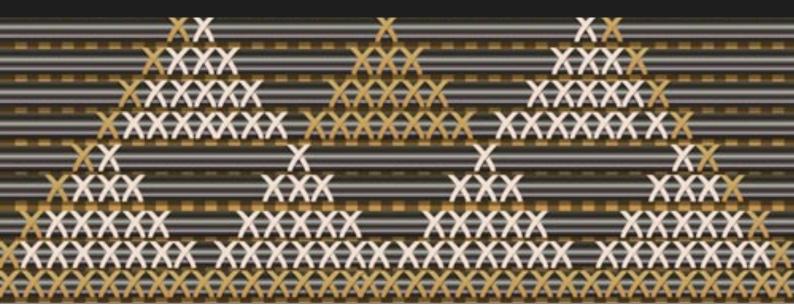


AUCKLAND NEW ZEALAND 28 November 2023

Hui Rangahau i te reo Māori | Māori Language Research Symposium

Hōtaka me te Puka Whakawhāiti Kauwhau | Programme⁷⁷e²⁰²³and Abstract Book



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Mihi Whakatau | Welcome

Tēnā rā koutou katoa. Nau mai, whakatau mai ki tēnei hui rangahau i te reo Māori e tū ana i mua mai i te hui-ā-tau o Te Kāhui Mātauranga Reo o Aotearoa. Kua whakaritea te hui hei wāhi whakawhitiwhiti kōrero mō ngā ranghau reo Māori (mā te tikanga mātauranga reo) e whakamahia nei e tātou i tēnei wā tonu. Nō reira ko mātou tēnei ko Waipapa Taumata Rau e mihi atu ana ki a koutou katoa.

On behalf of Waipapa Taumata Rau | University of Auckland, we welcome you to the Māori Language Research Symposium, a pre-Language and Society Conference 2023 event. The symposium provides a one-day forum for presenting current linguistic research on te reo Māori (Māori language). We hope you enjoy the programme.

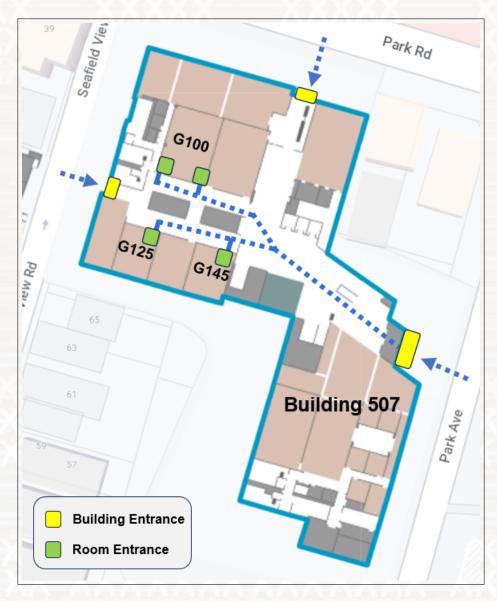
Peter Keegan

	Tuesday 28th November Hui Rangahau i te reo Māori/Māori Language Research Symposium Ruma/Room: 507-G125
9 - 9.15	Whakatau/Opening Peter Keegan
9.15 - 9.40	Further findings on the acoustics of Māori /r/ Isabella Shields, Catherine I. Watson, Peter Keegan
9.40 - 10.05	Long and short vowel contrast in te reo Māori Justine Hui, Isabella Shields, Peter Keegan, Catherine Watson
10.05 - 10.30	Variation and change in te reo Māori opening vowel sequences Penny Harris, Kate Maindonald, Allie Osborne, Jen Hay
10. 30 - 11	paramanawa/morning tea
11 - 12	Kauwhau matua/Keynote Te Taka Keegan
12 - 1	Kai o te rā nui/lunch
1 - 1.25	Three generations of Māori language revitalisation Chris Lane
1.25 - 1.50	A world of light, or hurt? Māori metaphors in response to non-Māori use of te reo Māori Ia Morrison-Young, Julia de Bres
1.50 - 2.15	The colonisation of the colour pink: Berlin and Kay's basic colour terms in historic and modern Māori Neil Dodgson, Victoria Chen, Meimuna Zahido
2.15 - 2.40	Mā ngā pakiaka e tū ai te rākau Suzanne Duncan, Peter-Lucas Jones, Gianna Leoni
2.40 - 3	paramanawa/afternoon tea
3 - 3.25	Drawing on linguistic concepts to teach te reo Māori; drawing on te reo Māori to teach linguistic concepts Kanauhea Wessels, Julie Barbour
3.25 - 3.50	He Tātari i Te Āhua o te Pīmuri Whakahāngū o te reo Māori Forrest Panther
3.50 - 4.15	Te Reo Māori Lehnwörter: Strategies for Conforming English Consonant Clusters to Māori Syllable Structure Craig Stansfield
4.15 - 4.40	Teaching of Māori language pronunciation to university students based on research and speech analysis Peter Keegan
4.40 - 4.45	Whakatepe/Closing Peter Keegan

Kōrero Āwhina | Useful Information

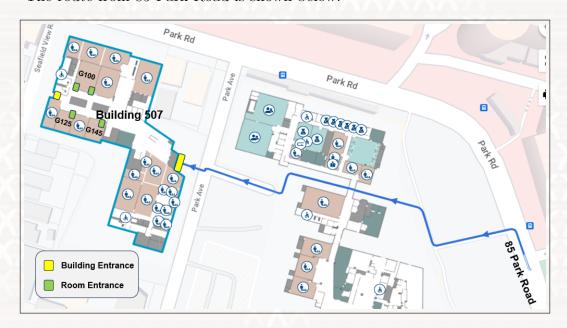
Conference rooms

The Māori language symposium sessions will be held at University of Auckland's Grafton campus in building 507. Building 507 has three entrances marked with yellow rectangles. All sessions will be held in Room 507-G125.

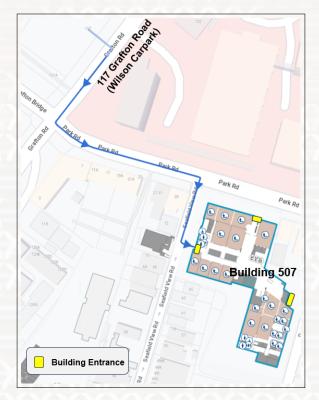


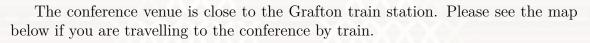
Accessing Building 507

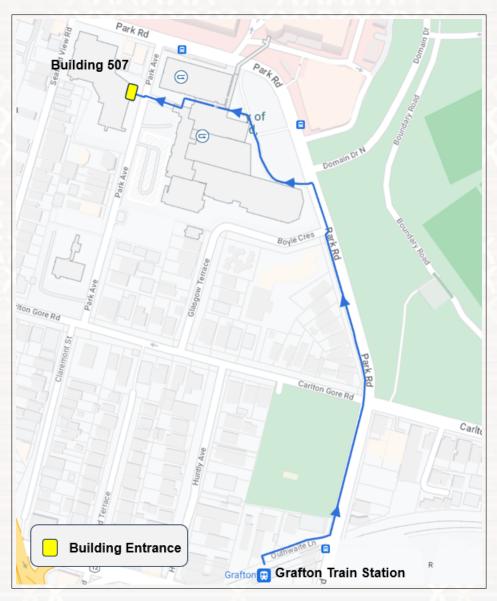
Building 507 can be accessed from Park Ave (see above map). The route from 85 Park Road is shown below:



If you are driving to the conference, you may wish to park at the Wilson Parking complex at 117 Grafton Road. See the map below for directions from here to the conference venue.







Local eateries and cafés

There are a range of places to eat in short walking distance from the University of Auckland's Grafton Campus. We include estimated (walking time) and *[opening hours]*.

Located in Grafton

- Billy Cafe Newmarket (5 mins) [7.00am-2.30pm]
- Subway (1 min) [8.00am-8.00pm]
- Masako Japanese Restaurant (11 mins) [11.30am-5.30pm]
- Wintergarden Cafe New Zealand (8 mins) [8.00am-4.00pm]
- Candela (13 mins) [5.00pm-11.00pm]
- 108 tastes (9 mins) [11.30am-2.00pm; 5.00pm-9.00pm]

Located in Newmarket

- Gilli Café (11 mins) [[6.30am-4.00pm; 6.00pm-9.00pm]
- Archie's Restaurant & Pizzeria (14 mins) [11.00am-9.00pm]
- Ajisen Ramen (Newmarket) Restaurant (13 mins) [11.30am-3.00pm; 5.00pm-9.30pm]
- Eden Noodles Newmarket (13 mins) [11.00am-8.30pm]
- Sunrise Hong Kong Café (14 mins) [11.00am-8.30pm]
- The Candy Shop (15 mins) [7.00am-3.00pm]

Kauwhau matua | Keynote

Generative Artificial Intelligence and te reo $\mathrm{M\bar{a}ori}$

Te Taka Keegan University of Waikato, Associate Professor, Māori language and technology Tue 28 Nov 11.00am 506-G125

Why has Generative AI suddenly become an issue for Indigenous Data Sovereignty? Do the positives of this technology outweigh the negatives and can we do anything to stop it anyway?

This talk will discuss how Large Language Models are built, the ramifications of using them in an indigenous language context and the concerns for the future of te reo Māori. The talk will also describe some research that we are undertaking at Waikato University in an attempt to re-purpose this technology so that the sovereignty is retained by the language guardians.

Tuhinga whakarāpopoto | Abstracts

Further findings on the acoustics of Māori /r/

Isabella Shields, Catherine Watson, Peter Keegan University of Auckland Tue 28 Nov 9.15am 507-G125

The /r/ sound in Māori is often a point of difficulty for new speakers of the language; it is described in various ways by language teachers and has no direct analogue in New Zealand English. While most linguistic descriptions agree that the canonical variant of the phoneme is some sort of alveolar tap or flap, investigations into its acoustic realisation have identified variation in its realisation [1,2,3]. While this is cross-linguistically common for a rhotic sound, this variation in Māori /r/has not yet been sufficiently investigated. The present study investigates how coarticulation impacts the acoustic realisation of /r/. We draw on speech data from a read-speech corpus consisting of speech from 16 fluent speakers of Māori (11 females, 4 males, and 1 gender diverse). Each speaker in this corpus produced repetitions of 60 unique sentences, embedded in which are target words placing /r/ in different suprasegmental and segmental environments. Observations of /r/ are analysed using R and EmuR [4,5]. We report in particular on /r/ realisation in repeated contexts (/rVrV). We identify indications of coarticulatory interaction between /r/ and surrounding vowels, evidenced by different spectrographic features. Of note is the presence of friction in /r/ productions, particularly in the vicinity of the high-front vowel. We consider some of the possible articulatory explanations for these observations and assess whether the observed variation in Māori /r/ may be considered conditioned.

References

[1] I. Shields, C. Watson, P. Keegan, and M. Maclagan, "A preliminary investigation of the acoustics of Māori /r/," New Zealand Linguistics Society Conference, Hamilton, New Zealand, February 10-12, 2021.

[2] I. Shields, C. Watson, P. Keegan, "Acoustics of te reo Māori /r/: First impressions and corpus building for fourth formant and stress analysis," 'r-atics 7 Conference, Lausanne, Switzerland, November 18-19, 2021.

[3] I. Shields, C. Watson, P. Keegan, "Preliminary analysis of /r/ acoustics and features in three Māori speakers," Proceedings of the Eighteenth Australasian International Conference on Speech Science and Technology, Canberra, Australia, December 13-16, pp. 96-100.

[4] R Core Team (2022). R: A language and environment for statistical computing. R Foundation for Statistical Computing, Vienna, Austria. URL: https://www.R-project.org/.

[5] R. Winkelmann, K. Jaensch, S. Cassidy and J. Harrington. emuR: Main Package of the EMU Speech Database Management System, R package version 2.3.0.

Tue 28 Nov 9.40am 507-G125

Long and short vowel contrast in te reo Māori

Justine Hui, Isabella Shields, Peter Keegan, Catherine Watson University of Auckland

Te reo Māori (henceforth Māori) has long-short vowel contrast. Previous studies from the MAONZE project comparing groups of Māori speakers from different generations have shown a reduction in the durational distinction between the short and long vowels. Aside from /a:/, the other long vowels have been reported to be shortened. If duration of the long vowel has been reduced to be similar to its equivalent short vowel, vowel length distinction may be manifested in the form of other acoustic cues such as differences in fundamental frequency. In this study, we are interested in the acoustic features that Māori speakers use to differentiate between long and short vowels. We conducted an acoustic analysis of vowel duration and f0 contour on the MAONZE data, comparing the present-day elders born mainly in the mid-1930s with the younger speakers born mainly in the 1980s. Preliminary analyses showed more differences in the f0 trajectories shape between the long and short vowels and more overall dynamicity in f0 contours for the present-day elders compared to the younger speakers.

Variation and change in te reo Māori opening vowel sequences

Penny Harris, Kate Maindonald, Allie Osborne, Jen Hay University of Canterbury Tue 28 Nov 10.05am 507-G125

A number of studies have considered the changing phonetics of te reo Māori monophthongs and closing diphthongs (e.g. Watson et al. 2016; Stoakes et al. 2019). However no acoustic work has investigated the production of the opening vowel sequences /ia/, /ua/, /oa/, /ea/. Phonologically, these are generally regarded as spanning two syllables, as evidenced, for example, by their behaviour in the context of stress assignment rules. We present an acoustic analysis of the formant trajectories of these vowel sequences in the te reo Māori speech of speakers in the MAONZE corpus (King et al. 2010). We consider trajectories of over 21,000 vowel sequences, produced by 61 speakers born between 1871 and 1992, and compare them to monophthongs produced by the same speakers.

Preliminary visualization suggests considerable change over time in the production of these vowel sequences, and changing relationships with respect to the component monophthongs. For some sequences, there is also a visible effect of an intervening morpheme boundary (for example /ea/ starts in a more peripheral position when it straddles a boundary as in kitea or areare, as opposed to being within a morpheme, such as $p\bar{e}hea$). This paper will report the results of functional principal components analysis on the sequences, and regression modelling to assess the significance of both social and linguistic factors in predicting the observed variation. Tue 28 Nov 1.00pm 507-G125

Three generations of Māori language revitalisation

Chris Lane

Independent researcher

Three generations of Māori have been through different experiences as children and young people in the shift from te reo to English and the movement to reverse that shift. This presentation compares Māori born before the 1960s, Māori born in the 1960s and 1970s, and Māori born in the 1980s and 1990s, based on survey responses in 2018. The Māori social survey Te Kupenga 2018 provides statistical data on these generations in terms of their first languages, their speaking proficiency in te reo, language learning pathways and language use. Comparing these generations statistically provides a broad overview of the progress of the revitalisation process.

A world of light, or hurt? Māori metaphors in response to non-Māori use of te reo Māori

Ia Morrison-Young, Julia de Bres Massey University Tue 28 Nov 1.25pm 507-G125

On the eve of Te Wiki o te Reo Māori 2021, popstar Lorde launched Te Ao Mārama, a mini album of songs delivered in te reo Māori. The event triggered a debate amongst Māori online. Some argued the release made the language more accessible, given Lorde's celebrity platform. Others argued that the Pākehā popstar's privileged access to the language served as a hurtful reminder of the inaccessibility of te reo to many Māori.

This presentation examines Māori attitudes about language revitalisation expressed in ten opinion pieces responding to this media event. Specifically, we explore what the metaphors used by Māori commentators can tell us about contemporary Māori attitudes towards the revitalisation of te reo.

Six semantic categories of metaphors recur in our data. These are: metaphors of light representing future prospects for te reo; metaphors of treasure and gift representing language ownership; metaphors relating to the body representing language trauma; metaphors of war representing linguistic violence and resistance; metaphors of food representing language acquisition; and metaphors of platform and stage representing access to an audience.

Our metaphorical analysis highlights that, for many Māori, engaging in learning te reo also requires engaging with a world of hurt. Based on our findings, we encourage researchers, teachers and language planners to take language trauma into account when taking part in Māori language revitalisation initiatives. Our analysis also highlights an urgent need for non-Māori to reflect on their positionality within the space of Māori language learning - and within the space of linguistic research as well.

The colonisation of the colour pink: Berlin and Kay's basic colour terms in historic and modern Māori

Tue 28 Nov 1.50pm 507-G125

Neil Dodgson, Victoria Chen, Meimuna Zahido Victoria University of Wellington

All languages have basic colour terms: the fundamental categories of colour that are irreducible. Māori, the language of the indigenous people of New Zealand, demonstrates an instructive case where drastic innovations in colour terminology took place while conforming to Berlin and Kay's Colour Hierarchy. We demonstrate how and when Maori accrued new colour terms to replace existing terms in its immediate ancestor, Proto-Eastern-Polynesian, and eventually adapted pre-colonial words for the colour terms (except for the colour pink) to match the English colour categories. Two specific foci are (i) how Māori's colour categories evolved before and after Europeans' colonisation of New Zealand and (ii) how Māori's colour system was affected by the grass-roots revitalisation of the language after decades of overwhelming language shift. While Contemporary Māori is at the final stage (Stage VII) of Berlin and Kay's hierarchy, as is English, the evidence is that Māori was at Stage IV pre-colonisation, possessing only five native colour categories. Surprisingly, all five categories accrued new terms following the Polynesian settlement of New Zealand, demonstrating a case of rapid change within 500 years. The adoption of definite colour names for the eleven English language basic colour terms appears to be very recent (within the last 20 years), when levelling of pre-existing variants has also taken place. To date, there is still no consensus on what some of the terms should be. The evolution of Maori's colour categories thus constitutes an illuminating case of how colonisation-induced language contact may impact the basic vocabulary of a language.

Mā ngā pakiaka e tū ai te rākau Suzanne Duncan, Peter-Lucas Jones, Gianna Leoni Te Hiku Media

Tues 28 Nov 2.15pm 507-G125

Hei te waihanga i ngā hangarau matihiko kia tautoko i te whakarauora reo, tini ana ngā paparanga. Me waihanga motuhake ēnei i ngā taputapu hangarau auraki, nā te mea, i te nuinga o te wā kāore ēnei i kauawhi i tā ngā iwi taketake titiro. Mā tēnei te tini o ngā raruraru e puta i te waihanga me te whakawhanake i ngā taputapu tukatuka reo māori (TKR) e tukatuka tika i ngā reo taketake.

Ko Te Reo Irirangi o Te Hiku o Te Ika (Te Hiku Media) tētahi umanga ā-iwi e aro atu ana ki te reo irirangi, ki te pāpaho, ki te hangarau hoki. Ko tētahi mahi whakahirahira, ko te waihanga taputapu TKR kia taea ai e ngā iwi taketake te whakawhiti kōrero i ō rātou ake reo taketake i te ao matihiko. I whakatūria i te tau 1991 ki Kaitāia, he hinonga monihua-kore, ohaoha hoki e hono nei ki ngā iwi e rima o Muriwhenua; ko Ngāti Kuri, ko Te Aupōuri, ko Ngāi Takoto, ko Te Rarawa, ko Ngāti Kahu hoki. Nā ngā mahi o mua i urungi i tō te umanga aronga kia whakarauora i te reo me ngā tikanga Māori.

Ka matapaki tēnei kauhau i ētahi mahi TKR a Te Hiku Media, ā, ka mātua aro ki te taputapu tūtohu karangatanga-kupu reo Māori. He taputapu whaihua ngā momo tūtohu karangataha-kupu e whakamahi nei i ētahi mahi ngāwari, pērā ki te tango kupu i ngā tuhinga, waihoki ko ētahi atu mahi uaua ake, pērā ki te whakautu pātai me te whakamāori/whakapākehā kōrero.

There are many layers involved in building digital technologies that assist in the revitalisation of indigenous languages. Most of this work must be created independently from mainstream tools because they are often not inclusive of indigenous worldviews. This can increase the challenges faced in developing natural language processing (NLP) tools that accurately support indigenous languages.

Te Reo Irirangi o Te Hiku o Te Ika (Te Hiku Media) is an iwi radio, media and technology hub that is developing NLP tools to ensure indigenous peoples can communicate in their native languages in a digital society. Based in Kaitāia and founded in 1991, the not-for-profit, charitable organisation is connected to the five iwi of the Far North; Ngāti Kuri, Te Aupōuri, Ngāi Takoto, Te Rarawa and Ngāti Kahu. The organisation's history drives our continued purpose to contribute to the revitalisation of te reo Māori me ngā tikanga Māori.

This paper will discuss aspects of the NLP work that Te Hiku Media are doing, with a particular focus on the first Māori language part-of-speech (POS) tagging tool. POS taggers are an important foundational tool used for simple tasks like extracting information from texts as well as high-level tasks like question answering and even translation.

Tue 28 Nov 3.00pm 507-G125

Drawing on linguistic concepts to teach te reo Māori; drawing on te reo Māori to teach linguistic concepts

Kanauhea Wessels, Julie Barbour University of Waikato

In this paper, we explore the intersections in our teaching practice between the discipline of linguistics and te reo Māori. From the perspective of language teaching, in pedagogic materials for te reo Māori, we have observed that linguistic concepts are not typically highlighted (cf. Moorfield 2001, Jacobs 2012). From the perspective of teaching linguistics, te reo Māori is seldom employed to illustrate or assess linguistic concepts, although it commonly features in accounts of language revitalization. Content that does occur is limited (cf. Burridge & Stebbins, 2016).

As a tertiary lecturer of the Māori language, I (Kanauhea) consider how, in my teaching practice, I draw on my technical knowledge of linguistics to enhance my explanations of language structures and their functions, where these are unfamiliar to language learners. As a tertiary linguistics lecturer, I (Julie) consider ways in which I draw on my beginner knowledge of te reo Māori to enhance my teaching of linguistic concepts, reflecting on materials I have developed to teach and assess students.

We argue that students of te reo can benefit from linguistic understandings on their language learning journeys. Equally, as Aotearoa New Zealand's indigenous language, te reo Māori should have a strong presence in linguistic teaching materials, and our linguistics students should graduate with an indepth knowledge of te reo Māori structures.

References

Moorfield, John. (2001). Te kākano. Longman.

Jacobs, Hēni. (2012). Mai i te kākano. Te Tākupu, Te Wānanga of Raukawa.

Burridge, Kate & Tonya Stebbins. (2016). For the love of language: An introduction to linguistics. Cambridge University Press.

He Tātari i Te Āhua o te Pīmuri Whakahāngū o te reo Māori

Forrest Panther University of Canterbury Tue 28 Nov 3.25pm 507-G125

I te reo Māori, ka tāpiri tētahi pīmuri ki muri i te kupumahi hei tohu i te whakahāngū: kõrero \rightarrow kõrerohia, tohu \rightarrow tohua (Bauer 1993; Harlow 2007). He maha ngā āhua o te pīmuri: korero-hia, tohu-a, pānui-tia, hopu-kia, me ētahi atu; 17 ēnei āhua o te pīmuri, neke atu rānei (Harlow 2001). Ko /Cia/ te hanga o te nuinga o ngā pīmuri. E rua pea ngā tino tātari o ngā āhua rerekē o te pīmuri whakahāngū (Hale 1968): (i) te tātari ororeo; (ii) te tātari wetereo-ā-kupu. E ai ki te tātari ororeo, kei muri i te kupumahi tētahi orokati, ā, ko tēnei orokati te orokati i te pīmuri. Ko te āhua o te pīmuri, ko /-ia/: /kōreroh/ + /-ia/ \rightarrow [kōrerohia] (Hale 1968, Blevins 1994, De Lacy 2004). Ka whakapotoa te āhua /-ia/ ki /-a/ i te wā: (i) e rua ngā mora i te kupumahi; (ii) kāore he orokati: $/tohu/ + /-ia/ \rightarrow [tohua]$ (De Lacy 2004). Ki te tātari wetereo-ā-kupu, he tini ngā āhua o te pīmuri, ā, ka kōwhiri te kupumahi i te āhua: $/k\bar{o}rero/ + /-hia/ \rightarrow [k\bar{o}rerohia]; /tohu/ + /-a/ \rightarrow [tohua]$. I tēnei kauwhau, ka āta tātari au i ngā āhua o te pīmuri whakahāngū i te Māori Broadcast Corpus (Boyce 2006). He maha ngā āhua rerekē o te pīmuri e taea ai te tāpiri te kupumahi kotahi, i te kōrero a te kaikōrero kotahi. Hei whakatauira, ka whakamahi tētahi kaikōrero i ngā āhua whakahāngū mōhio-tia, mōhio-hia hoki. Kāore te tātari ororeo e whakamārama ana i tēnei āhuatanga engari, ka whakaatu au, ka taea e te tātari wetereo-ā-kupu.

Te Reo Māori Lehnwörter: Strategies for Conforming English Consonant Clusters to Māori Syllable Structure

Craig Stansfield

Victoria University of Wellington

When English words are borrowed into te reo Māori as Lehnwörter rather than Fremdwörter (i.e., conformed to Māori phonology), speakers must make choices as to how to deal with English consonant clusters. Ray Harlow's classic chapter "Borrowing and its alternatives in Māori"¹ sets out the basic choice between anaptyxis and consonant loss, but which te reo Lehnwörter use which strategy; why; which vowels are inserted when anaptyxis is involved; and which consonants are lost when has been little studied. This presentation summarizes the conclusions in the literature and extends them with reference to the loanword appendix in Williams's classic Dictionary of the Maori Language² to propose a new set of rules of phonological adaptation to help to predict the form of future Lehnwörter in te reo Māori.

References

Tue 28 Nov

3.50pm

5507 - G125

1. Harlow, Ray. (2004). Borrowing and its alternatives in Māori. In Jan Tent & Paul Geraghty (Eds.), Borrowing: a Pacific perspective (pp. 145 169). Pacific Linguistics.

2. Williams, Herbert W. (1971). A Dictionary of the Maori Language (7th ed.). A. R. Shearer, Government Printer.

Teaching of Māori language pronunciation to university students based on research and speech analysis

Peter J. Keegan

Waipapa Taumata Rau | University of Auckland

This talk describes a linguistic-based approach to teaching Māori language pronunciation to university undergraduate and postgraduate students at the Faculty of Education and Social Work of Waipapa Taumata Rau, the University of Auckland. There is no research on teaching Māori language pronunciation. This is hampered by incorrect information on Māori phonetics in the literature and online. My teaching is enhanced by acoustic analyses of my New Zealand English and Māori production and knowledge of the appropriate research descriptions of these languages. I describe my teaching approach and discuss issues of using linguistic research in the Māori speaking and Māori academic community.

Tues 28 Nov 4.15pm 507-G125