Zurich University of Applied Sciences

zh aw

School of Applied Linguistics
IUED Institute of
Translation and Interpreting

English Sprache Italiano
Technik
Français Kommunikation

Research project
Cognitive and Physical Ergonomics of Translation (ErgoTrans)

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Background to the *ErgoTrans* project

- Professional translation can be considered "a form of human-computer interaction" (O'Brien 2012: 101)
- Competence in language technology (e.g. CAT, MT) now a prerequisite for professional translation (EN15038 2006; ISO 17100 2015)
- Translation can be considered a type of situated cognition (Risku 2002: 529)
- Human cognition extends beyond internal processes to individuals' physical and social situation (cf. Hutchins 1995; Clark & Chalmers 1998/2010)

→ *Realities of professional translation with technology?*

→ *Effects of ergonomic issues on cognitive (over)load?*

Design of the *ErgoTrans* project

- Follow-up to *Capturing Translation Processes* (n=18)

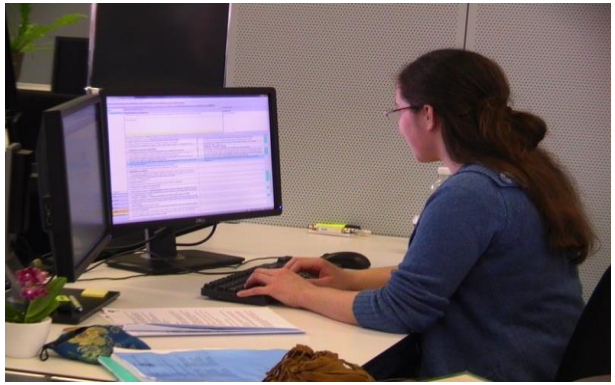
  → screen recording, eye tracking, keylogging
- Workplace observations (commercial, institutional, freelance; n=31)

  → screen and video recording, ergonomic assessments, interviews
- Hypothesis testing in usability lab (n=30)

  → screen recording, eye tracking, keylogging, commentaries, interviews
- International online survey (n=1850)

  → de, en, es, fr, it, pt
- Validation of workplace findings (n=19)

  → in-depth individual and group interviews



Cognitive aspects of translation

Cognitive ergonomics is concerned with mental processes, such as perception, memory, reasoning, and motor response, as they affect interactions among humans and other elements of a system.

International Ergonomics Association (IEA)

- Human-computer interactions (HCI)
- Computer responsiveness
- Language technology
- Over-crowded screens
- Disturbances and interruptions
- Time pressure

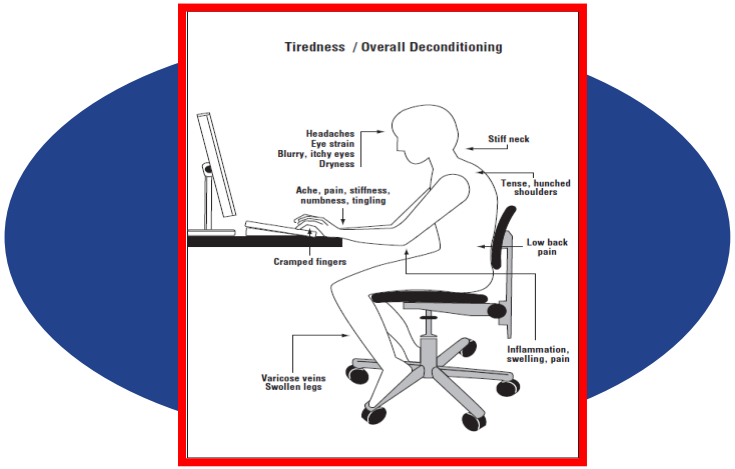
→ *Consequences for efficiency and concentration*

From cognitive to physical ergonomics

Translation as a cognitive act “in the human brain”

(cf. Chesterman 2013; Toury 2012)

From cognitive to physical ergonomics



(cf. Chesterman 2013; Toury 2012)

Physical aspects of translation

Physical ergonomics is concerned with human anatomical, anthropometric, physiological and biomechanical characteristics as they relate to physical activity.

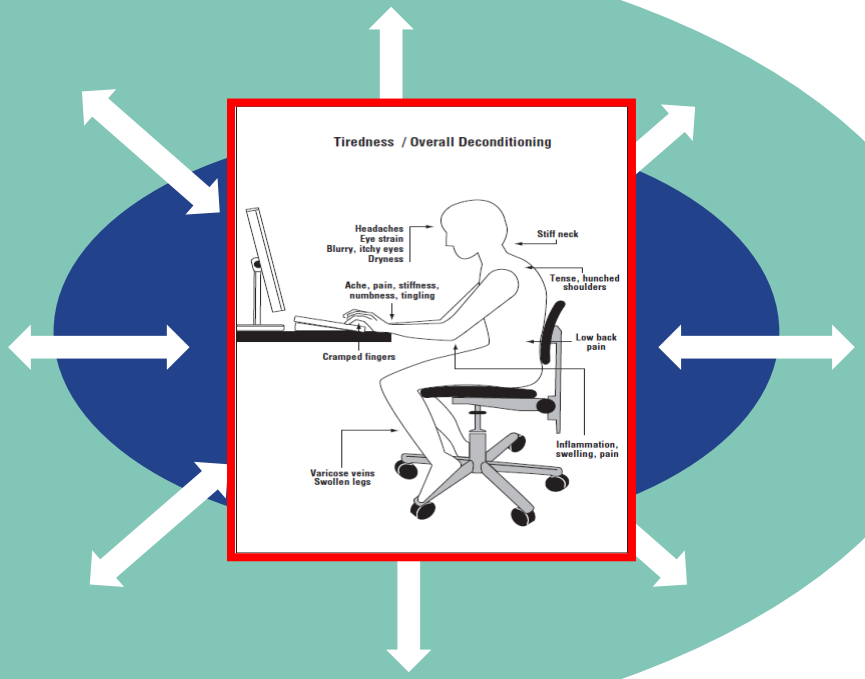
International Ergonomics Association (IEA)

- design of equipment (desks, chairs, keyboards, mice)
- distortions of hand and wrist when keyboarding
- extended periods sitting in one position, resulting in stiffness in the neck or back, and leg pain
- context factors (noise levels, lighting, temperature)
- distractions and interruptions

→ *Consequences for concentration and health*

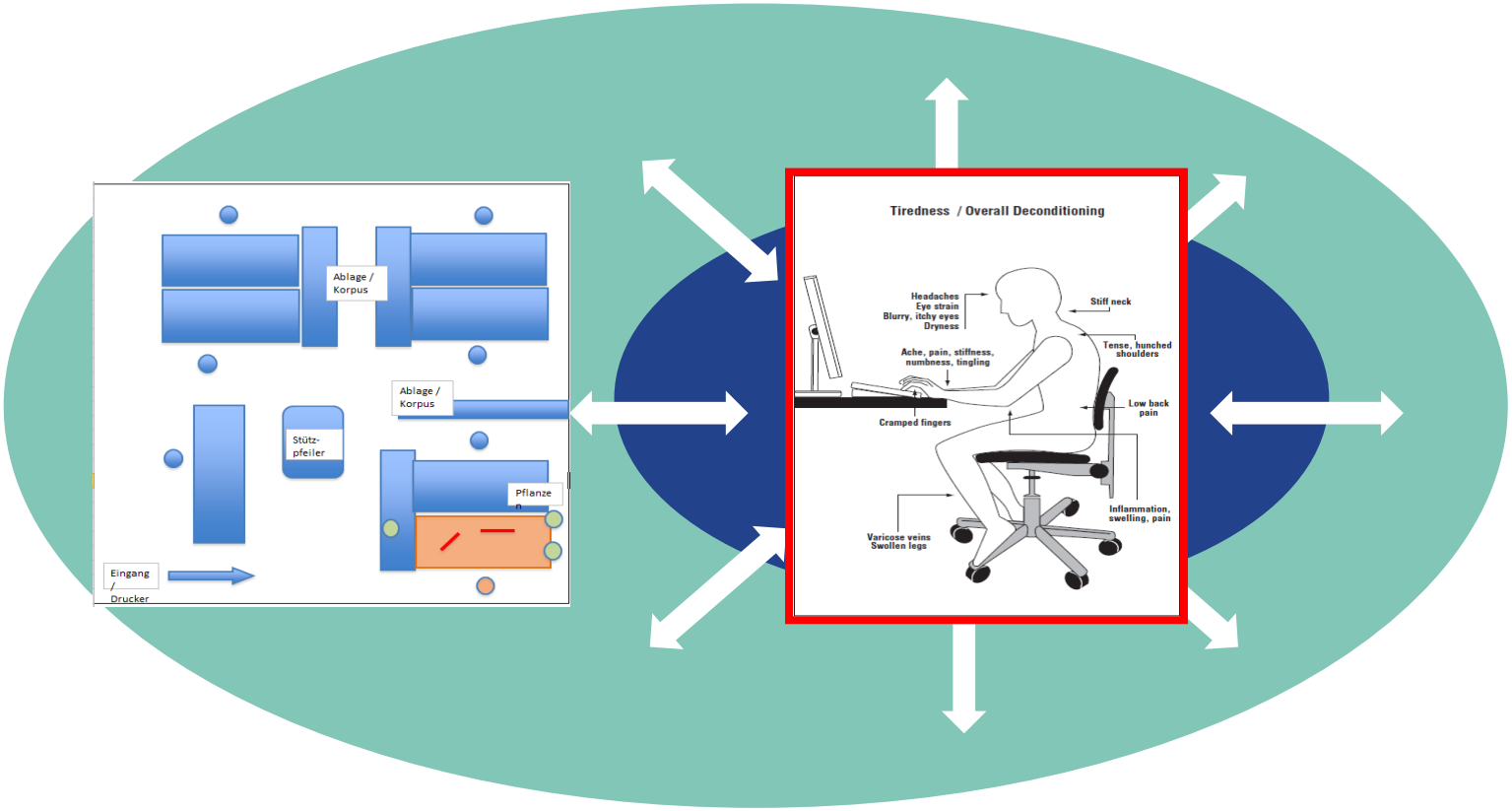
From physical to organizational ergonomics

Translation as a sociological event involving various actors and factors



(cf. Chesterman 2013; Toury 2012)

From physical to organizational ergonomics



(cf. Chesterman 2013; Toury 2012)

Organizational aspects of translation

Organizational ergonomics is concerned with the optimization of sociotechnical systems, including their organizational structures, policies and processes.

International Ergonomics Association (IEA)

- system of 'translational action' (cf. Holz-Mänttäri 1984)
- complex networks (cf. Risku 2014)
- constraints of client-related tools and resources
- sociotechnical issues (cf. Doherty & King 2005; Olohan 2011)
- self-concept and professional identity
- job satisfaction

→ *Consequences for autonomy and decision-making*

Good practice recommendations

- ✓ include ergonomic awareness in translator education
- ✓ pay more attention to the ergonomics of the workplace
- ✓ reflect and act on own feedback mechanisms during the process (e.g. physical discomfort, fatigue)
- ✓ recognize warning signs of reduced attention (e.g. typos, mistakes, regressions)
- ✓ reduce mouse activity by using shortcut keys and arrows
- ✓ adjust default settings of frequently-used software
- ✓ only use e-mail notice function when completely necessary
- ✓ increase frequency of (mini) breaks (e.g. stretch between tasks and then check e-mail)

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Further information

Website and final report (search for *ergotrans zhaw*):

https://www.zhaw.ch/en/research/inter-departemental-co-operations/ergotrans/

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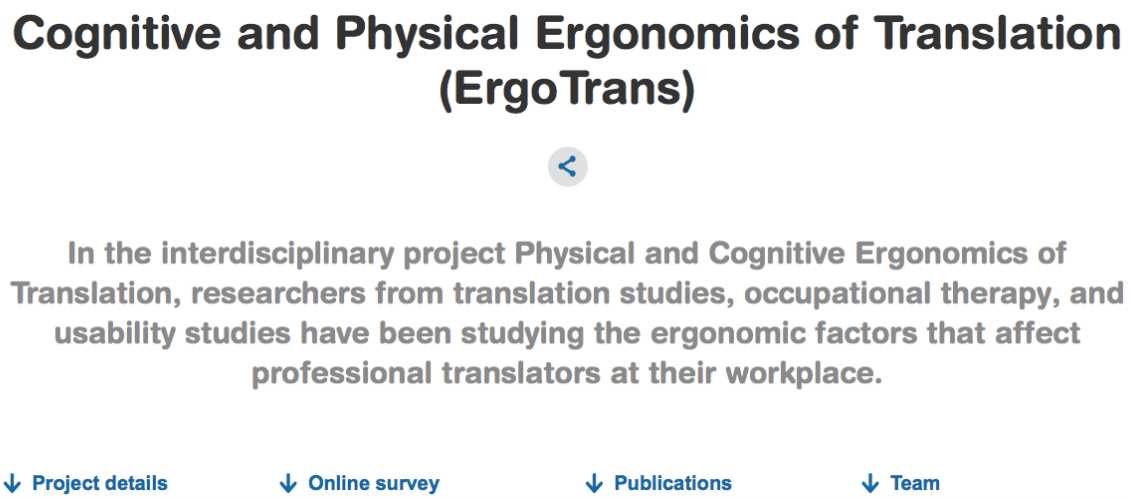

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