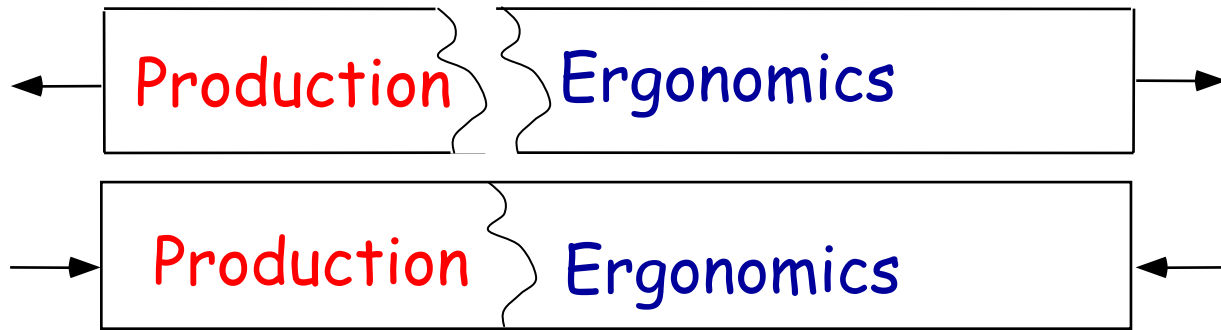


HOSH 2010
Hyderabad, February 2010

Ergonomics & production

Nils F Petersson
KTH – Royal Institute of Technology, Stockholm

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?

← Healthy workforce

?

← Low absenteeism

?

← Workplace fitted to operator

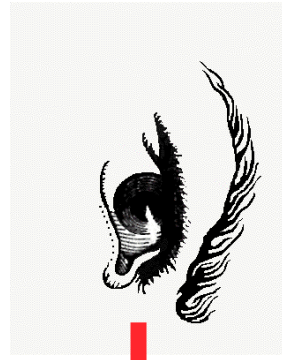
?

← Investments

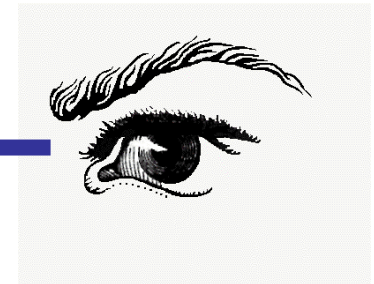
Costs for OSH/
Ergonomics



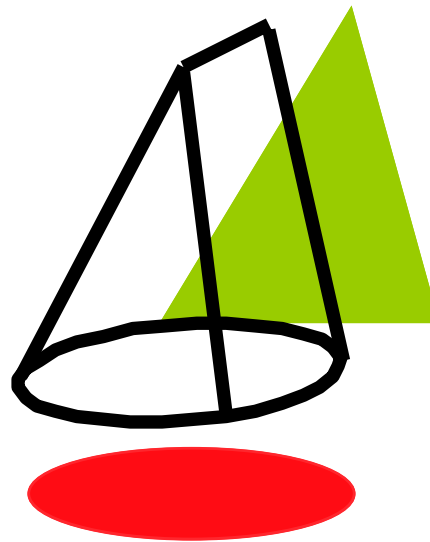
**Production
engineer**

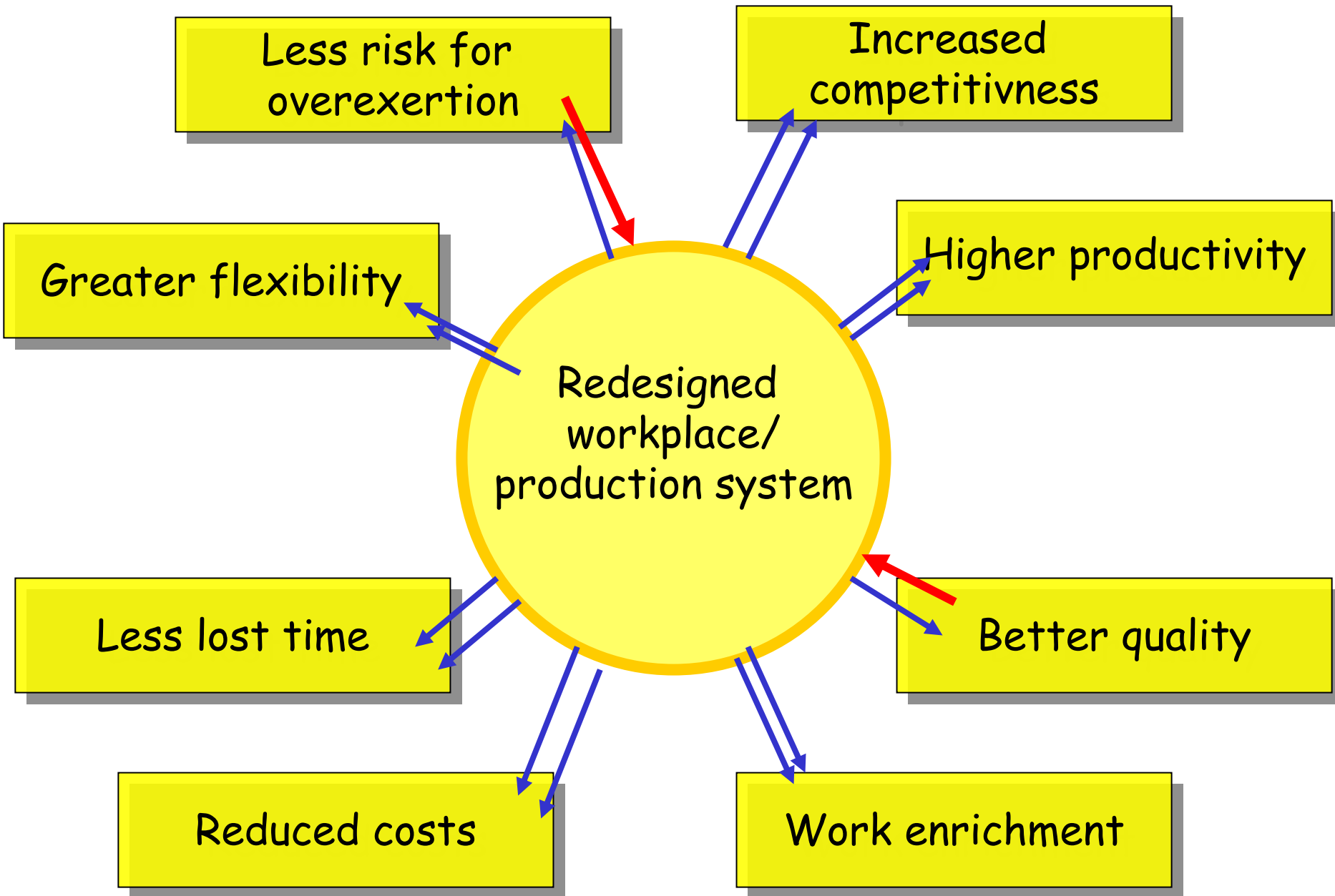


Worker



**OH
Physician**





Management

Legislation

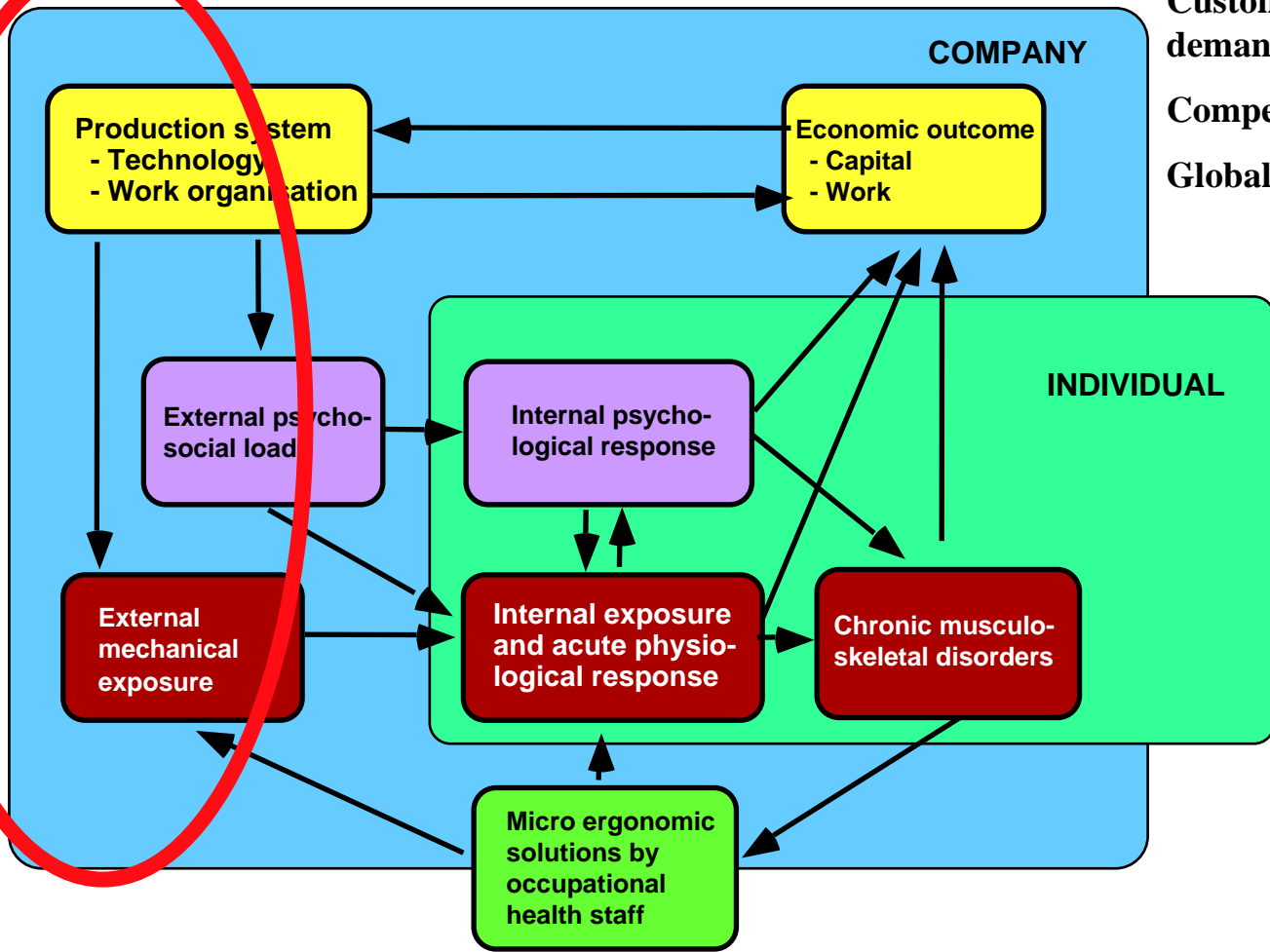
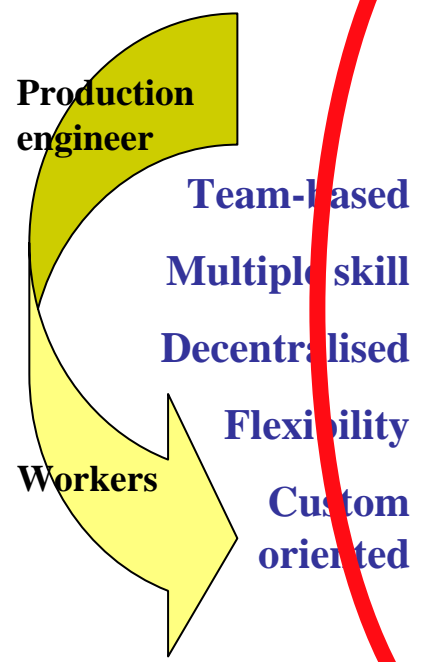
Taxes

Interest

Customer demands

Competition

Globalisation



Occupational Health service

Production factors

Technology (Equipment) Building Premises Material Material Personnel Work force)

Between (fictive) individual and machine

Automatization Mechanization

Between (fictive) individuals

"Flow structure"

Task allocation

Within (fictive) individual

Tasks (activities)

Actions (unrestricted work)

(PTS defined, e.g. MTM)

Movements

Outcome of production system

Productivity

Quality

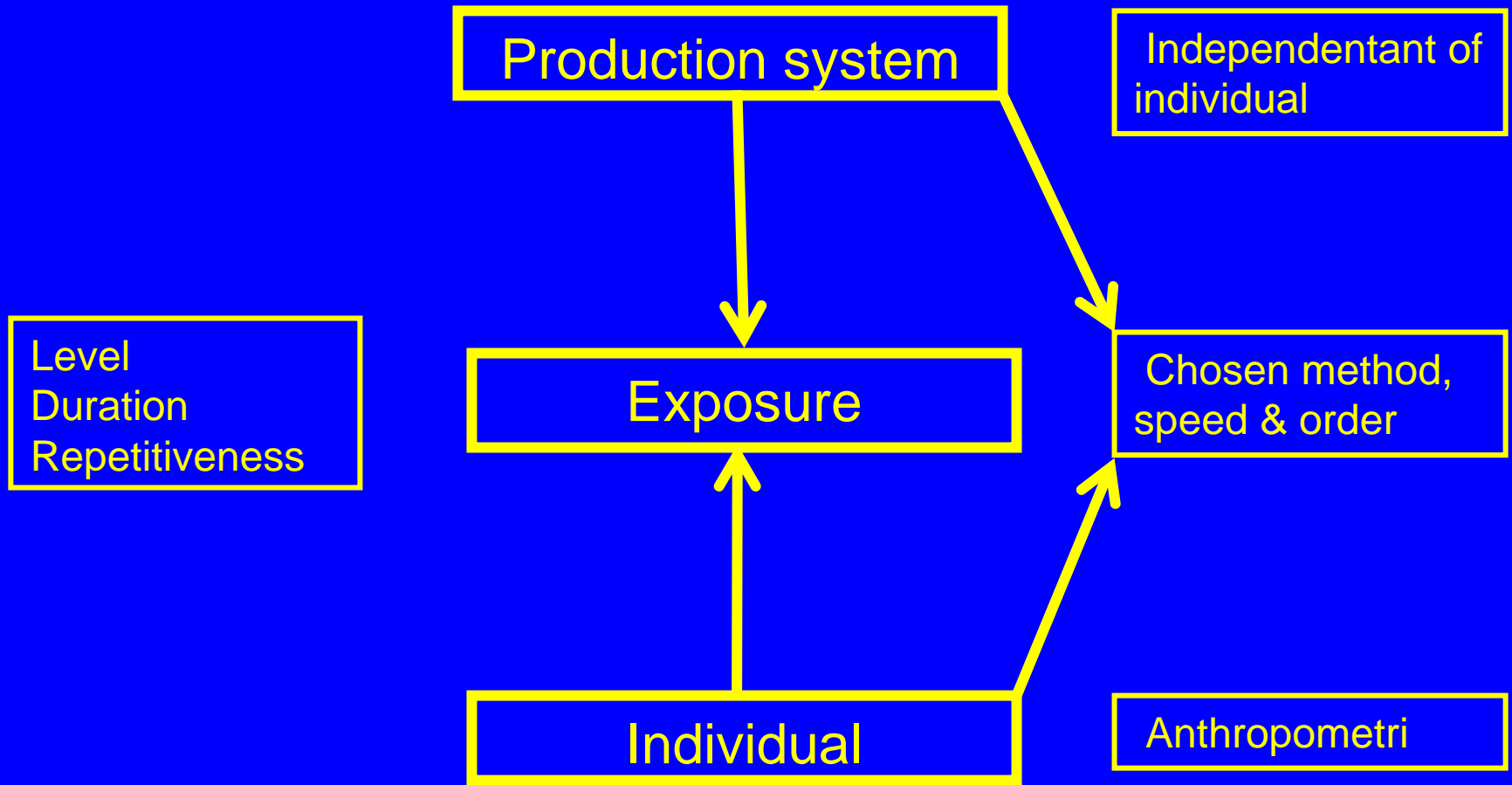
External Exposure

Internal individual

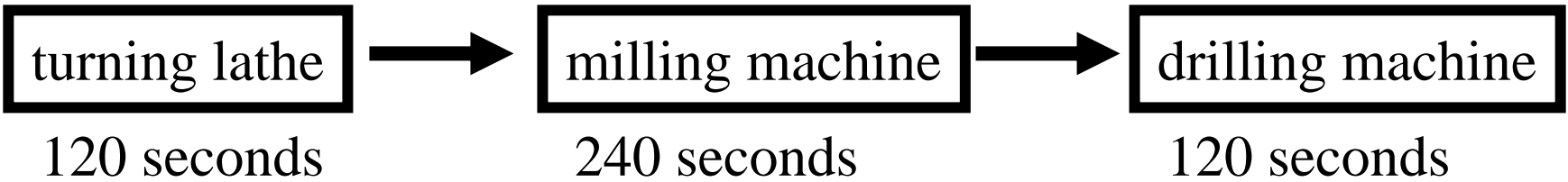
Effect modifiers

Internal Exposure
Active Internal Exposure
Acute Response

Chronic effect



Line arrangement - 3 operators, one for each machine



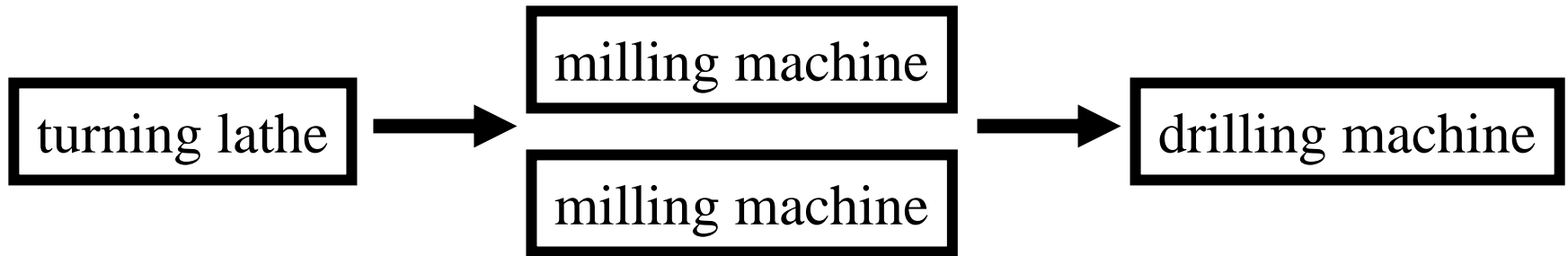
Waiting for each other, waiting for the operation

Vulnerable production - one operator absent

Monotonous and repetitive

Non-developing

Line arrangement - 3 - 4 operators, one for each machine



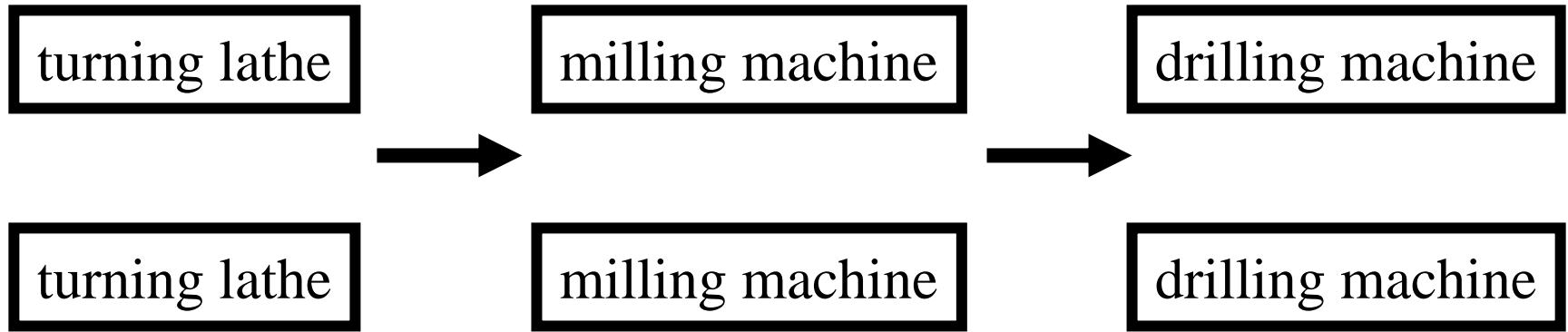
~~Waiting for each other~~, waiting for the operation

Vulnerable production - one operator absent

Monotonous and repetitive

Non-developing

Line arrangement - 3 operators, one for each machine



~~Waiting for each other, waiting for the operation~~ Costly investment

Vulnerable production - one operator absent

Monotonous and repetitive

Non-developing

Group arrangement - 2 operators, one for each group of 3 machines

drilling machine

drilling machine

turning lathe

turning lathe

milling machine

milling machine

~~Waiting for each other, waiting for the operation~~ Costly investment

~~Vulnerable production one operator absent~~

~~Monotonous and repetitive~~

Less porosity

~~Non-developing~~

Thank you