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Straight out of the mouths of babes

As an instruction "You do it!" might be taken to indicate that I, the listener, should do something. However, in my recent interactions with a 2-year-old, it quickly became clear that this sentence sometimes meant that the 2-year-old wanted to do something himself. Sometimes, but not always.

At other times it really did mean that I should do something. A minefield of ambiguity.

Researchers looking at children's language use report 'pronoun-reversing' children, who use *I* or *me* for *you* and *you* for *I* and *me*. Such reversals are understandable, as a child will hear someone using *you* to refer to the child and *I* to refer to themselves. It is as though *you* and *I* are names for the child and the other person respectively.

While some studies have claimed that these reversals are more likely from children with Autism Spectrum Disorder (ASD), others have observed them among precocious talkers, defined as children who began speaking early and who scored very high on measures of vocabulary size.

One claim is that the verbal output of early talkers runs ahead of the cognitive capacity they need to tackle the demanding shifts in perspective involved in swapping points of reference for *I* and *you*.

To learn how the *you* pronoun is used, a child has to observe and learn from speakers using this pronoun to refer not only to them (the child), but also to other addressees that the speakers might talk to.

It has been observed that eldest and only children might pay less attention to speech that is addressed to others, since this tends not to involve other children but is adult-to-adult speech, which is generally less interesting to children (and sounds more boring, with less variation in rhythm and intonation). Eldest and only children are reported to be more likely to show reversal of *you*.

Learning how to use *I* and *me* is probably more straightforward, as many different speakers will use these forms to refer to themselves, both when speaking to the child and when speaking to other people, and so children hear plenty of examples where *I*/*me* means the speaker. Because of this asymmetry in learnability, pronoun reversal is often not a full reversal of *you* and *I*/*me*, but involves a child using *you* to refer not only to the addressee, but also to the child themselves.

Pronoun reversal is evidence that language learning involves copying, with the child copying the pronouns that other speakers use when referring to the child and to themselves. As I have pointed out in an earlier column, copying cannot explain all aspects of language acquisition, as children also make generalisations based on what they hear and over-use rules such as 'add -s to make a plural' from *cats*, *dog*s, and so on, to *foots*, *fishes* and the like.

The 2-year-old in question also showed that they were learning rules, as they often used *you's* for *your* (meaning *my*), as in *you's feet are big*, the general rule here being to add 's' as a possessive ending.

Published studies indicate that individual children stop committing pronoun reversals quite suddenly. At least two factors have been linked to this. An external factor is a change in the input the child is exposed to, one case study involving a visit to the child's grandparents, who provided more examples of pronoun usage, and particularly more speech that was not addressed to the child.

An internal factor is a maturational change, the development of cognitive skills that allow the child to work out the link between pronouns and speaking roles – an I for an I.
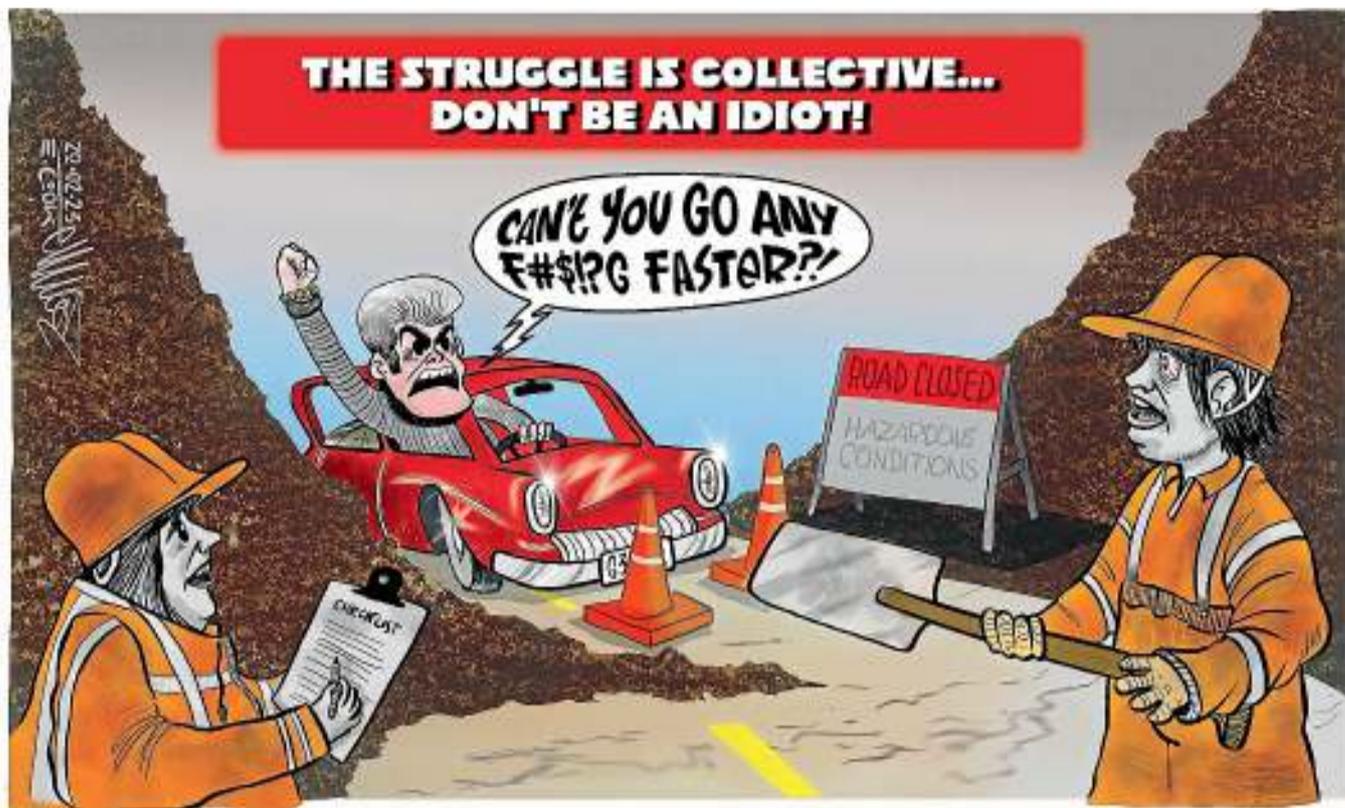
The threat of a growing disinformation industry

Donna Miles
Iranian-Kiwi columnist and writer based in Christchurch

> Once an association has been established, it is extremely difficult to erase them.

All of us know something about the principle of association, even if we may not be consciously aware of it. In behavioural psychology, an association is described as a learned connection between a stimulus and a response.

A good example is the association between a red light and stopping. Usually, when we see a red light, our automatic response is to stop.

Generating associative responses is not that difficult provided one has access to appropriate resources. Most associations can be hard-wired into people's brains. All you have to do is to repeat the association to a wide audience for long enough.

Advertisers use this method to manipulate us into buying their products. They call it brand association. Chocolate bar Kit Kat has successfully associated its brand with 'taking a break'.

Increasingly, the principle of association is being used not only to sell us products, but ideas too. There is nothing wrong with promoting positive associations. For example, associating safety with seatbelts saves lives.

But some associations are deeply bigoted and harmful: like the idea that Muslims are terrorists or Jews are greedy. Once an association has been established, it is extremely difficult to erase them. For instance, just saying Muslims are not terrorists, does not help. In fact, with an established link, repeating an association, even to negate it, actually works to enforce it further.

The best way to break an established association is to create a new one. Sticking with the Muslim example – in Muslim majority countries, the association between 'a good Muslim' and 'charity' is well established (charity is an important pillar of Islam) – not so in the West.

The reason is that, for any positive association to take root, one has to have an extensive reach and access to mass audiences – resources that are often not available to marginalised groups. This power inequity stops the marketplace of ideas operating fairly and freely.

Despite this obvious shortcoming, our information ecosystem is left to unregulated private markets with access to digital platforms and an army of fake accounts whose purpose it is to spread disinformation for profit.

As I write this, news of an elaborate undercover investigation is making waves on social media. The eight-month investigation has unmasked a team of Israeli private contractors who sell disinformation services to politicians and corporate clients around the world.

"Team Jorge" uses a sophisticated army of 30,000 fake accounts, across multiple social media platforms, to spread lies and disinformation.

As it turns out spreading manipulative lies is an extremely lucrative business, so we can expect the disinformation industry to keep growing.

Tal Hanan, who runs "Team Jorge", is reported to have quoted "US$400,000-$600,000 per month, and substantially more for crisis response" when pitching its services. The team claims to have manipulated more than 30 elections globally.

Private contractors such as "Team Jorge" use their "lies factory" to manufacture 'mass messages' to create propaganda.

I have witnessed plenty of such disinformation campaigns on Twitter – more recently, with regard to the Iranian uprising. Obvious lies can appear as certain truths because of their ubiquity.

So how do we stop these "digital gangsters" from attacking our democracy?

I know we are encouraged to always ask ourselves whose information we are acting on and who is really behind it – but going by my own personal experience, such questions are not always easily answered. The machinery that drives disinformation is often well-hidden and operated by sophisticated software.

The Christchurch Call, initiated by former prime minister Jacinda Ardern and supported by 120 governments, is a political initiative to eliminate terrorist and violent extremist content online. The Call came as part of New Zealand's response to the mosque shootings in Christchurch.

The time has come to heed another call on governments. This time by the 2021 Nobel peace prize winners, journalists Dmitry Muratov and Maria Ressa. "We urge rights-respecting democracies to wake up to the existential threat of information ecosystems being distorted by a Big Tech business model fixated on harvesting people's data and attention, even as it undermines serious journalism and polarises debate in society and political life."

We lost decades in responding to the threat of climate change. We must do better in protecting our information ecosystems.