Injustice Arising from the Unnoticed Power of Priming: How Lawyers and Even Judges can be Misled by Unreliable Transcripts of Indistinct Forensic Audio

Helen Fraser and Yuko Kinoshita*

Current law allows police transcripts to assist juries in understanding the content of indistinct forensic audio – with a number of legal safeguards intended to mitigate any risk that an inaccurate transcript might mislead the jury. The problem is that the safeguards rely on lawyers and judges gaining a sense of personal confidence that they hear words suggested by the transcript. The present article describes a new experiment showing that personal confidence is a poor indicator of perceptual accuracy, since listeners can be easily and unwittingly "primed" to hear words suggested by an inaccurate transcript. This confirms previous research suggesting current safeguards are inadequate, adds new findings regarding the effect of an alternative suggestion, and supports the need for an evidence-based process ensuring all indistinct forensic audio used in court is accompanied by a reliable transcript. It also indicates there is an urgent need to change legal procedures for admission of transcripts of indistinct forensic audio used as evidence in criminal trials.

I. Introduction

A. Police Transcripts and Legal Safeguards

Many criminal trials involve the use of covert recordings as forensic evidence. Because covert recordings have to be captured secretly, they are often indistinct. In such cases, current law allows a transcript to be admitted to help the jury understand the content of the recording. These transcripts are typically provided as opinion evidence by police investigating the case, who are given the status of "ad hoc expert" on the grounds that listening to the audio many times has given them specialised knowledge in the sense of s 79 of the *Evidence Act 1995* (NSW).

This has long been a matter of concern to Australian language scientists, since police transcripts are liable to include inaccuracies that risk misleading the jury.[1] However, it is generally of less concern to lawyers, since the law, recognising the possibility that police transcripts might not be fully accurate, has established legal procedures to mitigate the risk of juries being misled. Most notably, judges are expected to instruct juries that they should not simply accept a police transcript on face value, but must listen carefully and reach their own conclusion about the content of the audio, using the transcript only as an aid – the "aide memoire instruction".[2]

The problem with the aide memoire instruction, from a linguistic science perspective, is that an inaccurate transcript can influence or "prime" a jury's perception even if they listen carefully. This was demonstrated by a 2011 experiment, using materials from a real trial and mimicking the experience

* Professor Helen Fraser, Director, Research Hub for Language in Forensic Evidence, School of Languages and Linguistics, University of Melbourne. Dr Yuko Kinoshita, Lecturer, School of Culture History and Language, College of Asia and the Pacific, Australian National University.

[1] Peter French and Helen Fraser, "Why 'Ad Hoc Experts' Should Not Provide Transcripts of Indistinct Forensic Audio, and a Proposal for a Better Approach" (2018) 42 Crim LJ 298.

[2] See, eg, *R v Cassar* [1999] NSWSC 436, [7].

of a jury listening to evidence.[3] Results showed that a police transcript, despite being demonstrably inaccurate, can nevertheless influence listeners' perception, and their opinions about a speaker's guilt.

In defence of current practice, lawyers point to legal safeguards intended to ensure that misleading transcripts are not admitted to the jury in the first place. These safeguards include, for example, the expectation that any transcript will be reviewed by lawyers on both sides, who will negotiate an agreed version for the court. In the event of disputes not resolvable via negotiation, multiple versions can be provided to the jury, with the judge listening personally to ensure that no part is potentially misleading.

The aim of this article is to demonstrate that such safeguards, though trusted by the law, are ineffective, with concerning consequences for justice.

B. The Problem with the Safeguards

The problem with the safeguards, from a linguistic science perspective, is that they rely on individual listeners, especially lawyers and judges, gaining a sense of personal confidence that they hear words suggested by the transcript. To see why this is a problem, readers are urged to view the 90-second video on the front page of <https://forensictranscription.net.au>. This short video offers the experience of listening to an indistinct forensic recording, first with no transcript, then with two alternative transcripts presented sequentially. Importantly, one of the transcripts is unreliable, and the other is demonstrably inaccurate. Nevertheless, listeners typically find that, after first hearing no words, they are then swayed to hear words suggested by each transcript as it is presented.

This demonstration has been used effectively in numerous presentations for lawyers and judges to illustrate the power which transcripts can have to influence perception, even of neutral, responsible listeners. However, while it has provided a valuable experience, its effect has not yet been quantified via a formal experiment. The current article presents results of such an experiment, showing that, though at first no participants hear the inaccurate phrase, around half reported hearing it after it is suggested by the transcript. Discussion considers implications for the legal safeguards relied upon in our courts.

II. Background

A. The Case

The four-second audio snippet used in the 90-second video is excerpted from a one-minute crisis call, recorded in 1994 in New Zealand, in which a young man (David Bain) reports that he has just discovered his parents and siblings murdered in the family home. A few days after the call was made, investigators' suspicion fell on the young man himself. A year later, he was tried and convicted of the murders, and sentenced to life in prison. During the trial, the recorded call was used in a general way: most is readily intelligible, and no one had noticed anything special about a four-second section of heavy breathing.

Thirteen years later, following a complex series of appeals and a Privy Council hearing, a re-trial was ordered.[4] In the process of digitising the recording for the 2009 retrial, a police officer thought he heard the phrase "I shot the prick" in the four seconds of heavy breathing – turning it into a section of interest. The prosecution sought to have the call played at the re-trial with a transcript showing "I shot the prick" for the section of interest, as assistance to the jury in hearing what they argued was a significant admission by the caller. However, phonetics experts on both sides agreed the officer had not heard accurately. While they differed in their suggestions for correct transcription,[5] they were united in their opinion that "I shot the prick" was inaccurate.[6] Some also expressed concern that, despite being inaccurate, the suggestion had the power to "prime" the jury's perception.

---

[3] Helen Fraser, Bruce Stevenson and Tony Marks, "Interpretation of a Crisis Call: Persistence of a Primed Perception of a Disputed Utterance" (2011) 18 *International Journal of Speech Language and the Law* 261.

[4] For legal details see Bronwen Innes, "R v David Bain: A Unique Case in New Zealand Legal and Linguistic History" (2011) 18 *International Journal of Speech Language and the Law* 145.

[5] See further discussion in Fraser, Stevenson and Marks, n 3.

[6] See also Philip Rose, *Evaluation of Disputed Utterance Evidence in the Matter of David Bain's Retrial* <http://rose-morrison.forensic-voice-comparison.net/publications.html>.

After extensive legal argument, it was agreed that, to avoid this risk, the short section containing the alleged admission should be excised from the audio, and not represented in the transcript.[7] The re-trial proceeded on that basis, the jury reached a verdict of not guilty – and Mr Bain walked free.

B. The 2011 Experiment

Once the re-trial proceedings were concluded, the audio was released into the public domain. This enabled it to be used, in the 2011 experiment mentioned above, to explore the question of what might have happened if the transcript had been admitted. At the time, the researchers' concern was to help lawyers see that faith in the aide memoire instruction was misplaced (see Part I). The 2011 experiment demonstrated this by tracing how participants' perception of the audio evolved as they were presented with various kinds of evidence, including the transcript. As indicated earlier, results showed that, while virtually no one heard "I shot the prick" spontaneously, many felt they heard it after being primed with the (inaccurate) transcript, the impression was retained in the face of evidence the transcript was wrong, and it had a significant effect on their "verdict".

C. Intention of 90-second Demonstration and Current Experiment

After 2011, the researchers' focus shifted away from the aide memoire instruction and juries' perception.[8] It became important to show that it is not just juries who can be misled by an inaccurate transcript: lawyers and even judges can be affected in this way – and this compromises the safeguards intended to protect juries. To help demonstrate that, the audio from the 2011 experiment was repurposed to make the 90-second demonstration, which became the basis of the present experiment.

III. The Present Experiment

A. Overall Design

The overall design of the experiment provided an experience similar to the 90-second demonstration. Participants listened to the same audio three times. The first time, they were given no information about its content. The next two times they were primed, sequentially, with the two "priming texts" used in the 90-second demonstration, namely: "I shot the prick", and "I can't breathe". One group (PB) was presented first with the suggestion "I shot the prick", and then with "I can't breathe" (ie the same order as in the 90-second demonstration). The other group (BP) received them in the opposite order (see Table 1).

TABLE 1. Participant Groups and Priming Texts, Showing the Conditions under Which Each Group Heard the Audio at Each Step of the Experiment

	Step 1 (Listen Cold)	Step 2 (First Priming)	Step 3 (Second Priming)
PB group	no priming	I shot the prick	I can't breathe
BP group	no priming	I can't breathe	I shot the prick

B. Audio

The present experiment used a 15-second extract from the New Zealand crisis call, which includes the four-second section of interest heard in the 90-second demonstration. The extract in general, like the whole call, is readily intelligible. However, the section of interest is indistinct: as we have seen, experts differ as to whether it contains spoken words, and if it does, what the words might be.[9]

[7] See *Bain v The Queen* [2009] NZSC 16.

[8] For an accessible historical account of the reasons for this shift, see Helen Fraser, "Forensic Transcription: The Case for Transcription as a Dedicated Area of Linguistic Science" in Malcolm Coulthard, Alison Johnson and Rui Sousa-Silva (eds), *The Routledge Handbook of Forensic Linguistics* (Routledge, 2020).

[9] Interested readers can listen to the full call, the 15-second extract and the four-second section of interest at <http://forensictranscription.net.au/audio>.

C. Priming Texts

The first priming text was "I shot the prick" (the "prick" phrase, or PRICK). Recall that during the 2009 trial, experts on both sides agreed that PRICK is incorrect. Since then, additional confirmations of this finding have appeared.[10] It is also notable that virtually no one, whether in an experiment or elsewhere, has ever heard PRICK without it being suggested (except of course the original police officer).

The second priming text was "I can't breathe" (the "breathe" phrase, or BREATHE).[11] This was one of a number of alternatives suggested tentatively by some of the experts in the 2009 re-trial. It was also heard spontaneously by about a third of participants in the 2011 experiment. Phonetically, it is a more plausible interpretation of the section of interest, but it is not necessarily accurate (see further discussion below). It is quite possible the original utterance contained different words, or no words at all.

D. Participants

Fifty participants provided valid responses for this study. All were students at the Australian National University in Canberra. Most were from an introductory forensic linguistics course, with a few from other linguistics courses. Most were young: 70% between 17 and 25 years old, and an additional 18% between 26 and 35 years old. Three reported they may have had some (limited) prior exposure to the material.

As mentioned, participants were divided into two groups (PB and BP). Composition of the groups was very similar (see Table 2), showing no statistically significant differences in any of the demographic characteristics measured – and none of the results reported here showed any significant differences between groups.

TABLE 2. Summary of the Demographic Information for the Two Experimental Groups.

	Total	BP	PB
Total	50	25	25
Age			
17–25 years old	35	18	17
26–35 years old	9	4	5
36–45 years old	3	1	2
46–55 years old	3	2	1
Gender			
Female	37	19	18
Male	11	5	6
Other	2	1	1
English			
Native speaker	35	17	18
Non-native	15	8	7
Heard before?			
Yes	3	2	1

[10] See, eg, Geoffrey S Morrison and Michael Hoy, "What Did Bain Really Say? A Preliminary Forensic Analysis of the Disputed Utterance Based on Data, Acoustic Analysis, Statistical Models, Calculation of Likelihood Ratios, and Testing of Validity" (46th International Conference of the Audio Engineering Society, Denver, USA, 2012).

[11] Data collection for the present study concluded on 2 May 2020, several weeks before the phrase "I can't breathe" attained worldwide notoriety following the killing of Mr George Floyd, and subsequent Black Lives Matter human rights protests.

TABLE 2. *continued*

Headphones			
High quality	14	6	8
Ordinary quality	18	9	9
No headphones	18	10	8
Hearing			
Excellent	20	13	7
Good	23	9	14
Average	7	3	4
Poor	0	0	0
Hearing impaired	0	0	0
Area of study			
Linguistics	22	13	9
Other	28	12	16

While the number of participants in some categories differ between the groups, none of these differences reaches statistical significance.

E. Experiment Steps

1. Preparation

The experiment was conducted as a short anonymous online survey, created with *Qualtrics*. It started with a participant consent form (only those who formally consented were included in results), and an audio playback test using an unrelated recording.

Next, participants were asked to listen to the experiment recording with the transcript shown below, and to confirm they could locate the section of interest. Two participants indicated that they had some difficulties in this process, but all successfully detected the section:

Transcript provided to participants

Speaker 1: OK. Every St, and that runs off Somerville St?

Speaker 2: Yes.

<SECTION OF INTEREST>

Speaker 1: Telephone number you're calling from?

Speaker 2: 454

Participants then moved through the three steps of the experiment (detailed below). Note that in all steps, they were invited to listen to the audio as many times as they wished. The three steps were followed by a set of questions asking how clear participants found the instructions, how interesting they found the experiment, whether or not they had heard the experiment audio before, and eliciting a range of demographic data (see Table 2). The whole process took less than 15 minutes for most participants (84% under 15 minutes and 62% under 10 minutes), and almost all indicated they found the instructions clear, and the experiment interesting.

2. Step 1: No Priming (Listen Cold)

In Step 1, participants listened to the audio with no contextual information, and were asked whether they heard any spoken words in the section of interest. Those who answered "yes" were asked to transcribe the words they heard, and those who answered "no" were asked to describe the sound that they heard. They were also asked to rate their confidence on a three-point scale: "not confident", "somewhat confident" and "very confident".

3. Step 2: First Priming

In Step 2, participants were asked to listen to the experiment audio again, still with the same transcript, but now accompanied by a mild suggestion as to what they might hear in the section of interest, as follows. This suggestion was each group's first priming text (see Table 1):

> Instructions given to participants
>
> Some people think they hear Speaker 2 saying "[**priming text**]" in the section of interest. Listen again as often as you like, paying attention to the section of interest. Then answer the following questions.

Participants were then presented with the question:

> Do you think he might have said "[**priming text**]" in the section of interest?

Those who answered "no" were asked to transcribe what they heard instead. All participants were then asked to rate their confidence on the same three point scale as in Step 1.

4. Step 3: Second Priming

Here, the whole process was exactly the same as Part II E 3, except that each group received their second priming text (see Table 1).

IV. Key Findings

A. Summary Results

This is a small experiment, but the key findings[12] stand out clearly and are in line with the 2011 experiment (190 participants), as well as with informal observations from presenting the 90-second demonstration to various audiences over many years. As shown in Figs 1 and 2, participants' perception of the audio file changed significantly as they were exposed to the different priming conditions. Especially notable is how, for both groups, priming with PRICK caused a large increase in PRICK responses.

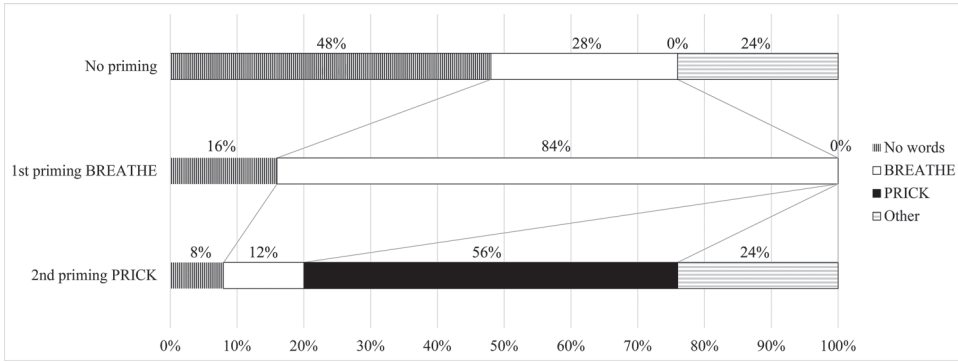

FIGURE 1. PB group: effects of two priming texts (presented in percentages, n =25). The effect of priming is highly significant – Fisher's Exact Test: p-value < 0.00001 ($p = 8.242 \times 10^{-6}$)

[12] This article provides key findings only. Detailed results are being published elsewhere. Please consult the authors if further information is required.

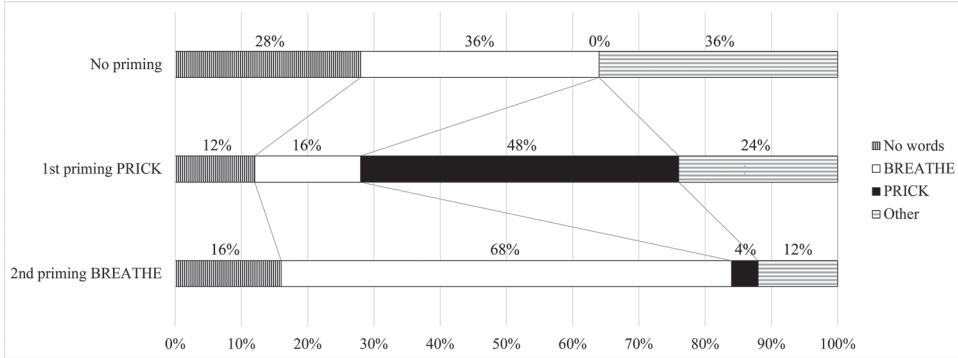

FIGURE 2. BP group: effects of two priming texts (presented in percentage, n= 25). The effect of priming is highly significant – Fisher's Exact Test: p-value < 0.00001 ($p = 3.798 \times 10^{-12}$)

B. The "Prick" Phrase (PRICK)

No one heard PRICK at Step 1, when listening "cold" with no textual or contextual priming. This suggests that, beyond being inaccurate, as confirmed by multiple experts, PRICK is actually an implausible interpretation of the section of interest. It is not a predictable mishearing of the kind that arises spontaneously in everyday speech perception.[13]

Nevertheless, when the phrase was suggested to the PB group at Step 2 (first priming), around half accepted it. Further, nearly all of them expressed confidence in their hearing. Remarkably, this was despite the fact that many had, moments before, expressed confidence in hearing "no words", BREATHE, or other words; and the fact that all but one of them would, moments later, change their minds again in response to an alternative suggestion at Step 3 (second priming).

The BP group showed even more remarkable results. Despite the fact that a large majority of them had accepted BREATHE with confidence when it was suggested at Step 2, second priming with PRICK at Step 3 caused around half to accept PRICK, with only slightly lower confidence than those in the PB group, who were primed with PRICK at Step 2, before BREATHE was suggested.

This confirms previous findings that PRICK, despite being inaccurate and implausible in its own right, is highly persuasive when suggested by a transcript.

C. The "breathe" phrase (BREATHE)

Around a third of participants heard BREATHE spontaneously at Step 1. This again is in line with previous findings and confirms that BREATHE is a more plausible interpretation of the indistinct audio than PRICK – though it is notable that the large majority of participants heard BREATHE only after it was suggested. Also, it is important to bear in mind that plausibility does not necessarily imply accuracy – it is quite possible for transcripts to seem highly plausible even if they are known to be inaccurate.[14]

Despite this relative plausibility, however, only one participant heard BREATHE consistently through all three steps. The others were readily swayed towards or away from BREATHE by the priming texts. What is especially interesting is the effect of exposure to PRICK on acceptance of BREATHE. Though 36% of the PB group heard BREATHE spontaneously at Step 1, only 16% retained BREATHE after first priming with PRICK. More importantly, though 84% of the BP group accepted BREATHE after first

[13] For more on predictable mishearings, see, eg, Linda Shockey and Zinny S Bond, "What Slips of the Ear Reveal About Speech Perception" [2014] *Linguistica Lettica* 1.

[14] A compelling example with profound implications is provided by Helen Fraser, "'Assisting' Listeners to Hear Words That Aren't There: Dangers in Using Police Transcripts of Indistinct Covert Recordings" (2018) 50 *Australian Journal of Forensic Sciences* 129.

priming with BREATHE at Step 2, only 68% of the PB group accepted BREATHE after second priming with BREATHE at Step 3, and with lower confidence.

This suggests that exposure to a persuasive but inaccurate interpretation (PRICK) can have a distracting effect on perception even of an objectively more plausible alternative (BREATHE). A similar finding of the 2011 experiment was examined in more detail, showing (among other things) that the distraction affected even those who rejected the inaccurate suggestions.

D. No Words

At Step 1 (listen cold) well over a third of participants reported hearing no words, with many expressing confidence in this response. Nevertheless, they were readily swayed by the priming texts, as we have seen. Thus, the number of participants who heard no words decreased from 19 (38%) at Step 1, to seven (14%) after first priming, to six (12%) after second priming.

This indicates that, once given any textual suggestion, participants are more ready to hear some words in an indistinct recording – clearly a risk for accurate perception of indistinct forensic audio that really does contain no words.

V. Discussion

A. How Does This Experiment Relate to the Experience of Listeners in Court?

It is worth pausing to reflect that participants in this experiment are in a far better position to evaluate a transcript than are listeners in a trial (including lawyers, judges and jurors). First, all participants were fully aware that this was a perception experiment, which is likely to heighten their critical attention. Second, the experiment was set up to let them easily play the relevant section of audio repeatedly while considering alternative suggestions sequentially. Third, almost all participants were young, had good hearing and had studied at least a little linguistics (see Table 2). Fourth, they all had the advantage of Step 1, the listen cold condition. Ability to compare their experience before and after seeing the transcript can be expected to make listeners at least a little more critical of a transcript than listeners who first hear the audio with the transcript (as usually happens in court).

Finally, participants are protected from contextual information about the story of the case. While contextual information, if relevant and reliable, can sometimes be helpful, it is very well known (via all the research cited here, and more) that unreliable contextual information can be extremely misleading – and listeners in a trial are necessarily exposed to at least some unreliable contextual information, not all of which can be readily disregarded.[15]

B. How Do These Findings Relate to the 2011 Results?

The present experiment clearly confirms the key finding of the larger 2011 study: listeners can easily be primed to accept the inaccurate, implausible but persuasive transcript "I shot the prick".

It also extends the earlier results in two ways. First, it shows that availability of a more plausible alternative (here: "I can't breathe") does not necessarily protect listeners from being influenced by an inaccurate transcript. In fact, the present results show the opposite effect: exposure to a persuasive but inaccurate transcript can distract listeners from accepting a more plausible alternative, or from retaining an initial impression that an indistinct recording contains no words. This of course raises concern regarding the common practice of admitting two or more versions of a transcript on the assumption the jury will choose the best one.

Second, the present experiment explores the effect of priming with text only, as opposed to priming with text in the context of a story about the crime, as was done in the 2011 experiment. While differences in

[15] Andrew J Wistrich, Chris Guthrie and Jeffrey J Rachlinski, "Can Judges Ignore Inadmissible Information? The Difficulty of Deliberately Disregarding" (2005) 153 *University of Pennsylvania Law Review* 1251.

the method of the two experiments make direct comparison of results difficult, there is some indication that PRICK was retained more strongly by the 2011 participants, who heard the full crisis call, knew the context of the murder, and were asked to reach a "verdict" as to the caller's guilt. This effect could profitably be investigated in a new experiment presenting this audio to one group with no context and to another with the story of the family murder. If the initial indication of the effect of the story is sustained, it would add weight to other findings that textual priming is likely to be especially powerful in the context of a trial.[16]

VI. IMPLICATIONS

A. Implications for the Aide Memoire Instruction

The present results strongly uphold and extend the concerns expressed by linguistic scientists over several decades about use of police transcripts to assist the jury in understanding the content of indistinct forensic audio.

There is no reason to believe a jury following the "aide memoire instruction" should be any better at resisting the influence of a persuasive but inaccurate transcript than our experiment participants. This makes it essential to ensure that potentially misleading transcripts are eliminated before they can influence the jury.

This point, of course, is well agreed by the law, as discussed in the introduction. Where linguistic science and the law differ is with regard to how it can be achieved. The law puts faith in the safeguards to ensure anything potentially misleading is excluded from a transcript before it can influence the jury. Linguists suggest this faith is misplaced. Present results would appear to support the linguists' perspective, as discussed shortly.

B. Implications Regarding the Perception of Indistinct Speech Recordings

Before discussing the implications for current legal safeguards, it is worth pausing to highlight some counterintuitive facts about the role of priming in speech perception that are well illustrated by the present results.[17]

To start, consider how very different the phrases "I shot the prick" and "I can't breathe" are, not just in their words, but in their individual phonemes, or "sounds". This shows that, contrary to popular belief, words are not perceived by recognising their phonemes. Instead, both words and phonemes are "constructed" from acoustic information scattered throughout the speech. However, especially in indistinct speech, the acoustic information alone is insufficient to enable recognition of words. This requires additional information, much of which is supplied (without conscious awareness) by the listener's knowledge or expectations about the context, via the process called "priming".

So, while priming effects like those revealed by the present experiment are often found surprising on first encounter, they are not a special feature of this particular audio. Rather they are ubiquitous in perception of indistinct recorded speech. Indeed, the key characteristic of indistinct speech is not that it is hard to hear, but that it is capable of being heard in multiple ways – sometimes, as in the present example, in radically different ways – depending on how the listener is primed.

It is important to emphasise that priming is not a problem in itself. Where problems arise is when poor understanding of priming gives unwarranted confidence that words that listeners feel they "hear with their own ears" must exist objectively in the speech acoustics. Unfortunately, thorough understanding of priming remains rare outside particular specialised branches of linguistic science. In particular, its effects are not well accounted for by the legal safeguards.

---

[16] Helen Fraser and Bruce Stevenson, "The Power and Persistence of Contextual Priming: More Risks in Using Police Transcripts to Aid Jurors' Perception of Poor Quality Covert Recordings" (2014) 18 *International Journal of Evidence and Proof* 205.

[17] For detailed discussion with many references, see Helen Fraser and Deborah Loakes, "Acoustic Injustice: The Experience of Listening to Indistinct Covert Recordings Presented as Evidence in Court" (2020) 24 (17) *Law Text Culture* 405.

C. Implications for Legal Safeguards Intended to Protect Juries from Misleading Transcripts

To start on a positive note, the present results confirm that the 2009 New Zealand judges made the right decision in excluding the four-second section of interest from evidence, by showing there is a strong likelihood that the inaccurate police transcript would have influenced the jury even if a more plausible alternative had been admitted.

This shows that the legal safeguards can work in some particular cases, albeit after extensive, and expensive, legal argument at the highest levels.[18] However, it is far from confirming they actually will work, in general. To the contrary, results of the current experiment indicate that faith in the safeguards is misplaced. The safeguards depend wholly on lawyers' and judges' hearing to detect and correct errors in a police transcript – but there is no reason to assume that lawyers, or even judges, are any less susceptible to being misled by a persuasive but inaccurate transcript than our participants (rather, as discussed above, the opposite is likely to be case). Indeed, there are troubling examples of trials in which unreliable police transcripts have passed through all the safeguards unhindered.[19]

D. Implications for Justice

Recognising how few participants heard "I shot the prick" before it was suggested raises the question of where this interpretation originally came from. Here, as in most cases, police transcripts arise not from investigators "listening many times" (the qualification for "ad hoc expert" – see Part I) but from their awareness of contextual information about the case.

As mentioned above, relevant and reliable contextual information can potentially assist accurate perception. However, it is clear that not all information available to investigators can be guaranteed to be relevant and reliable. Some may not even be admissible. Yet it can become embedded in the transcript to influence perception of all who are exposed to it, including defence lawyers and even judges. This circularity of reasoning clearly creates a substantial threat to justice.[20]

E. Implications for Reform

It is clear we cannot rely on lawyers and judges to detect and correct all relevant errors in police transcripts. On the contrary, at least some mishearings on the part of investigators are likely to be propagated via the transcript to listeners on both sides of the trial.

This makes it essential that all indistinct recordings should be accompanied by a reliable transcript from the start. This cannot be achieved by starting from a police transcript, even if it is later reviewed by an expert. The only way to ensure reliability is to have transcripts produced via an evidence-based process designed by experts and carried out by accredited practitioners, taking appropriate input from police at an appropriate point and evaluating it in an appropriate manner.

VII. Conclusion

Results of the present experiment confirm and extend previous research findings indicating that the legal safeguards intended to protect juries from being misled by unreliable transcripts of indistinct forensic audio are liable to be ineffective, with troubling implications for the criminal justice system. This adds strong weight to linguists' call for reform of legal procedures that allow admission of transcripts by police "ad hoc experts".[21]

---

[18] See further discussion in Fraser, Stevenson and Marks, n 3.

[19] See French and Fraser, n 1.

[20] Helen Fraser, "Forensic Transcription: How Confident False Beliefs About Language and Speech Threaten the Right to a Fair Trial in Australia" (2018) 38 *Australian Journal of Linguistics* 586.

[21] Helen Fraser, "Thirty Years Is Long Enough: It's Time to Create a Process That Ensures Covert Recordings Used as Evidence in Court Are Interpreted Reliably and Fairly" (2018) 27 JJA 95.

The new Research Hub for Language in Forensic Evidence at the University of Melbourne[22] is dedicated to ensuring that indistinct forensic audio used as evidence in court is always and only accompanied by a reliable transcript, via two strands of research: one aiming to develop an evidence-based system for transcription of indistinct covert recordings; the other aiming to assist in improving legal procedures for admitting indistinct coverts with reliable transcripts.[23]

[22] Helen Fraser, "Introducing the Research Hub for Language in Forensic Evidence" (2020) 32 *Judicial Officers' Bulletin* 117.

[23] See <http://arts.unimelb.edu.au/language-forensics> for further information.