

MY WEIRD PROMPTS

Podcast Transcript

EPISODE #160

The Science of Smooth: Why Your Whiteboard Ghosts You

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EPISODE SYNOPSIS

Have you ever wondered why that cheap whiteboard from the discount store looks like a muddy mess after just one week? In this episode of My Weird Prompts, Corn and Herman Poppleberry break down the fascinating material science hidden in plain sight, from the porous pitfalls of melamine to the industrial-grade durability of porcelain and glass. They delve into the specific chemistry of dry-erase markers—revealing the "release agents" that make them work—and offer practical DIY tips for building your own professional-grade ideation surface at home. Whether you're a chronic brainstormer or just want to know why your grocery list won't erase, this deep dive into the world of non-porous surfaces and silicone polymers will change how you look at every "blank slate" you encounter.

DANIEL'S PROMPT

Daniel

"I've recently invested in a high-quality whiteboard and I'm interested in learning more about them. What exactly differentiates a high-quality whiteboard from the cheaper versions found in most stores? Is it possible to DIY your own quality whiteboard? Also, are standard whiteboard markers and wet-wipe markers essentially the same, and what are the best practices for caring for and maintaining a whiteboard to ensure its longevity?"

TRANSCRIPT

Corn

Hey everyone, welcome back to My Weird Prompts. I am Corn, and I am joined as always by my brother, the man who probably has a spreadsheet for his sock drawer.

Herman

Herman Poppleberry, at your service. And for the record, Corn, it is a database, not a spreadsheet. Relational integrity matters even for hosiery.

Corn

Of course it does. Well, we have got a great one today. Our housemate Daniel sent us a voice note about something that I think a lot of us take for granted until it stops working properly. He is been diving into the world of high-quality whiteboards. Apparently, he picked up a cheap one recently at a local shop here in Jerusalem called Max Stock, and it led him down this rabbit hole of ghosting ink, surface materials, and the quest for the perfect ideation surface.

Herman

I love this topic because it is one of those classic examples of material science hiding in plain sight. You look at a whiteboard and you think, it is just a white board, right? But the difference between a five dollar board and a five hundred dollar board is actually fascinating when you get into the chemistry of it. Daniel was asking about what exactly differentiates them, if you can DIY a good one, and how to actually maintain them.

Corn

It is funny because Daniel mentioned he is using it for this workflow with Gemini and Nano Banana to turn his scribbles into actual diagrams. It is that bridge between the physical and the digital. But that bridge breaks down if the physical surface is covered in ghosts of brainstorm past. So, Herman, let us start with the basics. When Daniel goes to a discount store and buys a whiteboard, what is he actually buying? Why does it start looking terrible after a week?

Herman

Most of those entry-level boards, the ones you find at discount shops or big-box retailers for twenty or thirty dollars, are made of melamine. Melamine is essentially a resin-saturated paper that is laminated onto a substrate, usually particle board or medium-density fiberboard. It looks great when it is brand new because it is shiny and smooth. But here is the problem: melamine is porous. On a microscopic level, it has all these tiny little pits and valleys.

Corn

And I am guessing that is where the ink goes to die?

Herman

Exactly. When you write on a melamine board, the ink from the marker sinks into those pores. Dry-erase ink is designed to stay on the surface, but if the surface is not perfectly smooth, some of that pigment gets trapped. Over time, the erasing process actually becomes more of a scrubbing process, which creates microscopic scratches in the plastic resin, making it even more porous. That is the ghosting Daniel was talking about. You wipe it away, but you can still see the faint outline of your grocery list from three weeks ago.

Corn

It is like the board has a memory, but a really bad one. So, if melamine is the bottom tier, what are we looking at when we step up to the professional grade? I have seen boards in offices that seem to stay pristine for years.

Herman

That is where you get into the big two: painted steel and porcelain. Painted steel is a step up. It is exactly what it sounds like: a steel sheet with a high-quality white coating. Because it is steel, it is magnetic, which is a nice bonus. The surface is much harder than melamine, so it resists those microscopic scratches much better. But the real gold standard, the one Daniel was probably looking at from those specialty suppliers, is porcelain, also known as ceramic steel.

Corn

Porcelain. Like a bathtub or a dinner plate?

Herman

Very similar. They actually take a sheet of steel and fire a layer of ceramic glass onto it at incredibly high temperatures, usually over one thousand two hundred degrees Fahrenheit. This creates a surface that is essentially non-porous and incredibly hard. On the Mohs scale of mineral hardness, a porcelain whiteboard is way up there. You can almost think of it as a sheet of glass fused to steel. Because it is non-porous, the ink literally cannot sink in. It just sits on top, waiting to be wiped away.

Corn

I imagine that also makes it much more durable. I mean, we talked about the high-rise housing paradox back in episode fifty-nine, and how material longevity changes the economics of a building. It feels like the same logic applies here. You pay more upfront for porcelain, but it lasts twenty years instead of two.

Herman

Precisely. A porcelain board is basically a lifetime purchase. You can hit it with harsh chemicals, you can use it every single day, and it will not stain. There is also the aesthetic factor Daniel mentioned: glass boards. Those have become really popular in high-end offices and home setups lately.

Corn

Glass boards look amazing, but I have always wondered if they are actually functional. Whenever I see them, the writing seems to float a bit off the surface.

Herman

That is called parallax. Because the glass has a certain thickness, the shadow of your writing falls on the white backing behind the glass. It can be a bit disorienting if you are doing fine technical drawings or math. But from a maintenance perspective, glass is king. It is completely non-porous. You could use a permanent marker on a glass board, and with a little bit of solvent, it would come right off without a trace. The only downside is that they require special, high-powered neodymium magnets because regular magnets are not strong enough to grip through the thickness of the glass to the metal backing.

Corn

Okay, so we have melamine at the bottom, then painted steel, then porcelain and glass at the top. Daniel was asking if he could DIY a quality whiteboard. If he does not want to drop four hundred dollars on a custom porcelain board for his living room, can he build something that actually works?

Herman

It is definitely possible, but there are some trade-offs. The most common DIY route is using something called whiteboard paint, like IdeaPaint or similar brands. You basically paint your wall with a high-gloss, two-part epoxy or specialized coating. When it cures, it creates a whiteboard surface.

Corn

I have used those before. The application process seems pretty intense, though. If you do not get the wall perfectly smooth, every little bump in the drywall becomes a bump in your whiteboard.

Herman

That is the big catch. If you have a textured wall, a whiteboard paint will be a nightmare to erase. You have to sand the wall down to a level five finish, which is professional-painter speak for "smooth as a baby's forehead." If you do that and apply the coating correctly, it is great. But it is still essentially a high-end plastic coating, so it will eventually wear down over five to seven years.

Corn

What about just using a sheet of glass from a hardware store? Could Daniel just buy a piece of tempered glass, paint the back white, and mount it to the wall?

Herman

Absolutely. That is actually one of the best DIY hacks for a high-quality board. If you buy a piece of low-iron tempered glass, it will not have that green tint that regular glass has. You paint the back side white, or even a light gray, and then mount it with standoffs. It functions exactly like a three hundred dollar boutique glass board but costs a fraction of the price. The only thing you lose is the magnetic capability unless you mount a sheet of galvanized steel behind it.

Corn

That sounds like a fun weekend project. Maybe we should do that for the kitchen, Herman. We could finally stop leaving sticky notes everywhere.

Herman

I am in, as long as we use the level five sanding technique. I cannot handle bumpy writing.

Corn

Fair enough. Let us take a quick break for our sponsors, and when we come back, I want to talk about the markers. Daniel asked if there is actually a difference between dry-erase and wet-wipe markers, and I want to get into the chemistry of why one disappears with a thumb and the other needs a spray. Larry: Are you tired of people knowing what you are thinking? Do you wish your public manifestos were for your eyes only? Introducing Ghost-Ink, the world's first truly invisible whiteboard marker. Using a proprietary blend of refracted light-bending polymers and actual swamp gas, Ghost-Ink allows you to write your deepest secrets in broad daylight. To the naked eye, the board looks blank. But put on our patented X-Ray Spectacles, and your genius is revealed! Perfect for corporate espionage, secret recipes, or just hiding your grocery list from judgmental housemates. Warning: spectacles may cause mild hallucinations and a temporary inability to see the color blue. Ghost-Ink: Because some ideas are too good to be seen. BUY NOW!

Corn

...Thanks, Larry. I am not sure I want to lose my ability to see blue, but I guess for the right secret recipe, it might be worth it. Anyway, back to the world of visible ink. Herman, Daniel asked a great question about markers. We all know the standard Expo markers, but then there are these wet-wipe markers. Are they basically the same thing with different marketing?

Herman

Not at all. The chemistry is fundamentally different. Let us start with the standard dry-erase marker. This is actually a pretty brilliant piece of engineering. A dry-erase marker contains three main components: a pigment, a solvent, and a release agent.

Corn

A release agent? That sounds like something you use in a cake pan.

Herman

That is exactly what it is! In a permanent marker, the ink contains a polymer that acts as a glue, sticking the pigment to the surface. In a dry-erase marker, that glue is replaced by a silicone polymer, which acts as a slippery barrier. When you write on the board, the solvent evaporates, leaving behind a film of pigment and silicone. Because of that silicone release agent, the ink does not actually bond to the surface. It just rests on top. That is why you can wipe it off with a dry cloth; you are basically just sliding the dried ink off the board.

Corn

So, it is like a tiny, dried-up oil slick of pigment.

Herman

Exactly. Now, wet-erase markers, or wet-wipe markers, use a different chemistry. They usually have a water-soluble binder instead of a silicone release agent. The ink is designed to stay put once it dries. It will not smudge if you accidentally brush your sleeve against it, which is why they are great for things like restaurant menus or calendars where you do not want the information to disappear by accident. But because the binder is water-soluble, it requires a damp cloth to dissolve that bond and lift the pigment away.

Corn

I have noticed that if you leave dry-erase ink on a board for too long, it becomes much harder to remove. Why is that? If it has a release agent, shouldn't it stay "slippery" forever?

Herman

You would think so, but over time, the solvent continues to evaporate, and the silicone release agent can actually start to break down or migrate. Also, as we talked about with the melamine boards, the pigment can eventually find its way into those microscopic pores if given enough time. This is why "ghosting" often happens with older writing. The longer it sits, the more chance it has to settle into the nooks and crannies of the board.

Corn

That leads perfectly into Daniel's other question about maintenance. He mentioned he is an "enthusiastic owner" now. What are the best practices for keeping a board in top shape? I have seen people use everything from Windex to specialized sprays.

Herman

This is where most people go wrong. If you have a high-quality porcelain or glass board, you have a lot of leeway. But if you have a melamine or painted steel board, you have to be careful. You should never use abrasive cleaners. No scouring pads, no gritty creams. You will destroy that smooth surface instantly.

Corn

What about the classic whiteboard cleaner spray? Is it just overpriced water?

Herman

Most of them are actually a mixture of water and isopropyl alcohol, sometimes with a little bit of surfactant to help lift the oils. Honestly, the best deep cleaner for any whiteboard is ninety-nine percent isopropyl alcohol. It dissolves the ink resins and lifts away the skin oils that accumulate from people touching the board. Those skin oils are actually a huge contributor to ghosting because they create a sticky layer that traps the pigment.

Corn

So, a quick wipe with alcohol every once in a while is the way to go. What about the erasers themselves? Are those felt blocks actually the best tool, or should we be using something else?

Herman

Felt is fine for a quick wipe, but it gets dirty very fast. Once a felt eraser is saturated with old ink dust, you are basically just smearing gray powder back onto the board. I personally prefer microfiber cloths. They have much more surface area to trap the ink particles, and you can just throw them in the washing machine when they get dirty. If you are a heavy user like Daniel, having a stack of microfiber cloths is a game-changer.

Corn

That is a great tip. I also read somewhere that if you accidentally use a permanent marker on a whiteboard, you can just draw over it with a dry-erase marker to remove it. Is that actually true, or is that just an urban legend?

Herman

It is absolutely true! Remember that solvent I mentioned in the dry-erase marker? That solvent is very good at dissolving the resins used in permanent markers. When you draw over the permanent ink with a dry-erase marker, you are essentially reapplying the solvent and the release agent. You let it sit for a second, and then you can wipe both right off. It is a classic chemistry hack that saves a lot of boards from being retired early.

Corn

I love that. It is like the dry-erase marker is its own antidote.

Herman

Exactly. One other maintenance tip that people often forget is to replace your markers. As markers get old, the ratio of solvent to pigment changes. They get "crusty," for lack of a better word. Using an old, dried-out marker is much more likely to scratch your board or leave permanent ghosting than a fresh, juicy one. If it is struggling to flow, just toss it.

Corn

That makes sense. So, Daniel is looking at getting a second board for the living room. He mentioned this idea of "custom" whiteboards. Beyond the material, is there anything else he should be looking at? I know he mentioned a "weird size" for his wall.

Herman

If he is going custom, he should definitely look at the framing and the mounting system. Cheap boards have flimsy aluminum frames that can warp over time. A high-quality board will have a heavy-duty frame or even a frameless design for a more modern look. Also, if he is using it for the AI workflow he mentioned, he might want to consider a matte finish.

Corn

A matte finish? Wouldn't that be harder to erase?

Herman

Generally, yes, because it is slightly more textured. But the problem with high-gloss boards, especially for things like taking photos to feed into an AI model, is glare. If you have a bright light in the room, the reflection can make it impossible for the camera to read your writing. Some high-end porcelain boards come in a "low-glare" or "projection-ready" finish. They are a bit more expensive and require a little more elbow grease to erase, but they are much better for photography and digital integration.

Corn

That is a really important point for the modern era. If your whiteboard is part of a digital pipeline, the way it interacts with light is just as important as the way it interacts with ink. We are seeing this more and more, aren't we? This "jagged profile" of skills we talked about in episode two hundred sixty-five, where you need to understand both the physical material and the digital capture process.

Herman

Definitely. It is all connected. Daniel's workflow is a perfect example. He is using an analog tool—a marker and a board—to brainstorm, but the "output" is a digital diagram. If the analog tool is low quality, the digital output suffers. It is the classic "garbage in, garbage out" principle.

Corn

I also want to touch on the sustainability aspect Daniel mentioned. He wants to minimize paper use. From a life-cycle perspective, is a high-quality whiteboard actually better for the environment than using pads of paper?

Herman

It depends on the longevity. The manufacturing process for steel and porcelain is energy-intensive. But if you buy one porcelain board and use it for thirty years, you are saving thousands of sheets of paper and the energy required to produce and transport them. The real environmental cost of whiteboards is in the markers. They are plastic, they are disposable, and the solvents are often petroleum-based.

Corn

Are there more sustainable marker options?

Herman

There are refillable markers. Brands like Pilot and some European companies make markers where you can just swap out an ink cartridge or refill the barrel from a bottle. It significantly reduces the plastic waste. If Daniel is really committed to the sustainability angle, that is the way to go. It also usually works out to be cheaper in the long run if you are a heavy user.

Corn

Refillable markers and a porcelain board. It sounds like Daniel is about to build the ultimate command center in the living room. I wonder if our other housemate is going to be okay with a giant white slab in the common area.

Herman

Well, if he gets the frameless glass version, it can actually look quite nice. It is almost like a piece of minimalist art until you start scribbling your tax deductions on it.

Corn

Or your "Public Manifestos" with Larry's invisible ink.

Herman

Exactly. But seriously, there is something about the physical act of writing on a large vertical surface that changes how you think. It involves your whole body. You are standing, you are moving, you are stepping back to look at the big picture. You do not get that same cognitive experience on a tablet or a laptop screen.

Corn

I agree. There is a reason why, even in the most high-tech offices in the world, you still see walls covered in whiteboards. It is a "low-latency" interface. There is no booting up, no logging in, no searching for the right app. You just pick up a marker and your thought is on the wall.

Herman

And when you have a high-quality surface, that experience is frictionless. You are not fighting the board; you are just thinking. That is the real value of a good whiteboard. It gets out of the way of your ideas.

Corn

Well, I think we have given Daniel plenty to chew on. To summarize: skip the melamine, go for porcelain or glass if you can afford it, or try the low-iron tempered glass DIY route. Use microfiber cloths instead of felt erasers, keep some isopropyl alcohol handy for deep cleaning, and maybe look into refillable markers to save some plastic.

Herman

And don't forget the ninety-nine percent alcohol. It is the secret weapon for a pristine board.

Corn

Absolutely. Before we wrap up, I want to remind everyone that if you are enjoying these deep dives into the mundane but fascinating parts of our world, we would really appreciate a quick review on your podcast app or Spotify. It helps other curious people find us and keeps the show growing.

Herman

It really does make a difference. We see every review, and it helps us figure out what topics you guys are most interested in.

Corn

You can also find us at our website, myweirdprompts.com. We have an RSS feed there for subscribers and a contact form if you want to send us your own weird prompts, just like Daniel did. We are also available on Spotify, obviously, which is where most of you are probably listening right now.

Herman

This has been episode two hundred sixty-seven of My Weird Prompts. Thanks to Daniel for the prompt and for being a great housemate, even if he is about to turn our living room into a giant ceramic brainstorm.

Corn

I am just looking forward to seeing those AI-generated diagrams. Until next time, I am Corn.

Herman

And I am Herman Poppleberry. Keep asking those weird questions.

Corn

See ya!

Herman

Goodbye everyone!