



Point of View

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Bitflips in Machines

by JOSHUA BAKER

Imagine you are browsing the web and suddenly your computer crashes. You reboot it and it is completely fine. Why did this happen? One reason why this may have happened is because of cosmic rays. Cosmic rays are particles (mostly high energy particles like protons and atomic nuclei) from outer space that travel at nearly the speed of light. When these particles enter the atmosphere, they collide with other particles which make different kinds of subatomic particles. Sometimes these particles cause something called a *bitflip*. Computers are operated by bits, which are zeros and ones. There is a chance where a cosmic ray collides with the chips in the computer changing the zero to a one, potentially leading to devastating results. One famous example is when a candidate got 4096 more votes than possible in Belgium. This was caused by a bitflip which increased the number of votes.

As electronics are getting more compact, they become more susceptible to bitflips. This is because chips these days try to conserve more energy and it takes less energy for a particle to flip a bit. In supercomputers cosmic rays are a big problem. One bitflip can mess up all the memory and cause a huge disaster. One interesting thing about robots that are used out of space is that they usually have slow, more energy requiring chips. Even though we can integrate stronger technology, it is too risky because one bitflip can destroy everything. NASA uses older chips because they are more reliable than newer ones. Even though those giant machines only have 256 megabytes of ram (your smartphone is like 20 times stronger than that), they still work reliably.

Most bitflips do not change anything important, but when something goes wrong, it could go wrong badly. I hope in the future we will be able to produce chips which are reliable but also stronger.

After returning from school, you go straight to your desk to first finish the school assignments. Textbooks, ready. Pencils, ready. School materials, also ready. Looks like everything is ready to be productive. But, how about the sitting posture? We tend to think the sitting posture first needs to be comfortable to maintain so that we can focus on our work for a long period. However, ironically, those postures tend to cause physical stress. To maintain the postures that experts consider good is usually uncomfortable. Why does an unhealthy posture feel comfortable and a healthy posture feel uncomfortable?



Image Source: Bored Panda - Shubbabang

For us to maintain a certain posture, muscles, ligaments, and joints in our body involve in. The muscle is a fibrous tissue that can contract. The ligament is a flexible tissue that connects bones, and the joint is a structure where two parts of bones are fitted together. The muscles are regenerable as people train muscle through exercise; however, the ligaments and joints are expendables that cannot regenerate. Poor posture is what uses ligaments and joints to endure the weight or to overuse particular muscles. It feels comfortable using fewer muscles but perishes ligaments and joints more rapidly. In another case, overusing particular muscles inhibits training other muscles for a proper posture and leads to craving more poor postures. For example, slumped posture feels comfortable because the muscles do not exert force against gravity. However, in the long-term view, muscles that straighten the waist do not develop and make it difficult to maintain a straight posture over time.

A good posture is not about feeling comfortable in a short term. It trains the muscles that support maintaining a proper posture, allowing ligaments and joints to be used for a longer period. As muscles develop, the day when the proper posture to feel comfortable will come. As you stopped to read this article

Hey! Yes, you. Sit up straight!

by DAWN OH

The new semester of school, class of 2021-2022 began. Every student decides to spend a productive year with a fresh mind.

to the end, whether you are standing or sitting, straighten your back and shoulders to make your spine and pelvis stand in a straight line as soon as you finish the last line, now!

Misconstruction of Papermaking

by SARANG PARK



Image Source: Marisvector

Recently, more people are trying to use paper instead of plastic, and many paper alternatives such as online books, online receipts, and long-lasting shopping carts are increasing to reduce the use of paper supplies.

One of the reasons for reducing paper recycling is deforestation. So, is the paper we use natural forest wood?

The answer is not native forest trees.

To produce paper, wood must be made from processed wood pulp. But the wood pulp is made from artificial plantations made for paper production. These artificial plantations are run by paper companies who make the wood pulp, and in simple terms, the artificial plantations are like tree factories.

They make trees for paper by planting trees in artificially created plantations to obtain paper materials, just like farmers grow crops for rice.

And artificial trees made from plantations for paper absorb carbon dioxide and thus help prevent global warming, and young trees absorb more carbon dioxide and produce more oxygen than trees cut down as they grow older.

So what is destroying the environment and threatening our forests? Commercial farmland such as slash-and-burn agriculture can be the main cause of environmental degradation. Slash-and-burn agriculture is an agricultural method in which grassland is burned in mountainous areas or highlands where farming cannot be done, and crops are planted in the fields without fertilizer.

Slash-and-burn agriculture degrades the soil and destroys the forest ecosystem. Using slash-and-burn agriculture, grassland is burned, the soil becomes fertile, but once it is farmed, the land cannot be used again and makes the plants and animals

that used to live in the forest unable to live there. So the forest is destroyed.

The culprits that destroy forests are not producing papers, but rather agriculture such as slash-and-burn agriculture is the culprit. If we stop producing paper, cutting down trees will stop then we won't need artificial plantations, but will those plantations continue to be forests? Or will it become cities?

What's wrong with boredom?

by PATRICK COLLINS



Image Source: *Empire*, MoMA

Andy Warhol's *Empire* (1964) is a 485-minute-long silent film that consists of one long shot in black-and-white. Watching it is a challenge to patience, attention, and focus on a level bordering on absurdity. The most climactic events in the film involve a bird passing by, a plane flying in the background, and the transition from dusk to nighttime. If you're not excited yet, I don't blame you. Still, *Empire* is revelatory on a personal level. To truly sit through it – to watch it from beginning to end – is an affirming experience in the way that fishing without a rod or running without a destination might be. It's also super-boring. But what's so bad about being bored?

An article in *Smithsonian Magazine* ("The History of Boredom"), argues that the science behind boredom points to a process of psychological regulation that borders on disgust and has the distinct evolutionary purpose of motivating us to escape stressful situations. Perhaps this is why we often describe individuals as "suffering" from boredom rather than "enjoying" it. Yet, there is another argument to be made: that boredom serves a useful purpose.

This is something we procrastinators understand well (yes, given that I am writing this a day before the deadline, I count myself among you). Let me cue in what I imagine to be a familiar scenario: You've got that essay due next week. You don't jump right on it, because you need some time to think it over, right? So, you wait a couple of days – surely you're still in the honorable zone. You sit down; you see the flashing cursor on a blank page; you start typing, "The. . ." *Backspace, backspace,*

backspace. Stuck? You keep staring, waiting for that insight to hit. *Boom*. Something else hits you: boredom. It's painful – like mosquito bites on a sweaty summer day. You search for your nearest escape. Smartphone? Netflix? Snack-time? These are the escapes of children. They offer no restitution and are but quick fixes to a deeper malaise. Sunday, the day before the due date, rolls around. You're not bored anymore, but you're unsatisfied and unprepared. You have procrastinated. You click submit on a shoddy draft at 2:57 AM, knowing the doom that awaits.

Did it have to be that way? Let's try Door #2: Continue what you started. Keep pushing out word after agonizing word in your first draft. It hurts, yes, but as it comes together it satisfies. Your fingers become lighter, more nimble. Your thoughts become unstuck. You feel active again. Regulation. Homeostasis. These are your words now. Boredom - goodbye. Procrastination – shove off. Wash. Rinse. Repeat until you have achieved a final draft form. Submit several days in advance with a confident grin from ear to ear. Your teachers laud you. You are a hero to yourself. Good job. Insert *smiley face*.

This is the lesson: don't feed your boredom; let your boredom feed you. Watch *Empire* from the beginning. It will be astoundingly boring, but let it happen. And then tell me that the excitement of that passing bird doesn't surpass all of Hollywood's action *schlock*.



Image Source: 이모르, YouTube

YouTube channel Emor invites readers to a new point of view: A world of depression and darkness

by YEONWOO PARK

The painting shown on the right is about Kayoung Kim, a victim of incest crime. Ms. Kayoung Kim is currently 22 years old, and has shared that she was molested by her brothers, their friends, and her father when she was a toddler. (Disclaimer : Although this version was edited to be fit for the student readers, it may contain disturbing context. Please keep this in mind and proceed.)

“They busted in out of the blue and ordered us to strip, “Kayoung, take your clothes off.” Then, they took me and a younger girl, who was my mother’s friend’s daughter, into separate rooms. My second brother went into the first room with the other girl, while my oldest brother and my mother’s friend’s son took me into the other. They forced us to lie down and came on top of us. At that time, I was an elementary schooler, so I couldn’t understand what they were doing; however, I still vividly remember how uncomfortable and scared I felt. Our house was structured so that the two rooms were facing each other, so the younger girl and I were making eye contact during the entire harassment.”

These were the words spoken by Ms Kim from an interview through a YouTube channel called Emor. (On a side note, Kayoung Kim is a fake name.) She then proceeded to share about how she was continuously harassed by her family members.

“Later on, our family moved to a new house, and I finally had a room to myself. One day, I was sleeping in my room, but my older brother came in while I was sleeping. I remember it being between about 12pm to 1am, when the whole family was asleep. It was pitch dark, but I could glimpse a thin line of light between the door cracks. The door creaked open very slowly and my ears filled up with the drumming of my heart. I recognized whose presence it was, but I was too scared to open my eyes. If my eyes were closed, the groping would start. He would stop in front of me and his hands would start sliding down between my legs. Next, they would pull my pants down. And so then, I would pretend to be asleep but wriggle around to try and get away from his hands. He would then leave and act as if nothing happened in the first place. I eventually got so afraid of him and locked my doors when sleeping. But, he picked the door lock and from then on, no matter what I did, he always found a way and came after me for more than a year.”

This is only one out of several harassments that Kayoung Kim explains in her story. Despite how severe and sickening this notion is, if it weren't for Emor, I would not be writing this and you would not have been able to read this. Channel Emor provides an opportunity that no other media source does for victims of various kinds of crimes; these include incest, harassment, rape, school violence, and etc. Explicitly, Emor reveals the brutality of these crimes that we normally can't imagine. It not only acts as a window for them to share their struggles and to speak out about their stance but warns us how

common they are that the ones suffering from these are not few. These crimes are happening as we speak and they will continue to do so until light is shed. You can always access into his channel by typing Emor or 이모르 in Youtube.

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FOR OUR NEXT GENERATION CAMPAIGN



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As a startup-fashion brand company, 22nd runs a CSR activity called the "For Our Next Generation" Campaign, where we strive to deal with the social issues that threaten the future of humanities. Please participate in this campaign by purchasing our products and authenticate your participation through SNS.

1. TAKE A PHOTO

Please take a photo of yourself wearing our FONG hat!

2. UPLOAD AN INSTAGRAM POST

Please include a brief explanation of our campaign to encourage others to participate.

3. PUT HASTAGS ON YOUR POST

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