

Universal baby sounds

'Goo goo goo, ga ga ga' – cooing, babbling and the drive towards baby's first words. Just how important are those first sounds in later language development, and how big a role do parental interactions play?

MOST BABIES go through a babbling stage before they begin to use their first recognisable words and phrases. In the fourth in this series of articles on children's communication from birth to three years, I want to explore the nature of babies' early vocal sounds and ask, 'Just how important is babbling for language development?'

There is a hilarious clip on YouTube showing twin boy toddlers from the United States babbling to each other. What the Talking Twin Babies, as they have become known, actually 'say' makes no sense at all, but the clip is so funny because we can recognise that they are using all the non-verbal features of a 'grown-up' conversation. Some call it 'gobbledegook', others 'Double-Dutch' or, if you are a linguist like Professor David Crystal, 'Scribble Talk' (Crystal, 1989).

The boys are at the stage just before babies and toddlers start to use first words, when they really get involved in trying to engage adults in shared attention using vocal sounds – having a conversation. This shows us that the twins have already picked up most of the skills they will need to have real conversations, once their first single words and phrases appear.

Shortly after watching this clip I was sitting outside a café in France and heard exactly the same sounds being used by a girl of around 11-months-old. I assumed this must be a child from an English-speaking family, but the little girl and her parents were French. These two incidents reminded me of the important questions about early communication that babbling throws up. How is it possible that children from different parts of the world, who hear different languages spoken around them, use exactly the same sounds? When will these children stop sounding the same?

The boys will certainly go on to sound like North Americans and the little girl will have an unmistakably French accent? How much of this process is automatic and just how much do babies 'do' consciously? Is babbling necessary for language development? What role, if any, do adults have in moving the baby on from babbling and towards the first word stage?

From cooing to 'back sounds'

Let us meet newborn baby Isla. We know she can make sounds using her mouth – coordinating

numerous muscles to make her outgoing breath vibrate her vocal cords as she opens her mouth. We call this screaming and crying. Isla does this automatically when she is hungry, but uses different cries when she is uncomfortable, or lonely. She also makes other automatic noises, such as burping. These are known, rather unflatteringly, as vegetative sounds, and they provide great relief to both herself and her parents!

Two months later, Isla is lying on her back in her cot. She is nice and comfy and breathing evenly. Her mum is in the room listening, but Isla is not aware that anyone is there with her. As Isla breathes out, air passes over her vocal cords and they start to vibrate, making 'ih' and 'uh' sounds. This is known as cooing, and though it is automatic, it gives mum an immense thrill, because she believes that Isla is beginning to talk.

Two more months further on and Isla is lying in her cot again, getting ready for her afternoon nap. She has just been fed and changed and is feeling very comfortable. She starts to make noises again, but this time she uses more sounds. By now she can bring the back of the tongue into regular contact with the back of her palate, which allows her to create sounds like 'k' and 'g'.

I would say that Isla's maturing nervous system and rapidly developing musculature are allowing her to automatically make new sounds, and that soon this will enable the coordination of her lips and breath to make 'buhbuhbuh' and 'muhmuhmuh' sounds. If you were to ask Isla's mother, she would tell you that her little girl is talking to her.

Babbling proper

Playing with sounds

Six-month-old Isla is not so keen to have an afternoon nap, but gradually settles down. As she lies on her back she starts to blow raspberries. She closes her lips and lets them and her vocal cords vibrate, as a stream of air and dribble escapes. She does this every afternoon until she falls asleep – as long as nobody disturbs her.

This is a major turning point for Isla. Making these sounds is no longer an automatic process. There is an element of decision-making and control here. She is happy and content and believes that she is on her own. If, however, someone comes into the room she will stop making sounds with her lips and will make 'uhh uhh uhh' sounds. This will spell



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It is very important that parents respond to babbling; the feedback process is vital

trouble, because it will be the end of her nap and she will show with vocal sounds, gestures and facial expression that she wants to be picked up. So we can see that Isla is able to control and use different sounds, depending on how she feels.

It is now a few weeks later and Isla is suddenly making all sorts of vocal noises that are beginning to sound like speech. There's a 'nuhnuh' sound and something that could be 'agagag'. If you were to ask me, I would say that this is still part of the automatic process of Isla's rapidly developing nervous system and muscles, and the growth of her vocal tract. Ask her parents and they will tell you, 'It won't be long before she is saying mama and dada'.

I may be right, but really that is not the issue, because from now on it is what her parents believe that will be important. They are quite right, Isla will soon be saying 'mama'. Not because that is what she will call her mother, but because she now can. It will be a while before Isla can delight her father by saying dada, because the ability to use her tongue tip to touch the front of her palate while using an outgoing breath (with voice for dada and no voice for tata) will come later.

Isla is now actively playing with sounds. Often, this happens when she wakes up in the morning and is lying in her cot. This may indicate (depending on how you interpret it) that she is practising using sounds that will soon be valuable in speaking to other people. What is particularly exciting for adults is that we assume baby is making these sounds to communicate, and we respond as if the sounds have meaning.

Many parents copy the sounds that their children make, as part of the way that parents and children interact with each other. I would also suggest that this type of babbling is important for the foundation of the child's auditory feedback loop, where they hear the sounds they are making, which gives them pleasure. This feedback loop is essential for the later development of speech. It is important to note here that babies with profound hearing loss babble in a similar way, but later stop doing so – perhaps because they are unable to hear the sounds they are making.

The late babbling stage

In what George Yule describes as 'the late babbling stage', which coincides with baby being able to pull herself up to standing, we see a dramatic shift in babbling (Yule, 2006). Not only is the baby using many more sound combinations, for the sake of the pleasure that this gives her, but is using them to communicate with other people (and sometimes with pets). Baby also attempts to imitate sounds that parents make, and particularly as part of the exaggerated interactions of 'Motherese'.

At 13-months-old, Isla started to stand on her own, and very soon after that she began to walk. Shortly after that she began to use her first words. They were not clear, but they could be distinguished from her ongoing babbling, because she used the same set of sounds to mean the same thing – for example, 'bo', which she said every time she saw the family's pet dog.

Isla's parents both speak English, and Isla rapidly started to sound like an English toddler, using English vocabulary and speech sounds. Her Brazilian neighbours next door have a toddler of the same age who went through exactly the same babbling stages as Isla, but now speaks Portuguese and using typically Portuguese sounds. How is this possible?

Babbling all over the world?

One explanation is that, at first, babies all over the world babble using the same sounds, and as parents respond positively to this, the babies increase their babbling, but gradually drop the sounds that do not feature in their parents' speech. This Continuity Hypothesis accepts that the sounds used in babbling will change as the baby's anatomy changes, but emphasizes the part that the child's social environment plays in the changes in sounds.

Isla paid close attention to the reaction that she got from her parents, and went on to use the sounds that her mum and dad took most delight in, including when they copied her sounds in play.

Is it all physical?

An opposing view is that babbling has no impact on language development. The Discontinuity Hypothesis suggests that Isla was essentially making babbling sounds because her rapidly-maturing vocal apparatus allowed her to do so. It is a matter of physiology, rather than language development.

Once Isla learned English she developed 'English' sounds in an orderly manner, in much the same way as other children learning English as their first language. Her next door neighbours' baby learned Portuguese sounds in the same order as other Brazilian babies. This had nothing to do with his babbling sounding the same as Isla's, it is a matter of language development, rather than physiology.

Whichever view we take, it is what parents and carers believe and how they respond to their baby's behaviour that really matters. If parents respond to their baby's babbling as if she is trying to tell them something, this can only be a good thing. Baby is going to associate making sounds with a happy response, and is very likely to continue babbling.

Whether this leads directly to the child's first words is a matter of opinion, but playing along with baby's sounds can only add to the building of a loving, happy and positive relationship, that involves talking. As we have seen in previous articles, this type of positive response to the baby, including using Motherese, can have huge benefits for the baby as a developing talker, and introduces more steps in the dance of conversation.

Should we be worried if children don't babble?

Speech and language therapist, Bhavna Acharya, always asks about babbling when she meets the parents of a child with delayed speech and language for the first time.

'Children with severe hearing impairment start to babble, but often stop because they can't hear themselves making sounds and, therefore, get no pleasure from it. Some babies have fewer opportunities to babble; perhaps because they have a dummy almost constantly in their mouth, which hinders their ability to make sounds.'

'When we look specifically at the early communication of children who have a diagnosis of Autistic Spectrum Disorder, parents usually describe their child as having been very quiet or passive as a baby. Their baby did babble, but did it to please himself rather than use it to take part in interaction.'

'For children with delayed language development, I typically find that they remained at the babbling stage for longer than other children, who rapidly moved to using single words. Late development of babbling may indicate that the child will also be delayed in using their first words.'

This suggests that the babbling stage is important as a stage in itself, which may happen automatically. With interaction from parents and carers, it can lead quickly to the first words stage, whereas if not responded to it can die away, with language developing later than for those children who were encouraged to babble.

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Useful resources

- To see the Talking Twin Babies on YouTube, visit:



Most babies go through a babbling stage, but how much of it is a conscious process?

www.youtube.com/watch?v=lih0Z2IbIUQ or visit www.twinmamarama.com

References

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Key points

- Most babies go through a babbling stage before they begin to use their first recognisable words and phrase
- But just how important is babbling for language development?
- The Continuity Hypothesis accepts that the sounds used in babbling will change as the baby's anatomy changes, but emphasizes the part that the child's social environment plays in the changes in sounds
- The Discontinuity Hypothesis suggests that babies make babbling sounds because of rapidly-maturing vocal apparatus allows them to do so. It is a matter of physiology, rather than language development