

Bodies and Materiality in (Inter)action at the Assembly Line

BSA Annual Conference:
Sociology in an Age of Austerity

Prof. Dr. habil. Sabine Pfeiffer
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Overview

- 1 Research background and methods
- 2 Body and materiality – some empirical insights
- 3 Discussion from a theoretical point of view

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Research background and methods

Funding -->

German Ministry of Research

Objective -->

Role of Experience in Assembly Work

Research project

Funding -->

German Ministry of Research

Objective -->

Role of Experience in Assembly Work

Qualitative -->

4 German automotive suppliers
60 interviews
5 analytical workshops
Several work site observations

Funding -->

German Ministry of Research

Objective -->

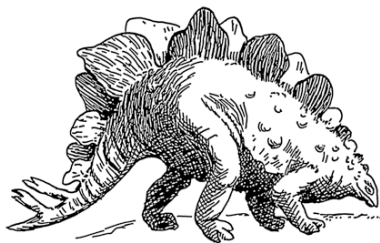
Role of Experience in Assembly Work

Qualitative -->

4 German automotive suppliers
60 interviews
5 analytical workshops
Several work site observations

Total employee count: 50 to 5,000
Gross profit: 8 million to 1 billion €
Variation of assembly organization
Common ground: CPS

<-- Typical



Assembly Work

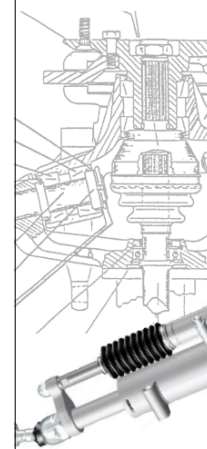
...an endangered species in our
knowledge society?

1,000,000

assembly workers in Germany.

600,000

in serial assembly.



High Tech Assembly

complex and sophisticated products

28 sec.

cycle times often under one minute

often a hybrid of high tech automation and human work

2

Body and materiality – some empirical insights

being at work with all senses – in a holistic way



sensuous-corporeal dialogue , constantly exploring
assembly station, process and product



intuition and serendipity – anticipating disturbances



empathic involvement with only seemingly „dead“ things



subjectifying work action

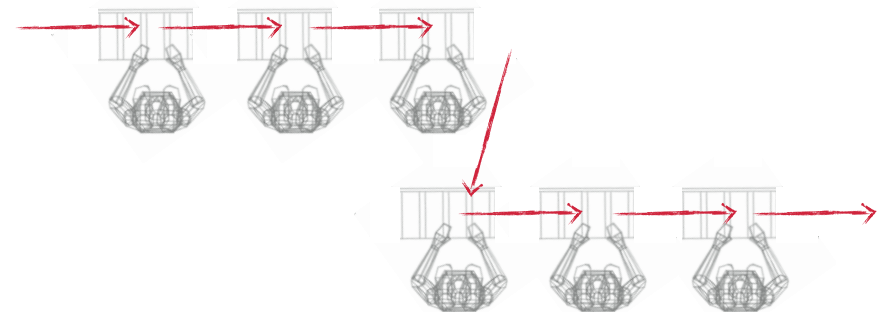
Not only regarding the materiality of
means and objects of work

...but also regarding colleagues and team

subjectifying work action

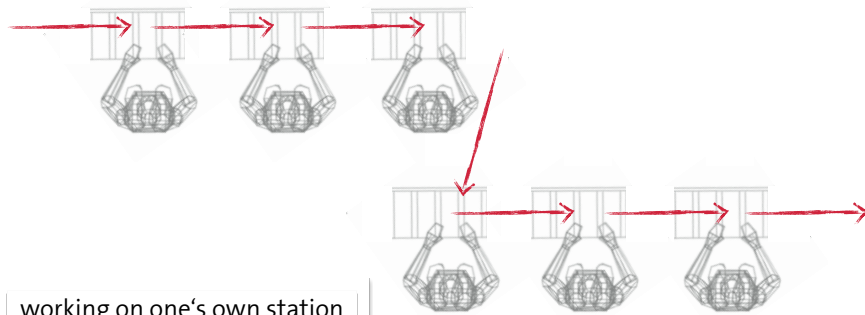


Flow Line Assembly



longest cycle time =
coordination criterion

Flow Line Assembly

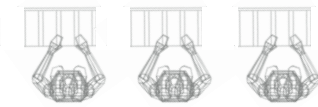


working on one's own station

every single task determined

no social interaction needed?

Work group coordination:



...is not only technically determined
...or a question of social beyond the assembly line.

...but a body-material
related sociality!

Work group coordination:



...is not only technically determined
...or a question of social beyond the assembly line.

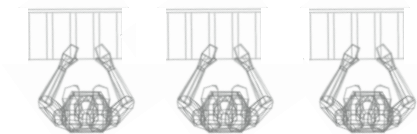
Perceiving with all senses with
regard to the machinery, product,
and colleagues.

...but a body-material
related sociality!

Noticing who needs help, observing failures from
the corner of one's eye.

In short cycle times and often limited space:

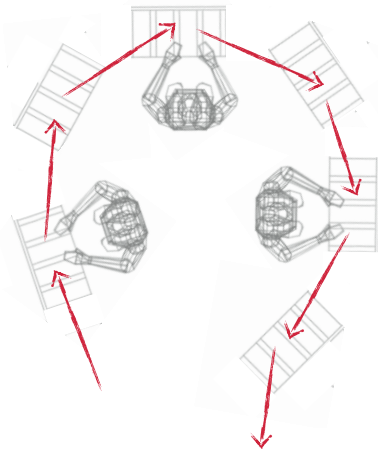
Experienced assembly
workers move like a well-
coordinated soccer team.



Only once a player is exchanged and the
rhythm is lost, will become evident:

how much collective body awareness and
coordination ability are involved!

U-form assembly Chaku-Chaku

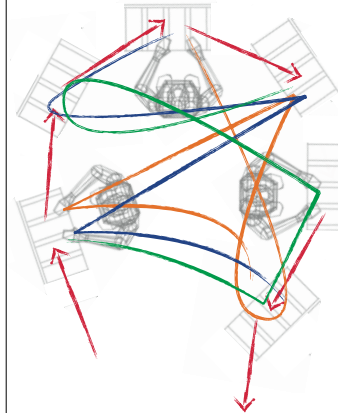


Shorten the cycle time.
Reducing human labour.

shortest cycle time
gives the rhythm

Everybody constantly moves in line with their
own and varying other cycle times...

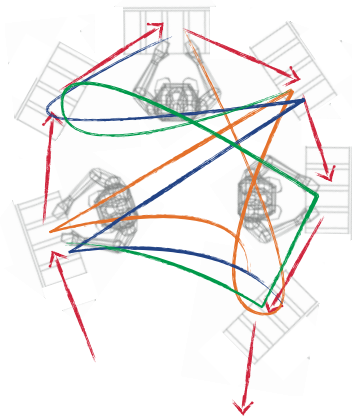
and with each other.



Ever changing dance of bodies
and things...

– permanently re-choreographed
by varying situations.

With fewer co-workers, less time and
space and under noisy conditions:



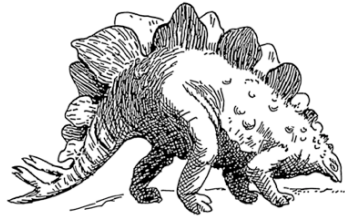
Collective coordination of moving bodies
and proceeding materiality gets essential.



Assembly Work?!

»I use my three fingers – my thumb, my index finger and my middle finger. The right hand. And my left hand is on the groceries... I got my hips pushin' on the button and it rolls around on the counter... I have enough groceries in front of me, I let go of my hips, the hand, and the register, the hips, the hand... If you got that rhythm, you're a fast checker [...] If someone interrupts me to ask me the price, I'll answer while I'm movin'. Like playin' a piano« (Terkel 1974 in Huws 2007).

Service and sales



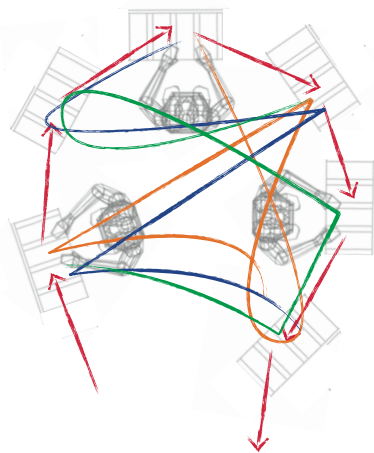
Assembly Work?!

»I get the feeling that it's [the Internet; S.P.] a black box. I put my hand in, I feel around, I get something that feels kind of warm and fuzzy and I pull it out and see what it is. [...] It's like fishing. You don't maintain a database... I've never caught a fish. You learn to fish by learning to read the map... temperature, bottom contour, vegetation, weather and climate. The fishing tools. You learn how to figure out where the fish are likely to be biting today. You don't try to memorize where they were yesterday, last month, last season, or when you were a child« (Basch 1996).

Virtual work

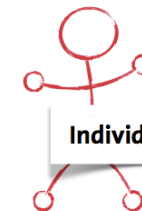
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Discussion from a theoretical point of view

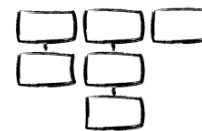


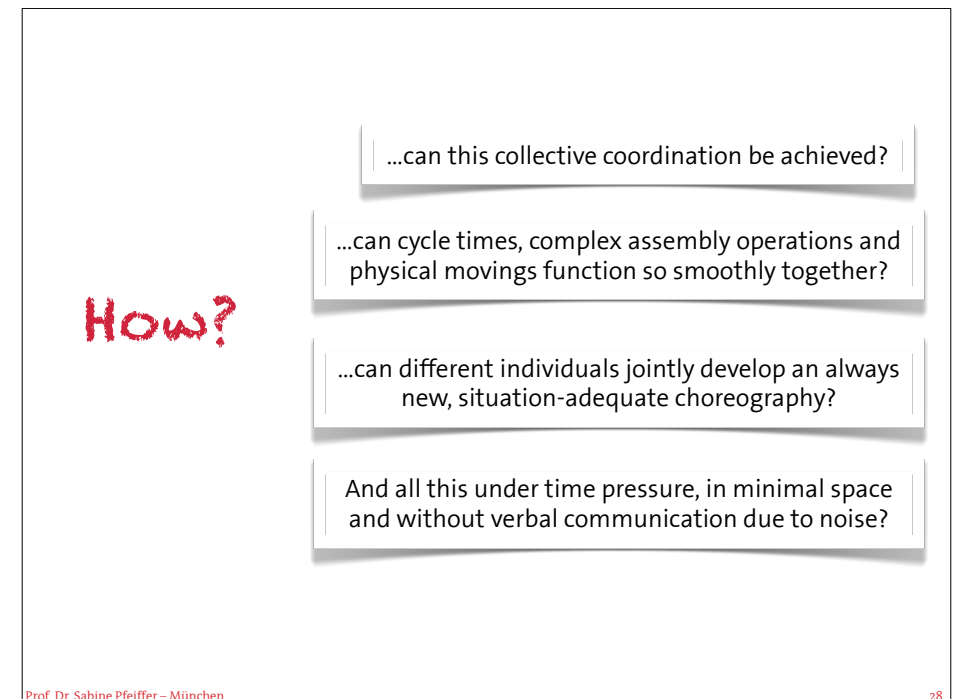
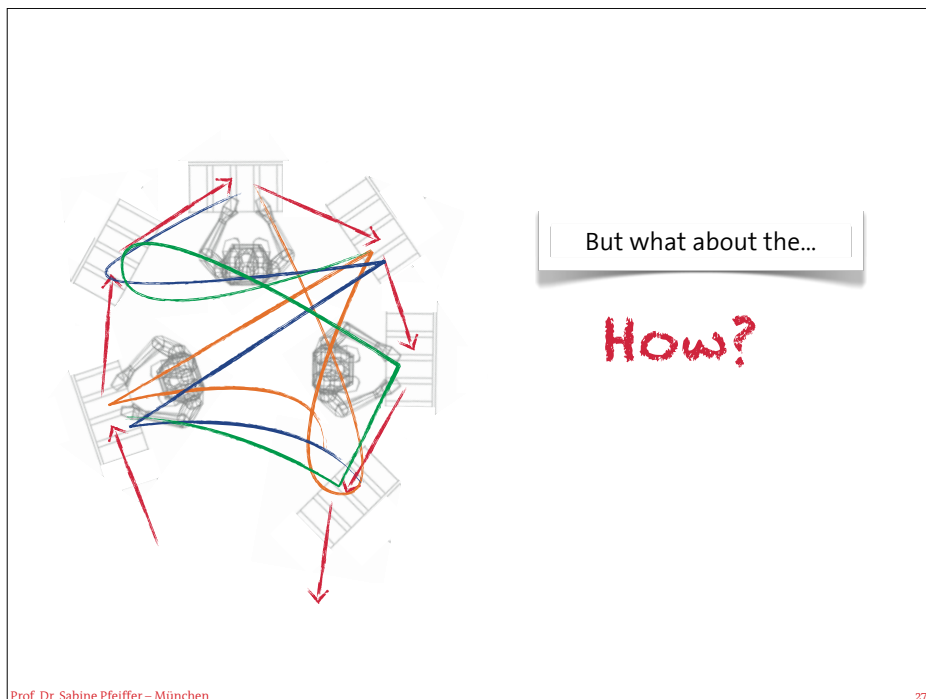
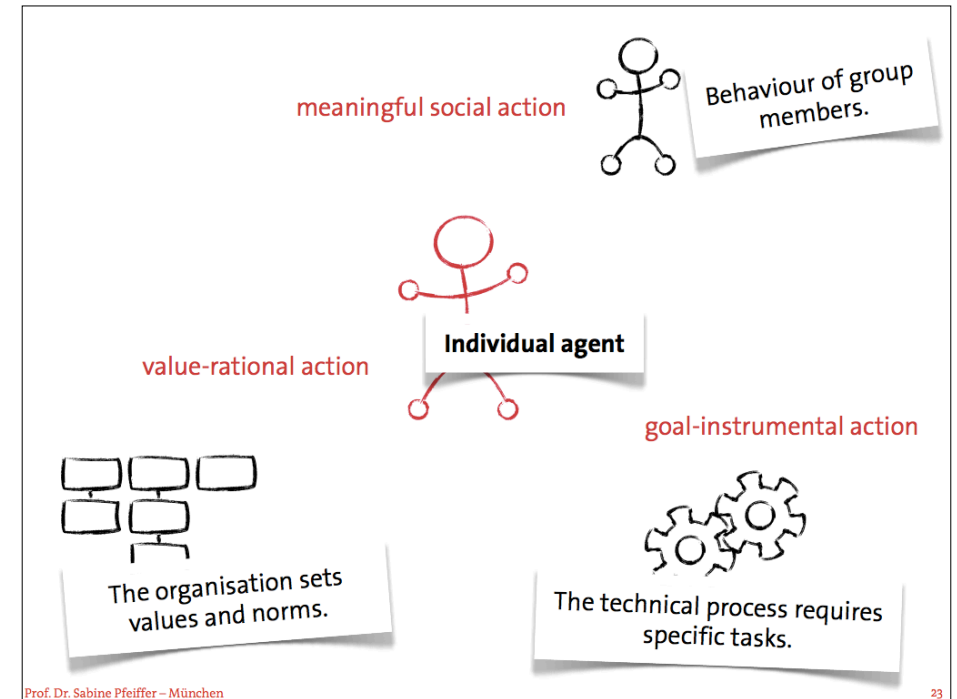
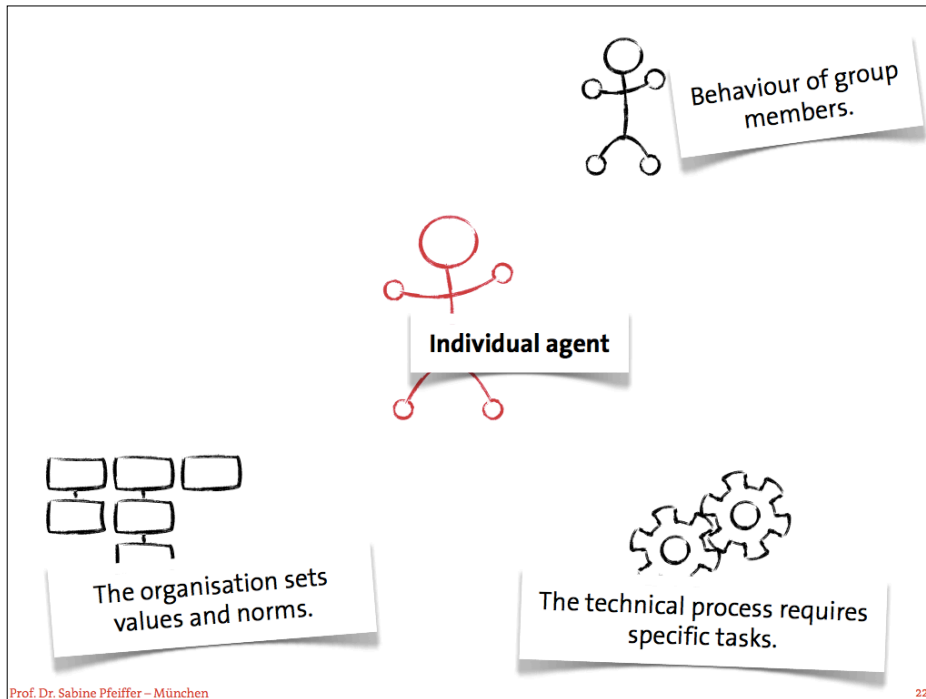
Why?

...could be explained by sociological theory.



Individual agent



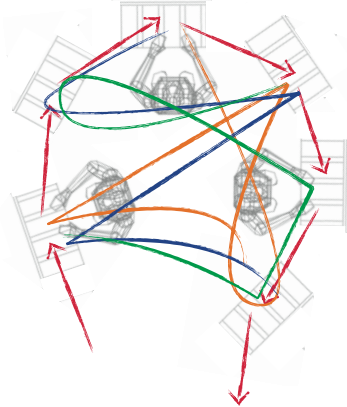


Assuming these coordination feats:

- a) are the result of actions **and**
- b) of social nature

Assuming we are not dealing with:

physically inscribed, quasi pre-social routines and uniform repetitions...

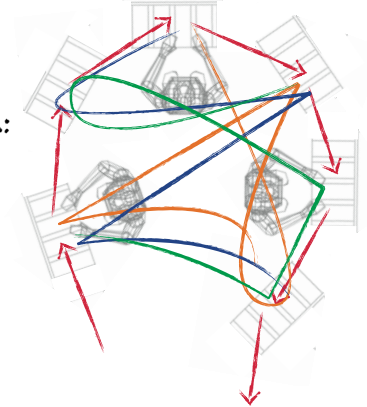


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We should accept:

the corporeality of the body **and**
the materiality of things...

as integral elements of social action.

Sociological theory provides an increasing
variety of theories focusing on



the corporeality of the body

OR



the materiality of things

Labour capability (Arbeitsvermögen)

Theoretical framework to combine

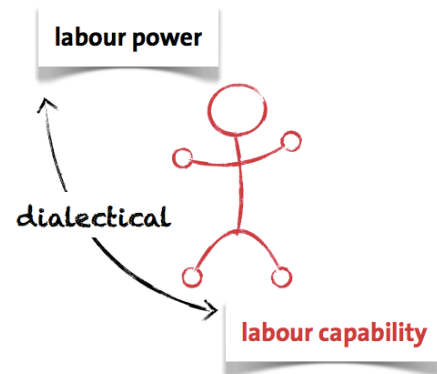


the corporeality of the body

AND



the materiality of things



Quantitative
Exchange value of human labour
Commodity

labour power

dialectical

labour capability

Qualitative
Use value of human labour
No commodity

Quantitative
Exchange value of human labour
Commodity

labour power

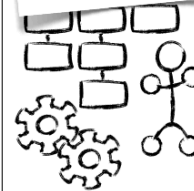
dialectical

labour capability

Qualitative
Use value of human labour
No commodity

production

means and
objects of „work“



object and
condition

appropriation

labour capability

lifelong and unavoidable process

