hundreds of thousands" of

them on the island now, groves so thick they shocked even the Forest Department when it stumbled on them.

Once considered "crazy" by local inhabitants, Payeng is celebrated today as a conservationist. Sitting in a meadow beside his forest, he credits a botanical scientist for nurturing his fascination for the natural world.

Whacking back foliage, this Mishing tribesman separates out poisonous plants from medicinal herbs. He drinks a concoction of herbs every day for his health. He smiles and says a hundred different herbs grown on his island make up the recipe for the local beer.

This father of three delights in the fact that wild elephants cross the shallow river waters to roam his forest. Island villagers complain the herd tramples their fields and destroys their homes. But Payeng defends the animals and says it is "man that must adjust" to these woods. When islanders suggest that Payeng cut back the forest to dissuade the beasts, he sternly warns, "You will have to kill me first before you kill the trees."

When asked how he has sustained his passion, Payeng strikes a metaphysical tone. "No one sees God," he says. "I see God in nature. Nature is God. It gives me inspiration. It gives me power ... As long as it survives, I survive." ●



Jadav Payeng, "The Forest Man of India," has planted tens of thousands of trees over the course of nearly 40 years. He has made bloom a once desiccated island that lies in the Brahmaputra river, which runs through his home state of Assam.

Image by Furkan Latif Khan/NPR

● Edited for space

MATHEMATICS

Sudoku

#77 PUZZLE NO. 5976183

	1		2	7				
5						4	6	
		2		5	3	4	8	
		9		1				
					4	9		3
		3			6			8
				9		1		
	4							9

©Sudoku.cool

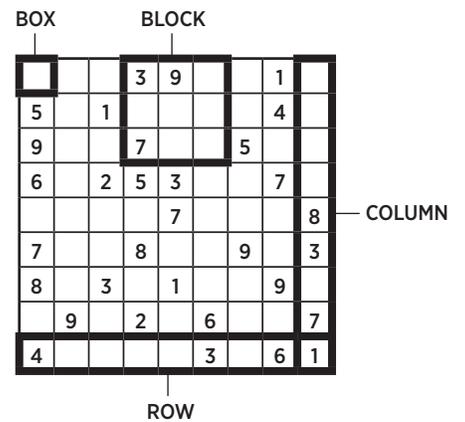
#78 PUZZLE NO. 5063048

8				7				6
	2			3			5	
		5		1	2		4	3
1			5		4		6	7
		3						
			7					4
6					8			
			3					8
		9		2				

©Sudoku.cool

SUDOKU HOW-TO GUIDE

1. Each block, row, and column must contain the numbers 1-9.
2. Sudoku is a game of logic and reasoning, so you should not need to guess.
3. Don't repeat numbers within each block, row, or column.
4. Use the process of elimination to figure out the correct placement of numbers in each box.
5. The answers appear on the last page of this newsletter.



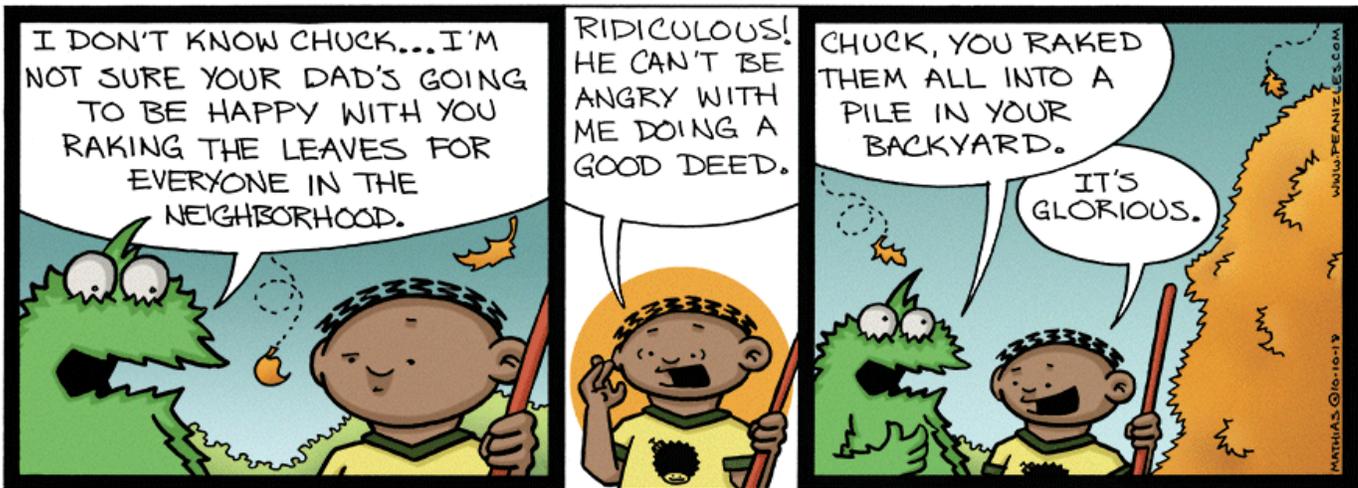
What the example will look like solved

2	4	8	3	9	5	7	1	6
5	7	1	6	2	8	3	4	9
9	3	6	7	4	1	5	8	2
6	8	2	5	3	9	1	7	4
3	5	9	1	7	4	6	2	8
7	1	4	8	6	2	9	5	3
8	6	3	4	1	7	2	9	5
1	9	5	2	8	6	4	3	7
4	2	7	9	5	3	8	6	1



“Darkness cannot drive out darkness; only light can do that. Hate cannot drive out hate; only love can do that.”

DR. MARTIN LUTHER KING, JR. // American minister and civil rights activist



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peanizles.com

DID YOU KNOW?

In 2017, at least 80 people **formed a human chain** to rescue a stranded group in the Gulf of Mexico.

Also in 2017, a man identified as Charlie K. walked into a Toys 'R' Us in New Jersey and **paid off 62 layaway orders** totalling more than \$10,000.

Father João Paulo Araujo Gomes of Gravatá, Brazil, **takes stray dogs off the street** and into his church. After finding a stray dog and taking them to a vet for a quick checkup, he brings them to his church services until they are adopted.

In Long Island City, Kindell Keyes, a Goodwill assistant manager, was sorting through donations and **discovered \$39,000** in cash tucked inside a purse, which she then returned to its owners.

Troubled by the Flint water crisis, an **11-year-old girl in Colorado invented a device** that takes only seconds (instead of days) to detect the levels of lead in water.

In 2015, an entire neighborhood in Istanbul, Turkey **secretly learned sign language** to surprise Muaharrem, a hearing-impaired resident.

Idiom

“No man is an island”

Meaning Expresses the idea that human beings need to be part of a community in order to thrive

Origin “No man is an island” is a quotation from the English metaphysical poet John Donne (1572-1631). It appears in *Devotions Upon Emergent Occasions* (1624):

*No man is an island entire of itself,
Every man is a piece of the continent,
A part of the main.
If a clod be washed away by the sea,
Europe is the less,
As well as if a promontory were,
As well as any manor of thy friend's,
Or of thine own were.
Any man's death diminishes me,
Because I am involved in mankind.
And therefore never send to know for whom the bell tolls;
It tolls for thee.*

Even if had Donne written nothing else, his creation of ‘no man is an island’ and ‘ask not for whom the bells tolls’ in one brief poem, would have lifted him into the premier league of English writers. Many of his poems are still widely admired and he is considered one of the finest poets to have written in English.

Of course, the second of the two proverbial phrases above was the inspiration for Ernest Hemingway’s 1940 novel *For Whom The Bell Tolls*. This likewise is regarded as one of Hemingway’s best works.

Source: phrases.org.uk | Edited for clarity

ART + CULTURE

Shaking Hands

BY PÁDRAIG Ó TUAMA | 27ú lá Meitheamh, 2012

Because what's the alternative?
 Because of courage.
 Because of loved ones lost.
 Because no more.
 Because it's a small thing; shaking hands; it happens every day.
 Because I heard of one man whose hands haven't stopped shaking since
 a market day in Omagh.
 Because it takes a second to say hate, but it takes longer, much longer,
 to be a great leader.
 Much, much longer.

Because shared space without human touching doesn't amount to much.
 Because it's easier to speak to your own than to hold the hand of someone whose
 side has been previously described, proscribed, denied.
 Because it is tough.
 Because it is tough.
 Because it is meant to be tough, and this is the stuff of memory, the stuff of hope,
 the stuff of gesture, and meaning and leading.
 Because it has taken so, so long.
 Because it has taken land and money and languages
 and barrels and barrels of blood.

Because lives have been lost.
 Because lives have been taken.
 Because to be bereaved is to be troubled by grief.
 Because more than two troubled peoples live here.
 Because I know a woman whose hand hasn't been
 shaken since she was a man.
 Because shaking a hand is only a part of the start.
 Because I know a woman whose touch calmed a man
 whose heart was breaking.
 Because privilege is not to be taken lightly.

Because this just might be good.
 Because who said that this would be easy?
 Because some people love what you stand for, and for
 some, if you can, they can.
 Because solidarity means a common hand.
 Because a hand is only a hand; so hang onto it.

So join your much discussed hands.
 We need this; for one small second.
 So touch.
 So lead.

WRITING PROMPT
 This writing is as much an argument as it is a poem; an argument for shaking hands and making peace. Write a poem that follows this structure: put your argument (or what should be done) as the title, and then compose a list of reasons to follow. Because, because, because!

poets.org

Pádraig Ó Tuama is the author of *Sorry for Your Troubles* (Canterbury Press, 2013). From 2014-2019, Ó Tuama was the leader of the Corrymeela Community, Ireland's oldest peace and reconciliation organization. He lives in Ireland.

Word Search

K	H	G	U	O	T	N	E	H	M	N	E	E	R
L	I	E	L	O	V	E	D	H	A	N	D	E	A
T	E	R	R	U	O	K	U	F	G	O	A	D	F
R	R	U	N	H	E	A	D	D	R	C	E	E	L
O	D	T	E	G	O	T	K	I	I	P	S	G	I
U	E	S	D	E	S	P	E	O	E	I	G	A	V
B	T	E	T	E	L	P	E	N	F	E	T	R	E
L	O	G	M	E	E	E	E	T	M	E	A	U	S
E	U	K	A	R	O	P	A	A	K	V	H	O	P
D	G	D	R	U	A	K	H	R	K	E	K	C	R
N	E	U	E	N	R	H	A	N	A	L	O	S	T
R	O	N	R	I	G	M	S	U	A	D	I	S	V
G	R	D	C	O	M	M	O	N	R	D	T	L	U
R	V	S	I	L	E	N	S	R	G	P	I	E	D

- | | | | |
|--------|---------|----------|---------|
| TOUGH | HOPE | HAND | LOST |
| SPEAK | GESTURE | TAKEN | COURAGE |
| LEADER | LOVED | TROUBLED | LIVES |
| GRIEF | MARKET | COMMON | |

FUTURE

Looking Forward to the End of Humanity

BY ADAM KIRSCH | *The Wall Street Journal* | June 20, 2020

Eternal life through advanced technology seems like a pipe dream for a society that, until recently, had trouble manufacturing enough masks to save doctors' and nurses' lives. Yet Covid-19 may turn out to be just the kind of crisis needed to turbocharge efforts to create what its advocates call a "transhuman" future. With our biological fragility more obvious than ever, many people will be ready to embrace the message of the Transhumanist Declaration, an eight-point program first issued in 1998: "We envision the possibility of broadening human potential by overcoming aging, cognitive shortcomings, involuntary suffering and our confinement to planet Earth."

Transhumanists, many of them associated with nonprofits and think tanks like Humanity Plus and the Extropy Institute, have long been driven by the fear that our entire species could be wiped out by nuclear war, asteroid collision, technological accident — or a pandemic.

People have always feared death and dreamed of escaping it. But until now, that hope has been formulated in religious terms. Transhumanism promises that death can be conquered physically, not just spiritually; and the movement has the support of people with the financial resources to make it happen, if anyone can. Jeff Bezos, Peter Thiel and Elon Musk are among the Silicon Valley moguls who have invested in life-extension research. In 2013, Google entered the field by launching the biotech firm Calico, short for California Life Company.

Transhumanists envision several possible avenues to immortality. Nanorobots could live inside our cells and constantly repair damage, halting aging in its tracks. Genetic engineering could eliminate the mechanisms that cause us to age in the first place. Such technologies are still out of reach, but transhumanists believe we will be able to master them sooner than most people think, with the help of superpowered artificial intelligence.

Ultimately, however, the hope is that we won't just use computers — we'll become them. Today, cognitive scientists often compare the brain to hardware and the mind to the software that runs on it. But a software program is just information, and in principle there's no reason why the information of consciousness has to be encoded in neurons.

The Human Connectome Project, launched in 2009 by the National Institutes of Health, describes itself as "an ambitious effort to map the neural pathways that underlie human brain function." If those pathways could be completely mapped and translated into digital 0s and 1s, the data could be uploaded to

a computer, where it could survive indefinitely. The physicist Michio Kaku has theorized that this is how humanity will overcome the logistical challenges of deep-space travel: "We're going to put the connectome on a laser beam and shoot it to the moon. In one second, our consciousness is on the moon. In 20 minutes we're on Mars, in eight hours we're on Pluto, in four years our consciousness has reached the nearest star."

This may sound like science fiction, but it's also the natural conclusion of the technological advances of the last 20 years. The internet has already made it largely unnecessary to physically visit places like banks, post offices and movie theaters, and the lockdown has given a big push to this trend. As our physical worlds shrink in an effort to avoid contracting Covid-19, our virtual worlds are expanding to make up for it.

The pandemic is also exposing one of the biggest challenges that will emerge along with the transhuman future: new kinds of social inequality that will make the existing ones seem minor. During the months of lockdown, a sharp division emerged between people who work with information — images, words, numbers — and people who work with objects — shelving groceries, delivering packages, nursing the sick. The former can shelter in place and communicate through screens, but the latter have to venture out into the physical world, putting themselves at risk of infection.

As technology makes it possible to escape more of the burdens and dangers of physical existence, this class and professional divide could deepen into an existential one, with a virtual elite being served by an embodied working class. Of course, wealth and power have always offered some insurance against life's risks. During the Civil War, Americans could pay a substitute to take their place in the draft; soon, you may be able to pay someone to take your place in the disease- and danger-ridden physical world, while you stay behind the safety of a screen.

A transhuman future in which mortality is optional may sound like paradise, but if it arrives sooner for some of us than for others, it could prove to be a dystopia. ●



THE PERFECTIONIST
WENT FROM
POINT A TO...

rd.com

Edited
for space

"It is unwise to be too sure of one's own wisdom. It is healthy to be reminded that the strongest might weaken and the wisest might err."

MAHATMA GANDHI // Indian lawyer, anti-colonial nationalist, and political ethicist

NATURAL HISTORY

Ten New Things We Learned About Human Origins in 2020

BY ELLA BEAUDOIN AND BRIANA POBINER | *Smithsonian Magazine* | December 29, 2020

The pandemic this year changed a lot about the world and the way we lived, including the way that paleoanthropologists, archaeologists and other field-work-based researchers operate. This year, we want to highlight the different lines of evidence that are used in human origins research. Since many scientific articles are years in the making, despite our inability to get out in the field, a lot of critical and exciting discoveries were still revealed in 2020.

ONE | In December, the longest trackway of fossil human footprints was announced by Matthew R. Bennett and colleagues. The 11,500- to 13,000-year-old, 0.8 mile-long (1.3 km) trackway, roughly the length of 14 football fields, was made by a woman or a juvenile male, holding a two- to three-year-old toddler while on their journey through a rough and dangerous landscape.

How do we know? Every so often the adult footprints pause and are joined by a child's footprints. The footprints go in a straight and definite line, and pretty fast, indicating a deliberate end target; they then return in the opposite direction, this time without the child.

But did Pleistocene humans always travel solo? Heck no.

TWO | Another 2020 announcement, this one in May from Chatham University's Kevin Hatala and colleagues (including Briana Pobiner), analyzed the largest fossil footprint assemblage in Africa. Some time between about 6,000- and 19,000-years ago, a group of modern humans walked through a mudflow in the shadow of Tanzania's Oldoinyo Lengai volcano. The 408 footprints left behind by 17 individuals help us to understand not only the heights and weights of the footprint-makers, but using statistical analysis based on a large data set of modern human feet, the team determined that the walking group probably consisted of 14 female individuals. Comparing this to ethnographic data from modern forager groups such as the Hadza in Tanzania, the team concluded that the footprints were probably made by adult females with occasional visits or accompaniment by a few adult males during a food gathering session.

THREE | Finally, footprints can simply reveal that humans were some place we didn't know they were

at that time, as Michael Petraglia and colleagues from the Max Planck Institute for the Science of Human History revealed when they took a look at 120,000-year-old human and animal footprints found on an ancient lake surface in a current Saudi Arabian desert. Before this discovery, the earliest evidence of humans moving into the heart of Arabia dated back to about 85,000 years ago.

FOUR | In October, a team led by Nina Jablonski and Xueping Ji from Penn State University and Yunnan Institute of Cultural Relics and Archaeology respectively, found three new *Mesopithecus pentelicus* fossils, about 6.4 million years old, in Yunan Province, China. These late Miocene fossils indicate that this ecologically versatile and adaptable ancient monkey lived in Asia at the same time as apes.

FIVE | Researchers now think monkeys rafted all the way across the Atlantic. In April, Erik Seiffert from University of Southern California and colleagues announced a new tiny soup-can-sized fossil monkey species, *Ucayalipithecus perdita*, based on four fossil monkey teeth that they found deep in the Peruvian Amazon. This newly discovered species belongs to an extinct family of African primates known as parapithecids, which are now the third lineage of mammals that made the more than 900-mile transatlantic journey from Africa to South America, most likely on floating rafts of vegetation that broke off from coastlines during a storm. Sounds improbable, but monkeys can survive without access to fresh water if they get enough food — like fruit that could have been growing on a tree and part of the vegetation raft.

SIX | In September, a team led by Hunter College's Christopher C. Gilbert announced another new fossil primate: this time from a fossil molar of an ape, *Kapi ramnagarensis*, about 13-million-years old and found at Ramnagar in northern India. This new species pushes the fossil record of gibbons back by about five million years, and provides significant information about when the ancestors of today's gibbons migrated to Asia from Africa — which was around the same time ancient great apes were undertaking the same migration.

“A Native American elder once described his own inner struggles in this manner: Inside of me there are two dogs. One of the dogs is mean and evil. The other dog is good. The mean dog fights the good dog all the time. When asked which dog wins, he reflected for a moment and replied, The one I feed the most.”



GEORGE BERNARD SHAW // Irish playwright, critic, and political activist

SEVEN | First, in April, a team led by Andy I. R. Herries from La Trobe University announced new fossils of both *Paranthropus robustus* (DNH 152) and *Homo erectus* (DNH 134) dating from between about 2.04 million and 1.95 million years ago, making these the oldest fossils of both of these hominin species. These finds demonstrate the contemporaneity of these two species at this site with *Australopithecus africanus*. DNH 134 pushes back the origin of *Homo erectus* by about 150,000 to 200,000 years.

And aspiring paleoanthropologists, check this out. Jesse Martin and Angeline Leece, who were both students attending a field school at Drimolen when DNH 143 was found in 2015, got to clean and reconstruct the skull. They had to hold the specimen, which consisted of more than 150 pieces of an approximately three-year-old child together, without coughing, sneezing, talking, and controlling their breathing — for up to 40 minutes at a time.

EIGHT | Drimolen seems to be the gift that keeps on giving us fossils. In 2018, the team found two more *Paranthropus* fossils, including the approximately 2-million-year-old DNH 155 adult male cranium (also found by a field school student Samantha Good). The analysis of this specimen suggests that differences previously ascribed to sexual dimorphism — differences between males and females — are actually examples of microevolution related to ecological change within this early hominin species.

NINE | One of this year’s big announcements, in October, was the first definitive evidence of Denisovans outside of Denisova Cave in Siberia, in a location about 1,740 miles away in Tibet. A team led by Dongju Zhang from Lanzhou University wanted to test the hypothesis that an approximately 160,000-year-old partial jawbone found by a Buddhist monk in Baishiya Karst Cave might be the remains of a Denisovan. First, in 2019, the researchers used a new method based on protein variations to identify the jaw as Denisovan; but the novel method and unknown exact location of where the jaw was found in the cave led to continued skepticism. Determined to find more evidence, Zhang and her team returned to the cave. They agreed to excavate only in winter in sub-zero temperatures and at night to avoid disturbing worshippers — and were rewarded by the finding of Denisovan mitochondrial DNA from the cave sediments that dated to between 100,000 and 60,000 years ago, and possibly as recently as 45,000 years ago. The research team also found charcoal from fires Denisovans built in the cave, as well as stone tools and fossil animal bones.

TEN | Also in October, a team led by the Max Planck Institute for Evolutionary Anthropology’s Svante Pääbo

and Diyendo Massilani analyzed an approximately 34,000-year-old modern human woman’s skullcap found by miners in 2006 — the only Pleistocene fossil currently known from Mongolia, as well as a modern human male skull from Tianyuan Cave in China that was about 40,000 year old. They found that both fossils contain DNA from both Neanderthals and Denisovans. What does this evidence mean for interactions and migrations among Eurasian Pleistocene populations? Well, it was... complicated. Because the Denisovan DNA sequences in these fossils are not found in present-day Oceanians (Australian Aboriginals and New Guineans), but they are found in present-day East Asians, modern humans must have met and exchanged genes with two different populations of Denisovans — one in Southeast Asia, and one in mainland Asia. This suggests that Denisovans once inhabited a pretty large area of Asia. Looks like it’s time to find more Denisovan fossils. Fingers crossed! ●



THIS BELONGS TO YOU, BUT EVERYONE ELSE USES IT. **WHAT IS IT?**

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RANDOM-NEST

Dualism Vs. Monism

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The mind-body problem is an important issue in philosophy. It involves the eternal question of whether the mind, brain, and soul are one and the same or are distinct and separate. In an attempt to solve this problem two schools of thought emerge: namely, dualism and monism. Deciding which of these you believe may affect how you define what being “human” means.

BELIEF

Dualism | the belief that your mind and body are distinct and separate from each other. Philosophers who supported this view: Plato, Aristotle, and Rene Descartes.

Monism | the belief that your mind is just part of your body and therefore the same. Philosophers who supported this view: Heraclitus, George Berkeley, and Baruch de Spinoza.

EXISTENTIAL VIEW

Dualism | All existence is separate and distinct. Individuals are clearly different from the concept of supreme self, i.e. body and soul are two distinct entities, and upon the death of the body the soul remains a distinct entity.

Monism | All individuals exist as one, and have the same potential. Upon the death of the individual, the consciousness merges with a common supreme self (individual becomes one with God, so to speak).

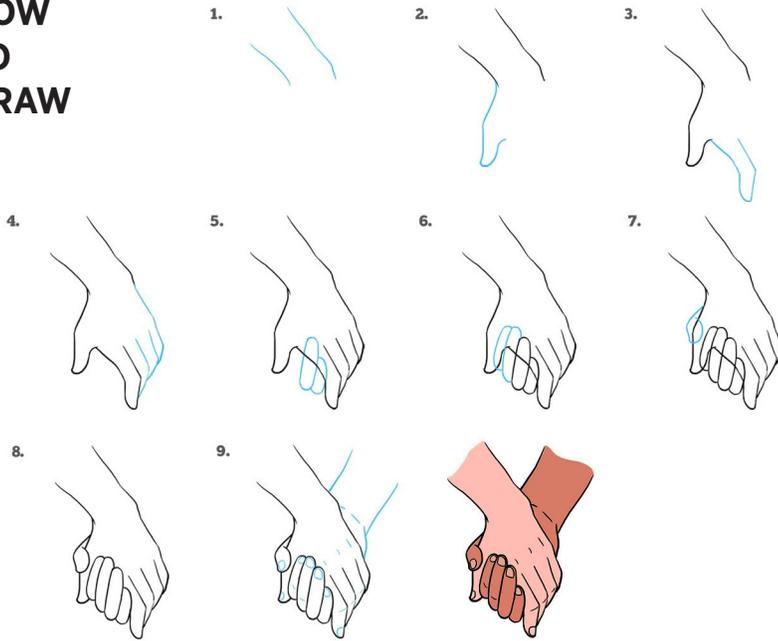
RELIGIOUS VIEW

Dualism | Religious dualism proposes the existence of two opposing universal powers/entities. Supporting religions: Christianity, Judaism, and Islam.

Monism | Religious monism claims that either all divinities are interchangeable forms of the same cosmic entity or no such entity exists at all. Supporting religions: Hinduism and Buddhism.

HOW TO DRAW

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WORDS OF ENCOURAGEMENT

Recently, I was paddling a canoe in a small lake here in Alabama. I spotted a lone duck on the water — a mallard — about forty feet away. It was misty, and I couldn't see very clearly, so I paddled closer to get a better look. What was this duck doing, floating by itself, and not even turning its head to acknowledge my approach? I'll tell you what it was doing — fooling me. The duck was a decoy, and I didn't realize it until I was close enough to whack it with the paddle. I'll admit: I was disappointed, even a little embarrassed. For those forty feet or so of paddling, I'd been excited to see this beautiful bird with the iridescent green head up close. To make matters worse, I had to confront the reality that someone else had been here, too ... whoever planted that decoy — maybe a hunter, or a bird lover — had interrupted my reflective time on the lake with a reminder that I wasn't really alone.

I wasn't really alone. Paddling back to shore, this disappointment mellowed. It ultimately surprised me, by turning itself into a comfort, and then a delight. There I was, alone on the water, in the middle of the mist, and yet, I was connected with someone else — someone I'll likely never get to meet. Who were they? Did they share any of my anxieties, my joys, or my fears? Was this a place that gave them peace, too?

What moments in your day are graced by someone you can't see? What little graces have you left for someone else, that might surprise them with delight — just like a duck on the water?

Josh



1061 Beard-Eaves Memorial Coliseum // Auburn University, AL 36849

Answers

SUDOKU #77

6	1	4	2	7	9	8	3	5
3	2	8	4	6	5	7	9	1
5	9	7	8	3	1	2	4	6
1	6	2	9	5	3	4	8	7
4	3	9	7	1	8	6	5	2
7	8	5	6	2	4	9	1	3
9	7	3	1	4	6	5	2	8
8	5	6	3	9	2	1	7	4
2	4	1	5	8	7	3	6	9

SUDOKU #78

8	3	1	4	7	5	9	2	6
4	2	6	8	3	9	7	5	1
9	7	5	6	1	2	8	4	3
1	9	2	5	8	4	3	6	7
7	4	3	2	6	1	5	8	9
5	6	8	7	9	3	2	1	4
6	5	7	9	4	8	1	3	2
2	1	4	3	5	7	6	9	8
3	8	9	1	2	6	4	7	5



Brainteasers

Page 2 Confidence

Rebus Puzzle:

- Higher income bracket
- A pair of scissors
- More often than not

Page 7 Point A+

Page 9 Your name

Send ideas and comments to:

APAEP
1061 Beard-Eaves
Memorial Coliseum
Auburn University, AL 36849

UNTIL NEXT TIME