MY WEIRD PROMPTS

Podcast Transcript

EPISODE #365

Why Every Baby Says Mama: The Science of First Words

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EPISODE SYNOPSIS

Have you ever wondered why "Mama" and "Dada" are nearly universal across cultures? In this episode, Herman and Corn dive into the fascinating world of infant development, exploring how six-month-olds transition from a blur of sensations to recognizing the permanent people in their lives. From the "physics of the tongue" to the "linguistic statistics" babies use to prune their brains, we uncover how anatomy and evolution shape the very first sounds of human speech.

DANIEL'S PROMPT

Daniel

I'm curious about when babies begin to recognize their parents as distinct caregivers and what a six-month-old's sensory and inner world is like. More specifically, I'd like to discuss the early sounds babies make. Is there a universal commonality between the phonemes babies use across different languages and cultures, and what do we know about this "proto-language"?

TRANSCRIPT

Corn

Hey everyone, welcome back to My Weird Prompts. We are coming to you from a very rainy Jerusalem today, January thirtieth, twenty twenty-six. Honestly, the atmosphere is perfect for a deep dive. The wind is rattling the windowpanes of our little stone house, and the smell of damp earth is everywhere. I am Corn, and sitting across from me, surrounded by what looks like three different open textbooks on developmental psychology and a very large mug of coffee, is my brother.

Herman

Herman Poppleberry, reporting for duty. And you are right about the books, Corn. I have been down a total rabbit hole this morning. I have got Patricia Kuhl's latest work on one side and a classic Roman Jakobson essay on the other. Our housemate Daniel sent us that recording of little Ezra this morning, and man, hearing those tiny squawks and babbles really sets the gears in motion. It is one of those things we see every day, but when you actually stop to ask what is happening inside that six-month-old brain, it is absolutely mind-blowing. It is like watching a supercomputer boot up in real-time.

Corn

It really is. Daniel was asking about when babies actually start to recognize their parents as distinct individuals, and then he got into this fascinating question about the sounds they make. Ezra is almost seven months old now, and he is starting to find his voice. Daniel mentioned that Ezra says mama and dada, but it seems kind of random. Like he might say mama while Daniel is holding him, or even while he is just staring at the cat. It makes you wonder, is there a universal language of babies? Are all babies across the world making the same sounds before they learn their specific culture's language?

Herman

That is exactly where the science gets really juicy. We often think of babies as just being blank slates, but they are actually born with this incredible, universal toolkit. Before we get into the sounds, though, let us look at that first part of Daniel's question about recognition. Because at six or seven months, like where Ezra is, they are right in the middle of a massive cognitive shift. They are moving from a world of general sensations to a world of specific entities.

Corn

Right, because for the first few months, it is almost like they are just taking in a blur of sensory data. But when does that blur start to resolve into, hey, that is the guy who feeds me, and that is the person who sings to me?

Herman

It actually starts way earlier than most people realize, but in a very specific order. Newborns can recognize their mother's voice within hours of birth. They have been listening to it in the womb for the last ten weeks of pregnancy, after all. Research by Patricia Kuhl has shown that babies just forty hours old can already distinguish between the vowel sounds of their native language and a foreign one. But visual recognition? That takes longer. For the first couple of months, their vision is pretty poor. They can only see clearly about eight to twelve inches in front of them, which, if you think about it, is exactly the distance to a parent's face while being held or fed. Evolution is pretty clever like that. It forces them to focus on the most important thing in their environment: the caregiver.

Corn

That is a great point. It is like their world is physically constrained to the people closest to them. But by six months, they are seeing the whole room, right? They are starting to track movement across the house.

Herman

Exactly. By six months, their visual acuity has improved drastically. They have developed depth perception and color vision—they can now distinguish between shades of red, blue, and yellow. But more importantly, they have developed what psychologists call person permanence. Earlier on, if you leave the room, you basically cease to exist in their mind. But at Ezra's age, they are starting to realize that Daniel and Hannah are specific, permanent entities. Research shows that by six months, babies are becoming highly specialized in recognizing the specific features of their primary caregivers. This is also why you often see the start of stranger danger or separation anxiety around this time. They finally realize that not all humans are interchangeable. They have a preference because they have a memory.

Corn

It is almost a little heartbreaking when that kicks in, but it is a huge milestone. It means they are building a map of their social world. So, if we look at Ezra's inner world at six months, he is not just a passive observer. He is actively categorizing his housemates. He knows the difference between Daniel's voice and my voice, even if he is still figuring out which name goes with which person. I imagine his sensory experience is just... loud. Everything must feel so intense.

Herman

Definitely. And his sensory world is incredibly tactile. Everything is new. Think about the mouth. At six months, babies are usually starting to reach for things and, crucially, putting everything in their mouths. Most people think they are just being messy or teething, but the mouth has the highest density of sensory nerves in the entire body at that age. They are literally tasting the world to understand its texture, its temperature, and its shape. It is a massive data upload. When Ezra gnaws on a wooden block, he is learning about density. When he sucks on a soft blanket, he is learning about friction. It is physics through the tongue.

Corn

I love that image. A tiny human just downloading the laws of thermodynamics through their taste buds. But let's get to the part of the prompt that really caught my ear. The proto-language. Daniel mentioned that Ezra is making these sounds that sound like words, but they are sort of unanchored. Is there really a universal commonality in those sounds? Does a baby in Jerusalem sound the same as a baby in Tokyo or New York at this stage?

Herman

This is one of my favorite topics in linguistics. The short answer is yes, absolutely. There is a stage called canonical babbling that usually starts between six and ten months. And during this stage, regardless of what language the parents are speaking, babies all over the world tend to produce the same set of phonemes. They are what we call citizens of the world.

Corn

Wait, really? So the linguistic environment doesn't matter yet? If you took a baby from a Hebrew-speaking home and a baby from an English-speaking home, they would sound identical?

Herman

For the production of sounds, yes. Researchers have looked at babies from dozens of different linguistic backgrounds, and they almost all start with the same sounds. The most common ones are what we call plosives and nasals. So, sounds like p, b, d, t, m, and n. That is why we get mama, dada, papa, and baba in almost every culture.

Corn

Okay, so why those specific sounds? Is it just because they are the easiest to make physically?

Herman

You nailed it. Think about the mechanics of a baby's mouth. At six months, they are still developing the fine motor control of their tongue and lips. A sound like m, for mama, is what linguists call a labial nasal. All you have to do is close your lips and let air go through your nose. It is one of the simplest vocal gestures a human can make. Same with p and b. You just pop your lips open. It is much easier than a sound like r or th, which requires very precise tongue placement and air control.

Corn

That makes so much sense. So when Ezra says mama, he might not be specifically calling for Hannah. He is just practicing the easiest sound in his repertoire. And then the parents, of course, get all excited because they think he is talking to them.

Herman

Precisely. It is a beautiful feedback loop. This is the core of Roman Jakobson's famous nineteen sixty essay, Why Mama and Papa? He argued that the nasal m sound is often the first sound a baby makes while nursing. It is a nasal murmur that happens when the mouth is full and the baby is content. So, the baby makes that sound, the mother is right there, and she assumes the baby is naming her. The baby thinks, oh, when I make that sound, I get attention and food. I should do that more often. So the meaning is actually projected onto the baby by the adults first, and then the baby learns to associate the sound with the person over time.

Corn

It is almost like the parents are training the baby to speak by over-interpreting their random noises. We are basically gaslighting them into language! But what about the universal nature of it? You mentioned that babies everywhere do this. Is there a point where that stops? When do they start sounding like they belong to a specific culture?

Herman

That is where the transition from proto-language to actual language happens, and it is a process called perceptual narrowing. It is actually a bit of a tragic story, in a way. When babies are born, they can distinguish between every single phoneme in every single human language. A six-month-old can hear the difference between two sounds in Hindi or Zulu that an adult English speaker literally cannot perceive. They have the hardware for every language on Earth.

Corn

That is incredible. So they are born as linguistic polymaths, and then we narrow them down.

Herman

Exactly. The brain is very efficient. It does not want to keep around neural pathways it is not using. So, between six months and twelve months, the brain starts to prune away the ability to hear and produce sounds that are not in its environment. This is what Patricia Kuhl calls taking statistics. The baby is literally counting how often they hear certain sounds. If Ezra only hears Hebrew and English, his brain will eventually stop recognizing the subtle differences in sounds that only exist in, say, French or Arabic. By the time they are a year old, they have become language specialists. They have lost that universal ear.

Corn

So at six months, Ezra is at the peak of his linguistic potential. He is making these universal sounds because his brain is still open to everything. But as he gets closer to a year, he will start to narrow it down. He will start to babble with the specific rhythm and intonation of the languages he hears Daniel and Hannah speaking. I have heard it called jargoning, right?

Herman

Exactly. Jargoning is when they sound like they are having a real conversation, with all the right ups and downs in their voice, but it is all gibberish. You can actually tell the difference between a nine-month-old babbling in French versus a nine-month-old babbling in English. The melody of the babbling starts to match the native language. It is hilarious to watch—two babies just going at it like they are discussing the state of the global economy, but not a single word is recognizable.

Corn

But going back to the phonemes, Herman. Daniel was asking if there is a universal proto-language. If all babies start with mama and dada, does that explain why those words are so similar across so many different languages? You mentioned Jakobson, but are there exceptions?

Herman

There are always exceptions in linguistics, which is what makes it fun. For example, in Georgian, the word for mother is deda and the word for father is mama. It is a total reversal of the global trend! But the general pattern holds because of the anatomy of the infant mouth. The bilabial sounds—m, p, b—are the first to emerge because they require the least amount of tongue movement. The alveolar sounds—t, d, n—come next as the baby starts to experiment with touching the tongue to the roof of the mouth. It is less a language and more a biological byproduct of how our bodies develop.

Corn

It is fascinating to think that our most intimate words for our parents are essentially dictated by the anatomy of an infant's mouth. It takes some of the magic out of it, but adds a whole different kind of wonder. It is a universal human experience. Every single person listening to this, no matter where they are from, started their linguistic journey by making those exact same sounds. But I want to go back to the sensory part of his world for a second. We talked about how he is tasting everything and starting to see clearly. What about his emotional inner world? If he recognizes Daniel as a distinct person now, does he have a concept of himself yet?

Herman

That is a tough one to answer because we can't exactly ask them. But the general consensus is that self-awareness—the realization that I am a separate person from my mother or father—is still developing at six months. There is a famous test called the mirror test or the rouge test. You put a little dot of red makeup on a baby's nose and then put them in front of a mirror. Before about eighteen months, most babies will reach out to touch the mirror, thinking it is another baby. They do not realize the reflection is themselves.

Corn

So at six months, Ezra is probably still in that phase where the world is just one big, interconnected experience. He knows Daniel is a source of comfort, but he might not fully grasp where he ends and Daniel begins. It is a very communal way of existing.

Herman

Exactly. It is often called the symbiotic phase. But even without a full sense of self, his emotional range is expanding. By six months, babies show clear signs of joy, anger, fear, and even surprise. They are very sensitive to the emotions of the people around them. There was a famous study called the Still Face Experiment, conducted by Ed Tronick back in the nineteen seventies, which has been replicated hundreds of times since.

Corn

Oh, I remember hearing about that. It is actually kind of haunting. Can you describe what actually happens in that experiment?

Herman

It is powerful. They have a mother interact with her baby normally—smiling, talking, responding to the baby's cues. And then, the mother is instructed to suddenly stop and make her face completely neutral and expressionless. The still face. The baby's reaction is immediate. They try everything to get a reaction. They smile, they point, they reach out, they make little noises. When the mother doesn't respond, the baby quickly becomes distressed. They might lose control of their posture, turn away, and eventually start crying. It shows that even at a few months old, babies are profoundly social creatures. They aren't just looking for food; they are looking for connection and emotional mirroring.

Corn

That is such a powerful reminder for anyone around a baby. You are their mirror. You are helping them regulate their own internal state. When Daniel talks to Ezra, even if Ezra doesn't understand the words, he is absorbing the tone, the rhythm, and the emotional intent. That is the real proto-language, isn't it? The emotional exchange that happens before the words ever show up.

Herman

Absolutely. That is the foundation. You can think of the phonemes, the mamas and dadas, as the bricks, but the emotional connection is the mortar that holds it all together. And what is interesting is that this early interaction actually shapes the physical structure of the brain. Those early babbles and the responses they get from parents are literally building the neural pathways for future communication. Research suggests that infants who experience more of this back-and-forth social interaction at three months old have significantly better language outcomes by the time they are three years old. It is all connected.

Corn

It makes me think about how we live here in Jerusalem, which is such a linguistic melting pot. Within a few blocks of our house, you can hear Hebrew, Arabic, English, Russian, French, Amharic. All these babies in all these different homes are starting from that same point of mama and dada. But because of the specific responses they get, their brains are being wired in completely different ways. It is like this massive parallel experiment in human development happening all around us.

Herman

It really is. And it happens so fast. By this time next year, Ezra will probably have a handful of real words. He will have started to lose that ability to hear those universal phonemes. He will be a specialist. He will be a speaker of Daniel and Hannah's languages. This window from six to twelve months is really this magical period where the whole world of human expression is still open to him. He is a citizen of the world, but he is slowly becoming a citizen of Jerusalem.

Corn

It makes you want to cherish those random babbles even more. They aren't just noise; they are the sound of a human brain exploring its own potential. I am curious, though, Herman, is there anything parents can do to help this process? Not that Daniel needs any help, he is a great dad, but is there a right way to talk to a six-month-old?

Herman

Well, you have probably heard people using that high-pitched, sing-song voice when they talk to babies. We often call it baby talk, but linguists call it parentese or infant-directed speech. And for a long time, people thought it was kind of silly or even harmful, like you were teaching the baby the wrong way to speak.

Corn

Right, I have heard people say you should talk to them like adults so they learn proper grammar and don't get stuck in some weird linguistic limbo.

Herman

Actually, the research shows the exact opposite. Parentese is incredibly beneficial. The higher pitch, the exaggerated vowels, and the slow tempo make it much easier for a baby's developing auditory system to parse the sounds. It is like you are highlighting the important parts of the sentence. It helps them identify where one word ends and another begins. It also captures their attention much better than a flat, adult voice. So when Daniel uses that goofy voice with Ezra, he is actually doing exactly what Ezra's brain needs him to do. He is providing the acoustic stretching that makes language learning possible.

Corn

That is a relief for all the parents out there who feel a bit ridiculous making those noises in the grocery store. It is a biological tool. So, let us recap a bit of what we have covered for Daniel's prompt. At six months, Ezra's sensory world is exploding. He is seeing clearly, he is tasting everything, and he is starting to realize that the people in his life are permanent, distinct individuals.

Herman

And linguistically, he is a citizen of the world. He is making those universal sounds like m, b, and d because they are the easiest for his mouth to form. He doesn't necessarily mean mother or father yet, but he is learning through the reactions of his parents that these sounds have power. He is in that beautiful window before his brain starts to specialize and prune away the sounds he doesn't hear every day. He is taking statistics on the world around him, and those statistics are shaping his future.

Corn

It is such a fascinating stage. It is like the prologue to the rest of his life. And it really makes you think about how much of our adult behavior is still rooted in these early biological patterns. We still find comfort in those nasal and plosive sounds. We still look for emotional mirroring in our relationships. We are still, in many ways, just looking for that still face to break into a smile.

Herman

We really do. We never truly leave that six-month-old behind. We just layer more complexity on top of it. But the core needs—the need for connection, for recognition, and for a way to express ourselves—those stay the same. Whether you are six months old or sixty years old, you want to be heard and you want to be seen.

Corn

Well, Herman, I think we have given Daniel a lot to chew on. Next time I see Ezra, I am going to be listening much more closely to those little squawks. It is not just babbling; it is a linguistic miracle in progress. It is the sound of a human being coming online.

Herman

Exactly. And honestly, it makes me want to go back and listen to some of our older episodes where we talked about brain plasticity. I think it was back in episode two hundred and ten or so. The way the brain reshapes itself in response to the environment is just a lifelong version of what Ezra is doing right now. We are all works in progress.

Corn

That is a great connection. Well, I think that is a good place to wrap up this part of the discussion. We have been diving deep into the world of infants, but the implications really touch on everything it means to be human. If you are listening and you have a baby in your life, take a second to just watch them. Watch how they interact with the world. It is the most sophisticated research project on the planet.

Herman

Absolutely. It is always good to go back to the basics. And speaking of basics, if you are enjoying these deep dives into the weird and wonderful prompts that Daniel and the rest of you send our way, we would love it if you could take a second to leave us a review.

Corn

Yeah, it really does make a difference. Whether you are on Spotify or Apple Podcasts or wherever you listen, those reviews help other curious minds find us. We are a small operation here in Jerusalem, and your support means the world to us. It helps us keep the lights on and the coffee brewing.

Herman

It really does. And if you have your own weird prompts—things that keep you up at night or questions that pop into your head at the grocery store—head over to myweirdprompts.com and send them our way. We love getting into the weeds with you all. No question is too small or too strange.

Corn

Definitely. We have a lot more interesting topics lined up for the coming weeks, so stay tuned. Thanks for hanging out with us today and exploring the inner world of the tiniest humans. It has been a pleasure.

Herman

It has been a blast. This has been My Weird Prompts. I am Herman Poppleberry.

Corn

And I am Corn. We will see you next time.

Herman

Until then, stay curious.

Corn

And keep those prompts coming. Bye for now!

Herman

Goodbye everyone!

Corn

You know, Herman, I was thinking about how Ezra's brain is pruning those extra phonemes. It's almost like he's a sculptor, starting with a giant block of stone that represents every possible sound, and he's slowly chipping away the parts he doesn't need to reveal the language underneath.

Herman

That is a beautiful analogy, Corn. It really captures the essence of development. It's not just about adding new skills; it's about refining and focusing the incredible potential we're born with. And it's a reminder that every choice we make, every environment we place ourselves in, continues to shape that sculpture throughout our lives. We are the sculptors and the stone at the same time.

Corn

Exactly. It's a lifelong process. Alright, let's go see if Daniel needs any help with the citizen of the world in the other room. I think I heard a very universal-sounding squawk a few minutes ago.

Herman

Lead the way. I think I have some more parentese to practice. I have been working on my high-pitched vowels.

Corn

Oh boy. Ezra is in for a treat. Or a very confusing afternoon.

Herman

Either way, it’s all part of the learning process!

Corn

Thanks again for listening, everyone. We’ll catch you on the next one.

Herman

Take care!