ANNUAL REPORT 2018
Center for Language and Cognition Groningen

Foreword

On behalf of the Center for Language and Cognition Groningen (CLCG), I am pleased to present the 2018 Annual Report. The CLCG is home to all the linguistic research carried out within the Faculty of Arts of the University of Groningen. The Center consists of four research groups: Computational Linguistics, Discourse and Communication, Neurolinguistics and Language Development, and Theoretical and Empirical Linguistics.

In this report, the activities of the Center in 2018 are documented, with special emphasis on the research activities such as acquired research grants, as well as the societal impact activities. A substantial appendix, including a full list of publications of all CLCG staff members in 2018, their lectures and other academic and professional activities, may be found on the institute's website, http://www.RUG.nl/research/clcg/ (see the section on Annual Reports).

In the past year, the CLCG research infrastructure plan has resulted in a number of new investments, both structural and incidental. There is now a structural budget for research participants and eye-tracking facilities. A system is in place by which CLCG researchers can use this research participants budget. A set of five laptops for the CLCG lab have been bought, and CLCG is in the process of buying a new eye tracker. Furthermore, the budget for lab management has increased. A new lab manager for the eye-tracking facilities, Atty Schouwenaars, can start in the beginning of 2019.

Prof. Gertjan van Noord, Director

Index

1 ABOUT CLCG

Mission

The mission of CLCG is to conduct and support high-quality linguistic research and disseminate the results of this research to the international scientific community and to society at large. Research in CLCG focuses on the dynamics of language. From a variety of monodisciplinary and multidisciplinary perspectives, CLCG studies computational processing of language, processes in discourse and communication, neurolinguistic processing and language development across the lifespan, and variation and change in linguistic structure and meaning. The aim is to uncover the processes that underlie the use of language in individuals and society.

CLCG aims to realise these goals by setting the following priorities:
• CLCG actively contributes to the University of Groningen's societal themes (Energy, Healthy Ageing and Sustainable Society). In particular, CLCG contributes to the theme of Healthy Ageing with its research on typical and atypical language development and use across the lifespan and health communication, and to the theme of Sustainable Society with its research on multilingualism, mutual understandability between languages, literacy development and language teaching.
• CLCG fosters interdisciplinary approaches to the study of language. The contribution of CLCG to the cognitive neurosciences is reflected in the affiliation of several CLCG members with the Research School of Behavioural and Cognitive Neurosciences (BCN).
• Linguistic research in CLCG is closely connected to the instructional needs of the faculty, e.g., in the languages spoken in modern Europe.
• CLCG has a special responsibility for the Dutch languages and dialects, especially those spoken in the northern Netherlands (Dutch, Frisian and Lower Saxon, including Grunnings).

Research integrity & governance

The quality of research conducted at the University of Groningen (UG) is assessed against the highest international standards. In addition, the University complies with the behavioural rules drawn up by the Association of Universities in the Netherlands (VSNU:Vereniging van Universiteiten), which can be found in the Dutch Code of Conduct for Scientific Practice. Important values in this code of conduct include care, reliability, verifiability and independence. The University of Groningen also has its own regulations for the protection of academic integrity, describing which actions must be taken in the event that academic norms are violated.

Shared responsibility
All those involved in teaching and research at the University of Groningen are jointly responsible for preventing and identifying academic misbehaviour. Upon being appointed, researchers declare that they are familiar with the Dutch Code of Conduct for Academic Practice and will obey it. Research integrity is a regular part of the assessment interviews with PhD's especially in the first year progress assessment interview.

Ethical Committee

Linguistic research involving human participants is reviewed by the Ethical Review Committee (Commissie Ethische Toetsing Onderzoek, or CETO) of the Faculty of Arts, the Faculty of Philosophy, the Faculty of Theology and Religious Studies and the Faculty of Science and Engineering (Artificial Intelligence department). The Ethical Review Committee was appointed in 2015 to ensure that the ethical rules governing the conduct of research with human participants are adhered to. Linguistic research (including research involving EEG, fMRI or TMS methodology, adults with aphasia or children with autism) can be assessed by the Ethical Review Committee. Research that is carried out with the intention of contributing to medical knowledge is considered medical-scientific research and must be reviewed by a recognized Medical Research Ethics Committee

(Medisch Ethische Toetsingscommissie = METc). Currently, the Ethical Review Committee assesses all research proposals of staff, PhD candidates, and BA and MA students involving human participants.

Research data management

Data management is high on the agenda of the University of Groningen. The University Board has requested all SEP institutes to prepare a Research Data Management Plan (RDMP) for their institute. Within the Faculty of Arts, a Research Data Management Committee has been installed in 2015 to look into current practices, advise the Faculty Board on a policy regarding the storage and management of research data, and advise the directors of the research institutes in their task to develop and implement a RDMP.

On 11 July 2017 the Faculty Board established the Faculty's Research Data Management (RDM) protocol. This protocol asks every academic staff member of the Faculty of Arts to submit a Research Data Management Plan. This also applies to doctoral research: primary supervisors are obliged to submit an RDMP for each of their students' PhD research projects within six months of the research project starting. The RDMP will then be added to the PhD student's Training and Supervision Plan (TSP).

Organisation of the institute

Director
Prof. G.J. van Noord

CLCG consists of four Research Groups, organized by subdiscipline:
- Computational Linguistics
- Discourse and Communication
- Neurolinguistics and Language Development
- Theoretical and Empirical Linguistics

Coordinators of the Research Groups
Dr. Malvina Nissim (Computational Linguistics)
Prof. J.C.J. Hoeks (Discourse and Communication)
Prof. B.A.M. Maassen (Neurolinguistics and Language Development)
Dr. M. de Vries (Theoretical and Empirical Linguistics)

Advisory Board
Prof. Roelien Bastiaanse, Prof. Johan Bos, Prof. Janet Fuller, Prof. Kees de Glopper (chair), Prof. Petra Hendriks, Prof. Jack Hoeksema, Prof. John Hoeks, Prof. Carel Jansen, Prof. Tom Koole, Dr. Wander Lowie, Prof. Ben Maassen, Prof. John Nerbonne (em.), Dr. Malvina Nissim, Prof. Gertjan van Noord, Aida Salcic and Leanne Nagels (PhD-Council representatives), Prof. Gisela Redeker, Prof. Marjolein Verspoor, Dr. Mark de Vries, Prof. Gerry Wakker, Prof. Jan-Wouter Zwart

Staff

Staff composition - position
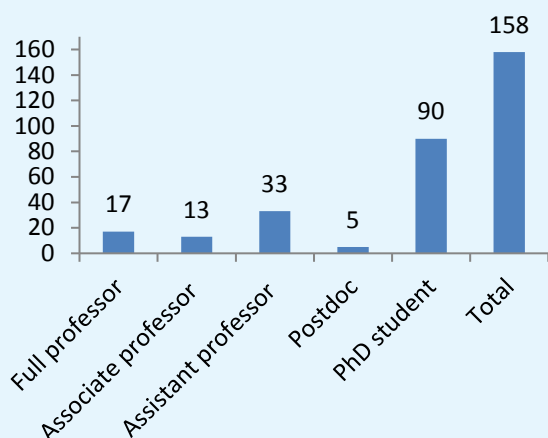
Staff composition – position/gender
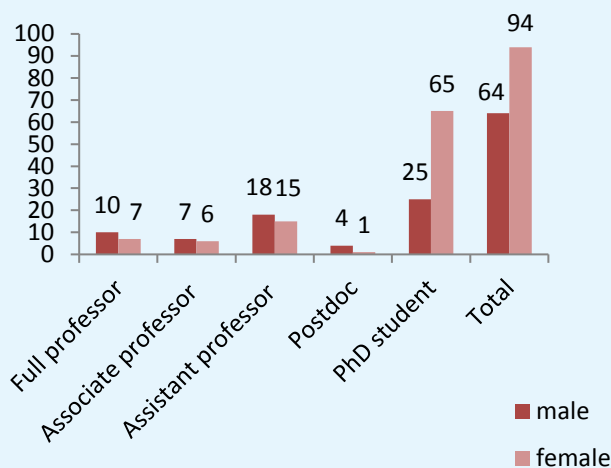
Staff composition research groups

PhD programme

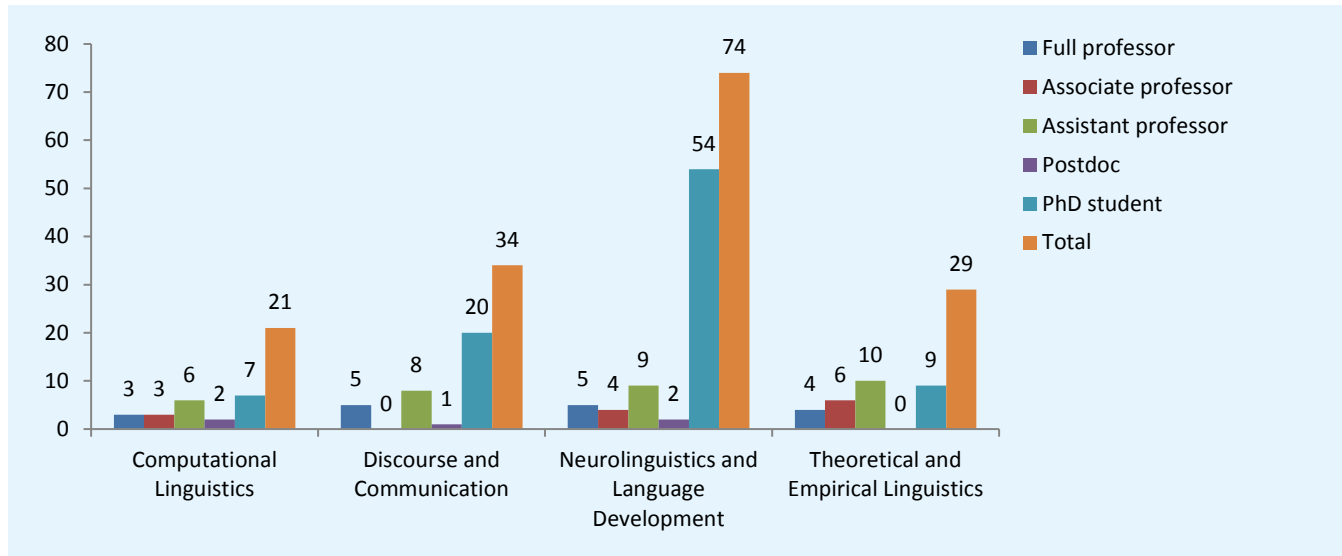Within the UG, CLCG participates in the Graduate school for Humanities (GSH). Formally the GSH is responsible for recruiting and selecting graduate students, for assigning them to supervisors, and for monitoring their progress toward the PhD degree. Nevertheless, CLCG members are involved in all of these processes. The director of CLCG carries out the first year assessment interviews on behalf of the GSH.

CLCG is also affiliated with various research schools. Many CLCG PhD students participate in Groningen's Research School of Behavioral and Cognitive Neurosciences (BCN), a local interdisciplinary research school that brings together research from five different faculties of the University of Groningen. Likewise, many of CLCG PhD students choose to participate in the national graduate school in linguistics, LOT (Landelijke Onderzoeksschool Taalwetenschap). One of the major tasks of BCN and LOT is offering training courses to PhD students. Various PhD students attend courses that are organized by BCN and LOT, while some senior CLCG researchers teach such courses.

We hope to continue to serve as an excellent training center for students interested in research careers. In 2018, ten PhD projects were defended. A list of CLCG PhD students, together with the source of funding for their project and the title of their project can be found on the CLCG website.

Overview CLCG research output 2018

CLCG research output 2018	
Journal article	81
Book chapter	26
Conference proceeding	30
Book	5
Non-refereed publication	2
Review	6
Edited journal	5
Edited book	6
Doctoral thesis	10
Total	**171**

Overview: Externally funded research projects and grants

15 ongoing externally funded projects continued, 8 projects were completed, and 4 projects were initiated in 2018:

Title	Grant	Period
• Neurolinguistic profiles of developmental dyslexia in a longitudinal perspective (Ben Maassen)	NWO-Open Competition	2011-2018
• IDEALAB International Doctorate in Experimental Approaches to Language and Brain (Roelien Bastiaanse)	EU-EACEA	2011-2019
• Effectiveness of explicit vs. implicit L2 instruction (Kees de Bot)	NWO-DG	2013-2018
• De leerkracht als coach bij het stimuleren van exploratory talk en kennisconstructie samenwerkend leren (Kees de Glopper)	NHL	2013-2018
• Parsing Algorithms for Uncertain Input (Gertjan van Noord)	Nuance Foundation	2014-2018
• Interaction and knowledge construction in collaborative writing of primary school students (Kees de Glopper, Tom Koole)	NHL	2014-2018
• Hechtingsrelatie tussen gezinshuisouders en hun in huis geplaatste puber (Tom Koole)	NWO-promotiebeurs voor leraren	2014-2018
• Lost in Translation – Found in Meaning (Johan Bos)	NWO-VICI	2015-2020
• Dialogic reading in inquiry learning (Kees de Glopper, Tom Koole)	NHL	2015-2019
• Acting individually or together? An investigation of children's development of distributivity (Petra Hendriks)	NWO-DG	2016-2020
• Idioms in the ageing brain: The effects of age-related cognitive decline on the processing and comprehension of idioms (Petra Hendriks)	NWO-DG	2016-2020
• The Language of Fiction and Imagination (Emar Maier)	NWO-VIDI	2016-2021
• SPOD (Jack Hoeksema)	Clariah-Core	2017-2018
• Taalcompetenties voor een dynamische arbeidsmarkt (Kees de Glopper)	NRO Beroepsonderwijs	2017-2020
• DUDOC programma (Kees de Glopper)	Regie Orgaan Geesteswetenschappen	2017-2020
• Predictive processing in children with Autism Spectrum Disorders (Petra Hendriks)	NWO-DG	2017-2021
• Try to see it my way: when do speakers consider the listener's perspective? (Jorrig Vogels)	NWO VENI	2017-2021
• Polytheism as language. A linguistic approach to divine plurality in the religious experience of Greek worshippers (Saskia Peels)	NWO VENI	2017-2021
• Stimmen fan Fryslan (Nanna Hilton)	Prov. Fryslan	2017-2019
• Tongval in een 2e taal (Martijn Wieling)	GUF	2017-2019
• 3m Meertaligheid (Hanneke Loerts)	NHL	2017-2021
• Learning to preserve? Foreign language training as a cognitive vaccine against old-age disorders (Merel Keijzer)	CvB- interdisciplinarity Phd projects	2017-2021
• Network 31 (Joana Duarte)	European Educational Research Association	2017-2018
• Schrijfpeil basisonderwijs (Kees de Glopper)	NRO Beroepsonderwijs	2018-2019
• Gewoon en bijzonder. De ontsluiting van de Sprekend Nederland-data voor documentatie, onderzoek en publieksvoorlichting (Martijn Wieling)	NWO - KIEM	2018-2019
• Language learning never gets old: Foreign language learning as a tool to promote healthy aging (Merel Keijzer)	NWO - VIDI	2018-2023
• Framing Situations in the Dutch Language / De Nederlandse taal als instrument om verhalen te vertellen (Malvina Nissim, Johan Bos; with Piek Vossen, VU)	NWO-Vrije Competitie	2018-2023

2 Research within CLCG

Computational Linguistics

Staff Members:
Malvina Nissim (coordinator), Johan Bos, Gosse Bouma, Leonie Bosveld-de Smet, Tommaso Caselli, Andreas van Cranenburgh, Charlotte Gooskens, Gregory Mills, John Nerbonne (emeritus), Gertjan van Noord, Barbara Plank, Antonio Toral Ruiz, Martijn Wieling
Postdocs:
Lasha Abzianidze, Aki Kunikoshi
PhD Candidates:
Lorenzo de Mattei (external), Hessel Haagsma, Masha Medvedeva, Rik van Noord, Dieke Oele, Ahmet Üstün, Rob van der Goot, Stefanie Voigt

Research focus areas

The CL Group implements an all-round strategy, covering fundamental and applied research, both in a curiosity-driven as well as task-oriented fashion. Due to its intrinsically interdisciplinary nature, the group is involved in a variety of cross-discipline projects and collaborations. The group has an international reputation and strong worldwide ties, making it possible to stay up to date with new theoretical and practical tools in the field.

In line with both the development of the field internationally, as well as the demands of society and stakeholders in terms of target applications, we have aimed in the last years at expanding the general areas/tasks and the types of language data we work with. Current projects do not only revolve around newswire texts but also around:
Social media data: work on Twitter, Facebook, Reddit in the areas of language normalisation and parsing, hate speech monitoring, author profiling, political sensing, human-computer interaction (va Noord, Nissim, Caselli, Bosveld)
Legal big data, in collaboration with colleagues from the Law Faculty, in particular towards predicting court cases (Wieling)
Literature: modelling literary style, as well as opening up a new vein of work in machine translation, focusing on translating literary texts (Toral and van Cranenburgh).
We have also recently initiated a new line of work in our group focusing on authorship attribution and author profiling, developing state-of-the-art systems and tying in with research on social media (Nissim). And we have started to expand our research towards communication in virtual reality (Mills).

More traditional research areas of our group are obviously maintained, but also renewed. Work on dialectometry, traditionally a strong expertise in our group (with the crucial contribution of J. Nerbonne until his retirement), has been recently enriched with a new professorship by special appointment of Low Saxon/Groningen Language and Culture (Wieling). Work on speech also moved on to an innovative level of analysis, through articulography-based experiments. Traditionally, we also have a strong focus in computational syntax with NWO-funded research projects of van Noord and Bouma, several NWO Stevin projects and a number of smaller scale CLARIN projects. As a result, tools (parser and generator) and resources (annotated treebanks) have been developed for Dutch which are widely used by researchers around the globe. Also in this area, we constantly make sure that expertise and resources are improved, maintained and aligned with international efforts, such as the Universal Dependency project, with which we officially collaborate. Additional work on Dutch, extending our current research on syntax also to semantics and pragmatics, is now starting through an NWO Vrije Competitie grant to study Framing in Dutch (Bos/Nissim/Caselli). This also ties in beautifully with another by now established expertise in our group: computational semantics. This was initiated by the Endowed Chair Johan Bos, and extended through his NWO VICI project, which yielded the Groningen Meaning Bank (a free semantically annotated corpus and related set of tools developed by members of the CL group), and the Parallel Meaning Bank, which extends the former in a multilingual fashion. The tools includes Wordrobe, a collection of linguistic games with a purpose: www.wordrobe.org. Those games are played by non-scientists, who produce as a side-effect useful data annotation, i.e., crowd-sourcing in an entertaining fashion with obvious links to citizen science.

Highlights 2018

Keynote talk at major NLP conference
Johan Bos gave one of the three keynote talks at the 2018 Conference on Empirical Methods in Natural Language Processing (EMNLP).
The largest conference in the field of Natural Language Processing to date with more than 2000 participants. It took place in November in Brussels, Belgium. The talk was titled "The Moment of Meaning". The video is available here: https://vimeo.com/306143088.

Grants, Awards and Honors
NWO Free Competition grant *"Framing Situations in the Dutch Language"*
In collaboration with Marten Postma of his Computational Lexicology & Terminology Lab (CLTL) and the University of Groningen (Johan Bos and Malvina Nissim), they will map out how the Dutch language enables us to 'frame' situations from different perspectives and user motivations.

Data Science Grant
Tommaso Caselli received a Centre for Digital Humanities Data Science Grant (13K) for the project "Are They Telling the Same Story? Trying to Break Filter Bubbles".

Vice-chairman of De Jonge Akademie
In 2018, Martijn Wieling was elected as vice-chairman of De Jonge Akademie for a period of two years. The Young Academy is a dynamic and innovative group of 50 top young scientists and scholars with outspoken views about science and scholarship and the related policy. The Young Academy organizes inspiring activities for various target groups focusing on interdisciplinarity, science policy, and the interface between science and society.

Finalist Best Paper Award
The publication 'Source-driven Representations for Hate Speech Detection' co-authored by Tommaso Caselli and Malvina Nissim was nominated for the best Paper Award at the Fifth Italian Conference on Computational Linguistics (CLiC-it 2018).

New professor of Low Saxon/Groningen Language and Culture
On 1 July 2018, Martijn Wieling was appointed professor by special appointment of Low Saxon/ Groningen Language and Culture. He will be researching Low Saxon in general, and the variants of Low Saxon spoken in Groningen in particular. The appointment is for four years initially, based at the new Centre for Groningen Language and Culture. Wieling will be involved in various projects. One of them is the pilot project "Van old noar jong", in which Wieling in collaboration with "Dorpsbelangen Zandeweer, Eppenhuizen en Doodstil" and students of the Alfacollege is developing a digital application for school children to get familiar with the local Groningen dialect. Given his background, Wieling will use quantitative techniques to investigate variation and change in the Low Saxon dialects.

PhD defenses
In 2018, one PhD project was completed. Dieke Oele defended her thesis "Automated Translation with Interlingual Word Representations". She works as an Associate Linguist at Google.

Research projects

Lost in Translation – Found in Meaning
The aim of this NWO-VICI (2015-2020) project led by Johan Bos and carried out by Lasha Abzianidze, Hessel Haagsma and Rik van Noord, is to study the role of meaning in translation. This is done by building a large semantically annotated parallel corpus for the languages English, German, Dutch and Italian. In 2018 we started the preparations for an international shared task on parsing meaning representations, of which the results will be presented at IWCS-2019 in Gothenburg, Sweden."

NWO Free Competition grant *"Framing Situations in the Dutch Language"*
In collaboration with Marten Postma of his Computational Lexicology & Terminology Lab (CLTL) and the University of Groningen (Johan Bos and Malvina Nissim), they will map out how the Dutch language enables us to 'frame' situations from different perspectives and user motivations

Parsing Algorithms for Uncertain Input
This project is carried out by Rob van der Goot, supervised by Gertjan van Noord and funded by the Nuance Foundation. In this project we study parsing algorithms for ill-formed and unexpected input. Social media texts are translated to be more similar to standard texts, before they are parsed. This translation leads to more accurate syntactic analyses.

Automatic detection of linguistic patterns in legal big data
In computational linguistics, specific characteristics of legal texts have been studied (see Francesconi, Montemagni et al. (eds.), 2010), but hardly any studies have attempted to use linguistic characteristics to predict judicial decisions. The goal of this PhD project is therefore to take a more comprehensive, linguistically-oriented approach incorporating all available data, thereby developing a system which is able to detect common patterns in legal big data and use these to predict the outcome of a judgment. This project is funded by the Young Academy Groningen.

Using ultrasound to investigate and improve L2 pronunciation
In this project, Wieling and his colleagues aim to investigate how visualizing tongue movements using ultrasound may be used to help a learner to improve his or her pronunciation in a second language (L2). This project is funded by the Groningen University Fund and De Jonge Akademie.

Identifying Dutch accents automatically
In this project we aim to automatically detect Dutch accents on the basis of data from the Sprekend Nederland data. Particularly, we are interested in identifying the acoustic and segmental characteristics of the different accents. This project is funded by the Centre for Digital Humanities of the University of Groningen. (Post-doc: Aki Kunikoshi, Data scientists: Herbert Kruitbosch and Arya Babai, Collaborator: David van Leeuwen)

Selection of other activities
• Malvina Nissim was General Chair of the The Seventh Joint Conference on Lexical and Computational Semantics (*SEM), co-located with NAACL 2018, New Orleans, June.
• Martijn Wieling gave several invited courses including the 'Introductory course on Advanced Regression Methods for Linguistics', at the 30st European Summer School in Logic , Language and Information (ESSLLI), in Sofia, Bulgaria, August 6-10.
• Malvina Nissim gave several keynote talks including "Using Weak Signal in NLP" at the 17th International Workshop on Treebanks and Linguistic Theory (TLT17) in Oslo, Norway, November 25.
Tommaso Caselli was co-chair of Evalita 2018. EVALITA is a periodic evaluation campaign of Natural Language Processing (NLP) and speech tools for the Italian language to promote the development of language and speech technologies providing a shared framework where different systems and approaches can be evaluated in a consistent manner. As a side effect both training and test data are available to the scientific community.

• Gosse Bouma was visiting research fellow at the Centre for Advanced Studies (CAS) at the Norwegian Academy of Science and Letters from January 1 to March 31, 2018. CAS is an independent foundation that furthers excellent, fundamental, curiosity-driven research.

**Key publications –
Computational Linguistics**

Wieling, M. (2018). Analyzing dynamic phonetic data using generalized additive mixed modeling: a tutorial focusing on articulatory differences between L1 and L2 speakers of English. *Journal of Phonetics*, 70: 86-116.

van der Goot, R. & van Noord, G. (2018). Modeling Input Uncertainty in Neural Network Dependency Parsing. *Proceedings of the 2018 Conference on Empirical Methods in Natural Language Processing. ACL*, p. 4984-4991.

van der Goot, R., Ljubešić, N., Matroos, I., Nissim, M., Plank, B.(2018). Bleaching Text: Abstract Features for Cross-lingual Gender Prediction. *Proceedings of the 56th Annual Meeting of the Association for Computational Linguistics, ACL*.

Wieling, M., Rawee, J. & van Noord, G. (2018). Reproducibility in Computational Linguistics: Are We Willing to Share?. *Computational Linguistics*, 44 (4): 641-649.

Venhuizen, N., Bos, J., Hendriks, P. & Brouwer, H., (2018). Discourse semantics with information structure. *Journal of Semantics*, 35 (1): 127-169.

**Featured publication –
Computational Linguistics**

van Noord, R., Abzianidze, L., Toral Ruiz, A. & Bos, J. (2018). Exploring Neural Methods for Parsing Discourse Representation Structures. *Transactions of the Association for Computational Linguistics*. 6: 619-633.

Abstract:
Neural methods have had several recent successes in semantic parsing, though they have yet to face the challenge of producing meaning representations based on formal semantics. We present a sequence to-sequence neural semantic parser that is able to produce Discourse Representation Structures (DRSs) for English sentences with high accuracy, outperforming traditional DRS parsers. To facilitate the learning of the output, we represent DRSs as a sequence of flat clauses and introduce a method to verify that produced DRSs are well-formed and interpretable. We compare models using characters and words as input and see (somewhat surprisingly) that the former performs better than the latter. We show that eliminating variable names from the output using De Bruijn-indices increases parser performance. Adding silver training data boosts performance even further.

Discourse and Communication

<u>Staff Members:</u>
John Hoeks (coordinator), Veerle Baaijen, Kees de Glopper, Myrte Gosen, Mike Huiskes, Carel Jansen (emeritus), Tom Koole, Femke Kramer, Jacqueline van Kruiningen, Yfke Ongena, Claire Penn (external), Gisela Redeker, Ielka van der Sluis, Ninke Stukker.
<u>Researcher:</u>
Kevin Krips
<u>PhD Candidates:</u>
Bianca Dijkstra (external), Lennie Donné, Agnes Engbersen (external), Loes Groen, Anke Herder (external), Frans Hiddink (external), Melanie Hof (external), Lisanne Knol, Ruth Koops van't Jagt, Joëlle Ooms, Maaike Pulles (external), Marlon Ruwette, Ellen Schep (external), Lucas Seuren, Jeroen Steenbakkers, Moniek Vis, Joke van Balen (external), Nienke van der Vliet, Yingije Wang, Annerose Willemsen, Lambert Zaad (external)

Research focus areas

The Discourse and Communication group conducts quantitative and qualitative research on language and communication. The group's research addresses a variety of themes within the broad field of communication research. Object of study are communication processes in general, but also more specifically the design and optimization of communication products, the persuasive effects of these communication products, the development of communication skills, and the way these skills are taught in primary and secondary education and trained in the workplace. Communication is investigated primarily in professional settings such as health care (persuasive health campaigns, doctor-patient conversations), and education (teacher-student interaction), but also in public and private organisations (persuasive effects of advertisements, interaction and conversation during meetings, campaigns on sustainability). Its research program is closely linked to the University of Groningen research focus areas Healthy Ageing and Sustainable Society.

Highlights 2018

PhD Defences

In 2018, three PhD-theses were completed: Lucas Seuren defended his these "The interactional accomplishment of action". Currently he works as a Health Services Researcher at the University of Oxford, UK.

Ruth Koops van 't Jagt defended her thesis "Show, don't just tell: Photo stories to support people with limited health literacy". She works as freelance researcher, text writer and communication advisor.

Lennie Donné defended her thesis "Convincing through conversation: Unraveling the role of interpersonal health communication in health campaign effectiveness". She works as lecturer in Health Communication at Utrecht University of Applied Sciences.

Conferences and Workshops

VIOT 2018

From 17 to 19 January 2018, the fourteenth conference of the VIOT, the Interuniversity Consultation Language Command, was held in Groningen. The central theme was 'Duurzame Taalbeheersing (Sustainable Language Proficiency). Almost ninety lectures were given and there were seven symposia. The working language of the conference was Dutch, but there were also some lectures in Afrikaans and in English. The Keynote lectures were:
- Charles Antaki (Loughborough University, UK): "What can Conversation Analysis tell us about 'difficult' interactions".
- Dirk Geeraerts (KU Leuven): "Duurzaamheid in Tijden van Disruptie"
- Hans Hoeken (Utrecht University): "Duurzaam onderzoek naar persuasieve communicatie"
- Catherine Snow (Harvard Graduate School of Education): "Lasting impacts: Making research robust and relevant"

After the conference, on Friday afternoon, January 19, Carel Jansen held his farewell lecture "Vanavond om kwart over zes ben ik vrij. Ontwikkelingen in de Taalbeheersing/Communicatiekunde".

Symposium Action Formation
On the occasion of the defence of Lucas Seuren, the symposium "Action Formation" took place on April 5. Betty Couper-Kuhlen (Helsinki University) presented collaborative work with Sandy Thompson (UC Santa Barbara): "On giving advice in ordinary conversation: The why don't you X? format". Richard Ogden (University of York) gave a talk titled "The actions of perhiphal linguistc objcets: clicks". Mike Huiskes (CLCG) presented, together with Lotte van Burgsteden, on interaction during orthopaedic surgery.

Studiedag Interactie in de klas
On 21 June, Kees de Glopper, Tom Koole, Annerose Willemsen and Myrte Gosen were organizing a study day with the theme "Interaction in the classroom" The purpose of the study day is to inform researchers from the (Northern) Netherlands on the latest studies and developments in order to achieve more exchange and cooperation. It was organized in collaboration with the GION (Groningen Institute for Educational Research), the Language Use and Learning lectorate (Stenden University of Applied Sciences), the Curious Minds lectorate (Hanze University of Applied Science) and with the Developmental Psychology department (RUG)). The workshop was opened by Tom Koole and a number of CLCG members gave a presentation:
– Anke Herder (NHL-Stenden/RUG-CLCG): "Proposal sequences in collaborative writing"
– Frans Hiddink (NHL-Stenden/RUG-CLCG): "Preschoolers' joint problem-solving during peer interaction"
– Maaike Pulles (NHL-Stenden/RUG-CLCG): "Talk about text content in dialogic reading"
– Annerose Willemsen (RUG/CLCG): "Asking for more: teachers inviting their students to elaborate in whole-class discussions
– Myrte Gosen (RUG/CLCG): "Teachers' demonstrations of epistemic access in teacher-student interactions in a digital setting"

Round table discussion: Naar een onderzoeksagenda voor genre & genrecompetenties
On 25 mei, Ninke Stukker (together with Wilbert Spooren, Radboud University Nijmegen) organized a round table discussion that took place at Utrecht University for the convenience of the participants. The goal of the event was to discuss about a research agenda on the theme of discourse genre. In view of the societal importance of the concept of discourse genre and the amount of (descriptive) research that has been devoted to it, it is surprising to find that we hardly know how genres operate from linguistic, discoursal and cognitive points of view. The three main themes of the meeting were: 1) Genre theory: issues and problems, 2) Research methods: wishes and new possibilities, 3) Genre in practice: what can science contribute? The results of the meeting (among other things) will be included in a proposal for a Lorentz workshop by the organizers.

Research projects
DUDOC programme (Kees de Glopper)
With the support of DUDOC-ALFA, a grant program for teachers in secondary education coordinated by 'Vakdidactiek Geesteswetenschappen' Jeroen Steenbakkers and Moniek Vis continued to work on their PhD projects.
In his project on "Bewuste taalvaardigheid in lessen Nederland" (Conscious language skills in Dutch lessons) Jeroen developed the pedagogical rationale and theoretical background for upper secondary school lessons on writing style. Pilot versions of lessons and of instruments for analyzing students' writing style were developed. The project of Jeroen Steenbakkers is supervised by Kees de Glopper (promotor) and Veerle Baaijen, Ninke Stukker and Theo Witte (copromotors).
In her project on Genredidactiek bij Nederlands": blijvend betere samenhang en bewust geletterde leerlingen" (Genre-based instruction in lessons Dutch: lasting integration and consciously literate students) Moniek developed the theoretical rationale for her genre-based secondary school lessons on

reading-and-*writing-in-integration*. She also performed an analysis of the current curriculum that holds alloted spaces that isolate reading and writing (and oracy, grammar and literature). Moniek redesigned her field experiment and she made a start with the development of pilot versions of her lessons. The project of Moniek Vis is supervised by Kees de Glopper (promotor) and Amos van Gelderen (University of Amsterdam, copromotor) and Jacqueline van Kruiningen (NHL Steden, copromotor).

The Pictures and Text (PAT) Workbench: Toward Automated Evaluation of Multimodal First-Aid Instructions
In the PAT project approaches from Information Design Research and Computational Linguistics are combined to aid corpus collection and analysis, computer-assisted annotation and experimentation. PAT includes a methodical investigation of multimodal instructions (MIs) used in first-aid practices to help people in need. Currently, there are no guidelines for the design of MIs that effectively instruct people to operate an AED, place a victim in a recovery position, remove ticks etc. The MIs are first-aid instructions published by sources like hospitals and health and safety organisations that appear in print like Het Oranje Kruisboekje as well as in other media such as smart phone applications and videos. The huge variations in pictorial and verbal means employed in these instructions demonstrate the urgency to obtain validated guidelines based on empirical evidence collected from readers and users. The PAT project makes use of an annotated corpus of MIs and a workbench that has been developed for the annotation and retrieval of the MIs. Investigating multimodality in these MIs allows us to evaluate the effectiveness of picture and text combinations in a practical context focusing on e.g. attention, comprehension, recall, user judgements, and task performance.

The project will deliver theoretical results in terms of empirically validated models for effective multimodal presentations. Results of practical value and long term goals include new annotated multimodal corpora, (semi-)automatic annotation, evaluation and generation of potentially effective text-picture combinations and authoring guidelines to produce good quality presentations.
(Project website: https://www.rug.nl/let/pat).

Selection of other activities

• Mike Huiskes gave the talk "Fingerprints of supervisors. How supervisor control the hands of surgical trainees" at the Royal Academy of Canadian Surgeons ICRE, Canada, 19 October 2018.

• Gisela Redeker gave the talk "Constructing a Lexicon of Dutch Discourse Connectives" at the 28th Meeting of Computational Linguistics in the Netherlands (CLIN 28) in Nijmegen, Netherlands, 26 January 2018.

• Annerose Willemsen gave the talk "Asking for more: Teachers' elaboration invitations in whole-class discussions" at ICCA18: 5th International Conference on Conversation Analysis, United Kingdom, 12 July 2018.

• Veerle Baaijen gave the talk "Identifying writing beliefs at the Earli Sig Writing Conference in Antwerp, Belgium, 29 August 2018.

• Ielka van der Sluis was organizer of the AREA Workshop on Annotation, Recognition, Evaluation of Actions at LREC 2018 at Miyzaki, Japan, 7-12 May 2018. (co-organized with James Pustejovsky (Brandeis University).

Key publications - Discourse & Communication

Willemsen, A., Gosen, M. N., van Braak, M., Koole, T. & de Glopper, K. (2018). Teachers' open invitations in whole-class discussions. *Linguistics and Education* 45: 40-49.

van 't Jagt, R. K., Hoeks, J. C. J., Duizer, E., Baron, M., Molina, G. B., Unger, J. B. & Jansen, C. J. M. (2018). Sweet Temptations: How Does Reading a Fotonovela About Diabetes Affect Dutch Adults with Different Levels of Literacy?. *Health Communication* 33(3): 284-290.

Kölln, A-K., Ongena, Y. P. & Aarts, K. (2018). The effects of sampling frame designs on nonresponse and coverage error: evidence from the Netherlands. *Journal of Survey Statistics and Methodology*: 1-18.

Baaijen, V. & Galbraith, D. (2018). Discovery through Writing: Relationships with Writing Processes and Text Quality. *Cognition and Instruction* 36(3): 199-223.

Seuren, L. M., Huiskes, M. & Koole, T. (2018). Resolving knowledge discrepancies in informing sequence. *Language in Society* 47(3) : 409-434.

Featured publication – Discourse & Communication

Willemsen, A., Gosen, M. N., van Braak, M., Koole, T. & de Glopper, K. (2018). Teachers' open invitations in whole-class discussions. *Linguistics and Education* 45 : 40-49.

Highlights:
➤ 'Open-ended and authentic questions' refer to a broad range of open invitations.
➤ With Conversation Analysis, different types of open invitations were identified.
➤ The different types project various extents of openness.
➤ All invitations typically elicit student responses fitted to the projected openness.
➤ The more open the invitation, the likelier a discussion in the ensuing interaction.

Abstract:
This article takes a conversation analytic approach to the often employed notions of 'open-ended or authentic questions' in classroom interaction. We analyzed the, as we called them, open invitations teachers utter after reading a piece of text during whole-class discussions in 4 Dutch upper primary school classes, of which 2 were followed for a longer period of time. Our data show that these invitations vary in openness. We found 4 different types: (1) invitations projecting (a series of) objectively true or false answers, (2) invitations projecting specific response types, (3) invitations that have a restricted referent but do not project specific response types, and (4) topic soliciting invitations giving room to various contributions. Virtually all invitations resulted in fitted responses. The subsequent interactions following the less open invitations typically resulted in series of parallel responses, whereas the more open invitations typically yielded discussions or the collaborative answering of clarification questions.

Neurolinguistics and Language Development

Staff Members:
Ben Maassen (coordinator), Roelien Bastiaanse, Gerard Bol, Dörte de Kok, Hilde Hacquebord, Petra Hendriks, Angeliek van Hout, Sake Jager, Roel Jonkers, Merel Keijzer, Hanneke Loerts, Wander Lowie, Emar Maier, Marije Michel, Simone Sprenger, Rasmus Steinkraus, Wim Tops, Marjolijn Verspoor.
Postdocs:
Jacolien van Rij (Veni)**, Jorrig Vogels (Veni), Srdjan Popov
PhD Candidates:
Yulia Akinina (external), Svetlana Averina*, Sanne Berends, Sofia Bimpikou, Elisabeth Borleffs (external), Nermina Cordalija*, Azadeh Elmianvari, Marita Everhardt, Juliana Feiden*, Rowena Garcia*, Steven Gilbers, Toivo Glatz, Wim Gombert (external), Felipe Reyes Gomez (external), Mirjam Günther-van der Meij (external), Dymphi van der Hoeven (external), Jakolien den Hollander*, Dorothee Hoppe, Ting Huang (external), Vera Hukker, Jidde Jacobi*, Fedor Jalvingh (external), Bernard Jap (external), Sarah Shogi Javan*, Folkert de Jong (external), Tim Kassenberg (external), Anna de Koster, Leanne Nagels, Camila Martinez Rebolledo (external), Irene Mognon, Leonie Lampe*, Nathaniel Larthy*, Sirkku Lesonen, Nienke Meulman, Ann-Katrin Ohlerth, Roelant Ossewaarde (external), Jessica Overweg, Hongying Peng, Rika Plat, Mara van der Ploeg, Anna Pot, Liefke Reitsema (external), Amélie la Roi, Liset Rouweler, Audrey Rousse-Malpat, Aida Salĉiĉ*, Iris Scholten, Pouran Seifi (external), Bregtje Seton, Ellie van Setten-Huizinga, Kaimook Siriboonpipattana*, Eabele Tjepkema (external), Susan Tokaç*, Frank Tsiwah, Nienke Wolthuis

*PhD candidates IDEALAB (http://em-idealab.com/)

**In 2018, Jacolien van Rij became assistant professor and Rosalind Franklin Fellow in the Bernoulli Institute for Mathematics, Computer Science and Artificial Intelligence of the University of Groningen where she continues her NWO Veni-project 'Learning language from expectations'.

Research focus areas

The Neurolinguistics and Language Development research group is a strongly interdisciplinary group that investigates the organization of language in the brain, how language is processed and how languages are learned. To investigate these questions, a wide variety of methods is employed, ranging from spontaneous speech analysis, comprehension and elicitation experiments and the development of theoretical models, to eye tracking, EEG and functional Magnetic Resonance Imaging (fMRI) techniques.

The organization of language in the brain and how language is processed in the brain is studied through the comprehension and production of various aspects of verbs (in developmental disorders and aphasia), phonological processing (in aphasia and dyslexia), print decoding (in dyslexia), speech disorders (in children and adults), sentence processing (in non-brain-damaged and aphasic speakers) and ambiguity resolution (in normal speakers and schizophrenic patients).

How a first, second or foreign language is acquired, maintained and sometimes lost is studied by considering the linguistic, social as well as cognitive processes involved in language development and use. Important areas of research are typical and atypical first language acquisition (such as in children with autism spectrum disorders), bilingualism, language attrition, and the development of bilingual education in the Netherlands.

Because of its focus on language across the lifespan, from childhood to elderly age, this research program is closely linked to the University of Groningen research focus area Healthy Ageing.

Hightlights 2018

Start VIDI-project

Merel Keijzer started her NWO Vidi project "Language Learning Never Gets Old: Foreign language learning as a tool to promote healthy aging" in 2018. This project presents an innovative anti-aging tool: foreign language learning. In this Vidi project, we aim to provide a new impetus to the field of bilingualism but also its applicability in healthy aging through:
1. an epidemiological study that relates individual differences in bilingual experiences to healthy aging outcomes in a sample of more than 12,000 65+ North Netherlanders. Differences include languages or dialects spoken, age at acquisition, intensity of use, and language attitudes.
2. introducing a bilingual experience (foreign language learning) to a functionally monolingual group of healthy seniors and preclinical seniors over the course of 3 to 6 months.

This two-step design is expected to shed new light on two important questions: the nature of the bilingual advantage in old age and how learning a new language after the age of 65 enhances cognitive flexibility and wellbeing levels in healthy and non-healthy elderly. (https://www.rug.nl/staff/m.c.j.keijzer/projects).

PhD defenses

In 2018, five PhD-projects were completed.

Elisabeth Borleffs defended her thesis "Cracking the code - Towards understanding, diagnosing and remediating dyslexia in Standard Indonesian". She works for 'Foundations for Learning', a non-profit foundation to provide educational support to families in Switzerland (the Zurich area) with English-speaking children at the Extended Learning Center, Elisabeth provides SpellRead training to students with literacy difficulties and is part of the FFL Learning Support team at the Inter-Community School Zürich, Switzerland.

Mirjam Günther-van der Meij defended her thesis "The impact of degree of bilingualism on L3 development English language development in early and later bilinguals in the Frisian context". She works as Senior Researcher Multilinguialism at Stenden University of Applied Sciences.

Jessica Overweg defended her thesis "Taking an alternative perspective on language in autism". She works as researcher at the Telecom Agency. Within the program 'Telekwetsbaarheid' (media vulnerability) she focuses on the healthcare sector. In healthcare, telecommunications increasingly play an important role, which increases dependence on telecom services.

Toivo Glatz defended his thesis "Serious games as a level playing field for early literacy: A behavioural and neurophysiological evaluation".

Folkert de Jong defended his thesis "English as medium of instruction in Higher Education in a cross-national context". He is Senior Researcher Research Methods at Stenden University of Applied Sciences.

Participants in English language course

Research projects

The Language of Fiction and Imagination
In this VIDI-project, Emar Maier and his colleagues have been working on imaginative resistance, reference of fictional names, pictorial narratives, the dynamics of fictional common grounds, and the relation between fiction and lies. The conference "Once upon a time..." brought a number of philosophers and linguists working on the semantics of fiction to Groningen. A planned collection of articles partly inspired by this workshop, is under contract at Oxford University Press.

Learning to preserve? Foreign language training as a cognitive vaccine against old-age disorders (Merel Keijzer)

Bilinguals constantly need to mentally juggle multiple languages. This is thought to increase cognitive flexibility, a skill needed to separate numerous languages in one mind but also to, among other things, adaptively respond to environmental demands. Learning a new language impacts first language processing and storage. It is for this unique interfering effect that foreign language training is expected to boost cognitive flexibility more than other cognitive training programs. Although there is a wealth of observational studies into bilingual advantages, experimental studies remain scarce. The primary objective of this study is to determine whether a bilingual experience affects cognitive flexibility and its neural underpinnings in elderly with subjective, but not objective, cognitive decline. We assess the unique role of foreign language training compared to a music training and social intervention. Cognitive flexibility is assessed using a colour-shape switching task and mWCST while measuring brain activity using combined fNIRS/EEG methods. We expect an increase in cognitive flexibility and positive effects on health (i.e. vulnerability for depression, subjective cognitive decline and quality of life) as a result of both language and music training, but more for the language training. If effective, foreign language learning could serve as an important tool towards healthy aging: it could slow down cognitive aging and reduce vulnerability for depression.

Conferences and Workshops

Maps- summer school

From 9-13 July the MAPS (Multiple Approaches to the Perception of Speech) Summer School took place at UG. Simone Sprenger was member of the organizing committee. Focus of the school was the study of speech perception engages different disciplines, emphasizing its sensory, cognitive, or societal aspects. MAPS aims to promote and develop skills in conducting speech perception research combining multiple approaches. The summer school was intended for Research Master students, PhDs, MdPhD and practitioners with coursework or research experience with speech, hearing or language.

"You don't hear the difference between bad and bed? Rather than a hearing problem, this is a problem of speech perception." During the MAPS summer school, the participants explored how our experience, language, age, social network and physical environment shape our perception of speech. From a multi-disciplinary perspective, they will looked into how speech perception is sustained in cortical and subcortical networks, how speech is coded (in the ear and in cochlear implants), and how speech perception research can be designed to capture the sensory, cognitive and social aspects of speech.

LOT Summer School

LOT is the acronym of 'Landelijke Onderzoekschool Taalwetenschap', the Netherlands National Graduate School of Linguistics. LOT unites about 400 faculty and 150 PhD students and provides a meeting point to further national and international communication for the benefit of linguistic research and education. Each year, LOT organizes a two-week summer school. This school consists of 18 courses on a wide variety of linguistic topics taught by researchers from all over the world, ranging from introductions to a particular subfield to highly specialized courses. This year's summer school was held in Groningen. The local organizing committee consisted of Angeliek van Hout, Miguel Santín (PhD candidate) and Ciara Hobbelink (1st year ReMa student) and Marjolein Mués (1st year ReMa student).

The summer school was attended by 140 participants. Out of the 18 teachers 5 were CLCG members: Jacolien van Rij, Janet Fuller, Merel Keijzer, Ninke Stukker, and Eva Juarres Daussà. Next to the courses, several extra events were organized. With support from NWO and the RUG Library two guest speakers were invited to give a lunch lecture about open access and open science: Johan Rooryck (fomer editor-in-chief of Lingua and founder Glossa) and Jop de Vrieze (free-lance journalist). Additionally LOT teacher Michael Ramscar (University of Tuebingen) gave this year's Schultink lecture. The organizer also acquired additional funds to organize more social

events such as extra receptions, city tours, and a teacher welcome. Generally the organizers received a lot of positive feedback from the participants on the extremely well organized Summer School.

Workshop 'Once upon a time… Semantic approaches to fiction, literature, and narrative'
During September 17-18, 2018 Emar Maier and Sofia Bimpikou from CLCG organized the workshop 'Once upon a time…Semantic approaches to fiction, literature, and narrative' to bring together linguists and philosophers interested in applying formal semantic tools to linguistic phenomena characteristic of fiction/narrative. The (apparent) difference between the interpretation of fiction and of non-fiction already raises interesting linguistic questions, which were addressed during the workshop. Invited speakers were Márta Abrusán (Paris), Stefan Hinterwimmer (Köln), Hans Kamp (Austin/Stuttgart), Alessandro Zucchi (Milan). The workshop was funded by Maier's NWO VIDI project "The Language of Fiction and Imagination".

Selection of other activities

• Petra Hendriks was invited speaker at the Psycholinguistics Research Seminar at the University of Geneva, Switzerland. Her talk was titled "Perspective shifting and the interpretation of person, time and space by children with Autism Spectrum Disorder", 19 March 2018.
• Ben Maassen coordinated a symposium at the British Dyslexia Association (BDA) International Conference 2018, 12 – 14 April 2018 in Telford, UK. Together with Toivo Glatz; Ellie van Setten; Camila Martinez he gave the talk "ERP-precursors and -indicators of early and advanced reading acquisition (MMR and print tuning)".
• Marjolein Verspoor and Merel Keijzer gave the invited talk "Explicit and Implicit second language instruction" at the American Association of Applied Linguistics, 26 March 2018, Chicago, United States.

Roel Jonkers gave the talk "Verb processing in speakers with acquired language disorders: the role of verb type"at the 19th Science of Aphasia Conference, 20 September 2018,Venice, Italy.
• Ann-Katrin Ohlerth gave the invited talk "Implementing verb tasks in nTMS language mapping to improve map reliability compared to DES mapping" at the ANT Neuromeeting 2018, 17 January 2018, Beaune, France.

Key publications - Neurolinguistics and Language Development

Overweg, J., Hartman, C.A., Hendriks, P. (2018). Children with autism spectrum disorder show pronoun reversals in interpretation. *Journal of Abnormal Psychology*, 127 (2): 228-238.

Ierschot, F.C. van, Bastiaanse, R. & Miceli, G. (2018). Evaluating spelling in glioma patients undergoing awake surgery: A systematic review. *Neuropsychology Review*.

Borleffs, L., Jap, B. A. J., Nasution, I. K., Zwarts, F. & Maassen, B., (2018). Do single or multiple deficit models predict the risk of dyslexia in Standard Indonesian? *Applied Psycholinguistics*, 39 (3): 675-702.

Pot, A., Keijzer, M. & de Bot, K. (2018). Intensity of Multilingual Language Use Predicts Cognitive Performance in Some Multilingual Older Adults. *Brain Sciences*, 8: 92-100.

Lowie, W. M. & Verspoor, M. H. (2018). Individual Differences and the Ergodicity Problem. *Language Learning*, 69(1): 184-206.

Featured publication - Neurolinguistics and Language Development

Abstract:
Pronoun reversals, saying you when meaning I, in children with autism spectrum disorder (ASD) are generally viewed as manifesting in early development and speech production only. This study investigates pronoun reversals in later development (age 6-12) in interpretation in 48 Dutch-speaking children with ASD and 43 typically developing (TD) peers. We contrasted children's interpretation of I and you in indirect and direct speech reports, with the latter type requiring an additional perspective shift. To examine which cognitive processes are involved in pronoun interpretation, additional tasks were administered to measure Theory of Mind (ToM) understanding, cognitive inhibition, cognitive flexibility, and working memory. We found that children with ASD showed more problems than TD children interpreting pronouns in direct speech, resulting in pronoun reversals in interpretation. Children with ASD hardly improved with age. Older children with ASD thus showed more pronoun reversals than did their TD peers. ToM understanding, working memory, IQ, and verbal ability, but not inhibition and flexibility, were associated with pronoun interpretation. ToM understanding in particular was associated with correct pronoun interpretation in older TD children relative to younger TD children, but this improvement was not found in children with ASD. These findings indicate that pronoun reversals most likely result from perspective-shifting difficulties. We conclude that pronoun reversals are more pronounced in individuals with ASD, occur beyond early development, and require sufficient cognitive resources. The relation with ToM understanding, but not inhibition and flexibility, suggests that pronoun reversals are best classified as a social communication problem in the diagnosis of ASD.

Theoretical and Empirical Linguistics

Staff Members:
Mark de Vries (coordinator), Joana Da Silveira Duarte, Janet Fuller, Dicky Gilbers, Nanna Hilton, Jack Hoeksema, Bart Hollebrandse, Peter Houtzagers, Bob de Jonge, Eva Juarros-Daussà, Wolfgang Kehrein, Remco Knooihuizen, Remco Regtuit, Anja Schüppert, Willem Visser, Gerry Wakker, Jan- Wouter Zwart
Postdocs:
Saskia Peels-Matthey (Veni)
PhD Candidates:
Bernat Bardagil-Mas, Stuart Brown, Charlotte Lindenbergh, Amber Nota, Sander Orriens, Miguel Angel Santín, Leanne Schreurs (external), Janine Strandberg

Research focus areas

The research group Theoretical and Empirical Linguistics studies the syntax, semantics, morphology, phonology, and phonetics of a variety of languages with a view to enrich our empirical knowledge as well as our theoretical understanding of the nature of the human language faculty.

A core characteristic of this research is in-depth cross-linguistic comparison, both synchronically and diachronically. The group aims to contribute to the abstract formalization of the properties of language. In addition, the group is interested in sociolinguistic aspects of language variation. Working from hypothetic-deductive methods next to bottom-up strategies, the boundaries between fundamental principles, generalizations, and parametric variation and change are investigated. Specific fields of investigation include: the syntax and semantics of complex construction types (parentheses, dislocation, coordination, relative clauses), the foundations of syntactic structure and the role of the interfaces with the sound and meaning components of the grammar, ellipsis phenomena, information structure, polarity items, morphosyntactic dependencies and typological variation, Dutch corpus linguistics, phonology as human behaviour, musical

aspects of phonology, tonal accents and prosody. A strength of the research group is the combination of a theoretical orientation with the empirical study of language data from a variety of families, including West and North Germanic, Romance, Slavic, and outside of the Indo-Germanic group, Turkish, Avar, and Je in particular.

Highlights 2018

PhD defenses
Bernat Bardagil-Mas defended his thesis "Case and agreement in Panará". He works as postdoctoral researcher under the supervision of Lev Michael doing research on documentation and description of indigenous languages in Brazilian Amazonia.

Conferences and workshops
Syntax workshop
On June 17, Bernat Bardagil-Mas and Charlotte Lindenbergh organized another edition of the "The Groningen Syntax Workshop". The workshop brings together scholars with an interest in current research in syntax with the goal of providing an informal setting for the discussion of several issues concerning syntactic theory. The presentations by the guest speakers covered a variety of topics of current relevance in the generative framework.
Speakers were:
– Jan-Wouter Zwart (Groningen): "Deriving order and structure"
– Anikó Lipták (Leiden): "Hungarian particle reduplication as head copying"
– Omer Preminger (Maryland): "How to tell a syntactic phenomenon when you see it"
– Hedde Zeijlstra (Göttingen): "Another operation"

RomTiN
RomTiN is an informal workshop at which junior researchers in Romance linguistics can present their work to other junior and senior colleagues, to meet other people working on Romance Linguistics in an informal setting. RomTiN5 was organized by Bob de Jonge on Friday, June 22. The workshop was attended by 25 participants

from Groningen, Leiden, Utrecht and Nijmegen, The Keynote lecture was given by Osmer Balam, visiting professor at Leiden university.

Research projects
Automatic recognition of Frisian speakers
In this project, Nanna Hilton and colleagues study the effects of one language on another in our voices, by considering how recognizable Frisian phonological traits are in speakers' production of their first language, Frisian, as well as in their second language, Dutch. This project is funded by the University of Groningen (Data Science Projects 2017).(Co-PI:Martijn Wieling, Post-doc: Aki Kunikoshi, Data scientists: Herbert Kruitbosch and Arya Babai).

Polytheism as language. A linguistic approach to divine plurality in the religious experience of Greek worshippers
The Ancient Greeks recognized and honoured a plurality of gods. But although polytheism was one of the most defining features of Greek religion, systematic studies of it are scarce. Eminent specialist Robert Parker even concluded that 'Greek polytheism is indescribable' (2005:387). The present project opens a new path into understanding how polytheism works. 'Understanding polytheism' means getting a grasp on how a multiplicity of gods, each with their own (range of) epithets and roles, affected the lives of the Ancient Greeks.

Sasia Peels will study Greek polytheism by using the tools of conceptual/lexical semantics in the framework of Cognitive Linguistics. This framework offers a view of how knowledge is represented in the minds of language users. Using this approach, I take worshippers' experiences of deities as lexical knowledge. This hypothesis is based on the dominant scholarly view in studies on Greek gods that theonyms (god-names) were the core of knowledge of deities. I will use the insights of this linguistic paradigm to understand how worshippers mentally represented a complex deity, who may have had an array of functions. I will also study competition between deities (why did a worshippers turn to a particular god?) as cases of lexical competition, by analysing contrasts between gods.

Two exemplary and complementary case studies have been selected to validate the methodology from two different angles. The first concerns a field of activity: the domain of reproduction of life. I will study 'competition' between the large variety of divinities involved. The second case concentrates on Artemis, a deity who is particularly frequently associated with the birth and growth of children, but who is active in many other domains, too. I will analyse the complex representation of Artemis in the religious conceptions of her worshippers.

Stimmen fan Fryslan
Nanna Hilton is initiator of the project 'Stimmen fan Fryslân' (Voices of Friesland) that is part of the project 'Lân fan taal' (http://stimmen.nl/category/nieuws/). Other project members from CLCG are Willem Visser and Hanneke Loerts. Are more elaborate project description can be found in the next paragraph 'CLCG in society'.

Selection of other activities
• Eva Juarros Daussà gave the talk "Two-way Integration of Heritage and Minoritized Speakers: Voices from Catalonia" at the 3rd Edition of the conference *Contested Languages in the Old World* on 3-May-2018 in Amsterdam.
• Wolfgang Kehrein presented the talk "Laryngeal sonority and timing" at the Sonority Workshop in Tromsø, Norway on 11-May-2018.
• Miguel Santin Schulz gave the invited Talk "Means and results: change-of-state events in the memory of Mandarin, Dutch and Spanish speakers" on 21-Nov-2018 at the University of Utrecht, The Netherlands.(This was joint work with Angeliek van Hout (RUG) and Monique Flecken (MPI)).
• Mark Vries gave the invited Talk "Appositions, interrupted" on 1 November 2018 at the Syntax Interface Lectures, Utrecht University, The Netherlands.

Featured publication – Theoretical and Empirical Linguistics

Hollebrandse, B. (2019). Indirect Recursion: The importance of second-order embedding and its implications for cross-linguistic research. In: Amaral, L., Maia, M., Nevins, A. & Roeper, T. (eds.). *Recursion across Domains*. Cambridge: Cambridge University Press, p. 35-47 13 p.

We propose that indirect recursion creates a phase edge boundary. At the syntax-semantics interface the Exclusivity Constraint is effective. What is embedded in both is not only a single proposition, but also an evaluation by the main clause subject and that is why multiple embedding is excluded. Additionally we will show a relationship between second order (=multiple) embedding and second order Theory of Mind at a later stage, extending ideas by De Villiers and De Villiers (2000).
We will make three important and strong claims:
 1. indirect recursion is a restriction on meaning made at the syntax-semantics interface and
2. multiple embedding is the product of indirect recursion.
3. there is important relation between language and Theory of Mind in such way that the language of embedding plays a determinant role. These are strong claims. Especially against claim some doubts on the syntactic nature of it can be raised. In for instance the Papuan language Teiwa there is little or no syntactic evidence for embedding (Klamer, 2010), but semantic embedding is possible. Main clauses with implausible meaning are judged as implausible, where the meaning of such sentences in embedded context is ascribed to the main clause subject: (1) Nathan is born on the moon.(2) Zacharias said Nathan is born on the moon. These examples are not necessarily counter-examples to our claims. They merely show that the importance of recursion differs across linguistic constructions and domains.

Reference:
De Villiers, J. and P. de Villiers (2000). "Linguistic Determinism and Theory of Mind." In P. Mitchell and K. Riggs (eds.) Children's Reasoning and the Mind. Psychology Press. UK.
Kramer, M. (2010). A Grammar of Teiwa. Mouton de Gruyter.

• Jan-Wouter Zwart gave a talk titled "Tense in infinitives: a non cartographic approach" on 17 May 2018, at the Leiden University Center for Linguistics, Leiden University The Netherlands.

**Key Publications – Theoretical and Empirical Linguistics**

Hoeksema, J. (2019). Positive polarity predicates. *Linguistics*. 56 (2): 361-400.

Houtzagers, P. (2018). The honorific third person plural in Slavic. *Russian Linguistics* 42 (1):1-26.

Knooihuizen, R., Strik, O. O. A. & de Jong, G. (2018) Frisian strong and weak verbs in the face of Dutch influence: A synchronic and experimental approach. *The Journal of Comparative Germanic Linguistics* 21 (1): 57-74.

Peels-Matthey, S. (2018).Purity and purification in the Ancient Greek World: Texts, Rituals, and Norms. In: Carbon, J-M. & Peels, S. (eds.), *Kernos*. 372 p. (Supplément; vol. 32).

de Vries, M. (2018). Relative Clauses in Syntax. In: *Oxford Research Encyclopedia of Linguistics*.

LINGUISTICS

OXFORD
RESEARCH
ENCYCLOPEDIAS

oxfordre.com/linguistics
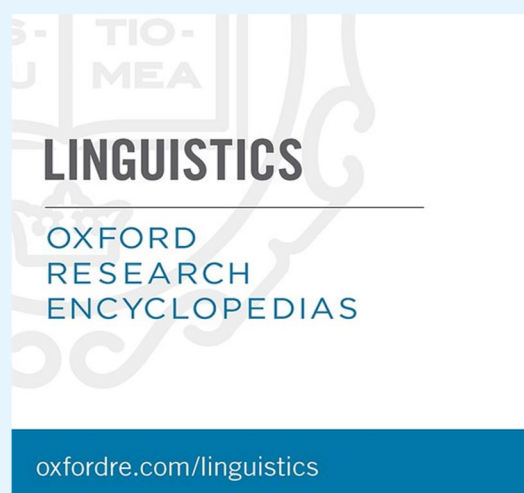
3 CLCG IN SOCIETY

The societal relevance of the research groups' work is evident from commissioned research, applied research activities, and media attention for several publications. CLCG members have also effectively engaged with audiences through public lectures and debates, professional and popular publications, and non-traditional media such as blogs and websites.

CLCG societal impact activities 2018	
Professional publication	4
Popular publication	1
Membership of public or government advisory or policy group or panel	3
Digital products (app, software)	1
Public lecture, debate, seminar	22
Media article or participation	35
Festival, Exhibition	2
Total	**68**

Computational Linguistics

Lowlands Science

This was the first time that a UG (and a CLCG) team was present at LowIands Science from 17-19 August. The team was led by Martijn Wieling. At Lowlands Science, Wieling and his colleagues investigated the effect of alcohol on speech in a first and second language and they found that speech in Dutch (first language) deteriorated under the influence of alcohol, whereas this did not appear to be the case for the English (second language) speech. The results have been accepted for publication in the proceedings of the International Congress on Phonetic Sciences 2019 in Melbourne, which is the most prestigious conference on phonetics worldwide (held every 4 years). A movie about this experiment can be found here: https://www.youtube.com/watch?v=Qz0CsZw4Ck8.

The pre-print can be found here: http://www.martijnwieling.nl/files/Wieling2019.pdf. The project has received much media attention: http://www.martijnwieling.nl/media.php

Key activities & publications with societal impact – Computational Linguistics

[Popular publication]

Martijn Wieling made several contributions to the Young Scientist Wetenschapskalender 2018, New Scientist.

[Public lecture/debate/seminar]
Martijn Wieling: Demonstration how we collect data on tongue and lip movement during speech at the Experiment Event for children organized by De Jonge Akademie, the NS, Quest Junior and the Spoorwegmuseum

[Media article or participation]

Martijn Wieling:
Veldonderzoek op Lowlands: spreek je beter Engels met een slok op? (radio), NPO Radio programme 1, August 17, 2018.

Engels sprekenmet een echo-apparaat onder de kin (newspaper), Dagblad van het Noorden, November 13, 2018.

Activities for the purpose of valorising academic knowledge (Leonie Bosveld-de Smet)
Contacts with a profit organisation (Embrace) and a non-profit governmental organisation (Veiligheidsregio Fryslan) has led to fruitful valorisation projects. These projects have delivered research topics of interest for both the workfield and the academic field. Studies of these topics have been performed by students in related courses, internships, and theses. Study results are processed by the organisations in collaboration with Leonie Bosveld-de Smet. The collaboration with Embrace, a company that develops social business software, has resulted in two publications (see Bosveld-de Smet & Bakker, 2018; Bakker & Bosveld-de Smet, 2018).

Discourse and Communication

Language and communication competencies for a dynamic labour market (Taalcompetenties voor een dynamische arbeidsmarkt)
During 2018 this NRO-funded project was carried out by Kees de Glopper (project leader), Jacqueline van Kruiningen, Kevin Krips and Daniëlle Fluks, in collaboration with colleagues from the Kohnstamm Institute (University of Amsterdam) and from four institutes for secondary vocational education. The project analyzes the language and communication skills required in the dynamic labor market. It also addresses the responsivity of the institutes, by studying the practices that program teams and individual teachers use for orientation on and communication with the labor market parties (both actors and institutes). In each of the four institutes we continued the case studies that were started in September 2017. The case studies deal with requirements and responsiveness and have identified which aspects of selected vocational programs are candidates for redesigning practices of teaching and learning and linking labor market.

Science journalism classes
Femke Kramer is trainer at Stichting Cursussen Wetenschapscorrespondentie that organizes

intensive journalistic training for academics and professionals.

Schrijfpeil basisonderwijs (Writing level primary education)
This project started in March 2018. It was commissioned and funded by the Inspectorate of Education (450.000 euro) and tendered by NRO. In the project CLCG-members Kees de Glopper (project leader), Veerle Baaijen, Yfke Ongena and Ninke Stukker collaborate with colleagues from research groups and a teacher training instute in Amsterdam, Utrecht, Leeuwarden and Groningen. The project entails a national assessment of student writing skills at the end of primary education. During 2018 we developed instruments and procedures for field work and we recruited mainstream and special education schools for participation in the project.

Key activities & publications with societal impact - Discourse and Communication

[Public lecture/debate/seminar]
John Hoeks, Checklist Sustainable Conferences, https://www.rug.nl/about-us/who-are-we sustainability / greenoffice/projects/ checklisten /duurzame-congressen

Myrte Gosen, "Voorlezen, Spannend, gezellig én leerzaam!?", 28 May 2018 Presentation at the 'Kinderuniversiteit' (kids university).

Annerose Willemsen (Organiser) Netwerkdag voor Taalspecialisten (Network Day for language specialists/ professsionals), 12 April 2018. Landelijk Netwerk Taal in het basisonderwijs, Utrecht, Netherlands.

Mike Huiskes, Workshop: Training medische communicatievaardigheden op basis van Conversatie Analyse (medical communication skills based on Conversation Analysis), 13 October 2018, NIVEL (Netherlands institute for health services research).

Neurolinguistics and Language Development

Meesterschapsteam Moderne Vreemde Talen
Wander Lowie has continued his chair position in the Meesterschapsteam Moderne Vreemde Talen (MT MVT). The MT MVT investigates and aims at optimal language teaching for modern languages in the Netherlands. The team is a collaboration of all Dutch universities and represents the major foreign languages taught at Dutch secondary schools. One of the goals of the project is to bridge the gap between research into second language acquisition and everyday teaching practice at schools.

In 2018 the Team organized several conferences for language teachers and for teacher trainers. The Team was also actively involved in supporting the Curriculum.nu project for revising the school curriculum of modern languages. Recent insights from research on second language learning and second language teaching were formulated in a vision document to advocate a new and appealing language curriculum. The vision document and other contributions can be consulted at the website of the Meesterschapsteam: https://modernevreemdetalen.vakdidactiekgw.nl/".

PEIL.Engels
In 2018 Applied Linguistics researchers from the Neurolinguistics and Language Development Group were involved as consortium partners in the PEIL.Engels project, testing the level of English proficiency at Dutch primary schools. After its start in 2017, the research project (funded by a €450.000 grant from the Ministry of Education) focused on data collection in 2018. Around 2500 pupils at 100 Dutch primary schools were tested on their spoken interaction, listening, reading and vocabulary knowledge of English. In addition an in-depth study was carried out at the 30 best performing schools from the test. Data were analysed and a detailed technical report was composed. The results of the study will be published in 2019.

Key activities & publications with societal impact – Neurolinguistics and Language Development

[Digital or Visual Products]
Roelien Bastiaanse Development of Apps for diagnosis (international Token Test) and treatment (Dutch treatment program ACTION) of aphasia.

[Membership of committee]
Petra Hendriks was member of the Heineken Young Scientist Awards Jury 2018 of KNAW.

Wander Lowie was chair of the Meesterschapsteam Moderne Vreemde Talen;+. (projects to encourage didactic research in the field of modern foreign languages in secondary education)

[Professional publication]
Woldring, A., Van Ingen, M., Bon, M., Feenstra, M., Panis, P., Rawee, C. & Jonkers, R. *(2018).* Ontwikkeling en normering van de AfasieNet-CCS: screening voor cognitieve communicatiestoornissen. *Nederlands tijdschrift voor logopedie.,90 (3):18-24 .*

Tops, W., Callens, M. & Brysbaert, M., (2018). *Slagen met dyslexie in het hoger onderwijs.* 1 ed. Gent, Belgium: OWL Press.
 96 p.
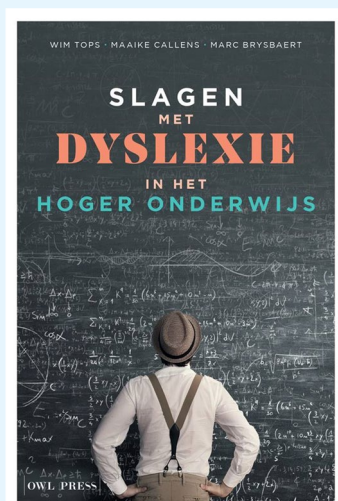
Theoretical and Empirical Linguistics

Stimmen fan Fryslân
In the autumn of 2017 the smart phone application 'Stimmen' (Voices in Frisian) was released with the purpose of documenting local languages, and of spreading knowledge of linguistic and cultural diversity in the north of the Netherlands.
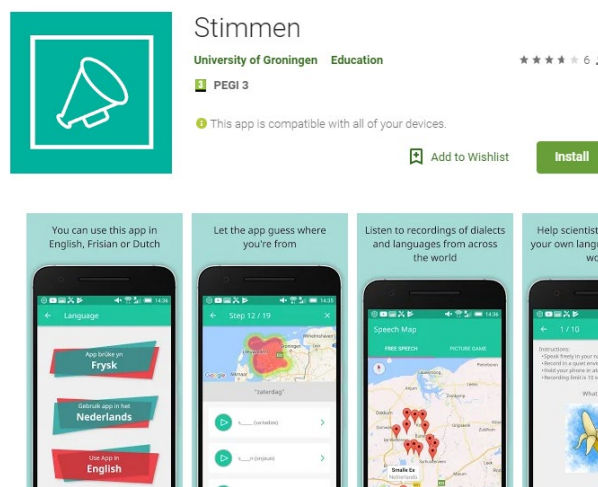
The project was launched in collaboration with the local broadcasting station Omrop Fryslân, and was part of a governmental cultural programme 'Lân fan taal'. By the end of 2018 more than 15,000 users had provided dialect knowledge or recordings to the project. More than 46,000 recordings have been made of Frisian, Dutch, Frisian Bilingual Mixed Languages, Low Saxon, and other varieties have been made using the application. The project was given additional funds from Centre for Digital Humanities, Meertens Institute, Center Groningse Taal en Cultuur, and Macquarie University to extend the project, which has led to the creation of new dialect maps for Fryslân, and the initiation of a number of side projects. Importantly, a Low Saxon version of the app has been produced and released on woordwaark.nl/stemmen.

All speech data collected in 'Stimmen' is publically available and can be consulted at stimmen.frl.

Nemo Science Live

At Science Live, researchers conduct scientific research with visitors from the NEMO Science Museum in Amsterdam as participants. This gives a wide audience insight into the questions that keep scientists busy and into the methods of scientific research. For researchers, it is a good opportunity to examine large groups of test subjects with a diverse background.

In this project, Bart Hollebrandse and Angeliek van Hout (together with Tom Roeper, University of Massachusetts Amherst) investigate the fundamental basis of the language system: recursion. The participants play a game on a tablet where they drag objects (cap, bag) to the right person. In total 507 children were tested.

The recursion game was designed last year by Hollebrandse and a team of Game Design interns from the Alfa College in Groningen with support from the ICT department of the Faculty of Arts. The collaboration with RUG researchers is very valuable for students because they notice that their work and products are taken seriously and actually usable and applicable. The collaboration between linguists, game designers and museum is a striking example of the connection between science and society.

Key activities & publications with societal impact – Theoretical and Empirical Linguistics

[Professional presentation]
Nanna Haug Hilton, "Citizen Science en taal", 12 April 2018. Presentation at the 'Dag van Participatief Actieonderzoek: En andere participatieve onderzoeksvormen', Groningen, Netherlands.

[Media coverage]
Bart Hollebrandse , "Aan wie geef jij de pet van de moeder van het vriendje van Noah?", 28 April 2018, https://hskrant.nl/ggg/2018/05/03/rug-taalonderzoekers-met-game-naar-nemo-science-museum
Newspaper article about his research at NEMO Science Museum: Science Live

Nanna Haug Hilton, Interviewer Podcast "In de Wetenschap", 10 April 2018. http://universityofgroningen.libsyn.com/

Remco Knooihuizen, presentation "Wat is, like, de deal met Engelse invloed op het Nederlands en shit?", 6 November 2018. Stimmen: Wetenschap Leeuwarden, Netherlands

Willem Visser, presentation "'Friese piepers'. Iets over de Friese taal en het Friese woord voor 'aardappel'", 1 May 2018. Leeuwarden-Fryslân 2018: Cultural Capital of Europe Leeuwarden, Netherlands

The 'aardappel-spel' (http://stimmen.nl/game/). This game was created by Nanna Hilton, Hanneke Loerts en Charlotte Gooskens and Jaydee Alkema en Sanne Bey, students of the Alfa College in Groningen. It will be accessible early 2019.

Narrative

Each year one of the CLCG research groups has the opportunity to highlight research projects or activities with societal impact or relevance carried out within the group in the form of a narrative. In this year's narrative 'Gezond ouder worden door een taalcursus?' Merel Keijzer talks about her VIDI-project "Language Learning Never Gets Old: Foreign language learning as a tool to promote healthy aging". The narrative is provided by Saskia Visser, project leader for the Science Shop Language, Culture and Communication and policy officer Public Engagement.

Can a language course promote healthy aging?

The western world is ageing. We are all living longer and, of course, we all want to stay in good health. Healthy ageing is a matter of body and mind. This means we also have to train our brain if we want to maintain our mental agility for as long as possible. What is the best way to do that? In 2018, the Netherlands Organisation for Scientific Research (NWO) awarded a VIDI grant to professor of English Linguistics and English as a Second Language, Merel Keijzer, to investigate this issue with her team. What impact does learning a foreign language have on the aging brain?

Keijzer explains the idea behind this research project: 'We know from previous research that multilingual people benefit from their language skills in old age. Their brain seems to be better equipped to counteract normal aging processes, such as mild memory loss. If you use more than one language every day, you have to switch a lot between them – you become a mental juggler. That's how I got the idea that learning a foreign language could also be used as a therapy for elderly people with mild memory loss, and that it might even have a preventive effect. Learning a foreign language is a real challenge for your brain; it involves all kinds of areas and connections. But other forms of learning and social interaction might also produce a similar positive effect.' Keijzer devised an experiment to put her theory to the test. She needed older test subjects who would then be divided into three

groups. One group would learn a foreign language, the second would learn to play the guitar and the third group would come together to do something creative. The first group of elderly people, who suffer from mild memory complaints, has already started.

Everyone can connect to language in some way

For this research to be a success, Keijzer has to rely on the help of a lot of people. She contacted the LOI to ensure that the elderly test subjects could work on their English or play the guitar on a daily basis. "Older people aren't really their target group, but they still thought it would be interesting to participate in the research. The elderly test subjects also meet regularly for lessons. People from our own team are running the language lessons, but for the guitar lessons and creative sessions we needed students from the Minerva Art Academy, Noorderpoort College and the Prins Claus Conservatoire. Those creative sessions are great fun, but the test subjects who have been assigned to that creative group are a bit disappointed. They had hoped that they would be learning at least some fun watercolour techniques. But we want to measure what happens when they come together and don't learn complex new things.'

'For the next group, we're looking for elderly people who don't have memory problems. It's easier to pique the interest of people who are highly educated, but they are also more likely to speak more than one language, so we can't measure the effects. We really have to do our best to make sure the group is representative. That's why we've contacted organizations such as Biblionet and local senior citizens' organizations, and we have also come up with a citizens' science project. For this, PhD student Mara van der Ploeg goes into schools to train students, so that they can take on the role of researcher and interview their grandparents. From these interviews we hope to find answers to questions like: How do older people prefer to learn a foreign language? What do they find difficult and what do they do to make learning easier at an advanced age?'

This is not Merel Keijzer's first socially relevant study; she previously researched spelling problems among Dutch students learning English and language loss in multilingual elderly people. For Keijzer, that's a no-brainer: 'Language is there to be used and it is precisely when we use it that we can see just how complex it is. It's a miracle that we understand each other most of the time, and effortlessly find the right words and learn new ones. The great thing is that everyone can connect to language in some way. You may or may not be interested in sport or music, but there's no getting around language. We all use it. That's why linguists should do everything they can to make their research accessible to a wide audience. After all, our work is beneficial to everyone!'

Team Science and interdisciplinary research

This research is being carried out by a team of two PhD students, five interns and a research assistant. 'We call ourselves the Bilingual Aging Lab (Balab) and meet every Thursday. This idea of research being a team effort is increasingly being embraced and promoted, which I think is a good thing. You shouldn't be doing research on your own. We discuss methods and results, give each other feedback on presentations and move forward together. Our group is also open to other interested parties, and students from other universities and researchers from other disciplines can easily get involved.'

The team itself is also a representation of various disciplines; PhD student Saskia Nijmeijer was able to make a start thanks to a Young Academy Groningen (YAG) grant, and is supervised by Merel Keijzer and Marie José van Tol (Cognitive neuroscience, UMCG) and André Aleman (neuropsychology, UMCG). How are you enjoying interdisciplinary collaboration? Keijzer: 'It's great! I think it's also necessary, because this project is not just about language – it's also about education, brains and therapy. It's strange that those worlds are separated. Marie José was always told: Stay away from language, it's too complicated. While I don't know very much about the therapy aspect and all the things that come with it. I have learned a lot by drawing up medical

ethics protocols, for example. Collaboration will broaden our field and methods, and that can only be a good thing. André Aleman and I also applied to carry out research using Lifelines data. We happened to be looking for the same things and we were able to bundle them together.'

International competition and cooperation

Similar studies have since been launched in other countries. 'Third age language learning, learning a language after you've retired, is also being studied in Tromsø, Salzburg and Sydney. So, we will have to see who publishes their results first and how they relate to each other. We also have good collaborations with partners in the US. Eleonara Rossi (Florida State University) and Judith Kroll (University of California Riverside) are studying the influence of environmental language using the same approach. If you learn English in the Netherlands, you have the advantage that you hear a lot of English outside the classroom. That's why in America they are teaching Dutch to the elderly – a language that they will definitely not come across in their environment. I'm really excited to see what the results will be!'

For more information, visit www.balab.nl

The Balab research team:

back row from left to right:
Saskia Nijmeijer (PhD student), Mara van der Ploeg (PhD student), Emily Jennings (Neuroscience student at VU Amsterdam)

front row from left to right:
Floor van den Berg (Rema student Language & Cognition), Rhomé Busstra (Master Student Applied Linguistics), Merel Keijzer (Principal Investigator), Joanna Porkert (research assistant - lab coordination), Albert Vazquez (Master Student Applied Linguistics)

Center for Language and Cognition Groningen (CLCG)

Postal address
Postbus 716
9700 AS Groningen
The Netherlands

Visiting address
Oude Kijk in't jatstraat 26
9712 EK Groningen
The Netherlands

clcg@rug.nl
www.rug.nl/research/clcg