“... do not take from me your laughter..... it opens for me all the doors of life.”

(Pablo Neruda)

Before they speak or walk or crawl, infants joke. Infant laughter captured the attention of Aristotle (who thought it was the sign of the entry of the soul into the body) and of Darwin, who noted its emergence in the fourth month of life. Darwin saw such laughter as the early appreciation of humour, whose presence at this age shouldn’t surprise us given the early emergence of play in other mammals. In the twentieth century, however, these observations faded from scientific attention; humour began to be seen as an intellectual achievement requiring complex cognitive abilities, with infant laughter seen merely as a reaction to external stimuli. However, recent science has uncovered remarkable cognitive and emotional sensitivities in very young infants. And, as it turns out, infant humour and laughter is a rich source of knowledge about their understanding of the world and indeed, our understanding of infants. The study of infant humour is no joke.

One early influential view saw infants as having only forms of proto-humour, evolutionary vestiges from three primitive situations of danger: the threat of being hunted (leading to laughter at being chased), the threat of exposing vulnerable parts of the body (leading to laughter at being tickled) and the threat of loss of mother (leading to laughter at peekaboo). However, infant humour is not restricted to these three situations, nor is it just a proto-form of ‘the real thing’. Recent observations show that infants are not just passive reactors to external stimuli; even in the first year of life infants create and maintain novel humorous initiatives, actively looking for opportunities to elicit others’ laughter by playing the ‘clown’ and playfully provoking others by teasing them.

Text and context

Although infants in the first year of life do not have complex cognitive abilities to tell or decode jokes as adults know them, they have something that may be much more central to humour. They have rich social relationships. Even in the humour of adults – whether in joke-telling or in other forms of comedy – it is very often the case that the social context is what makes things funny. Everyone will be familiar with the infectious giggling of close friends for no apparent reason, and with those social situations – in a church or a board meeting, for

1 To appear as a Primer on the Biology of Fun, in Current Biology, 25 (1)
instance – where the very injunction to be serious intensifies the funniness of trivia. Humour is never just in the text of the ‘joke’ – it must always involve both.

One key feature of the ‘text’ of a joke is the presence of incongruity, when two different frames of reference collide (Koestler, 1964). Puns, for instance, shift our expectations from a predicted to an odd meaning of a word; at a simpler level, the absurd use of objects – such as an adult drinking from a baby bottle - can be incongruous. Incongruity humour tends to hinge on surprise, requiring first of all, the awareness of a norm or a typical pattern which has been violated. The fact that infants can be surprised, even in the first few months of life, reveals their expectations about normality. For example, they react with surprise to unusual physical events such as objects which disappear into thin air or don’t fall to the ground when dropped. They also react with surprise to people behaving in unexpected ways. But not everything that is incongruous or surprising is funny. For a surprising event or thing to be seen as funny rather than just odd or absurd or even scary, we seem to need a ‘playful frame’. The playful frame is socially constituted, bringing us back to the importance of the rich social engagements of infancy. In infancy it is the emotional reactions of other people – their laughter, amusement, indignation, surprise, annoyance and puzzlement – which are the key to their funniness, which, ‘opens the doors’ of humour. These reactions abound in the everyday lives of young infants. In the second half of the first year, infants clown and tease with impunity.

Clowning and teasing

Clowning can be defined as absurd, often non-verbal, behaviour - involving violations of normal patterns of social life (ways of interacting with people or of handling objects, for instance) specifically to elicit or re-elicit amusement. Often occurring within a pre-established playful context, clowning is less intrusive and risky than teasing. Playful teasing is more explicitly provocative – foiling intentions and violating expectations - in order to provoke emotional reactions. Teasing often involves playing with surprise, with the boundaries of accepted patterns, and can function to test the limits of someone’s reactions or of the tolerance of a system. Clowning still stays within a pre-known frame – here is the funny thing that made you laugh earlier – and you can either laugh or not. But the risk involved in teasing opens up potentially more doors: you could become angry, you could become upset, you could tease back, you could not understand it and each response to the response offers new directions for the relationship. While clowning tends to occur within a pre-established playful frame, teasing often occurs within moments of neutrality or boredom, serving as an invitation to interaction – a strong way of drawing out the other.

Little Clowns. Big Audience.
What do infants specifically do to play the clown? Even with little motor control, infants as young as three months use what they have available: their faces, bodies, and voices. Without intending to do so, three month-old infant may make odd faces and sounds that succeed in arousing parents’ responses, often amusement and laughter. As they move through infancy, gaining more control over their actions, infants expand their repertoire of behaviour that can now be used intentionally to elicit laughter. They become clowns. By four months, an infant might grab onto her mother’s hair and shriek with delight as her mother laughs and tries to break free. By five months, she might imitate her father blowing raspberries into the air. By six months, she can repeatedly knock over a tower of blocks carefully built up by an older sibling. By nine months, she might wave her ‘sweaty’ feet in the air inviting mother to smell them, or lift her shirt to expose her navel. Each of these behaviours invites a response from the infant’s social partner, and if done in order to initiate or re-elicit amusement, is an act of clowning. In fact, these behaviours – violating norms, imitating odd behaviour, violating others’ constructions, and acting profanely – are categorically similar to those used by circus clowns and some comedians to amuse audiences (see Figure 1 for an example of an infant imitating her great grandmother’s ‘snoring’ face).

Yet how do infants know these behaviours can be amusing? The answer, in a word, is companions. Research observing parents attempting to amuse their infants supports what most of us have seen outside of the laboratory. When parents try to elicit smiling and laughter, even from infants as young as three months, they do absurd things. Taken out of context, these behaviours are extreme: odd faces or noises, blowing on the infant’s face, exposing the infant’s tummy, flailing wildly about, dressing the infant or themselves in strange clothing, or using objects in odd ways. In short, they model absurdity for their infants. But they also do something more that is at least as important. Parents give clear affective messages that the absurd is funny. Throughout their clowning, parents themselves smile and laugh, punctuating the action and defining the behaviour as safe, playful, and amusing. And when their infants do things like squish up their faces or put household objects on their heads, through their amused responses parents unmistakably communicate the culture of absurdity as humorous.

Such a Tease

From around 9 months of age infants are capable of stepping outside the theme of an ongoing interaction and playfully disrupting it by doing what might be called the mis-expected. Infant teasing is not limited to a few standard types of action. It seems to occur as a play on any newly developed skill or social agreement. A new word that has been mastered by the 12 month old can be playfully mis-used – “Mama” said with a cheeky smile while looking at the father, for example. A new skill – asking for something by pointing to it with a vocalisation – can be used playfully by an 11 or 12 month-old by repeatedly ‘asking’ for it and then refusing it with a smile. A newly learned gesture – like holding out an object
in order to offer it – can be playfully distorted by the 9 or 10 month-old, by holding it out, then whipping it back as the other reaches out (see Figure 2 for one example of an infant offering and cheekily withdrawing an object from her father). Infants seem to play with the deliberate conflict of messages involved in offer and withdrawal, not just by offering and withdrawing objects, but also offering and withdrawing themselves as a whole; the 11-month-old who puts out her hands to go to her waiting dad and then veers away at the last minute, smiling broadly, is not unfamiliar to some of us. Perhaps the type of teasing most familiar to parents of young children is the provocative non-compliance that we all despair of – and never quite know how to handle. The infant who, looking watchfully at her mother, slowly reaches out a finger towards a hot cup of tea (after weeks of complete reliability in not touching hot things), is playing with her own expected pattern of behaviour and with her mother’s reaction. The range of things infants can do to tease their parents seems as large as the expectations parents have of the infants.

Teasing is paradigmatic of unscripted conversation and is inherently relational. It needs an intentional partner to occur at all and to complete its meaning (e.g., to determine its meaning as naughtiness or as humour). More importantly, you can’t tease someone unless they respond in an appropriately reciprocal way. No one would, literally or figuratively, say “boo” to a goose which didn’t respond with either alarm or attack. It is fundamentally the response (and its anticipation) which allows teasing, and it is teasing which seduces the other into action. Teasing involves a curious mixture of opposites and contradictory messages – of engagement with the other in the moment as well as simultaneous stepping outside of engagement, of respect and violation.

A playful tease is an interpersonal intrusion that always carries an element of risk: the action could be damaging and the interaction could quickly deteriorate or end. But it could also cause the relationship to fast track through several introductory levels, catapulting it into greater closeness. In fact, this may be why we are impelled to explore and test boundaries, take risks with relationships and with the smooth harmony of interactions. It may explain why we seek to create these ‘breakdowns’. Nakano argues that we have an ‘incident affinity’ – we are attracted precisely to incidents or events which break fluency and smoothness and, when successful, raise communication to a higher level. Perhaps teasing, as with any risk, can be transformative.

**Teasing, clowning and other minds**

Teasing and clowning are important markers of the awareness of other minds. Joint attention – when two people knowingly attend to the same object - is one commonly used index of this awareness. Prior discussions, however, have excluded the actions and events that infants engineer as a focal point for joint attention. Both teasing and clowning show infants’ awareness of this triadic link, and challenge earlier views.
Teasing also tells us about infants’ awareness of others’ intentions. Even the simplest teasing that infants do – e.g., to offer someone an object and then whip it back as they reach for it – requires that infants predict the other’s actions and expectations (that the other will hold their hand out and will expect you to release the object). Teasing, therefore, involves playing in the realm of minds. Indeed, when an adult teases an infant – with an ambiguous action such as blocking the infant’s hand or pulling an object back – most infants immediately look up at the adult’s face, knowing the face will reveal the intention. Understanding others’ intentions when they are themselves teased, however, may not develop until the second year of infancy.

The link between mind knowledge and teasing is in a way very simple. Daniel Stern wrote in 1985 that ‘you can’t tease another person unless you can correctly guess what is in their minds and make them suffer or laugh because of their knowing’. Looking at mind as embodied (rather than as a hidden and internal entity) allows us to see how infants are drawn into understanding others’ intentions and expectations by engaging in playful interactions. Infant teasing not only reveals what infants know about others’ embodied intentions and expectations, but reveals a powerful process of exploration by the infant of the nature and boundaries of mind – others’ as well as their own.

**Teasing in other animals**

Although there is no shortage of evidence about play in non-human animals, curiously there appear to be no reports of clowning. Whether this is a function of our limited observations or of something more fundamentally characteristic of clowning, is unclear. Teasing, on the other hand, is more apparent. The Internet is replete with clips of animals playing with objects and other animals, and some of these include specific examples of teasing. In one compelling example, a wild gibbon teases a pair of tiger cubs, swinging down on tree limbs to tweak the cubs’ ears, yank on their tails, hang just out of reach over their heads, and then scooting deftly up into the canopy before the cubs can retaliate ([https://www.youtube.com/watch?v=1AZn5nWIj_g](https://www.youtube.com/watch?v=1AZn5nWIj_g)). Another video shows a captive dolphin taunting a seagull with a fish. The dolphin cradles the fish in its open mouth in full view but just beyond the gull’s reach, then ducks under water thwarting the gull’s attempt to snatch it ([https://www.youtube.com/watch?v=t4eJvem3nOY](https://www.youtube.com/watch?v=t4eJvem3nOY)). Other clips catch monkeys teasing dogs and cats. In one, a young monkey skips around a kitten that is relaxing on a bench, grabs her tail, jumps back awaiting her reaction, then skips back within reach ([https://www.youtube.com/watch?v=TuF0qmzj9UI](https://www.youtube.com/watch?v=TuF0qmzj9UI)). Each of these examples convinces the viewer that teasing is not exclusive to human beings. Our close cousins, chimpanzees, have also been observed teasing where the motive for teasing is linked to social status. Specifically, low ranking chimpanzees appear to tease others out of boredom, while high ranking chimps seem to tease as an act of control.

The abundance of teasing in other animals tells us two things – that neither the ability to perceive other minds, nor the desire to play with them is the prerogative of humans alone.
The Meaning of Funny

Humour is universal, but not everything is funny. Infants smile and laugh very early in development, eventually clowning and teasing their way towards their first birthdays. As they discover others’ reactions and indeed, others’ minds, they also discover the meaning of ‘funny’, a construct that varies across and within cultures, regions, families and even dyads. Infants become attuned to the nuances in humour through their social relationships, which create the practice of contexts of humorous exchange. Others’ reactions to the infant’s actions – intentionally humorous or otherwise – inform the infant about what is funny. At the same time, parents tutor the infant in the comedic potential of the absurd through their own odd actions, which they pair with positive affect conveying joy and safety. These interactions – initially in the dyad and eventually in larger social contexts – result in the infant’s initiation into the ‘culture of funniness’ as an active and engaged participant.

Research shows that infants as young as 5 months will laugh at absurd events – like a stranger wearing a red ball as a clown nose - even when their parents remain emotionally neutral. It could be that even the infant’s brief history of humorous interactions and their (limited) knowledge of the world suffice to allow them to extract humour from such situations despite their tender age, recognizing “funny” in the thing itself.

Humour affords infants with rich social and cognitive opportunities, perhaps explaining nature’s developmental prioritisation of smiling and laughter. Similarly, humour research provides scientists with rich opportunities to know what infants know as they are coming to know it. Humour may be funny, but humour research is serious science.

Further Reading


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Figure 1. Example of Clowning: Extreme facial expression (imitation of great grandmother’s face while snoring) repeated following others’ laughter
Figure 2. Example of Teasing: Offer and withdrawal of object in hand. Nine-month-old infant offers an object to her father, wiggling it to attract attention to it, then withdraws it cheekily as her father reaches out for it. Infant repeats the offer briefly, and turns away again quickly as her father reaches out again.
Box 1: Laughter and humour in atypical development

Clowning and playful teasing can be used as an index of interpersonal understanding. There are several components to such an index.

- At the simplest level, the things that children find funny reveal commonalities with the things that adults find funny. Children with atypical patterns of development might not be moved by the same affordances for amusement.
- Finding the same things funny as others allows children a powerful ‘common ground’ on which to build further communicative understanding. Children who do not share this common ground might therefore have secondary impairments through fewer shared moments of emotional engagement.
- Clowning and teasing both reveal an interest in others’ emotional reactions and a desire to evoke them and play with them. Such interests are not always present; in some developmental disorders, e.g., in pre-school children with ASD, both clowning and playful teasing are impaired.
- Clowning and teasing both reveal the child’s awareness of a triadic link between their own action and the other person’s reaction to it. Occurring developmentally earlier than the more typical indices of joint attention (which posit the child’s awareness of a link between the other person and an external object), such behaviour could be used as an early indicator of joint attentional impairments.
Voiced laughs are found to be more friendly, positive and spontaneous than are unvoiced laughs (such as chuckles or polite conversational laughs).

Even in the first year of infancy, parents differentiate genuine from fake or artificial laughs, with an intermediate category of the forced or polite laugh. Artificial laughs sound different, with an unconvincing quality, and are often used to obtain attention or to 'join in' when others are laughing in an interaction not including the infant. Polite laughs, on the other hand, are reported in contexts where the infant may have had enough of some game or joke but continues to laugh in a milder and less 'felt' way, maintaining the social expectations of the routine. These are similar to comment laughs in conversation.

Genuine laughs can vary in their quality and the contexts that elicit them. There are belly laughs, deep and unstoppable; brief chuckles in response to something mildly amusing; giggles of joy or exuberance often during rough and tumble play; and the screaming laugh sometimes during tickling.

Although we don’t know much about the acoustic qualities of different kinds of infant crying, and about parents’ ability to accurately distinguish these types.