



BOOKS AND SCREENS
AND THE READING BRAIN
VILNIUS UNIVERSITY
LITHUANIA

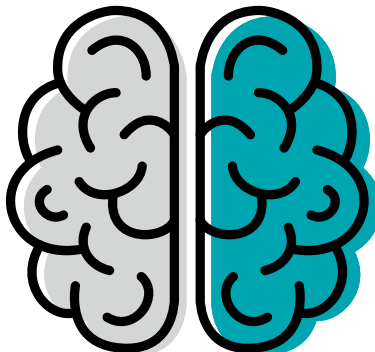
INTERNATIONAL SCIENTIFIC CONFERENCE

BOOKS AND SCREENS

AND THE READING BRAIN

PROGRAMME

CONFERENCE
VENUE
**LITHUANIAN
ACADEMY
OF SCIENCES**
GEDIMINO AVE. 3
VILNIUS



CONFERENCE
DAYS
**27-29
SEPTEMBER**
2017

**BOOKS
AND
SCREENS** | **AND THE
READING
BRAIN**

Welcome to Vilnius!



Prof. Dr. Aušra Navickienė

Dear Colleagues,

For several decades now, book scientists that are focusing on book and reading history, traditional and digital publishing have been gathering in Vilnius during the autumn of every year. The international conferences, organised by The Institute of Book Science and Documentation of Vilnius University, which has just marked its 75th year of activity, are gaining prominence amid other European scientific events that are steeped in tradition and continuity. Over the recent years, our conferences have attracted a growing number of participants not just from the neighbouring countries, but from other regions of Europe and the World, including from organisations both European and global, such as the European Publishing Studies Association (EuroPub), the Society for the History of Authorship, Reading and Publishing (SHARP) and others. Most of the papers that are presented during the conferences are later published in an open-access, peer-reviewed and the international databases-indexed research journal “Knygotyra” (“Book Science”),

as well as in other journals published either by the Faculty of Communication at Vilnius University or by other European scholarly institutions.

The idea to organise the multidisciplinary conference “Books and Screens and the Reading Brain” in Vilnius came to us in February 2016, while in communication with Prof. Adriaan van de Weel during the International Vilnius Book Fair. At that time, together with Prof. Adriaan van de Weel, we were coordinating conference dates for the European network E-READ (of scientists working under the European Cooperation in Science and Technology (COST) action “Evolution of Reading in the Age of Digitisation, E-READ”) and conferences scheduled by the Faculty of Communication for 2017. In July of the same year, the event acquired the status of a SHARP focused conference at the 24th annual SHARP conference that took place in Paris, while its organizers were joined in 2017 by the Division of the Humanities and Social Sciences of the Lithuanian Academy of Sciences.

We are glad that this year’s conference in Vilnius will not only contribute to promoting cooperation between the scholars and senior scientists of European countries, but that it will also help in disseminating empirical research findings of members of the E-READ network. We are proud to say that the current event once again acts as a testament to the traditions of the fruitful cooperation that exists between the Lithuanian Academy of Sciences and Vilnius University in the field of global scientific communication. Ultimately, what is also worth noting is that this conference is now the second scientific event supported by SHARP that takes place in Vilnius (“The Minority Book: Historical Experiences and Modern Expressions in the Global World,”

a joint conference organized with the help of SHARP, was held in 2015). This cooperation serves as a helpful measure in integrating the events of the Baltic region's Book Sciences disciplines into the global space.

We wish to thank the sponsors who understood the significance of the event, in particular the publishing house Alma littera, Vilnius University Library and Martynas Mažvydas National Library of Lithuania, as well as the organizations that were involved in propagating the event, the Lithuanian Publishers Association, the Lithuanian Academic Publishers' Association and the Nordic-Baltic-Russian Network on the History of Books, Libraries and Reading, HIBOLIRE.

We hope that Vilnius University – an institution famous for its centenarian traditions of book sciences and the home of today's focused school of communication and information sciences – will inspire participants of the conference to discuss a wide range of topics related to the issues of book history, social literacy and contemporary reading, including empirical evidence of reading practices, outcomes of empirical research on differences between paper and screen reading, reading for various purposes etc. We also hope that it will gather together scientists and educational decision makers, teachers, publishers, librarians and software producers to discuss implications of digitization of reading, as well as it will aid in determining the further trends of multidisciplinary reading research in Europe.

Enjoy your days at the conference.

On behalf of the local organizers,
Prof. Dr. Aušra Navickienė



Prof. Dr. Adriaan van der Weel

Books and Screens and the Reading Brain

From the earliest clay tablets and down to the latest touch screens – reading is an interaction of embodied humans with technology. Over time, technological developments have caused numerous changes, transformations even, in reading habits and the reading culture. The introduction of the rotary press, together with the industrial paper production in the nineteenth century, for example, made cheap reading materials available for the masses. This was followed by a tremendous growth not just in the number of readers but, more significantly by a major change in the demographics of the reading public. By contrast, in the course of the second half of the twentieth century, notably after the introduction of television, many unskilled readers stopped reading books.

Similarly, the current wholesale adoption of digital screens – in educational as well as leisure settings – has begun to affect our reading habits. Screens offer a substitute for reading from paper, but equally offer viewing, gaming and listening oppor-

tunities on the same device, not to mention the constant lure of social media. This increases screen time, offering strong competition for people's leisure time and reducing time spent on sustained (book) reading. It also raises urgent questions concerning small- and large-scale effects of technology on educational outcomes. There is evidence that screens change the reading experience in terms of memory and (in the case of fiction) transportation. It is also likely that digital texts are simply taken less seriously than texts on paper to begin with. Together with the 24/7 availability of the huge amounts of searchable information, these and other changes will no doubt affect how we think about knowledge and information. It promotes just-in-time information gathering rather than memorizing of facts, as well as thinking in terms of smaller fragments of information rather than longer chunks that have already been synthesized into knowledge.

The multidisciplinary EU COST E-READ Action, running between 2014 and 2018, has fostered a great deal of empirical research on the effects of the wholesale adoption of screens for reading. The conference *Books and Screens and the Reading Brain* is intended to showcase some of the preliminary findings. What really changes and why? But these findings also

need contextualization, relating them to the history and present practice of reading and the social history of literacy. They invite to ponder the next questions. Issues the conference will be addressing include (but are not confined to):

- Empirical evidence of reading practices, e.g., book industry statistics, library statistics, media use/time-spending surveys;
- How are we to interpret the outcomes of empirical research and what are their implications for the future of reading and the role of reading in education?
- Relations between different formats (e.g., hardcover vs softcover; print vs. screen) and reading practices;
- The history and present use of books and digital learning tools in education and their relative effectiveness;
- The changing status and social position of reading for various purposes, such as learning and leisure;
- The changing definition of literacy;
- The changing historiography of reading and development of research instruments.

Prof. Dr. Adriaan van der Weel

Organizing committee

Chair

Prof. Dr. Adriaan van der Weel (Leiden University, Netherlands)

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Prof. Dr. Sydney Shep (University of Wellington, New Zealand,
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Dr. Simon Frost (Bournemouth University, United Kingdom,
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Prof. Dr. Aušra Navickienė (Vilnius University, Lithuania,
SHARP Regional Liaison Officer for the Baltic Region)

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Programme committee advisor:

Prof. Dr. Miha Kovač (University of Ljubljana, Slovenia)

The conference is organized and funded by

European Cooperation in Science and Technology (COST)
Action IS1404 "Evolution of Reading in the Age of Digitisation" (E-READ)
Society for the History of Authorship, Reading and Publishing (SHARP)
Vilnius University Faculty of Communication
Lithuanian Academy of Sciences Division of Humanities and Social Sciences



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on the History of Books, Libraries
and Reading, HIBOLIRE

Conference website <http://www.eread.kf.vu.lt>

COST E-READ website <http://ereadcost.eu>

Conference programme

WEDNESDAY 27 OF SEPTEMBER

Lithuanian Academy of Sciences, Gedimino Ave. 3, Vilnius

09:30-10:00 **Registration**

10:00-10:30 **Opening of the Conference**

PLENARY SESSION /

GRAND HALL Chair Adriaan van der Weel

10:30-11:30 **Philip Davis.** Praxis Not Techne (Director of Centre for Research into Reading, Literature and Society; Editor, The Reader magazine; University of Liverpool)

11:30-12:00 **Coffee break**

GRAND HALL **SESSION 1**

12:00-13:30 **Literature and reading for leisure: measuring attention** / Chair Anežka Kuzmičová

1.1 **Karin Kukkonen.** Reading as a “Slow” Process: 18th Century and 21st Century Perspectives

SMALL HALL **SESSION 2**

12:00-13:30 **Interpreting book trade statistics** / Chair Adriaan van der Weel

2.1 **Miha Kovač.** Book Statistics (What Is It Good For?)

1.2 **Moniek Kuijpers.**
Attention During
Absorbed Literary
Reading

2.2 **Tadas Pukas (Alma
littera).** The Milžinas
E-book Subscription
Service in Lithuania:
Market Performance,
E-reader Profiles and
E-reading Habits

1.3 **Federico Pianzola.**
Be It Digital and Social!
Strategies for the
Promotion of Literature

2.3 **Aile Möldre and Kairi
Felt.** E-book Publishing
in Estonia (from the
Publishers' Viewpoint)

1.4 **Anne Mangen, Renata
Gambino, Grazia
Pulvirenti, Federica
Abramo, Daniela
Giordano, Shuwei
Xue, Jana Lüdtké, Orsi
Papp-Zipernovszky,
Teresa Sylvester and
Art Jacobs.** Reading
Shakespeare's Sonnets:
A Combined Qualitative-
quantitative Study

2.4 **Nijolė Bliūdžiuvienė.**
How to Interpret
the Lithuanian Book
Industry Statistics

**Discussion and
questions**

**Discussion and
questions**

13:30-15:00 **Lunch**

13:30-15:00 **Lunch**

Presentations of COST

Actions / Chair Anne

GRAND HALL

Mangen

15:00-15:25 IS1410 DigiLitEY
(Natalia Kucirkova)

GRAND HALL SESSION 3

SMALL HALL SESSION 4

15:30-17:30 **Media use: from digital paratext to multi-screening and hypertext** / Chair Theresa Schilhab

15:30-17:00 **The changing social position of digital reading** / Chair Matt Hayler

3.1 **Massimo Salgaro, Pasqualina Sorrentino, Jana Lüdtkke and Art Jacobs.** Does the (E) book Have an Aura? A Study on the Social Prestige of the Reading Support

4.1 **Faye Antoniou, Aggeliki Mouzaki, Asimina Ralli, Sophia Papaioannou and Vasiliki Diamanti.** A Computerized Screening Tool for Learning Disabilities

3.2 **Danielle Dahan, Mirit Barzillai and Tami Katzir.** Children's Reading Preferences, Performance and Evaluations Across Mediums

4.2 **Alenka Mohar and Miha Kovač.** The Transformation of Textbooks in Primary and Secondary Education in the Era of Digitization

3.3 **Rakefet Ackerman
and Tirza Lauterman.**
A Metacognitive
Analysis of Media
Effects on Problem
Solving

4.3 **Anežka Kuzmičová,
Patrícia Dias, Ana
Vogrinčič Čepič,
Anne-Mette Bech
Albrechtslund, André
Casado, Marina
Kotrla Topić, Xavier
Mínguez López, Skans
Kersti Nilsson and
Inês Teixeira-Botelho.**
Social Space in Silent
Reading Practices

3.4 **Virginia Pignagnoli.**
Reading Digital
Paratexts

4.4 **Arūnas Gudavičius,
Elena Macevičiūtė,
Andrius Šuminas and
Tom Wilson.** Digital
Reading for Reduction
of Inequality

**Discussion and
questions**

**Discussion and
questions**

**NATIONAL LIBRARY OF
LITHUANIA** **WELCOME RECEPTION**
Gedimino Ave. 51,
Vilnius

18:30-20:00 Networking dinner

THURSDAY 28 OF SEPTEMBER

Lithuanian Academy of Sciences, Gedimino Ave. 3, Vilnius

GRAND HALL Day 2 opening

9:00-10:00 **Round table with stakeholders** / Chaired by Miha Kovač and Adriaan van der Weel

Eszter Salamon,
President of European
Parents' Association

Elmundas Žalys, CEO of
publishing house TEV

10:00-10:30 **Coffee break**

GRAND HALL SESSION 5

10:30-12:00 **The changing role of digital reading: practices, navigation strategies and typography** / Chair José Antonio Córdon-García

5.1 **Andrew Denham.** How Intimate Can Digital Reading Practices Become?

SMALL HALL SESSION 6

10:30-12:00 **Reading for learning: working memory and deep reading** / Chair Jana Luedtke

6.1 **Richard Dewhurst, Theresa Schilhab, Stephan Hansen and Stine Rath Hansen.** Gaze Allocation & Subsequent Memory for Nao: A First Glimpse into the Visual Processes at Play in Social Robotics

SEMINAR ROOM 210

10:30-12:15

COST E-READ MEETING

MC MEETING / Chair Anne Mangen

5.2 **Robert Riter.** Translating Experiencing: Reading Artists' Books in Digital Spaces

6.2 **Kristiane Hauer.** From Deep Reading to Deep Learning - The Potentials of Deep Reading in the Literature Class

5.3 **Tove Stjern Frønes.** Navigation Strategies in Online Reading Assessments

6.3 **Judith Wylie, Marc Edwards and Aidan Feeney.** Learning Through Hypertext: The Influence of Working Memory Capacity and Metacognitive Experience

5.4 **Milda Kuraitytė.** Tracking Kinetic Typography

6.4 **Christine A. Knoop and Moniek Kuijpers.** On the Empirical Study of Reading in the Age of Digitization

Discussion and questions

Discussion and questions

12:15-13:30 **Lunch**

12:15-13:30 **Lunch**

12:15-13:30 **Lunch**

GRAND HALL	SESSION 7	SMALL HALL	SESSION 8	SEMINAR ROOM 210	COST E-READ MEETING
13:30-15:00	Multidisciplinary approach to Internet reading and related skills / Chair Paavo H.T. Leppänen	13:30-15:00	Libraries and e-reading practices / Chair Andrius Šuminas	13:30-15:00	CG MEETING / Chair Anne Mangen
7.1	Paavo Leppänen, Carita Kiili, Jarkko Hautala and Otto Loberg. Internet and Learning difficulties: A Multidisciplinary Approach for Understanding Information Seeking in New Media	8.1	Georgi Alexandrov. E-reading Practices in Access to Digital Repositories		
7.2	Jarkko Hautala, Otto Loberg and Paavo Leppänen. What Information Should I Search for on the Internet Again?	8.2	Cengiz Acarturk, Serap Emil and Idil Aker Gokce. The Use of E-Books vs. Print Books: A Case Study of University Library Use in Turkey		
7.3	Laura Kanninen, Carita Kiili, Asko Tolvanen, Mikko Aro and Paavo H.T. Leppänen. How Do Basic Literacy Skills Predict Students' Online Research and Comprehension?	8.3	José Antonio Córdon-García, Taísa Dantas, Javier Merchan Sanchez-Jara and Almudena Mangas-Vega. Library in the Cloud: Reflections on Reading Practice and Access to Content in Virtual Environments		

7.4 **Otto Loberg, Jarkko Hautala, Jarmo Hämäläinen and Paavo Leppänen.** The Influence of Reading Fluency on Reading Comprehension During Sentence Reading in 12-year old Typically Reading Children – Findings from Fixation-related Potentials

8.4 **Polly Mukanova, Marina Encheva and Marchela Borisova.** New Forms of Literacy and Transformation of the Reading Practices in Bulgaria

Discussion and questions

Discussion and questions

15:00-15:30 **Coffee break**

15:00-15:30 **Coffee break**

15:00-15:30 **Coffee break**

GRAND HALL SESSION 9

SMALL HALL

WG1 ROUND TABLE DISCUSSION

SEMINAR ROOM 210

WG3 ROUND TABLE DISCUSSION

15:30-17:00 **Reading history and historiography** / Chair Aušra Navickienė

15:30-16:30 **Continuing/skilled (PISA-age) reading** / Nuria Castells, Thierry Baccino, Rakefet Ackerman

15:30-16:30 **Experiential and emotional aspects of reading** / Anezka Kuzmicova, Art Jacobs

9.1 **Kamilla Aslaksen.** The Unknown Readers of The District Governor's Daughters 1855-1900

9.2 **Ilona Savolainen.** Fragile Minds, Robust Bodies and the Suggestive Power of Reading: The Construction of the Theory on Young Readers in Finland, 1914-1944

9.3 **Tiiu Reimo.** Research on Reading in Estonia

9.4 **Ilkka Mäkinen.** PISA Assessments and New Insights in Reading Motivation

SMALL HALL

WG2 ROUND TABLE DISCUSSION

SEMINAR ROOM 210

WG4 ROUND TABLE DISCUSSION

Discussion and questions

16:30-17:30

Developmental aspects of reading / Mirit Barzillai, Jenny Thomson

16:30-17:30

The ergonomics of reading (physiology; haptic & tactile feedback) / Theresa Schilhab, Matt S. Hayler. **Book statistics sub-group /** Miha Kovač

SMALL HALL HIBOLIRE MEETING

17:00-17:30 Meeting of HIBOLIRE members

EXCURSIONS (optional)

17:30-18:30 Vilnius University's St. Johns' Church Bell Tower, Šv. Jono str. 12 (admission €2.50)

18:30-19:30 Vilnius University Library, Universiteto str. 3 (free of charge)

FRIDAY 29 OF SEPTEMBER

Lithuanian Academy of Sciences, Gedimino Ave. 3, Vilnius

GRAND HALL Day 3 opening

9:00-9:25 **Presentations of COST Actions** / Chair Anne Mangen

IS1401 European Literacy Network (Rui Alves and Liana Konstantinidou)

GRAND HALL SESSION 10

SMALL HALL SESSION 11

9:30-11:00 **Literature and reading for leisure: measuring emotions** / Chair Monika Płużyczka

9:30-11:00 **Interpreting reading trends in book sales and design** / Chair Massimo Salgaro

10.1 **Marina Kotrla Topic and Marina Perkovic Kovacevic.** Reading Fiction from Paper vs. Screen in Relation to Empathy and Theory of Mind

11.1 **Angus Phillips, Zoran Velagić, Arūnas Gudiničius and Andrius Šuminas.** Trends and Contrasts in Book Cover Design

10.2 **Tyler Shores.** Reading On-screen and Reading in Print – Does the Medium Really Matter?

11.2 **Dan Cristea and Dana Badulescu.** Reading Books Differently

10.3 **Egon Werlen and Per Bergamin.** The Rating of Texts for an International Database of Emotional Short Texts: First Results

11.3 **Georgi Alexandrov and Lilia Raycheva.** The Challenges of E-reading Habits to the Trends of E-book Sales

10.4 **Anne Mangen, Massimo Salgaro, Pasqualina Sorrentino, Gitte Baling, Michael Burke, Jana Lüdtkke, Berenike Herrmann and Art Jacobs.** Cognitive and Emotional Aspects of Literary Prose Reading: An Eye Tracking Study

Discussion and questions

Discussion and questions

11:10-11:30 **Coffee break**

11:10-11:30 **Coffee break**

GRAND HALL SESSION 12

SMALL HALL SESSION 13

11:30-13:30 **Reading comprehension between different formats: meta analysis and eye tracking /** Chair Ladislao Salmerón

11:30-13:30 **The changing status of reading for learning and teachers needs /** Chair Angus Phillips

12.1 **Pablo Delgado, Cristina Vargas, Kate Ziegelstein, Faye Antoniou, Susana Padeliadu, Gal Ben-Yehudah, Rakefet Ackerman and Ladislao Salmerón.** Reading Comprehension of Print and Digital Texts: A Meta-analysis

13.1 **Maria Perifanou, Zuzana Petrová, Lefkios Neophytou and Nuria Castells Gomez.** Digital Literacy: Exploring EU Teachers' Training Needs

12.2 **Ugo Ballenghein, Olga Megalakaki and Thierry Baccino.** Reading Emotional Texts: Effects on Comprehension, Eye Movements and Body Posture

13.2 **Nuria Castells, Marta Minguela, Esther Nadal, Eva Lordán and Isabel Cuevas.** Higher Education Students' Preferences for Reading to Learn: Paper or Screen? Academic Field Differences

12.3 **Johanna Kaakinen, Ugo Ballenghein, Geoffrey Tissier and Thierry Baccino.** Fluctuations in Reader Engagement During Digital Reading: Evidence from Concurrent Recordings of Eye Movements and Postural Micromovements

13.3 **Jeanne-Louise Moys, Ann Marcus-Quinn and Triona Hourigan.** Investigating the Interplay Between Typographic Differentiation, Motivation and Recall in E-learning

12.4 **Monika Płużyczka.**
Reading Brain – the Eye
Tracking Experience

13.4 **Theresa Schilhab.**
Game Changer: The
Spill-over Effect of iPad
Use for Leisure on
Learning and Reading in
Danish Primary Schools

**Discussion and
questions**

**Discussion and
questions**

13:30-15:00 **Lunch**

13:30-15:00 **Lunch**

GRAND HALL SESSION 14

SMALL HALL SESSION 15

15:00-16:15 **The changing
definition of reading
and literacy / Chair
Miha Kovač**

15:00-16:15 **Reading comprehension
between different formats:
paper vs. screen / Chair
Thierry Baccino**

14.1 **Jenny Thomson, Tanja
Prieler and Clare
Wood.** Evaluating the
Effect of Exposure to
Digital Text on Early
Literacy Development

15.1 **Carla Ganito and Cátia
Ferreira.** Paper vs.
Screen: What Is Really
Changing in Reading
Practices?

14.2 **Matt Hayler.** The
Entangled Reader in a
Digital Age

15.2 **Rui Alexandre Alves,
Teresa Limpo, Sara
Costa, Maria Inês Maia,
and José Paulo Leal.**
HandSpy: A New Tool to
Study Text Production in
the Digital Humanities

14.3 **Michael Ridley.** Is AI
Literate?

15.3 **Igor Ž. Žagar.** Reading
Words, Reading Images:
Is There a Difference?

**Discussion and
questions**

**Discussion and
questions**

GRAND HALL CLOSING SESSION

16:15-17:00 Chairs Anne Mangen,
Adriaan van der Weel

Abstracts

PLENARY SESSION

Philip Davis. Praxis Not Technē

This talk concerns the distinction, elaborated by Plato in Phaedrus, between a technique or technology and a praxis or practice. In terms of reading technē is like scanning a manual, whereas praxis is relatively unprogrammed and must adjust to what is not expected as we go along. Praxis is literary not literal. But I am much more concerned with how technē, and certain technologies, can be converted into praxis. I want to talk about creating within one system, without quitting it, the capacities of a second and different other. As if within the ostensibly automatic processes of brain, there may arise the achievements of mind. Notwithstanding our concerns about technē, the talk ends with a rudimentary representation of how poetry depicted on screen can serve powerful educational possibilities, in being able to point to mental movements developing through unfolding lines that scan their way like brainwaves.

SESSION 1.

Literature and reading for leisure: measuring attention

1.1 Karin Kukkonen. Reading as a “Slow” Process: 18th Century and 21st Century Perspectives

Imagine yourself relaxed in an armchair, deeply immersed in a bulky Russian novel, forgetting all the cares in the world. This is the image of reading literature, which is often presented as the alternative to digital, multitasking, breathless engagements with texts on screens. If we look into the history of reading, however, we find that eighteenth-century critics were worried about the speed and superficiality of reading just as much as we are today. In particular, changes from intensive to extensive (that is, dispersed and distracted) reading have been discussed for the period whose media changes around reading are perhaps as dramatic as our own (Engelsing 1974; Chartier 2007; Darnton 1995). The present paper will investigate what lessons today's debates around literary reading might draw from the eighteenth century, its

anxieties about the speed of literary reading and the coping mechanisms regarding attention and self-paced reading (Lynch 2009; Dames 2007) proposed at the time.

1.2 Moniek Kuijpers. Attention During Absorbed Literary Reading

Absorption is the enjoyable experience of feeling lost in a book. There is general consensus about the dimensions that are part of absorption, but we do not know how they relate to each other. A survey study was conducted with 2 different samples (N = 264 and N = 76) to investigate this with the use of Structural Equation Modeling. The results show that attention fulfills a crucial role in absorption and informs us about the progression of such experiences. These findings are relevant for the E-READ community as they have implications for the study of digitization of literary reading. Screen-based reading often involves distracting stimuli to a larger degree than paper-based reading, and thus it may be harder to achieve a state of absorption. As absorbed reading is often characterized as enjoyable and having positive effects

on people's well-being, we need to find ways to maximize absorption potential in literacy and literary education. The implications of this study for the field of research on the effects of digitization on (literary) reading will be discussed.

1.3 Federico Pianzola. *Be It Digital and Social! Strategies for the Promotion of Literature*

How should engagement with literature be improved in an era dominated by digital culture? Social media interactions are having an impact on our language uses and on the way we create, share and engage with narratives. This can be used to promote the reading of literature. I'm presenting here an activity of the digital social reading of the novel "The Late Mattia Pascal" by Luigi Pirandello, promoted via Twitter by the account @TwLetteratura. In this activity, people gave voice to their impressions, emotions, observations in very short messages of no more than 140 characters inspired by their readings, either in print or on a screen-based digital device. These tweets are shared literature, a form of participatory culture: people tweet their

reactions to a book in the form of a comment, a summary, a quote, or a re-writing, like in Queneau's "Exercises in Style." Many teachers experimenting with this method are reporting that students show great immersion and transportation, compared to traditional ways of reading, but a problematic issue is how to meaningfully assess the impact of social reading. I'm presenting here some attempts at quantitative and qualitative analysis, together with discussing the results and possible future improvements.

1.4 Anne Mangen, Renata Gambino, Grazia Pulvirenti, Federica Abramo, Daniela Giordano, Shuwei Xue, Jana Lüdtkke, Orsi Papp-Zipernovszky, Teresa Sylvester and Art Jacobs. *Reading Shakespeare's Sonnets: A Combined Qualitative-quantitative Study*

The study is a collaboration between three labs (Berlin, DE; Catania, IT; Szeged, HU), combining the expertise of literary scholars with neuroscience and experimental psychology in an effort to empirically assess the

effects of figurative language in Shakespeare's sonnet reading. The objective of the study was to measure behavioral responses (rating scales and eye tracking) to two sonnets, particularly focusing on the effects of foregrounded elements on the semantic, morphosyntactic and/or phonological level. The study combines an in-depth qualitative analysis of two sonnets with quantitative text analysis, rating data and eye tracking measures. The qualitative-quantitative text analysis provides a basis for predicting participants' self-reported reading experience (as measured with ratings), and these predictions informed the development of specific hypotheses regarding participants' eye movement patterns during reading. Specifically, in line with the neurocognitive poetics model (Jacobs 2015a, 2015b), we differentiated between two reading behaviors: (i) fast and automatic (for text segments with high emotion potential) vs. (ii) slower reading (for text segments with high aesthetic value). The outcomes of this study will provide a basis for follow-up studies comparing poetry reading on

different devices (paper vs. screens), and it may guide the development of specific hypotheses to be tested with neuroimaging methods.

SESSION 2.

Interpreting book trade statistics

2.1 Miha Kovač. Book Statistics (What Is It Good For?)

The paper will show how book statistics and reading surveys can be used in reading research. Together with latest surveys on e-book reading and e-book sales and production, data on title production, print-runs, library loans and book sales will be presented for second half of the 20th c. It will be shown that long-term trends in title production, book sales and loans indicate changing attitudes not only toward books as consumer goods, but also changes in content production and consumption. It will be shown that such changes usually take place before changes in reading substrates. On this basis, it will be stressed that book statistics represent an indispensable tool for reading research that, as such,

deserves efforts necessary to discover or reconstruct relevant data that are often circumstantial, hidden in different layers of statistics and – when looking for global trends – accessible only in a variety of languages.

2.2 Dainius Blynas (Alma littera). The Milžinas E-book Subscription Service in Lithuania: Market Performance, E-reader Profiles and E-reading Habits

The commercial e-book market still underperforms in Lithuania as compared to a lot of countries in Europe – e-books amounted up to around 2% of book sales in 2016. Arguably, the main reason for such underperformance is a lack of convenient, mass market e-book products. Launched at the end of 2016, Milžinas aimed for a breakthrough in the market by packaging the e-book experience into one subscription and mobile application product. This paper presents findings from product development, primary market performance figures and profiles the typical Lithuanian e-book reader by demographics, book genre/title choices and reading habits.

2.3 Aile Möldre and Kairi Felt. E-book Publishing in Estonia (from the Publishers' Viewpoint)

The takeoff in commercial publishing of e-books in Estonia took place in 2010, promoted by the establishment of special e-publishing services. Since then, the production of e-books has increased steadily, exceeding 3000 titles. The paper is based on the surveys and interviews carried on among publishers in 2011 and 2016, enabling to follow the changes in their attitudes toward e-book publishing, to identify what issues are perceived as problems and what experiences are considered to be positive. Similar research on e-book publishers in Sweden and Lithuania (by Elena Macevičiūtė, Kersti Nilsson, Tom Wilson et al.) makes it possible to compare the developments in Estonia with the situation in other small-language markets.

2.4 Nijolė Bliūdžiuvienė. How to Interpret the Lithuanian Book Industry Statistics

The report analyzes pathways for the promotion of information about the Lithuanian publishing output, which

exploit the potential of the national bibliography. It reviews the main national bibliographic publications and databases, which register and aggregate the Lithuanian publishing production. The major focus is on the printed book. The report draws on results of the surveys on the data of Lithuanian publishing statistics.

SESSION 3.

Media use: from digital paratext to multiscreening and hypertext

3.1 Massimo Salgaro, Pasqualina Sorrentino, Jana Lüdtkke and Art Jacobs.

Does the (E)book Have an Aura? A Study on the Social Prestige of the Reading Support

Starting from Walter Benjamin's definition of aura as an "effect of a work of art being uniquely present in time and space," the aim of the present study is to investigate whether the kind of reading support (antique book and kindle) and age of participants might affect the social prestige (the so-called *aura*) judgment of a literary work (prose and verse). The experiment consists of an offline study. Participants, belonging

to two age groups, are first asked to read short prose and poetry texts in two different formats and then to complete a questionnaire. Our hypothesis is that the antique book carries higher social prestige for the older generation than the digital one, whereas the younger generation doesn't make any difference between the two different formats. The study is going to be embedded in a growing body of studies on the difference between reading literature on paper and on screen and on the familiarity of the digital media as a core problem of contemporary mediorama.

3.2 Danielle Dahan, Mirit Barzillai and Tami Katzir. Children's Reading Preferences, Performance and Evaluations Across Mediums

There has been a significant rise in the use of computers and electronic devices for reading in both personal and educational settings. Work on the effects of presentation modality on reading performances and self-evaluations has explored these issues with adults (Ackerman & Lauterman 2012; Mangen, Walgermo & Brønneck 2013). Less is

known about how children's reading preferences, performance and self-evaluations are affected by screen vs. print tasks. In this study, 82 fifth and sixth grade students read texts on computer screens and on paper. They answered comprehension questions and rated their confidence in their answers. In addition, they completed preference questionnaires prior to and after the task. Results indicated that children prefer reading from screens. They performed significantly better on paper, however, and were found to have higher confidence ratings in this medium. Finally, post-task preference questionnaires indicated that children's preference for screen reading decreased from pre- to post-test. The results have important pedagogical implications.

3.3 Rakefet Ackerman and Tirza Lauterman. A Metacognitive Analysis of Media Effects on Problem Solving

Although digital reading is a widespread activity, many recent studies still report lower success rates when performing tasks on screen than when performing the same tasks on paper. Most of these

findings were observed in reading comprehension tasks. One potential explanation for the lower success on screen is the effect of the medium on regulation of cognitive efforts, which is manifested by an inferior adaptation to task characteristics, like time pressure. If the medium provides contextual cues that lead to shallower processing on screen, then inferior performance on screen should be common to a variety of challenging cognitive tasks. In particular, we suggest that the effect of the medium is not related to the extent of reading, which is involved in the task. The talk will include a review of a line of research examining factors that underlie in the medium effects on effort regulation while solving problems.

3.4 Virginia Pignagnoli. Reading Digital Paratexts

Today's readers often complement their reading experience of printed novels with the digital supplementary material they can find online, i.e., digital paratexts, such as a novel's website or a writer's social media profiles. This paper presents the preliminary results

of a study conducted with public library users in Turin (Italy) and undergraduate and graduate students at the University of Turin. Participants provided detailed free-text descriptions of their reading experience before and after the reading of the digital paratexts. The analysis of readers' accounts suggests a perceived alteration of the construction of the narrator in the readers' storyworlds and of the author in the readers' actual worlds. This study offers empirical evidence of reading practices and a few considerations on the implications of reading digital paratexts for the future of reading fictional narratives.

SESSION 4.

The changing social position of digital reading

4.1 Faye Antoniou, Aggeliki Mouzaki, Asimina Ralli, Sophia Papaioannou and Vasiliki Diamanti. A Computerized Screening Tool for Learning Disabilities

The present study attempted to identify early learning difficulties using a computerized screening instrument. The participants were 371 first graders,

270 typical, 49 with learning disabilities using state identification criteria, 30 with ADHD, and 22 with specific language impairments. The measure involved the assessment of vocabulary knowledge, story narration, phonological awareness; story narration, morphological awareness, pragmatics, letter sound knowledge were evaluated in a computerized environment. A latent class analysis suggested the existence of 5 distinct subgroups with 57.1% of the students with LD being classified in class 3, 72.7% of students with SLI in class 4 and 56.7% of the students with ADHD in class 1. Indices of sensitivity and specificity using the logistic model suggested excellent differentiation between groups.

4.2 Alenka Mohar and Miha Kovač. The Transformation of Textbooks in Primary and Secondary Education in the Era of Digitization

In Europe, the majority of digital textbooks have been so far just digital versions of printed books, using the same layout, enriched with a variety of interactive and multimedia resources, such as videos, images, animations

and – in the cases of more sophisticated textbooks – interactive exercises. Such transformation from paper to digital raises many issues, such as how the changed materiality of a textbook affects processes of creating and marketing the textbooks on the one hand, and those of learning and teaching on the other. Further, digital technology requires ongoing bodily learning as well, i.e., the user must be familiar with many micromovements in a long string of procedures that are demanded in a technological ecosystem. The paper will examine the question of the cultural impacts of these transformations, both from the educational and the publishing points of view and how these changes could be assessed and evaluated.

4.3 Anežka Kuzmičová, Patrícia Dias, Ana Vogrinčič Čepič, Anne-Mette Bech Albrechtslund, André Casado, Marina Kotrla Topić, Xavier Mínguez López, Skans Kersti Nilsson and Inês Teixeira-Botelho. Social Space in Silent Reading Practices

Reporting a qualitative study of reading practices across student focus groups

from six European countries, this paper identifies an underexplored factor in reading behavior and experience. This factor is the sheer physical presence, as well as concurrent activity, of other people in the environment where one engages in individual, silent reading. The primary goal of the study was to explore the role and possible associations of a number of variables (text type, purpose, device) in selecting generic (e.g., indoors vs. outdoors) as well as specific (e.g., home vs. library) reading environments. Across all six samples included in the study, participants spontaneously testified to varied, and partly surprising, forms of immediate social awareness in their daily efforts to align body with mind for reading. The paper reports these emergent trends and discusses their potential implications for research and practice.

4.4 Arūnas Gudinaičius, Elena Macevičiūtė, Andrius Šuminas and Tom Wilson. Digital Reading for Reduction of Inequality

We aim to present the results of the preparatory period for research

exploring the usage of digital reading for reduction of digital divide in Lithuania.

It is based on the literature review and answers the following questions:

- 1) What research is carried out about reducing inequality and increasing inclusion by means of reading and digital reading in European countries?
- 2) What conceptual frameworks are used to explore reading and digital reading in the contexts of digital divide, reduction of inequality and increasing inclusion?
- 3) What methods and tools are used in measuring and evaluating success or failure of usage of digital texts for increasing inclusion?

The conclusions of the literature review would be interesting and useful for researchers in social science and for institutions working with social risk groups. It will be used to design a conceptual and methodological approach for small-case natural experiments in Lithuania.

SESSION 5.

The changing role of digital reading: practices, navigation strategies and typography

5.1 Andrew Denham. How Intimate Can Digital Reading Practices Become?

This paper sets out to consider and position current thinking traverse two main threads. First, whether the terms and conditions of intimacy in digital reading practices needs a reevaluation in view of how we handle the expectations of the reader. Second, to develop an understanding of how on-screen digital reading practices are mediated in and through aesthetic form, and how intimate that aesthetic experience may be. Ways of reading in the physical form are often talked about in terms of the warmth and intimacy that prevails – thus increasing its emotive value and worth. This paper intends to consider whether intimacy in the digital realm can move beyond notions of say, bespoke virtual typography, and consider whether intimacy in digital reading requires a fundamental shift in design thinking. The idea is to map an aesthetic of intimacy in

digital reading praxis through positioning historical, conceptual and theoretical frameworks. The paper argues that digital reading practices and aesthetic form co-evolve through technogenesis – reciprocated immaterial relations between the human condition in reading and the neural networks in the brain (Hayles 2012). The paper will look at how some of these digital reading processes unfurl.

5.2 Robert Riter. Translating Experiencing: Reading Artists' Books in Digital Spaces

Artists' books, as well as other varieties of book art, are experiential objects. In these objects, standard definitions of information, evidence and reading blur. Structure, text and material are all equally significant. Each element engages the reader individually and together as a complete object. These works are experienced rather than strictly read. Increasingly, makers and institutions are deploying digital methods and tools to support engagement with book art in online environments. These exercises present a number of interesting questions. The representation of book

art in these environments provides an avenue for considering how we represent complex objects in digital spaces, the varieties of reading experience that can be supported and, lastly, how makers are applying principles of craft to the construction of digital reading spaces. What challenges are involved in representing material-rich objects in an online environment? Which materialities can be represented, and how is this accomplished? Beyond artifacts, how is the experience of reading book art supported in digital spaces? What are the limits and potentialities? These are the questions that I will address in this paper. This will be accomplished through a content analysis of digitally represented artists' books and the repositories that house these works.

5.3 Tove Stjern Frønes. Navigation Strategies in Online Reading Assessments

The key concept in this study is navigation, realized through the navigation paths students choose to follow through webpages. Navigation strategies include both pathfinding in line

with the reading target, control strategies and repair strategies when students do not find their way. The study uses data from log files to explore students' navigation strategies when they read online. The log files were generated by a 40-minute digital reading test in the PISA survey, and it was analyzed using SQL programming. The sample was representative of Norwegian 15-year-olds (N = 666). One of the main findings of the study is that good navigators have other characteristics than good readers have. That means that among fifteen-year-olds, it is possible to isolate navigation strategies that are different from the most good paper readers have and this is described as typical navigation behaviors (patterns of repeated in several reading situations). There are three navigation types to be found in the material, called the passive readers, the eager readers and goal-oriented readers. The three types have different profiles based on how long they read, how they respond, their endurance, navigation patterns and whether they alternate between different strategies when necessary (their flexibility).

5.4 Milda Kuraitytė. Tracking Kinetic Typography

The screen changed the appearance of fonts and even static on-screen typography (Serial Presentation) represented a whole new challenge. With the appearance of on-screen typography, the readability of typography had to be analyzed once again from its beginning. Soon enough, this became even more complex as typography on-screen started to move. Kinetic typography is the category of temporal typography, which is displayed on the screen and includes movement. The achievements of the twenty-first century technology witnessed the appearance of a number of increasingly complex categories of kinetic typography, which had direct impact on its readability. The use of kinetic typography in media raises the following questions: do all categories of kinetic typography must be legible and readable? What does the audience expect from on-screen typography? The present research consists of a series of experiments on the legibility and readability of Kinetic Typography by using an eye tracker. The

data of the eye tracker were collected together with questionnaires. The results reflect the expectancy of the participants from kinetic typography and show the tendencies and readability of its categories.

SESSION 6.

Reading for learning: working memory and deep reading

6.1 Richard Dewhurst, Theresa Schilhab, Stephan Hansen and Stine Rath Hansen. Gaze Allocation & Subsequent Memory for Nao: A First Glimpse into the Visual Processes at Play in Social Robotics

Following grounded cognition hypotheses that link memory formation to sensory-motoric processes, direct experiences add to the ability to process and remember tangible phenomena. Thus, exposure to real events should facilitate retention and retrieval more readily than screen-based alternatives. In this study, we exposed children to a sequence of distinct stances performed by the robot Nao, either face-to-face (direct), or mediated via video

recording and presented on-screen (indirect). Mobile eye-tracking was employed to record real-time gaze data during this encoding task. Following this, recognition was tested using the tenets of the Old/New paradigm. We report on differences in visual selection and overall scanning between the two conditions, and relate these to memory performance and subjective experience observing the robot. These results also have implications more broadly to the use of indirect mediums for information acquisition used by children (like computerized tablets), versus direct “real-life” experiences.

6.2 Kristiane Hauer. From Deep Reading to Deep Learning - The Potentials of Deep Reading in the Literature Class

The educational systems of today face a big challenge when it comes to attaining and sustaining the pupils’ attention and competence for deep learning, an effect caused by digital media (Gee 2007; Woolf & Barzillai 2009; Balling G. et al. 2014). But deep reading practices – and especially the

deep reading of fiction – could be seen as one of the means through which we can face this challenge. Currently, I do empirical research in a Danish lower secondary school on the relationship between fiction reading and deep attention. Through didactic activities that encourage deep reading practices in the literature class, the project investigates the possibilities of actively improving the pupils’ general ability to stay focused and practice deep learning. In my presentation, I will introduce the empirical design of my project and present the methodology inspired by phenomenology and cognitive science (Woolf 2008; Gallagher & Zahavi 2008; Mangen 2013). Finally, I will discuss the perspectives of my preliminary results in a broader context of literacy and reading research.

6.3 Judith Wylie, Marc Edwards and Aidan Feeney. Learning Through Hypertext: The Influence of Working Memory Capacity and Metacognitive Experience

Few studies have systematically investigated the effects of text format,

working memory, metacognition and prior knowledge on learning from hypertext. By using four formats – structured hypertext, networked hypertext, scrolling text and printed text – we are investigating undergraduate students’ navigation through hypertext as they attempt to learn new information. Post-reading comprehension and memory are assessed via multiple-choice and open-ended questions. Verbal and visual-spatial measures of working memory are administered, and predictions of performance and judgments of learning are collected. Information about the navigation path and time spent on specific sections of the hypertext is recorded. The analysis will be focused on the following questions: 1) How does working memory ability affect navigation through hypertext and learning? 2) What metacognitive reading strategies are employed when reading through hypertext (versus linear/paper text)? 3) Do reported metacognitive reading strategies concur with navigational logs? 4) Are predictions of performance and judgements of learning accurate?

6.4 Christine A. Knoop and Moniek Kuijpers. On the Empirical Study of Reading in the Age of Digitization

Empirical research on e-reading focuses strongly on media differences (paper vs. screen), pertaining to the materiality of the medium as well as to audience-specific cognitive, developmental, behavioral and affective implications. However, it is always trapped by a myriad confounding issues: media familiarity, value judgments and the entanglement of media choices in larger contexts, such as novel educational concepts or contemporary ways of creating social capital. In this paper, we propose a metareview of extant empirical studies on e-reading from an epistemological perspective: What type of knowledge do these studies create? Is it sociological knowledge on changes of habits, preferences and norms in media use and communication? Cognitive or behavioral knowledge? Or is it historical knowledge about a generation at the onset of the digital revolution? Is e-reading really intrinsically different than reading on paper, or are we, in the end, “only” writing another chapter in the cultural history of the book?

SESSION 7. Multidisciplinary approach to internet reading and related skills

7.1 Paavo Leppänen, Carita Kiili, Jarkko Hautala and Otto Loberg. Internet and Learning difficulties: A Multidisciplinary Approach for Understanding Information Seeking in New Media

Digital media and the internet have changed literacy practices in many ways by requiring new reading skills and strategies. In our eSeek-project, we have studied 11-13 year-old sixth grade children in multidisciplinary interconnected studies with multilevel analyses in order to (1) increase our understanding of internet information inquiry skills and the interconnections between internet reading, cognitive strategies and skills as well as brain processes, to (2) map the challenges that are met by students with reading difficulties and those with attentional problems, and to (3) promote pedagogical practices for the assessment and efficient teaching of internet reading skills. Internet

reading skills of about 400 children were assessed in a classroom study. About 130 students also participated in individual cognitive assessments, eye-tracking and brain research experiments. Overall, our multidisciplinary approach will increase the scientific and pedagogical knowledge on internet reading in typical and poor learners, which helps to develop assessment tools and guidelines.

7.2 Jarkko Hautala, Otto Loberg and Paavo Leppänen. What Information Should I Search for on the Internet Again?

An understudied process of Internet reading is the encoding of information need. A large-scale eye movement study investigated how 130 sixth grade students with differing cognitive abilities read task assignments of information searching problems. The task assignment consisted of four sentences, among which one was the actual information searching request, and one a distractor sentence containing related but irrelevant information. High-performance in the information

task was associated with more re-readings of the task request than the distractor sentence. In contrast, better self-evaluated previous knowledge on the topic reduced the amount of re-readings on task request sentences. Poor concentration abilities were associated with less probable and shorter re-readings, especially on task request sentences. Traditional reading measures of fluency and comprehension were associated only with the first-pass reading behavior of the sentences, but not the re-reading behavior. These results pinpoint the crucial role of re-readings for task-focused reading comprehension, which is easily interfered by attentional problems.

7.3 **Laura Kanninen, Carita Kiili, Asko Tolvanen, Mikko Aro and Paavo H.T. Leppänen.** How Do Basic Literacy Skills Predict Students' Online Research and Comprehension?

This study investigates whether basic literacy skills (spelling, reading fluency, reading comprehension), together with nonverbal intelligence (ability for abstract reasoning) and gender, are related to

online research and comprehension. A Finnish adaptation of the Online Research and Comprehension Assessment (Leu et al. 2013) was used for measuring these skills with 426 sixth graders. Based on a structural equation model (SEM), these skills were divided into six factors, reflecting abilities to: 1) Locate information; 2) Confirm the credibility of information; 3) Question information credibility; 4) Identify the main ideas from a single source; 5) Synthesize information from multiple sources; 6) Communicate a justified position based on online inquiry. Altogether, literacy skills, nonverbal intelligence and gender explained 64 percent of the variance. However, 36 percent of the variance remained unexplained. The findings show that while poor online reading performance is partly due to poor literacy, it can also be due to factors unrelated to basic literacy skills.

7.4 **Otto Loberg, Jarkko Hautala, Jarmo Hämäläinen and Paavo Leppänen.** The Influence of Reading Fluency on Reading Comprehension

During Sentence Reading in 12-year old Typically Reading Children – Findings from Fixation-related Potentials

A possible background factor for successful information search is the capability to comprehend the semantic content of encountered material. The most rudimentary form of this comprehension is the capability to detect semantic violations that render the material incomprehensible and here the capability to quickly and accurately recognize words is instrumental. We ran an experiment during which 67 sixth graders read single sentences with either a semantically incongruent or congruent last word in relation to the established context and the participants had to judge whether the sentence made sense or not. We analyzed the relationship of reading fluency to eye movements, fixation-related brain potentials and judgement accuracy. Reading fluency was related to comprehension processes indexed by these variables when the deviations from context were quite small, only one letter. We thus suggest that although reading fluency modulates the time course of

comprehension process, it is not a strong determinant of comprehension accuracy.

SESSION 8.

Libraries and e-reading practices

8.1 Georgi Alexandrov. E-reading Practices in Access to Digital Repositories

The age of digitization is marked by a fast evolution of new electronic publications distributed on the internet. Building national repositories of electronic publications is an international challenge related to the preservation of the global cultural heritage. This paper examines the legal digital deposit of both types of electronic publications – static (e-books, e-journals) and dynamic (websites, forums, blogs). It presents advanced practices in some European countries as well as examples for initial steps in countries where the digital deposit has not been fully implemented yet. Three stages of implementation of the digital deposit have been identified: legislation changes, technological infrastructure and practical procedures.

Although the research reflects the whole digital deposit process – collection, classification, preservation and public access – it is focused on e-reading as the only practice relevant to the deposited electronic publications usability. The study analyses the e-reading from three aspects of the user access at the deposit libraries: 1) Restrictive regulation; 2) Electronic platforms; 3) Digital sustainability. It emphasizes the necessity of technological adaptation of the digital deposit to the dynamic e-reading processes – as a cultural attitude and innovation of reading devices. Such technological flexibility is the only way to assure long-time access to the deposited electronic publications.

8.2 Cengiz Acarturk, Serap Emil and Idil Aker Gokce. The Use of E-Books vs. Print Books: A Case Study of University Library Use in Turkey

The use of e-books vs. print copy books has been subject to an intense debate, accompanied by divergent findings in the literature. The topic has been investigated from a broad range

of perspectives, including comparative analyses of the market sales, the use in public or academic libraries, as well as the preferences of the readers. The present study aims at contributing to the research on e-book vs. print book reading by reporting a case study, which investigates the use of printed and electronic resources at a state university in Turkey. We focus on the analysis of the patterns of procurement by the University and the patterns of use by the readers. Our initial findings reveal that the use of e-books surpasses print book use, accompanied by a decrease in print book circulation in the past several years, revealing a change in the reading habits of the readers.

8.3 José Antonio Córdon-García, Taisa Dantas, Javier Merchan Sanchez-Jara and Almudena Mangas-Vega. Library in the Cloud: Reflections on Reading Practice and Access to Content in Virtual Environments

In order to understand the impact of the use of the new technologies in the reading practice by the users of public libraries in depth, series of empirical

researches were carried out in Spain in the last years. The purposes of these experiments were to diagnose the capacity of migration toward digital reading and to define what would be the ideal current library model. We present in this communication the results of one of the stages of these investigations, focused on observing the reader's interaction in an e-book subscription service. Results indicated that these systems are perceived as very intuitive and easy to use and facilitate the development of digital reading practice. The use of this service is presented as a viable solution for the loan of digital books, changing the classic library concept as a physical space for content access for the idea of a meeting place for sociocultural interaction.

8.4 Polly Mukanova, Marina Encheva and Marchela Borisova. *New Forms of Literacy and Transformation of the Reading Practices in Bulgaria*

The study presents the results of a survey on the reading practices in Bulgaria based on up-to-date library statistics. The statistical data cover the dynamics

of using the traditional library collections and the databases in the Bulgarian National Library. The study found that the reading habits have been transformed due to the changes in the information environment. Terms like "digital and mobile literacy" have emerged underlying the differences in user experiences and technical skills that are required when using new technologies to locate, evaluate and use information. Reading in the library is regarded in the study as specialized reading with its institutional characteristics. By using quantitative methods based on comparative analysis of this and other European libraries, common tendencies and features in the change of reading practices have been established. Those quantitative methods help in determining the changes in reading practices as a result of the development of technology and the new forms of literacy. There is a productive interaction between reading practices and the introduction of modern technologies. The results of the study can help in defining the role of the library in this process and predicting future tendencies.

SESSION 9.

Reading history and historiography

9.1 Kamilla Aslaksen. *The Unknown Readers of The District Governor's Daughters 1855-1900*

The paper studies the readers of the first Norwegian novel *The District Governor's Daughters*. The book induced ethical, as well as aesthetical, controversy when published anonymously in 1855. However, the Norwegian literary scene grew, and its trends changed. *The District Governor's Daughters* was admired by major writers of world literature in the 1870s and -80s, such as Henrik Ibsen, and the novel's impact is well-documented. By 1900, the novel had been reprinted five times, and had acquired status as a national icon. Who, apart from critics and authors, have read this iconic novel? With data from libraries' acquisition lists, lending catalogues and booksellers' lists, this paper maps the readers of *The District Governor's Daughters*. Who were they? Did men read this book, a "women's lib"- novel? Did the book have readers from the working classes? The critics

have changed their mind about the book in the course of the period, and the novel took on ever-new roles on the literary scene. What part was played by the lay readers in this? Did they follow the professional readers, or did they create other patterns of interest and reading? Were the five print runs initiated by reader-demand, or was it pushed by other actors?

9.2 Ilona Savolainen. *Fragile Minds, Robust Bodies and the Suggestive Power of Reading: The Construction of the Theory on Young Readers in Finland, 1914-1944*

In Finland, the psychological development of children and adolescents became an object of keen scientific interest in the beginning of the 20th century. My paper focuses on the construction of the theory on the mind of the young reader in Finnish psychology and pedagogy. As material, I use four most prominent studies covering young people's reading between 1914 and 1944. I am especially interested in the acceptability of reading for pleasure. I argue that

young people's leisure reading became gradually more acceptable during the course of the century. Pleasure became to be considered as an essential part of children's and adolescents' reading experience and finally even a prerequisite for favorable effects of reading. However, this process was not straightforwardly linear. The approach of young people's reading through social, psychological and pedagogical perspectives leads to different conclusions, and these perspectives were intertwined in a complex way in the emerging theory on young readers.

9.3 Tiit Reimo. *Research on Reading in Estonia*

The interest of researchers toward reading in the past centuries has grown during the last decades in all over the world. The sources for historical research are book heritage, inventory lists, historical book shops and library catalogues and ownership marks in books. Research on reading in early modern times started in Estonia at the end of 1970s. At present, there are two main approaches. The first one

is following the methods of historical bibliography, using the sources outside the books: archive materials, book lists in property inventories, notes on book auctions, printed book shop catalogues etc. The other direction is based on historical book collections. The sources for research are gathered from the books themselves and amended with information from manuscript or printed materials. Gathering this kind of material demands the possibility to look through a large number of books and take notice of different ownership marks.

9.4 Ilkka Mäkinen. *PISA Assessments and New Insights in Reading Motivation*

PISA Assessments have electrified the discourse on reading all over the world. As if by chance, it was detected that competence in reading is dependent on reading motivation. Fluent reading requires practice, i.e., a sufficient number of pages read and hours spent in reading. This, in return, requires an intrinsic motivation to read in the person who reads: to a certain extent, one has to love reading. My paper seeks to study how this revelation of the

reading motivation, or love of reading, was detected, where the necessary theoretical and methodological know-how was found, and how the whole process revives an age-old rhetoric tradition in the discourse on reading.

SESSION 10.

Literature and reading for leisure: measuring emotions

10.1 Marina Kotrla Topic and Marina Perkovic Kovacevic. Reading Fiction from Paper vs. Screen in Relation to Empathy and Theory of Mind

It is well-known that reading fiction affects empathy and theory of mind (Mar et al. 2006). The aim of this research was to investigate the possible effect of the media from which the fictional text is being read (digital screens vs. paper) on empathy and theory of mind. This preliminary research included 83 students who were divided in two groups. Both groups read the same fictional novel by J. Joyce, only one group read the text from paper and the other group from the computer screen. After completing the reading assignment,

the students completed a series of questionnaires and measurement scales, including an Empathy Scale and Reading the Mind in the Eyes test (Baron-Cohen et al. 1997). The results show no immediate difference in empathy and theory of mind depending on the media from which the text was read. Implications of the study and plans for future research are discussed.

10.2 Tyler Shores. Reading On-screen and Reading in Print – Does the Medium Really Matter?

During the past year, the rapid rise and popularity of e-books has given way to a plateau, with reports indicating a decline in e-books for the first time. What has changed? This paper will discuss this seeming shift in reading habits, as well as analyzing the ways in which readers engage with reading both onscreen and in print. What happens to the experience of reading when moving from page to screen, or from screen to page? Does the medium truly matter for the experience of the reader? This discussion will also explore the ways in which attention and distraction are both

integral parts of the reading experience, as well as how technologies of the book – both past and present – shape our interaction with the text. This paper will draw upon current research being undertaken with readers across a range of reading contexts.

10.3 Egon Werlen and Per Bergamin. The Rating of Texts for an International Database of Emotional Short Texts: First Results

The purpose of this exploratory study is to rate and categorize emotional characteristics of short texts (900-1100 characters) with the aim to create a balanced database for research. Two different procedures were applied to evaluate the valence and arousal of 24 German texts written by Swiss volunteers, 19 texts written by Catalan/Spanish volunteers and subsequently translated, and further six texts, drafted by Swiss researchers. Self-Assessment-Manikins (SAM) were used for an expert rating and the Berlin Affective Word List (BAWL) for an automated lexical rating. Texts from Switzerland and Spain show similar average values regarding valence and

arousal. The correlation between SAM and lexical ratings for valence is $r=.65$, while the correlation for arousal ratings is $r=.14$. The categorization of valence yields similar groups with SAM or lexical ratings. These collected text samples are not sufficient (e.g., an over-representation of high arousal); therefore, the additional drafting of stories with support of the lexical word ratings is recommendable.

10.4 Anne Mangel, Massimo Salgaro, Pasqualina Sorrentino, Gitte Balling, Michael Burke, Jana Lüdtkke, Berenike Herrmann and Art Jacobs. *Cognitive and Emotional Aspects of Literary Prose Reading: An Eye Tracking Study*

The aim of this study is to investigate empirically, by the use of qualitative and quantitative methods, the effects of certain textual/stylistic features of literary prose on cognitive and emotional aspects of reading. Specifically, using two chapters from John Williams' novel *Stoner* (1965/2012), the study combines text analysis on qualitative (viz., a foregrounding analysis) and quantitative grounds (e.g., SALAT tools: <http://www.kristopherkyle.com/tools.html>) with data

from a questionnaire and eye tracking measures. The text analysis provided a basis for predicting participants' self-reported reading experience, and it informed the development of specific hypotheses regarding the participants' eye movement pattern during reading. Specifically, in line with the neurocognitive poetics model (Jacobs 2015a, 2015b), we predicted two types of reading behavior: (i) fast and automatic (for high emotion potential segments) vs. (ii) slower reading (for high aesthetic value segments). Preliminary results of the combined rating data and eye tracking study will be presented. The outcome of this study will provide a basis for follow-up studies comparing prose reading on different devices (paper vs. screens), and it may guide the development of specific hypotheses to be tested with neuroimaging methods.

SESSION 11.

Interpreting reading trends in book sales and design

11.1 Angus Phillips, Zoran Velagić, Arūnas Gudiniavičius and Andrius

Šuminas. *Trends and Contrasts in Book Cover Design*

The aim of the paper is to present the views of publishers on cover design, contrasting research from two European markets – one big (UK) and one small (Lithuania) – and through an examination of the wider theoretical and marketing perspectives, to extend our analysis of the importance of the book cover. The cover has many functions, whether giving information (title, author), forming part of the book's aesthetic (design, motif), or as part of the book's marketing. Covers are thresholds that offer “the world at large the possibility of either stepping inside or turning back,” and as such they are part of the publisher's message, which Genette describes in “spatial, temporal, substantial, pragmatic, and functional” terms. Based on interviews with art directors and cover designers, the research presented in this paper places the instinctive process of creating designs within a commercial setting. What are the assumptions – conscious or otherwise – that publishers make about the markets they are targeting? How does the cover

position the book in the minds of its purchaser? What are the differences between designs created for hardbacks or paperbacks? The paper contrasts the views of professionals in a large and a small European market.

11.2 Dan Cristea and Dana Badulescu. [Reading Books Differently](#)

We present technology intended to complement electronic reading with contextual information. Automatic language processes working on the original text adorn it with electronic artifacts that highlight mentions of entities and relations between them; thus, they reveal semantic links within the text and outside it, provide links to web pages and maps or help readers initiate and access communities of people preoccupied with common readings. A first instantiation of the MappingBooks system allows a reader, who uses a tablet or another mobile device, to navigate “outside” the book pertaining to the geographical entities that the books contain. MappingBooks pushes the interactivity with the book content well beyond the usual hypertext

links, because the mapped book can contextualize instantaneous positions of the user while reading, while tailoring the experience to the user’s personality and cultural preferences. Although rooted in a given, constant text once associated with a specific reader, the book is personalized to enhance reading satisfaction and maximize guiding. The actual effects of such a technology remain to be studied.

11.3 Georgi Alexandrov and Lilia Raycheva. [The Challenges of E-reading Habits to the Trends of E-book Sales](#)

The practices of e-reading in the contemporary ICT environment pose various challenges to the e-book market performance. The proposed paper presents a study that examines the e-reading habits and the usage of e-reading devices within the context of e-book sale trends. The study is based on the concept of the parallel antagonism and synergy in the market realization of print and e-books. The study presents a comparable data analysis between the trend setting role of the US e-book market and the

larger European e-book markets. Book industry statistics from some smaller markets are also analyzed. The paper is developed in five interconnected fields of mutual dependence between the e-book sales and the e-reading habits: 1) regulatory – based on the legal framework, including copy rights; 2) economical – the market realization of the book formats and the variety of reading devices; 3) technological – the production and distribution of the e-books, as well as the ways the e-books are read; 4) contextual – the preferences to the contents of the e-books; 5) psychological – the factors impacting the changing reading attitudes. Finally, the paper identifies the influence of the reading habits of the audiences on the e-book market performance.

SESSION 12. **Reading comprehension between different formats: meta-analysis and eye tracking**

12.1 Pablo Delgado, Cristina Vargas, Kate Ziegelstein, Faye Antoniou,

Susana Padeliadu, Gal Ben-Yehudah, Rakefet Ackerman and Ladislao

Salmerón. Reading Comprehension of Print and Digital Texts: A Meta-analysis

Despite years of research, there is still no consensus about the potential differences in comprehension of reading print or digital texts. While there are some systematic reviews on this issue, they were conducted either before the rise of the internet and portable devices or were just focused on the assessment of reading skills. Our meta-analysis goal is to expand on these previous efforts by reviewing empirical studies that compared reading comprehension of print and digital texts, published during the period of 2000-2016. We test the effects of various moderators of the potential differences, including individual differences (e.g., age), materials (e.g., genre, length), device (computer, tablet, e-reader) and context (e.g., provision of training with digital devices). The results of the meta-analysis will be discussed.

12.2 Ugo Ballenghein, Olga Megalakaki and Thierry Baccino. Reading Emotional Texts: Effects on

Comprehension, Eye Movements and Body Posture

The aim of this work is to better understand the role of emotions described in texts with respect to their comprehension as well as the relationship between posture and eye movements. In terms of comprehension, we hypothesize that valence and arousal will improve text comprehension in the sense that the stronger the emotional intensity, the better the understanding (Legros 1988; Martins,1993) and that the comprehension score will be better in the case of negative valence than in the case of positive valence (Kitayama & Howard 1994; Pratto 1994). With respect to eye movements, we hypothesize that the stronger the intensity of the emotion, the longer the fixation durations. Moreover, we expect that fixation durations will be longer in the case of positive or negative texts (Nummenmaa, Hyönä & Calvo 2006). For posture, we hypothesize that a strong arousal, as well as a negative or positive valence, will lead to fewer head movements and a closer reading distance (Kaakinen, Ballenghein, Baccino, in preparation). To carry out this study,

we will test the comprehension of texts. Participants will read emotional texts on a tablet and they will be equipped with eye-tracking glasses and motion capture sensors.

12.3 Johanna Kaakinen, Ugo Ballenghein, Geoffrey Tissier and Thierry Baccino. Fluctuations in Reader Engagement During Digital Reading: Evidence from Concurrent Recordings of Eye Movements and Postural Micromovements

We examined the effects of task-relevance on postural micromovements during expository text reading. The text was presented on a screen (Experiment No. 1) or on a handheld tablet (Experiment No. 2) while participants' eye movements and postural micromovements were recorded. In both experiments, participants were instructed to read an expository text from a specific perspective. The instructions made certain sentences within the text relevant and others irrelevant to the reader. After reading, a free recall was collected. Preliminary analyses of the results showed that head-to-screen distance

and the speed of micromovements were smaller during reading of task-relevant than irrelevant sentences. Importantly, micromovements correlated with recall performance. The results show that there is a task-induced dynamic fluctuation in readers' cognitive engagement with text. Implications for future studies of digital reading will be discussed.

12.4 Monika Płużyczka. Reading Brain – the Eye Tracking Experience The eye tracking technology, which enables to analyze eye movements during the perception and processing of information, is becoming more affordable and more applicable in the field of applied linguistics and translation studies. It extends our understanding of the interrelations between visual perception and cognitive processes that occur during reading, test solving or translating. The author presents the experiments that were conducted to answer the main question: to what extent do eye tracking results help to reveal the specificity of reading with various purposes and the cognitive processes that take place during it. The

experiment shows which eye tracking parameters can be used to achieve this aim, and it verifies the credibility of the chosen eye tracking parameters in relation to various units of analysis in order to assess which of them are the most universal ones and which parameters can indicate (to some extent) particular mental processes.

SESSION 13.

The changing status of reading for learning and teachers needs

13.1 Maria Perifanou, Zuzana Petrová, Lefkios Neophytou and Nuria Castells Gomez. Digital Literacy: Exploring EU Teachers' Training Needs

In 2006, the European Parliament recognized digital literacy as one of the eight key competences that every European citizen should master and as one of the four foundational skills for learning, while in the European Commission's 2010 Digital Agenda it was decided that the Digital Literacy is one of its seven pillars. Furthermore, one of the major outcomes of the OECD 2009 report is the big need not only to

integrate ICT into school curricula but also to invest in training teachers to use them for teaching and to help students learn. In order to address this need, in this paper, we aim to explore how teachers are prepared to the insertion of new technologies in their pedagogical practices and what they need in order to better support their students' learning process to develop broader digital literacy skills, such as e-reading skills. This is a preliminary research that will focus on collecting data from a big number of teachers from different countries in order to prepare a Massive Open Online Course for teachers' training on supporting teachers to enhance students' development of digital literacies, and the development of their own as well, providing all the basic methodological and practical training material/tools.

13.2 Nuria Castells, Marta Minguela, Esther Nadal, Eva Lordán and Isabel Cuevas. Higher Education Students' Preferences for Reading to Learn: Paper or Screen? Academic Field Differences This research aimed at characterizing the kind of tasks performed by

undergraduate students involved in different academic disciplines in order to learn. Specifically, we wanted to contrast the learning tasks performed by undergraduate students involved in Sciences vs. Humanities academic degrees. 449 undergraduate students (225 involved in the Sciences field and 224 studying a Humanities degree) answered an online questionnaire about the learning tasks they perform. In this questionnaire, participants were presented with 12 tasks that required reading and/or writing to learn, and they had to choose which tasks they typically do and characterize them in accordance with different dimensions on a Likert scale, amongst others: the format (paper and/or digital) of the sources of information used for every task and the format (paper vs. digital) of the final product of the task. The results point to significant differences in the frequency in which the students of the different academic disciplines do some learning tasks. Furthermore, students from the Sciences field use significantly more digital sources than those studying Humanities. Finally, these two groups of

students also differ in the format of the products of the learning tasks they do.

13.3 **Jeanne-Louise Moys, Ann Marcus-Quinn and Triona Hourigan.** *Investigating the Interplay Between Typographic Differentiation, Motivation and Recall in E-learning*

This paper reports on a collaborative project between the University of Reading, the University of Limerick and the Department of Education and Skills (Ireland). Our research focuses on the role of typographic presentation in post-primary student use of eLearning for reading-based activities. In particular, we are exploring whether different degrees of visual differentiation applied to the typographic signaling of different kinds of information in an online poetry resource influence learners' motivation and recall when engaging with digital interfaces. We are developing customized eLearning resources that learners will interact with during a poetry lesson. A combination of quantitative and qualitative/observational methods of data collection are being used to explore the influence of typographic signaling

on learners' motivations and recall. We hope to present our methods, materials and findings as examples of how a cross-disciplinary collaboration can inform approaches to the study of eLearning and guidelines for optimizing everyday practice.

13.4 **Theresa Schilhab.** *Game Changer: The Spill-over Effect of iPad Use for Leisure on Learning and Reading in Danish Primary Schools*

The multifunctional nature of smart technology makes it attractive as a tool for learning and education leading; however, it also leads to noticeable changes in affordances and embodiment and, consequently, learning. In Denmark, in response to the government's financial support to integrate and adopt digital learning materials in schools, a growing number of so-called "iPad-schools" across the country have invested in tablets (predominantly iPads) on a one pupil, one device basis. The present qualitative research involved interviews of 10 pupils from three schools in the Copenhagen area to explore their subjective experiences of the impact of

the municipally endorsed distribution of iPads for student use during break time. The findings of this exploratory study suggest that there are significant differences in experiences by age group. I discuss the results in relation to changes in affordances, embodiment and learning focusing on the spill-over effect of iPad use for leisure on learning and meta-self-regulation in reading.

SESSION 14.

The changing definition of reading and literacy

14.1 Jenny Thomson, Tanja Prieler and Clare Wood. Evaluating the Effect of Exposure to Digital Text on Early Literacy Development

This presentation will report initial findings from a longitudinal study that is evaluating the effect of exposure to digital text and media on early literacy development. Data has been collected from 140 typically-developing primary school children from the United Kingdom, all in their first term of formal schooling (both reading instruction and formal schooling begin at age four in the UK). Measures

include assessments of visual attention, parent and teacher questionnaires to gauge digital exposure at home and school, as well as traditional predictor measures of early literacy including letter knowledge, phonological awareness and vocabulary. The two key questions explored in this talk are: a) What is the relationship between beginning readers' visual attention profiles and their reading performance across a range of print and digital text formats? b) Is there evidence of a relationship between a child's visual attention profile in the first year of school and parental reports of their child's experience of print and digital text exposure at school-entry? Implications for our understanding of children learning to read in a digital world will be discussed.

14.2 Matt Hayler. The Entangled Reader in a Digital Age

Digital reading devices do things to readers: they shape our experiences, change our perceptions of texts, affect how we can act and impact upon our cognition. In this way, e-readers are nothing new. This paper will explore how digital reading devices are distinctive,

but not unique, in their capacity for shaping reading experiences, paying attention to the bodies of both the reader and the device to discuss how a full understanding of reading requires us to understand human interaction with technologies and objects of all kinds. Texts, like knowledge, aren't neatly located where we might expect them to be, i.e., in books or brains, but, rather, they appear as products of entanglements between active agents. In exploring the particular characteristics of digital texts, I will draw on the work of post-phenomenologists, such as Don Ihde (1996), "4E" approaches in cognitive science and the Posthumanism of Cary Wolfe (2009).

14.3 Michael Ridley. Is AI Literate?

Technological innovations have repeatedly challenged notions about the nature and meaning of literacy and being literate. As a result, we now have to pose and consider a new question: Is AI literate? While the Oxford English Dictionary broadly defines artificial intelligence (AI) as the "capacity of computers or other machines to exhibit or simulate

intelligent behavior,” cognitive scientist Margaret Boden evocatively calls them “informationally powerful virtual machines” that “seek to make computers do the sort of things that minds can do.” Essentially, AI does what we do. As AI augments or extends our intellectual selves in increasingly intimate ways, we will offload cognitive effort to AI, effectively allowing the AI to “read the world” and make decisions for us. Given this, will machines with AI be literate in similar or different ways and how will that change our notion and experience of literacy?

SESSION 15.

Reading comprehension between different formats: paper vs. screen

15.1 Carla Ganito and Cátia Ferreira.

Paper vs. Screen: What Is Really Changing in Reading Practices?

The practice of reading is going through a profound change and the development of screen reading devices has fueled that change. Readers throughout the world are remediating their reading practices, while taking advantage of the possibilities offered by digital devices. Based on a

quantitative methodology, the paper will present and discuss the results of an extensive quantitative online survey of 16 countries, focused on Europe, aiming to contribute to a better understanding of the affordances of digital reading. One of the main conclusions is that reading matters so that when purchasing a digital device, the ability to read full-length formats is valued. Another conclusion is that digital reading is as an extension of paper as the individuals which read more on paper are the ones reading more in digital formats. Therefore, we cannot regard digital reading as a replacement activity but rather a cumulative one.

15.2 Rui Alexandre Alves, Teresa Limpo, Sara Costa, Maria Inês Maia, and José Paulo Leal.

HandSpy: A New Tool to Study Text Production in the Digital Humanities

One of the positive aspects of the digital revolution is the accessibility of an astonishing number of texts that are readily available for purposeful use and inspection. This profusion was paralleled by the spread of digital devices and the powerful developments of computing

that made it possible to unobtrusively log text production as it happens, as well as to analyze both production and final texts with powerful analytic tools and techniques. HandSpy is one of such tools – it uses smartpens and sensors to collect handwriting data and several psychophysiological indexes; it also offers a website for visualization and collaborative analyses of texts. HandSpy is particularly suited to carry out real-time studies of writing and to perform textual analyses on the emotional content of texts. HandSpy is used worldwide by several research teams. Their published studies will be reviewed along with a discussion of HandSpy limitations, advantages and future developments.

15.3 Igor Ž. Žagar.

Reading Words, Reading Images: Is There a Difference?

For the last fifteen years (or so), the field of argumentation is becoming more “flexible” and open for new approaches, for approaches that are not based merely on logic (of one form or another), not even just on language. In this paper, I would like to concentrate on one of these new approaches, on

the (so-called) visual argumentation, more precisely, on the impossibility of the (pure) visual argumentation, its very vague methodology and epistemology. In following Wittgenstein, who claims (*Philosophical Investigations*, 1953, I-#663) that “only when one knows the story does one know the significance of picture,” and by using the methodological

apparatus developed in N. J. Enfield’s groundbreaking work *The Anatomy of Meaning* (2009), I will show that:

1. Comparing different sets of visuals is far from being enough to (re)construct an argument or any other kind or meaning;
2. Every meaning (argumentation included) is composite and context-grounded;

3. Every meaning (argument included) is multimodal;
4. Meanings are not merely a summation of their multimodal parts (but should be defined in terms of their semiotic function);
5. Any composite sign (not just visuals) is a function of its co-occurrence with other (not necessarily visual) signs.

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Prepared by: Arūnas Gudiniavičius,
Aušra Navickienė, Tomas Petreikis and
Adriaan van der Weel

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