Little communicators
Investigating children's pragmatic development

Can't you talk about it with him?
No, he's a hedgehog.

Would you like to go to the cinema tonight?
I've got an exam tomorrow.

[We are sorry to announce that the 08:15 service to Kings Cross is delayed by
approximately 20 minutes...]
"Superb!"

When we communicate, we often mean far more than we literally say. And we
do this all the time. Just take the example 'he's a hedgehog'. Does the speaker
here really mean that this person is a small, prickly animal? No, of course not!
She might mean something like 'he can get antagonistic and defensive', which
you can work out by the fact that he can't really be a hedgehog, and you were
just discussing talking through an issue with others (or not). When we talk with
others, we are making these sorts of complex **inferences** all the time, even
though we usually aren't conscious of it. This means that when children learn
language – whatever language or languages they are learning – they have to
learn not only words and grammar, but also these inferencing skills. This is their
pragmatic development. In this article I'm going to take a look at what we
know about how kids develop pragmatic skills.

What do you mean?
Pragmatics is the area of language to do with meaning in context. Look at our
second example again. Here the speaker has not literally answered the
question by saying "I've got an exam tomorrow", but it's a clear 'no', given what
we know about the need to revise before exams, get an early night, and so on.

But imagine if the question was instead, "shall we go to the library to study?". The same utterance now seems to mean the opposite, 'yes'. This shows that these kinds of inferences (known as implicatures – more on them later) are completely dependent on the context. Who you're speaking to, when, where, what you both know, and more, all have an effect on what the speaker says and how the hearer infers her meaning.

Paul Grice, a philosopher and linguist, has had perhaps the most influence in how we understand pragmatics. He suggested that for humans, communication is a rational act that proceeds with expectations of cooperativity. That is, we expect the person we're talking with to be truthful, as informative as possible, relevant and clear. These expectations guide how we infer the speaker's intended meaning. Take the third example above: at the news of a delayed train, the speaker says "Superb!". The hearer can reason that the speaker is unlikely to mean that the news really is superb, but on the assumption that she is being truthful, he can infer that she is using irony, and in fact she's not happy about it at all.

If you want a more detailed refresher, take a look at Babel Issues 1 and 18. The key point is that using language is clearly so much more than encoding and decoding. Sometimes we might think about communication like this: the speaker has some information or meaning that they want to communicate, so they package it up in a signal using the words and grammar associated with that meaning, and send it out (via speech, writing or signing); the hearer

receives the signal and decodes it according to the grammar and lexicon to get the associated meaning, and information. A bit like radios sending and receiving signals. But in fact, in communication we *use* language to express a precise and broad range of meanings by conveying far more than the literal meaning of the words and grammar put together, by making inferences about the speaker's intended meaning, using our shared knowledge with the speaker, our knowledge about the speaker, our world knowledge, our experience of language, and many more aspects of **context**.

Learning to communicate

Pragmatics was perhaps historically seen therefore as the pièce de résistance of children's language learning: first young children get the hang of words and how to fit them together into sentences, then learn to make inferences. But now, after a couple of decades or more of intensive study of children's pragmatic development, we're seeing that pragmatic skills appear relatively early in children's development, and in fact are absolutely fundamental to their language learning. Let's look at how children learn metaphor, implicature and irony.

Firstly, what about **metaphor**? Linguists have observed that children seem to produce metaphors, or metaphor-like utterances, aged two or three. For instance, Dr Nausicaa Pouscoulous gives examples such as:

(Four-year-old, pointing at the lift from below): We can see the elevator's buttocks.

(Arran, 36 months, looking at steam from a bowl of soup): Smoke dancing.

Perhaps you can think of similar examples from children you know. These kinds of metaphors have been called 'perceptual metaphors', because they are based on physical similarities between objects. 'Structural metaphors', on the other hand, like "he's a hedgehog", depend on relational mapping between conceptual domains (e.g. The conceptual domains of a hedgehog and a person). These seem to be harder for children and appear later.

While children *produce* metaphors early on, early research suggested that they didn't *comprehend* them as well, perhaps only learning how to interpret metaphors as late as 10 years old. More recently, though, researchers have realised that the kind of tests they used to see whether children understand metaphors were challenging for children for many reasons and didn't really tap into their actual pragmatic abilities. For instance, children might be given a sentence like "my sister is a rock" and asked what was meant by it. While for adult speakers, 'being a rock' is a **conventional metaphor** (one that has become part of everyday language and doesn't need an inference in context to get at the meaning), for children it's likely instead to be a **novel metaphor**; they just haven't had as much linguistic experience as adults have had, so they need to make an inference to work out what the speaker means. But this inference depends on abstract conceptual knowledge that young children probably don't have yet: the similarity between the sister and the rock is not to do with the physical properties of the sister (she isn't grey and hard!), but

instead a mapping between conceptual domains. A rock can be firm and lasts for a long time; so we can infer that the sister is perhaps dependable. Plus, we know that children don't develop **metalinguistic skills** until relatively late; they can't reflect consciously on their understanding of language and explain something explicitly. So even if they understood something of the metaphor, they're still likely to try to explain it in literal terms: "She was hard, like if you felt her hand you couldn't squish it or something".

Pouscoulous tested young children with metaphors that were perceptual and that depended on words and conceptual knowledge that children know. And she did this with a task that didn't depend on metalinguistic skills but was a more direct measure of what they understood: children heard descriptions of toys like "the tower with the hat", and had to choose between a tower with a pointy roof and one with a balcony. In this kind of child-friendly test, even three-year-olds were able to infer the intended metaphoric meaning – in this case, choosing the tower with the pointy roof.

We see a similar story when we turn to **implicatures**: initially researchers thought that these were hard for children, learning to make these kind of inferences only at around 9 or 10 years old. But this was based, again, on tests that were demanding for other reasons. For instance, kids were asked to judge whether out-of-the-blue sentences like "some elephants have trunks" were true or false. In case you're wondering, the 'pragmatic' answer is false, because *all* elephants have trunks, and we make the inference that the speaker

means *some but not all* elephants have trunks. But this is intuitively a lot less clear when it's mixed with sentences like "all chairs tell time" or "some stories are made of bubbles". And again, it requires some metalingusitic skills.

Using the same kind of experimental design that Pouscoulous did with metaphors, in my research I found that children as young as three can make implicature inferences. For instance, if they listen to a story where they have to choose pictures that match the story, they are able to choose a picture of a bowl of cereal (not some toast) when they hear "What do you want for breakfast? I'll get the milk", or a picture of a strawberry (not a strawberry and an orange) when they hear "What did you take from the fridge? I took a strawberry".

But there's a twist in the tale when we get to **irony**, for this kind of pragmatic inference really does seem harder for children to learn. When we're ironic, we say one thing and mean something rather different – often the opposite in the case of sarcasm, but we can also be ironic in other ways, like using hyperbole ("I could eat a horse!"). But that's not all we do with irony (otherwise why bother being so unclear?!). We also communicate an attitude – perhaps annoyance, mocking, or to be funny or praise. Children have to learn to recognise this difference between what the speaker literally says and what they mean, identify what the speaker actually thinks about the situation, and understand what the speaker is trying to communicate. Children begin to get the hang of irony around six years, and this skill goes on developing through middle childhood. Around that time they might begin to recognise the communicative

function of being ironic: why is the speaker being ironic? Are they being mean or funny? But understanding all aspects of the irony seems to take a lot longer. Interestingly, there seem to be some cultural differences. English-speaking children do better at understanding ironic criticism (saying something positive to mean something negative, like our "superb" example), than at understanding ironic praise (saying something negative to mean something positive, for instance saying "you're really letting the team down" to someone who is obviously the star player). But for Czech-speaking children it's the other way round, presumably because that is how irony is predominantly used by speakers in that linguistic community.

The ingredients for pragmatics

This leads us to the question: why is that some pragmatic inferences, like irony, seem to be relatively hard for kids, and others, like implicature, relatively easy? We need to think about the kind of skills we need to 'do pragmatics'.

Pragmatics is underpinned by our social cognitive skills. The seeds are sown right from birth. Interaction between a baby and their caregiver is what is known as **dyadic** (involving two): the baby and caregiver respond to each other but their interaction isn't about some third thing (as using language can be – we can talk about something else, which can be completely removed in time and space from our physical situation). Baby might make a noise, burp, wave their arms, and the caregiver will respond, often as if it's a conversation. You've probably seen the kind of thing: "Oo what a lovely burp!... Oh yes, that's right…

Hello, waving!" Also very early, babies start to show preferences for behaviour from a caregiver that are responsive to them, rather than random, and for eye contact.

At around nine months, a number of important changes happen in the baby's development – some have even called it the 'nine month revolution'. Babies learn to take part in **joint attention**: they are able to interact with someone else and another object: they might both be playing with a toy, and *know that they are both doing this*. This is called **triadic** interaction (three things). It is supported by being able to track someone's gaze – follow where someone else is looking – and leads to babies initiating joint attention themselves, for instance by pointing to draw attention to something. They start to learn that others have intentions, and then, in particular, communicative intentions. For example, from 9 months, babies start to react differently when someone cannot do something as opposed to when someone is unwilling. They can then use these skills as a basis for their own actions: for instance, by 18 months, babies won't blindly copy someone else. If an adult fails to pull apart a toy because his hand slips, babies copy but do what was intended, actually pulling the toy apart. These skills contribute to babies' developing abilities to track what someone else knows, and to know when they both know it: from 2 years, children point to a toy that the speaker can't see but they can, when asked, "where's the other toy?". And they understand at some level that when we communicate, we are intending to draw others' attention to something. They

expect communication to be social and to convey information, so there is a motivation to make inferences to understand what people *mean*.

So the foundations for pragmatics are there early, But why then does it take years for kids to grasp some skills like irony? Irony requires some really quite sophisticated social cognition. When we understand that someone is being ironic and what they mean ironically, we are having to reason about the speaker's intentions, beliefs and attitudes. According to some theories, we have to understand that the speaker *wants* me to *believe* that she has a particular *attitude* (the fancy name for this is 'third-order theory of mind'). Children don't seem to develop this kind of reasoning until mid-childhood, when we see them beginning to understand irony. And of course there are other skills that children are developing all the time which will help their pragmatics. As they grow up, so too their linguistic and communicative experience is expanding: they know more words and grammatical constructions, and know more about how these are used conventionally in their language community. And they're also getting better at learning to process different sources of information at speed and integrate these, including the language their hearing, what they know about the speaker, and what's going on in the immediate surroundings.

Pragmatics for communication

But now think again about those early foundations for pragmatics: babies' and children's really early emerging abilities to take part in social interaction, to expect communication to be informative, to be able to track what others have

experienced, and, of course, to make inferences. And think about the task of learning language, faced by children: to begin with, there's an awful lot of uncertainty about what a speaker means. She might have used a word the child has never heard before, or used it in a new way, or constructed the sentence in a way that the child hasn't learned yet. But the child does have pragmatic skills: they can use what they *do* know – words, speaker, context – to make an inference about what the speaker means. In fact, we know that this is one really important strategy for learning word meanings. So while some applications of pragmatic skills, like metaphor or irony, might be viewed as a pièce de résistance of language learning, increasingly researchers are finding evidence that pragmatics is a key building block for language and a gateway to communication.

Find out more

Books

Scott-Phillips, Thom (2014). *Speaking Our Minds: Why human communication is different, and how language evolved to make it special.* Palgrave MacMillan.

Tomasello, Michael (2019). *Becoming Human: A Theory of Ontogeny.* The Belknap Press of Harvard University Press.

Online

Filippova, E. Irony Production and Comprehension (2015). In Danielle Matthews (Ed) Pragmatic Development in First Language Acquisition. Available online: https://www.researchgate.net/publication/283393310_Irony_production_and_comprehension

Wilson, E & Katsos, N. (2020) Acquiring Implicatures. In Klaus Schneider and Elly Ifantidou (Eds) Developmental and Clinical Pragmatics. De Mouton Gruyter. Available online: https://elspethwilson.uk/wp-content/uploads/elspethwilson.uk/2019/08/Wilson_Katsos_implicature_postprint.pdf

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