

**The ILSE project:
Interdisciplinary Longitudinal Study of Adult Development**

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Introduction

The main objective of the Interdisciplinary Longitudinal Study on Adult Development and Aging (ILSE) is to investigate individual, societal, and socio-structural preconditions for aging well. In this respect, the concept of cognitive reserve is of primary importance. ILSE is designed as a multidisciplinary longitudinal study investigating two representative birth cohorts from the Palatine and from Saxony born between 1930–32 (C30) and 1950–52 (C50), respectively. This cohort design offers the opportunity to explore the potential impact of different childhood (before and after World War II) and sociological conditions (in east vs. west Germany) on lifespan development.

Being in the early 1990ties, subjects were investigated three times at age 40 vs. 60; 45 vs. 65; and 55 vs. 75. At the current fourth examination wave subjects are 63 vs. 83 years of age. Investigations comprise a thorough medical and psychiatric examination incl. laboratory testing, DNA specimens, and MRI; a broad neuropsychological test, personality questionnaires, and semi standardized biographical interviews. The latter took between 4–6 h at the first examination, and between 2–4 h at the other examinations.

Results

A growing proportion of the older participants – app. 10% at t1 but almost 30 % at t3 - suffer from mild cognitive impairment or dementia. A high educational attainment, lifelong social activities, physical fitness, and a good general health were identified as protective factors (Berna *et al.*, 2012; Degen *et al.*, 2015; Kuzma *et al.*, 2011; Sattler *et al.*, 2011, 2012; Toro *et al.*, 2009, 2014). It has been put forward that changes in speech and communication are commonly observed in AD as well as preclinical stages thereof. These changes primarily affect word fluency, word finding and temporal parameters of speech. Linguistic analyses of the biographical interviews revealed a lower propositional density, an overuse of pronominal, and found more incomplete phrases in the cognitively impaired (Wendelstein & Felder, 2013; Wendelstein & Schröder in press.).

Discussion

The ILSE offers an up to now unique opportunity to investigate linguistic changes related to birth cohort, socioeconomic status, age and the development of dementia. The vast majority of interviews are available in a digital format (mp3). Relevant preliminary work, including digitalization of the majority of interviews and manual transcription of a subsample, has already been carried out. Altogether we already have transcriptions of 363h. A project to develop software for automatic transcription was just initiated. The ILSE allows the identification of premorbid risk factors which can be followed up in the aging process.

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Bio-note

Dr. med. Johannes Schröder is a professor for Geriatric Psychiatry and Clinical Gerontology at Heidelberg University. Ageing and dementias represent his main field of interest. Recent studies investigated risk and protective factors for dementias, the importance of communication changes for patients and caregivers, bilingualism and cognitive reserve. From 2012–2015 he served as the president of the International Society for Neuroimaging in Psychiatry.

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Keywords: ILSE, aging, dementia, cognitive reserve, linguistic changes.

KEYNOTE SPEAKER**Unaccustomed pragmatic spaces.
The impact on carers when people with Alzheimer's repair their linguistic output**

Alison Wray

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This talk explores the 'unaccustomed pragmatic spaces' that arise in the context of communication between a person with dementia and a family member, professional carer or other interlocutor. Certain parameters are typically in place in interaction, and dementia can upset them in several potential ways – not all of them immediately obvious. I will consider how other things that we know how to might help, and hinder, effective communication in the dementia context. As a result it will be possible to ask how people with dementia and those they interact with might better exploit existing skills and experience, and how research into other aspects of language and communication might have relevance to understanding the dynamics of dementia interaction.

Bio-note

Alison Wray is Professor in Language and Communication; she is renowned for her work on formulaic language and is also interested in language profiling, evolution of language and psycholinguistic theory. Her major research contribution in the 2000s has been in developing new understanding about formulaic language (monographs: *Formulaic language and the lexicon*, 2002, CUP; *Formulaic language: Pushing the boundaries*, 2008, OUP). Recently, she has explored the role of formulaic language in people with Alzheimer's disease and also how it is used by the carers. Since 2013, she is member of the Grant Advisory Board of the Alzheimer's Society (care, services and public health funding stream).

Frailty and Aging Health

Marie de Saint-Hubert, Christian Swine

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Frailty is a state of decreased adaptive reserves in many physiological systems. This rupture of homeostasis results in vulnerability to minor stressing events that leads to disproportionate adverse health outcomes, including functional decline, geriatric syndromes, hospital admission, lower recovery and death (de Saint-Hubert & Swine, 2007; Clegg *et al.*, 2013).

To explain frailty, it has been suggested that the complex mechanisms of ageing are accelerated. Impairments in different physiological systems have been studied: muscle function, central nervous system, endocrine and immune systems. One of the hallmarks of frailty is sarcopenia, an age-related decline of muscle mass associated with a decline in muscle strength and/or muscle performances. Clinical presentations of frailty include aspecific symptoms (fatigue, weight loss, falls, delirium and other geriatric syndromes. This session will also emphasise the entwinement of frailty with multimorbidity and disability.

Two main frailty models are the phenotype model, mainly focused on physical performances, and the cumulative model, which include a more multidimensional approach. Both models have successful in predicting outcomes of older persons. These models mostly overlap and have statistical convergence. Based on these models, several standardised questionnaires have implemented to identify frailty. The choice of the most appropriate frailty tool should be based on the purpose of assessment, the outcome of interest and the target population.

According to the frailty instruments, prevalence and incidence of frailty vary across populations and settings. However, all authors agreed on frailty outcomes: functional decline and institutionalisation, disability, geriatric syndrome, hospital admission and death. However, frailty is a dynamic state with transitions, with therefore an important potential for interventions.

Comprehensive Geriatric Assessment (CGA) is recognised as a method of diagnosis, treatment, rehabilitation and follow-up reducing the adverse health outcomes of frailty, particularly during hospitalization. Patients who benefit from CGA are more likely to return home, to present less functional and cognitive decline. Some of these interventions will be presented.

The concept of frailty has significant impact on several levels. From a clinical point of view, it leads to identification of older persons at risk for adverse outcomes, allowing to early prevention or treatment. Through an assessment of functional reserves and prediction of risk, it brings important matter in the decision-making process for invasive procedures (i.e. cardiac surgery). From a research point of view, it allows participation of frail older patients in clinical trials, with stratification according frailty. Finally, it allows a more appropriate identification and planification for care needs for older people since frailty predicts more accurately clinical outcomes and care needs.

Up to now, no studies investigated the potential association of frailty with language disorders. However, the complex mechanisms of languages and evolution through ageing are most probably correlated with frailty, advocating for further interdisciplinary research.

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Bio-note

Marie de Saint-Hubert works as a geriatrician at the CHU / UCL Namur; she is member of the IRSS (Institut de Recherche Santé Société) and Narilis institute (NAMur Research Institute for Life Sciences). Her research interests are frailty and functional decline, support of informal caregiver of older persons and advanced care planning.

Christian Swine is a Professor in Geriatrics at the University of Louvain, and member of the IRSS and Narilis institutes. He notably participated – with his team – in a national effort to standardize the assessment of frail elderly with validated instruments. He is involved in research on the perspectives about the care needs for the older people and addresses questions such as how to appropriately prescribe drugs in elderly, among others interests in relation to geriatrics.

Keywords: Frailty, multimorbidity, complexity, sarcopenia, functional decline.

Looking at cognitive aging and verbal abilities through a psychosocial lens: Empirical evidence and methodological challenges

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Introduction

There is consistent evidence that cognitive performance can be optimized and maintained by modifiable lifestyle factors and engagement in health-promoting or protective behaviors (Agrigoroaei & Lachman, 2011; Hertzog *et al.*, 2008). Many studies have also documented the benefits of psychosocial variables, such as higher control beliefs for cognitive performance, including verbal abilities (Lachman *et al.*, 2011). Although most designs have taken a between-person approach, a few recent studies have found a within-person association between task-specific control beliefs and performance for older adults (Neupert & Altaire, 2012). Our goal was to build on this previous work by focusing on the role of daily measures of general control in relation to verbal abilities in younger, middle-aged, and older adults.

Results

Participants ($N = 120$ age range: 22-94) completed background information and a general assessment of their cognitive abilities (Brief Test of Adult Cognition-BTACT; Lachman *et al.*, 2014) prior to completing seven consecutive daily diaries, which included a measure of general control beliefs for each day. Every evening, verbal abilities were tested over the telephone using a category fluency task. Multilevel models revealed day-to-day fluctuations in general control beliefs and verbal abilities. As expected, on days in which participants reported higher control relative to their own average, they also performed better on the category fluency task. There were no significant interactions with age.

Discussion

The findings reveal substantial within-person fluctuations in control beliefs and cognitive performance and highlight the role played by daily experiences for understanding how these constructs are related. The study expands on previous findings of better verbal abilities among those with higher control beliefs by highlighting the within-person, daily associations between these two constructs across adulthood.

Conclusions and Perspectives

The findings have implications for developing cognitive-enhancing intervention programs and integrating them into daily life experiences. Efforts to enhance verbal abilities in the context of daily demands could target daily control beliefs.

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Bio-note

Stefan Agrigoroaei is an assistant professor in psychology and aging at the Université catholique de Louvain. Before joining the UCL he worked as a postdoctoral research fellow at Brandeis University, in the Lifespan Developmental Psychology Laboratory. Stefan Agrigoroaei approaches his research with an interdisciplinary and lifespan perspective. His general research program is in the area of health and aging, with a focus on examining the contribution of psychosocial (e.g., socioeconomic status, sources of disparities, control beliefs), behavioral (e.g., physical and cognitive activities), and stress-related factors (e.g., cortisol response) for optimizing and maintaining good cognitive and physical health as people age.

Keywords: Daily verbal ability, control beliefs, within-person analysis.

KEYNOTE SPEAKER

**Elderspeak as a means to improve mutual understanding?
Its impact on older people's self-esteem and dependency**

Valentine Charlot

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In Western societies where getting old is negatively connoted, ageist stereotypes materialize, among others, in discriminatory language attitudes. Indeed, facing a person considered as being elderly, many speakers will adapt the way they speak and adopt a kind of language traditionally called “elderspeak” or “old talk” (Balsis & Carpenter, 2005; Lagacé *et al.*, 2011). Characterized, for example, by a slower rate of speech, increased tone or a high-pitched voice, or even singing, elderspeak consists in short simple sentences with limited or even childish vocabulary. The general attitude is described as patronizing, such as: “So did we take our little medication?”

Elderspeak is often presented as a pseudo-positive “over-accommodation” approach intended as an attempt to be understood by the elderly. It is however often based on false assumptions, in particular hearing problems and cognitive impairments to which the speaker tends to adapt (Giles *et al.*, 1991). Numerous studies have addressed this issue and have highlighted the almost systematic shift towards elderspeak when the age of the speaker is known, even without seeing the person, as for example during a phone conversation (Nelson, 2005).

If it feeds on good intentions, elderspeak is not without consequences and is usually harmful. Whilst sub-components of this kind of language can foster understanding (e.g., when repeating parts of the message, clarifying or simplifying), understanding is often rather impaired. Older people themselves negatively assess this type of language (Kemper & Harden, 1999). In addition, older people who have to face elderspeak tend to feel rather humiliated, less competent, and their self-determination is diminished (Balsis & Carpenter, 2005). On the other hand, professionals who speak in this manner are perceived as less competent than others. They unwittingly reinforce dependency, isolation and resistance to care from the cognitively weakest residents (Williams *et al.*, 2009). Finally, a vicious circle eventually grows between the elderly person who complies with the negative stereotypes that his interlocutor has for him, and the carer therefore encouraged in his initially perceived “good language intentions” (Ryan *et al.*, 1995).

In conclusion, this type of language is not positive. Changes in practices can and should be achieved by awareness raising activities in training (Lagacé *et al.*, 2011). Training programs to raise awareness of “elderspeak” and to learn appropriate communication have already been conducted for professionals (Lagacé *et al.*, 2011; Williams *et al.*, 2003). And their elderly counterparts usually benefit from it.

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Bio-note

Valentine Charlot is a doctor of psychology and defended her PhD in the field of aging and memory; she holds a certificate in gerontology. As a neuropsychologist, co-founder and president of the association "Le Bien Vieillir", she is also an employee of the association and works as a researcher, consultant, speaker, and clinical psychologist. She is mainly a consultant psychologist at the center "C'est Ma Vie!" who accompanies older people directly or the relatives of a person suffering from Alzheimer's disease. She is the author of the book *Vivre avec Alzheimer: Comprendre la maladie au quotidien* (Editions Mardaga, 2013).

Keywords: Ageism, communication, elderspeak, over-accommodation.

KEYNOTE SPEAKER**Thirteen ways of looking at a corpus: Mining the Carolinas Conversations Collection of language produced by older speakers with and without cognitive impairment**

Boyd H. Davis

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The online digital *Carolinas Conversations Collection* (CCC), housed at the Medical University of South Carolina and originally sponsored by the National Library of Medicine at NIH, supports multiple kinds of investigations of oral language interactions involving older speakers, with some emphasis on health and habitus. The corpus of audio, video and transcripts is managed by LaBBCat, developed by the New Zealand Institute of Brain and Behavior, and provides annotation from signal and sound to syntax and lexicon, and is linked to Praat, Celex, and the Stanford Parser. It now contains 4 cohorts of older speakers (ages 55-90), 875,739 word tokens, 120,262 utterances, 692 transcript files, and just over 800 hours of transcribed recordings.

Cohort 1 comprises a hundred multiethnic older men and women talking about their health in the context of their daily lives with two different partners: a community person of concordant age and race, and a younger person involved in graduate medical training. Cohort 2 is comprised of several hundred older persons with dementia (PWD) developed by Davis over a decade. Cohorts 3 and 4 are in the early stages of development and are not yet available to researchers: the former is a small collection of aging speakers living in low-income housing, talking about their health, their lifespace, and fears about their future to fledgling nursing students in community health directed by Kathy van Ravenstein. The latter is a collection of in-situ conversations with PWD in Ecuadorean and Mexican Spanish being conducted by Sylvia Ratté and colleagues from U. Montreal. The CCC welcomes deposits to any of these cohorts or the creation and deposit of a separate sub-corpus or cohort for research purposes.

A corpus of language by older speakers can generate a range of different kinds of studies. To examine the impact of volunteer training on language choices by different conversation partners interacting with a single cognitively impaired person, we recently studied ten student volunteers' conversations with "Ms. Tatter". Findings suggest the impact of even minimal training on successful inter-generational conversations with PWD. Stickle and Wanner (2014) have examined syntactic features in similar interactions, while Guinn et al. (2014) have developed algorithms to discriminate "linguistic characteristics of spontaneous speech between individuals that are and are not diagnosed with Alzheimer's disease", finding, in contrast to several earlier studies, that lexical richness is not as useful a discriminator as syntax and pragmatics. To explore the applicability of several methodological approaches to the data, one set of researchers is studying a set of pairs of conversations by the first ten persons in the database with a specific chronic condition (diabetes). Using topic modeling/visualization, computer-assisted qualitative content analysis, and discourse analysis on the same data set is eliciting inter-related and progressively fine-tuned findings. Those researchers are also exploring the applicability of big data approaches to identify if key features in the language used by older speakers can differentiate them from language by oldest-old speakers.

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Bio-note

Boyd H. Davis is a Bonnie E. Cone Professor in Applied Linguistics and Gerontology; her areas of research include sociohistorical approaches to stance, pragmatics and narrative in medical discourse and Alzheimer's speech; she compiled a fifteen-year longitudinal collection of conversational interviews with persons with Alzheimer's disease that are part of the online digital Carolinas Conversations Collection; among her many publications in the field of medical discourse, her most recent books are *Fillers, pauses and placeholders* (co-editor, 2010, Benjamin), and *Pragmatics in dementia discourse* (co-editor, 2013, Cambridge Scholars Publishing). She is the investigator of several awarded projects, such as the ongoing "Story-Call: E-mobile support for VA community dementia caregivers" (2014-2016), or recent projects on "Communication intervention development for nurse-to-nurse handoff" and "Communication Training in Telehealth for Heart Failure Management" (2013-2014).

Keywords: Corpus, conversation, older speakers, applied linguistics.

When and why are old speakers more disfluent than young speakers?

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Introduction

Disfluencies, occurring frequently in conversation, are produced in specific distributions within discourse (Campione & Véronis, 2005; Goldman and al., 2010). In a storytelling task, speakers are more disfluent when they introduce new information (Fraundorf & Watson, 2008) and when the storytelling is referentially more complex (1 vs. several characters) and ambiguous (same-sex characters, Arnold, J. & Griffin, 2007; Arnold, 2010). Moreover, in storytelling, older speakers produce more fillers than younger speakers (Bortfeld et al., 2001), suggesting a difficulty in planning load. Recently, a study also reported that repetitions, produced in larger proportion by older than younger speakers, were linked to working memory capacities (McDowm et al., 2011). Since disfluencies are related to the introduction of new information, the issues are the following: 1) are disfluencies more produced when referential complexity and/or ambiguity increases? 2) are disfluencies linked to cognitive abilities such as working memory?

The major aim of this study is to establish whether disfluencies produced in a storytelling task preferentially occur at strategic points of reference processing, indicating an increased difficulty of discursive planning in younger (YS) and older speakers (OS).

Specifically, our goal is (i) to study the effect of referential complexity (1 vs. 2 characters) and referential ambiguity (2 characters of different sex vs. 2 characters of same sex) according to discourse stages (introduction, maintain and shift stage of characters) on the rate of disfluencies, (ii) to examine the relation between the rate of disfluencies and cognitive abilities (planning load and working memory) measured independently of the storytelling task, and (iii) to compare the productions of disfluencies in YS and OS.

Method

The analysis, led on 30 YS (mean age: 27.8) and 30 OS (mean age: 69.36), is based on a storytelling in sequence task using the paradigm of referential communication (Clark & Wilkes-Gibbs, 1986). In this paradigm, the speaker has to tell a story from a sequence of pictures by allowing the interlocutor to order the pictures in the same order as the speaker's pictures. The experimental material is composed of sequences structured around 6 pictures: 2 sequences containing 1 character, 2 sequences containing 2 characters of different sex, referentially more complex, and 2 others containing 2 characters of same sex, referentially ambiguous. The manipulation of the salience of characters (foreground or background within pictures) allowed us to create 2 to 3 discourse stages: introduction, maintain and shift of characters. 360 storytelling, extracted from SNF's data n°142069 for a duration of 8 hours and 30 minutes of recording, were transcribed in Praat (Boersma & Weenink, 2009) and segmented into syllables with EasyAlign (Golman, 2011). Each syllable is annotated as disfluent (fillers, extra-lengthened vowel, repair and repeat) or not (Lacheret and al., in prep.). The rate of disfluent syllables is calculated as follows: the number of disfluent syllables *divided by* the total number of syllables in each discourse stage for each storytelling sequence. Scores of participants obtained in cognitive tests estimating planning abilities (Wilson and al., 1996) and working memory (Digit Span) were used to study their links with the rate of disfluencies. Three multiple linear regression analyses were conducted: one for the rate of disfluencies produced by YS, one for the rate of disfluencies produced by OS, and the last for the comparison of the production of disfluencies rate between YS and OS. For the first two, discourse stages were included as fixed factors. Referential complexity and referential ambiguity were also included as fixed factors for the study of interactions.

Two interactions were also included: the first one between discourse stage and referential complexity and the other one between discourse stage and referential ambiguity. For the last model, we included groups and discourse stages, determined as fixed factors, and the interaction between groups and discourse stages. Starting with the full model, we used model comparisons to determine whether the inclusion of a fixed factor and of an interaction was justified by the data. Only the final models will be reported. Spearman's rank correlation coefficient is used to examine links between rate of disfluencies and cognitive abilities.

Results

For each group, results show a significant effect of introduction and shift stages compared to the maintain stage with an increased rate of disfluencies ($\beta=4.60$, $p<0.05$ for YS, and $\beta=5.88$, $p<0.05$ for OS), suggesting that the rate of disfluencies is higher in the introduction and the shift stages compared to the maintain stage. For OS, results also show a significant interaction between discourse stages and referential ambiguity ($\beta=16.85$, $p<0.05$), suggesting that the higher rate of disfluencies in the introduction and the shift stages is more marked in the presence of referential ambiguity.

Furthermore, correlation analyses conducted in both groups between cognitive measures and rate of disfluencies revealed that the lower the score of planning, the higher the rate of disfluencies ($\chi = -0.33$, $p<0.05$ for YS; and $\chi = -0.37$, $p<0.05$ for OS) and, only for OS, the lower the score of working memory, the higher the rate of disfluencies ($\chi = -0.36$, $p<0.05$). Moreover, the comparison between YS and OS indicates that OS significantly produce more disfluent syllables compared to YS ($\beta=2.64$, $p<0.05$), suggesting that OS, all things being equal, are 14 times more likely to produce disfluencies compared to YS.

Conclusions

Our data pinpoint that disfluencies occur at strategic moments of reference processing: OS and YS produce more disfluencies when 1) they introduce a new character in discourse (cf. Fraundorf & Watson, 2008), 2) they shift toward a less salient character (i.e. topic shift). These results underline planning difficulties for these two discourse stages.

Secondly, in line with Arnold & Griffin's study (2007), which showed that fillers are more frequent in the presence of referential ambiguity, disfluencies produced by OS increase in contexts of referential ambiguities for the introduction and shift stages.

Finally, our results highlight some links between the rate of disfluencies and cognitive measures: participants are all the more disfluent as they have low planning skills, and for OS only, as they have a low score of working memory. Further studies are needed to better characterize the relations between discourse planning, cognitive abilities and specific types of disfluency.

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Bio-note

(to be completed)

Keywords: Disfluency, cognitive abilities, older speakers, younger speakers and storytelling task.

The CLARe corpora (Corpage, CorpAGEst, LangAge). Issues in speech transcription

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“On one level, transcription seems simple: you write down what you hear. But linguists know that there is more to it, to the extent that linguistic theory is inherently bound up in the process” (Du Bois & Buscholtz, 2006: 1).

Because investigating linguistic phenomena in speech is impossible when based purely on sound, it requires the implementation of a methodology that makes oral data in a written form available. This creation of “secondary” data allows for its exploitation by the tools of corpus linguistics (Eshkol-Taravella *et al.*, 2011: 17). However, the transcription of speech is not a simple act. Transcribing is the first step in the process of analysis: choices have to be made during that early stage of research (Delais-Roussarie & Durand, 2003). Thus, within the framework of the CLARe initiative, which argues for more corpus-based “naturalistic approaches” in the field of language and aging research, the purpose of this contribution is to highlight the implications and consequences of methodological choices concerning the transcription of oral data.

First, I will briefly reintroduce the definition of a speech corpus and develop the four goals linked to every transcription: informativity, accuracy, readability and availability for research (Du Bois, 2006: 5). Then, I will explore the major issue linked to the transcription of the speech: how to find a compromise between the desire to construct the ideal corpus (from the quantitative and qualitative points of view) and the management of the financial and human costs. The cost of a transcription in terms of human resources is actually high, since it has to be performed by a trained transcriber and needs to be revised in order to ensure the quality necessary to qualify for linguistic analysis.

The answer to that compromise is often found in the definition of the research and the pursued objective of the corpus. In other words, as a perfect and complete transcription is impossible to achieve for a high percentage of sound excerpts, it is necessary to take into account the goal of the research for which the transcription is used: “La transcription de données orales est une démarche cruciale, de laquelle dépendent étroitement des résultats de la recherche” (Dister & Simon, 2008: 21). This is why the convention of transcription is an important step in the process of speech corpora analyses.

The third part of the presentation will investigate the intricate link between the goals of a research project and the transcription through the presentation of the three corpora available in the CLARe network: Corpage, CorpAGEst and LangAge. Based on several examples, the methodological choices made for each project will be commented upon.

The three corpora are characterized by different goals. While Corpage’s goal is to analyze pragmatic cues (disfluency, for example) in oral data, CorpAGEst “[...] aims at establishing the gestural and verbal profile of very old people in aging, looking at their pragmatic competence from a naturalistic perspective” (Bolly, 2015: 2).

Considering that such an objective requires highly accurate and demanding annotation, the amount of transcribed and annotated samples is less extensive than in the LangAge corpus. The LangAge corpus pursues the statistical analysis of sociolinguistic variables and of the lexicon of older people. Thus, an important amount of oral data is needed; the transcription standard of LangAge facilitates linguistic annotation and analysis in a computational linguistics framework. Additionally, the transcription format chosen for LangAge allows for transferal of the transcription files to other tools for a more detailed annotation concerning, for example, prosody and pragmatics.

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Bio-note

Julie Kairet is graduated in Linguistics (orientation: Linguistics and its Applications for a Multilingual Society) in September 2015. Her master thesis investigates the links between the interaction context and temporal features such as overlap and extended silences ("Les influences de la situation de production sur les chevauchements et les silences prolongés Étude de cas : analyses de quatre interviews de Fabrice Luchini"). After an internship supervised by Catherine T. Bolly in the framework of the project CorpAGEst, she is now a PhD student and a research assistant working under the direction of Annette Gerstenberg at the Freie Universität Berlin.

Keywords: Corpus linguistic, *Corpage*, *CorpAGEst*, *LangAge*, transcription, spoken data.

KEYNOTE SPEAKER**The concept of compensation and the language in later life**

Annette Gerstenberg

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In linguistic and sociolinguistic research, language use in later life is a relatively new domain of research. Our aim is to contribute to refining the linguistic approach and to discuss how theories of aging that have originated from other disciplines where aging studies are well established are applicable to (socio)linguistic research. The key concept discussed in our contribution is the concept of “compensation”, as developed by Baltes and colleagues. Together with the strategies of selection (S) and optimization (O), compensation (C) is the final part of the SOC model of successful aging (see, e.g., Baltes, 1993, and Freund & Baltes, 2002: 64: “We define C as the use of alternative means to maintain a given level of functioning when specific goal-relevant means are no longer available”). The use of alternative means can be explicit and voluntary; a basic example of new means can be the use of new glasses or hearing devices.

In order to apply the concept of compensation to linguistic capacities and functions, we first discuss the nature of communicative “goals” and their nature when explicitly vs. implicitly defined. We argue that in naturally occurring conversation, communicative goals are mostly implicit, and strategies are subconsciously developed; however, language in later life can confront speakers with disorders that demand the special negotiation of means (e.g., by the adjustment of the loudness of speech). For word retrieval problems, it has been shown that speakers perceive them as major difficulties and that they develop strategies to maintain control over the communicative situation (Burke, 1999).

We then present two levels of linguistic phenomena that are not, as other communicative strategies, explicitly negotiated; they make part of the subconsciously used, but communicatively efficient strategies of talk in interaction.

We start with the identification of levels of linguistic capacities where decline has been observed (Abrams & Farrell, 2011). These developments, which are mainly effects of a less efficient working memory and a general cognitive slowing are potential threats for the fulfillment of communicative goals.

We finally present linguistic phenomena that can be understood as compensational strategies, because they successfully achieve the communicative goal of efficient and appealing communication.

The linguistic phenomena we want to discuss in the light of compensation theory are found at the level of pragmatics, as we will illustrate (1) on the basis of examples from storytelling, with regard to narrative structure (Kemper *et al.*, 1990), as well as the use of phonetic-prosodic means, and (2) with the example of pragmatic markers and interjections (Gerstenberg, 2015).

In the conclusion, we will show that on both metalinguistic/explicit and linguistic/implicit levels, the concept of compensation can provide insight into the communicative skills of older adults.

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Bio-note

Annette Gerstenberg is professor for Romance linguistics (French and Italian) at the department of Philosophy and Humanities at Freie Universität Berlin since 2013, vice dean since 2015. She received her PhD at Saarland University in 2003 (historical linguistics), and her habilitation degree at Ruhr University Bochum where she was faculty member until 2013, with times as visiting professor at Bochum, Freiburg and Orléans. She is associated member of the Laboratory LLL (Laboratoire Ligérien de Linguistique) at Orléans, where she conducted field work since 2005 for the compilation of the LangAge corpus. With Catherine Bolly, she was co-funder of CLARe-network in 2014.

Keywords: Sociolinguistics, corpus linguistics, language in later life, lifespan.

Linguistic change and aging. How causal constructions vary over age and time

Valerie Hekkel

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In age-related studies, the interest in linguistic features and characteristics in older age is attributable mostly to the psycho- and neurolinguistic disciplines (cf. Burke & Shafto, 2008 for a summary), in which studies that do not focus on cognitive decline are rather scarce. Thus, the core of linguistic gerontology disregards the fact that older people are also part of communities of speakers and that their language habits are accordingly exposed to extralinguistic and interactional influences. This disregard also concerns the diachronic perspective, failing to embed older people in the dynamics of language change.

On these grounds, the present contribution aims at shedding light on the interaction between age, other extralinguistic variables and language change in progress. The starting point is the apparent-time hypothesis introduced by William Labov (e.g. Labov, 1994), which proposes that certain linguistic features are conserved throughout an individual's lifespan.

The present contribution provides a differentiated analysis of the effects of linguistic imprinting in young age, exposure to language change tendencies, and extralinguistic factors (on the language habits of older speakers) by focusing on the synchronic and diachronic variation in the use of the causal marker *parce que* 'because'. This expression was chosen, firstly due to its high frequency, and secondly, due to its heterogeneous use, as repeatedly reported in the research literature (Debaisieux, 2002; Deulofeu & Debaisieux, 2009).

Researchers have thus far only addressed macro-diachronic variation (cf. Degand & Fagard, 2012). In order to grasp micro-diachronic variation, a comparative approach has been applied to the diachronically distinct data of *ESLO1* and *ESLO2* (*Enquête Sociolinguistique à Orléans*), collected respectively in 1968–1974 and 2008–present (cf. Abouda & Baude, 2007). Occurrences of *parce que* 'because' have been annotated with regard to features that indicate its non-standard use as described in particular by Debaisieux (2002). These include pauses, omitted elision, and missing matrix clauses. By means of a comparative approach, quantitative differences have been used to draw a diachronic real-time profile for the varying use of *parce que* 'because'. This profile has been contrasted with the occurrences of the phenomenon in older age in order to investigate if and to what extent the usage profile in old age coincides with the one described for *ESLO1*. Due to the low number of older participants in *ESLO2*, selected interviews have been extracted from the corpus *LangAge* (cf. Gerstenberg, 2011) and added to the existing data sets.

The results show that the use of *parce que* 'because' in older age around 2010 is not a reproduction of the younger speakers' language habits around 1970, but rather the consequence of the interaction of a diversity of influencing factors and circumstances, such as early imprinting, extralinguistic influences, and education or profession, on the one hand and an actually occurring language change on the other hand.

These findings challenge the apparent-time hypothesis and raise the question of whether the observed divergences really should be attributed to extralinguistic (i.e., individual) variables or if they rather indicate an insufficient knowledge of the usage patterns of the linguistic phenomenon in question.

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Bio-note

Valerie Hekkel is a Ph.D. student and research assistant at the Free University Berlin performing research on micro-diachrony and sociolinguistics under the supervision of Prof. Dr. Annette Gerstenberg. She completed a Master's degree in French and Italian Philology at the Ruhr-University Bochum with a thesis on lexical semantics ("Über die Austauschbarkeit von *personne*, *être humain* und *quelqu'un* in diversen Relativkonstruktionen"), written in the context of the project "Les noms d'entités humaines entre lexique et grammaire" directed by Wiltrud Mihatsch and Catherine Schnedecker.

Keywords: Old age, causal marker, French, micro-diachrony, language change, apparent-time.

KEYNOTE SPEAKER

**“Talking to yourself again?”
Between self and other – multi-party conversation and dementia**

Camilla Lindholm

University of Helsinki

This presentation explores the participation patterns of elderly with dementia involved in multi-party interactions. The approach of conversation analysis (CA) is used to analyse videotaped data from a Finland Swedish care facility for elderly with dementia.

That persons with dementia have difficulties in following and participating in multi-party conversations have been addressed in previous studies of dementia and communication (e.g., Bayles & Tomoeda, 2007). Not only do persons with dementia have impaired language skills but they also often have hearing impairment or attention deficits. This adds to their communication challenges in a care home environment involving multi-party conversation, background noise and multiple simultaneous stimuli (Baddeley *et al.*, 2001). Studies of how persons with dementia can be active in a group setting are, however, more recent and sparse (cf. Lindholm, 2013). This presentation deals with how elderly with dementia in multi-party interaction are involved in an intricate interplay between self-directedness and other-orientation. The focus is on an in-depth analysis of verbal and embodied interactional practices. Persons with dementia are demonstrated to be not only passive impaired individuals but interactive human beings capable of reacting to their environment.

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Bio-note

Camilla Lindholm is an academy research fellow in Scandinavian Studies at the University of Helsinki; she uses the method of conversational analysis and interactional linguistics to investigate interaction in institutional settings and conversations involving participants with communication difficulties; her current research interests involve communication interventions and multilingual encounters in elderly care. She is involved in projects on *Dementia and interaction* (2012-2018) and *Language and Social Interaction (Interaction)* (2012-2017). Her most recent papers appeared in *Research on Language and Social Interaction* and *International Journal of Geriatric Psychiatry* (2015); she participated in collective books in 2013 (“Challenges and opportunities in group conversations: The day care center as a communication milieu”, *Pragmatics in dementia discourse*, CSP) and 2014 (“Comprehension in interaction: Communication at a day-care center”, *Beyond Loss: Dementia, Identity, Personhood*, OUP).

Keywords: Dementia, multi-party conversation, embodied interaction, Conversation Analysis.

Intergenerational variation in the use of space in Langue des Signes Québécoise (LSQ): The case of verb agreement marking

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UQAM

Very little is known about age-related variation in Langue des Signes Québécoise (LSQ), especially about intergenerational variation. Linguistic differences in the numeral system among senior signers have been reported in LSQ (Dubuisson & Grimard, 2006). For Sign languages most studies to date have focused on the sociolinguistic variation in lexical structures (McKee & McKee, 2011; Schembri *et al.*, 2009; Sutton-Spence, Woll, & Allsop, 1990; Padden & Gunsauls, 2003, among others). Intergenerational variation in grammatical structures has been reported for emergent sign languages (Padden *et al.*, 2010; Sandler *et al.*, 2011; Senghas & Coppola, 2001). For instance, Sandler *et al.* (2011) show that younger Al-Sayyid Bedouin Sign Language (ABSL) signers tend to make more extensive use of pronouns as abstract grammatical markers of arguments, and to combine predicates with their arguments within a constituent, unlike senior signers. Following the work on intergenerational variation in grammatical structure reported for emergent sign languages, we propose the two following hypotheses for our subject's production: younger subjects are making a significantly more important use of space for verbal agreement marking than the seniors, and senior signers prefer more one-argument sentences than the youngest.

In this talk, we will present a comparative descriptive study of the grammatical use of space in verb agreement by two generations of LSQ signers (group 1 (n=20), aged 20-40; group 2 (n=20), aged 65+). In addition to the verification of our assumptions, we analyze, through seven research questions, the influence of variables that may be involved in the distribution of verbal marking for our two groups of subjects: 1) Do they prefer a phonological category of verb (flexible-V1, semi-flexible-V2 and body-anchored-V3)? 2) Do they spatially mark verbal agreement according to verbal phonological categories? 3) Do they spatially mark verbal agreement for classifier predicates? 4) Do they spatially mark verbal agreement in role shift structures? 5) Which type of agreement marker do they prefer, manual (pointing sign, spatial modification) vs. nonmanual (body shift, eye gaze)? 6) Do they superimpose agreement markers? 7) Do they use sequential agreement marker (point sign)?

The data come from a depiction task involving the production of short narratives. From the data set we extracted 1,200 verbs for each group (60 different verbs/participant, proportionally distributed among phonological categories), and coded variables, using Elan software: 1) phonological verb class (V1, V2, V3); 2) semantic verb class (VCL or not) 2) spatial marking (yes or no); 3) type of agreement marker; 4) type of clause (single-argument, 2-argument); 5) type of discursive context (role shift or indirect discourse). The influence of these variables is statistically measured through ANOVA analysis and Friedman Anova test with Kruskal-Wallis test.

Preliminary qualitative results suggest that young signers are more likely to use space in their narratives than seniors. More specifically, seniors make few spatial modifications in general. Unlike younger signers, who make extensive use of 2-argument clauses, seniors produce short sentences (1-argument clauses), and verbs are less spatially modified. These preliminary results suggest that similarly to users of emergent languages (Sandler *et al.*, 2014), senior LSQ signers "avoid marking argument structure grammatically and instead use a variety of strategies that eliminate the need for overt marking" (2014: 251). These findings thus suggest a relationship between synchronic variability and diachronic change in the verb agreement system of LSQ.

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Bio-note

(to come)

Keywords: Intergenerational variation, sign language, argument structure, verb agreement, LSQ.

Making autobiographical discourse easier for the elderly: The use of sensory reminiscence tasks

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The field of linguistics is increasingly interested in cognitive and language markers in healthy and pathological ageing. Although research in this area is sparse (Mathey & Postal, 2008), there has been an increase of studies since the 1990s. However, it may be difficult to establish a protocol for linguistic data collection that is both ecologically sound and scientific (Rimé *et al.*, 2005). Our work was conducted within this aim in view. The research method used is part of the European Marie Curie CorpAGEst project (Bolly & Boutet, submitted). A longitudinal perspective has been adopted and comprises several stages. A special effort has been made to create a protocol including four ecological interviews with elderly participants spread over fourteen months. Tasks facilitating life stories have been created, guided by the following principles: (i) presence of a close friend (or family member) (Kessler *et al.*, 2007); (ii) interview recorded at home; (iii) respect of the elderly person's susceptibility to tiredness and ethical principles.

This led us to ask: what is the least invasive method to make autobiographical discourse easier for the elderly in an ecological perspective? Which tools used in psycholinguistics and clinical investigations can also be of interest for a linguist when collecting a language data corpus?

The natural choice was to use sensory reminiscence activities because they generate the emergence of past memories and take the elderly person back to a time or even a moment that they hold dear, in accordance with clinical care. The same phenomenon has been observed with people with Alzheimer's disease (Baines, 1987).

This longitudinal study adopts both a psychosocial and sensory approach to verbal and non-verbal competence through the use of reminiscences (visual, olfactive, auditive) and the use of questions adapted to the context.

The method involves the intervention of a close friend or a family member of the elderly person and the realization of a face to face interview at home, in order to build bonds of trust despite the progression of dementia. Currently, our data include 5 hours of samples recorded during three interviews (M+1, M+5, M+9).

This pilot study focuses specifically on Pragmatic Markers (PMs, both verbal and gestural) and the information they provide about the pragmatic competence of the elderly person in the course of mental deterioration. PMs contribute in particular to the cohesion and the coherence of speech (Halliday & Hasan, 1976); they stimulate and regulate interactive and intersubjective processes (Fitzmaurice, 2004) while offering a contextualized vision of the exchange. They can also be manifested in gesture and prosody. Within the framework of this study we will first outline the social and theoretical context of the research. We will then detail the profile of our subject "Constance" as well as the methodology envisaged to analyze multimodal data both for the present study and more globally for our doctoral research. Lastly, we present the first results obtained with this subject and we discuss the perspectives which they open up. Constance is an 86-year-old lady who lives at home. All

the scores in the longitudinal cognitive evaluations administered every 4 months and the empathic evaluation realized during the first meeting are noted below:

Recording	hh:mm:ss	Speaker	Pseudo	Age	Birth	Sex
ageSC1r-2	00 :17 :31	ageSC1	Constance	86	1929	F

Education	Cognition Moca test Nov. 2014	Cognition Moca test Mar 2015	Cognition Moca test June 2015	Empathy F-IRI test Nov 2014
12 years	20/30	18/30 \	17/30 \	66 %

The viewing of the conversation and the preliminary results of analysis show that these tasks spontaneously anchor the elderly person in a normal situation of exchange with the help of a “sensory memory object”. We argue that the use of clinical tools from the fields of speech pathology rehabilitation and cognitive therapy deserve closer examination in linguistic methodology. As well as improving our linguistic semiological knowledge of normal and pathological ageing for linguistics, our work aims to develop the use of non-drug treatment for the elderly.

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Bio-note

Guillaume Duboisdindien is a speech therapist (Faculty of Medicine of Lille-France) who joined the MoDyCo team in October 2014 thanks to a PhD grant from the University of Paris Ouest Nanterre. His doctoral research consists in a longitudinal study of the normal-pathological continuum of ageing from a multimodal perspective (verbal, prosody, gestural). Pragmatic markers and their intersubjective relations are the anchor point of this analysis to identify early markers of dementia. Guillaume Duboisdindien's PhD thesis is supervised by Anne Lacheret (University of Paris Ouest Nanterre, Modyco UMR7114) and Catherine T. Bolly (University of Cologne and University of Louvain). His work is also part of the European Marie Curie CorpAGEst project (PIEF-GA-2012-328282) led by Catherine T. Bolly, which aimed to establish the verbal and gestural profile of older people, looking at their pragmatic competence from a naturalistic and ecological perspective using video recordings.

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Keywords: Multimodality, ageing, reminiscence, pragmatic markers, psycholinguistics.

KEYNOTE SPEAKER

Knowing in Dementia: Navigating Everyday Challenges of Epistemics and Face

Heidi H. Hamilton

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Doctor: *Do you remember what day today is?*
 Mrs. P: *Today?*
 Doctor: *Yeah. Do you remember what day today is?*
 Mrs. P: *...[laughs, waves hand] Will you quit asking me these questions?*
 Doctor: *I'm sorry. I don't mean to - Do you feel uncomfortable with my asking you this?*
 Mrs. P: *No. No.*
 Doctor: *Okay. Good good good.*
 Mrs. P: *No I'm just dim.*
 Doctor: *I'm not putting you on the spot, am I?*
 Mrs. P: *Oh please don't.*
 Doctor: *Okay. Good. All right. So do you remember what day today is? Do you remember the month?*
 Mrs. P: *Uh it's....I don't pay any attention to it.*

Over the course of my career, I have carried out separate interactional sociolinguistic studies on language used in a variety of interactions involving individuals with dementia, including everyday conversations, physician-patient-carer visits, memory loss support group meetings, and specially designed art museum tours. In this talk, I introduce an integrative framework that seeks to facilitate the examination of the complex contextual shaping of the way cognitive challenges are negotiated as “our mental states make contact with the world” (Hughes, 2011: 265) and impact individuals’ self-esteem. To this end, I analyze the language used in the above-mentioned contexts (also drawing on the Carolina Conversations Collection [Pope & Davis, 2011]) through the lens of epistemic discourse analysis, the “systematic and explicit study of the ways knowledge is interactively ‘managed’, in the structures and strategies of text and talk” (van Dijk, 2013: 497) in combination with Goffman’s (1967, 1971) insights on face maintenance in everyday social interaction.

Since the publication of Raymond & Heritage (2006) on the epistemics of social relationships, the field of discourse analysis has enthusiastically embraced scholarly contributions from a variety of disciplines to facilitate a more systematic understanding of the way knowledge is navigated by individuals in a wide range of ‘real-life’ interactions. This work extends well beyond a simplistic understanding of the to-and-fro of information exchange to focus on additional critical aspects of knowledge in interaction, including “epistemic access to some state of affairs,... how *certain* we are about what we know, our relative *authority* and our differential *rights and responsibilities* with respect to this knowledge... We can and do hold one another accountable for justifiably asserting our rights and fulfilling our obligations with respect to knowledge. It is in this way that we see the epistemic domain as morally ordered” (Stivers *et al.*, 2011: 3). Indeed last year Schrauf and Müller (2014: 22) made a forceful call for dementia investigators to complement the prevailing individualistic view of human cognition with an alternative discursive paradigm that “assumes that cognition is in fact something that takes place between people,” noting that little work on the embodied, distributed, and culturally grounded nature of human cognition has been carried out in applied and/or clinical contexts. It is in this spirit that I offer this exploration of the ways in which memory, reasoning, and language difficulties are connected to feelings of stigma within the context of dementia.

In order to investigate how these problems of access, certainty, authority, rights and responsibilities play themselves out within sociocultural interactions, I began by searching my corpora of everyday conversations, physician visits, support group meetings, and art museum tours for instances of ‘remedial interchanges’ (Goffman, 1971: 95ff) that centered on knowledge-based difficulties. I identified such interchanges primarily within the following epistemic domains: word searches/semantic memory, recall of autobiographical information, recounting of personal experiences from the recent and distant past (episodic memory), and personal engagement with physical objects in the ‘here-and-now.’ In this effort, I focused attention not only on the utterance(s) containing the trouble source(s) but on “the total set of moves made in connection with a particular virtual offense” (Goffman, 1971: 120), taking particular note of how relative communicative successes by individuals with dementia were influenced by both preemptive and responsive communicative practices of their partners in interaction (Hamilton, 1994: 172).

With the goal of connecting interlocutors’ interactional alignment to each other with their evolving challenges in figuring out *what* is known (plus *how* it is known, how *certain* speakers are, etc.) about an object of their joint attention, I applied the analytical lens of Du Bois’ (2007) stance triangle to these interchanges. I discuss the suitability of this approach by comparing excerpts focused on similar knowledge negotiations from different data sets. To illustrate, the comparison of discourse prompted by shared stance objects in the immediate physical environment centered on a painting (art gallery), a theatrical script (support group), a commemorative plate (physician visit), and a collection of decorative bells (Carolina Conversations Collection). This contrastive approach allows us to reach a fuller understanding of the contextual elements (e.g., number and status of participants; interactional goals; physical setting) at work to “change the meaning that otherwise might be given to an act, transforming what could be seen as offensive into what can be seen as acceptable” (Goffman, 1971:109). In this way, we may envision how it is that, in Kitwood’s (1993) words, the personhood of individuals with dementia may be “replenished and sustained through what *others* provide”.

In this project, as in all of my work, I approach dementia as a human issue within multiple linguistic and social contexts, motivated by the observation that “relatively little can be done to arrest the underlying brain disease, [but] much can be done to promote health and wellbeing” (Downs *et al.*, 2006: 248). I conclude my presentation by outlining its possible contributions 1) to the scholarly understanding of communication challenges in dementia, with specific emphasis on the special case of distributed cognition, and of the interconnections between epistemics and face in interactions, more generally and 2) to professional and family caregivers who would like to consider how their discursive practices may be able to enhance the everyday lives of individuals living with dementia.

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Bio-note

Heidi E. Hamilton is Professor in the Department of Linguistics, Georgetown University where she has taught courses in discourse analysis and applications of interactional sociolinguistics since 1990. Her research and consulting interests focus on issues of language and Alzheimer's disease, language and aging, institutional discourse, and health communication. Her books include *Conversations with an Alzheimer's Patient*, *Language and Communication in Old Age: Multidisciplinary Perspectives*, Wiley Blackwell *Handbook of Discourse Analysis* (with Tannen & Schiffrin), *Linguistics, Language, and the Professions* (with Alatis & Tan), *Doing Foreign Language* (with Crane & Bartoszesky), and the Routledge *Handbook of Language and Health Communication* (with Chou).

Keywords: Dementia, epistemic discourse analysis, face, physician-patient interaction, support group, art therapy.