

# Communication in Human - Machine - Product Triangle - Universal Properties of the Automation Chain - Witness Simulation Example

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04/29-30/2021 Online



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- Base: Orgiton-theory which is an evolutionary cybernetic theory of mass-energy-information units
- Goal: Systemic theoretic framework for explaining and forming order increase - in production processes
- Model: Human-o *triangle* - Theory and simulation application

Human-o  
TriangleB. Heiden et  
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Content

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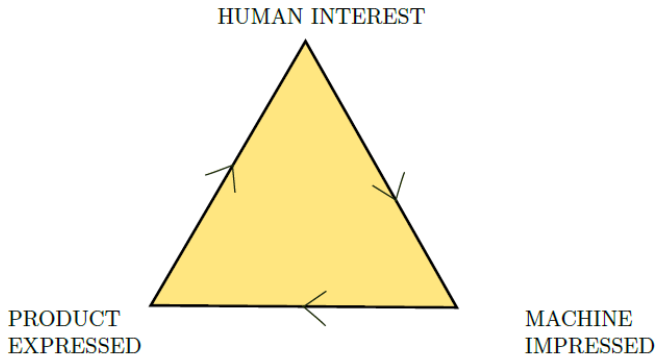


Figure 1: Interest - Impression - Expression Triangle

Axiom 1: Diversity promotes diversity and thus order increases potentially. Hybridization creates the emergent new or emergence, the emergenc-o.

Axiom 2: Monoverse can be designated as  $\rightarrow$ , diverse as  $\leftrightarrow$ . Monoverse is organized in one direction, diverse in two directions. The cybernetics pendant is the feed-forward and the feed-back loop resp. control.

Axiom 3: The human-o of the first order is (see Figure 1), a monoverse triangular cyclic spiral, increasing potential value. This is done according to non-equilibrium thermodynamics by means of extracting order out of the environment.

Axiom 4: The human-o of second order is back coupled in a whole sequence, and it is possible that the direction of the causal direction changes, which is increasing potentially order, as well as their hybridization.

*in-going:*

1. classical customer - brings nothing with him-/herself;
2. classical supplier or customer with a complaint – brings a product with him-/herself;
3. customer, who brings empty goods (e.g. bottles) for recycling.

For persons that are,

*out-going:*

1. customer, who buys nothing or supplier/customer, who has supplied or sold something (e.g. returning the deposit for bottles) – takes nothing with him-/herself;
2. classical customer with product, supplier with a complaint, or empty product (e.g. with returned bottles).

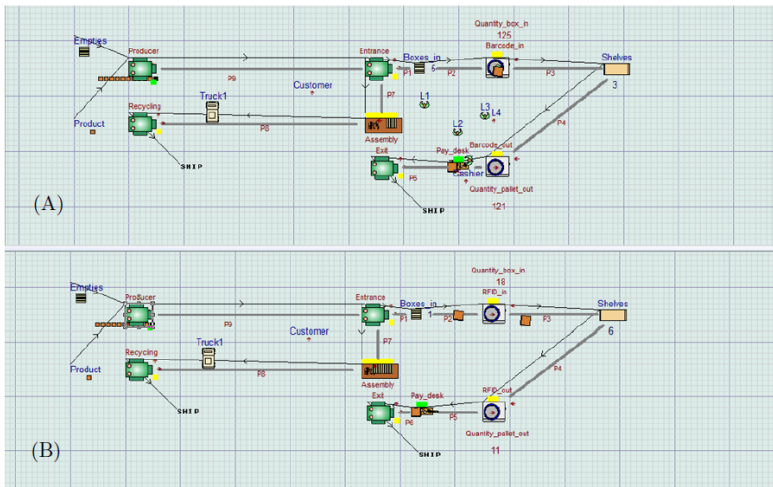
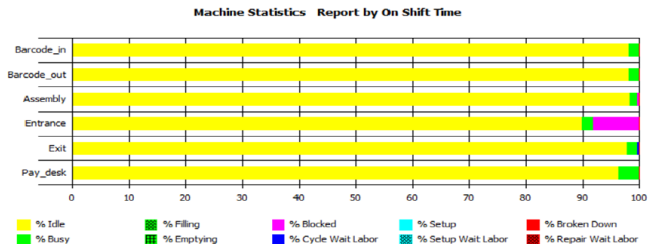
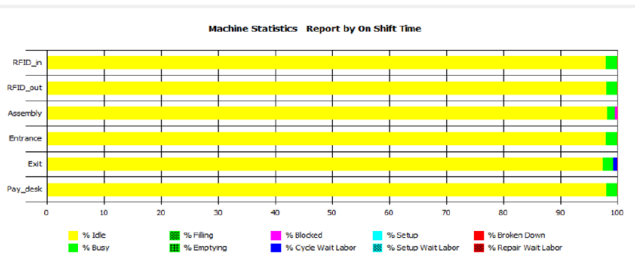


Figure 2: Witness model of food shop: (A) based on human work, (B) fully automated





(A)



(B)

Figure 3: Witness statistics of shop stations after one work week: (A) shop, based on human emptying work, (B) fully automated shop

## Summary and Conclusions:

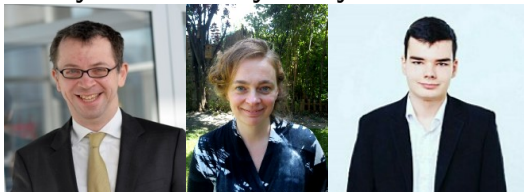
- Human-o triangle defined combinatorily
- 4 Axioms defined - potentially increase order by the form of combinations and directions  $\rightarrow$ ,  $\leftrightarrow$ .
- Example: Automated food shop & simulation

## Outlook:

What is in and out of the system and which properties have borders and media?

- Future communication process  $\uparrow$  in amount and complexity in human-o.
- Scaling effects  $\uparrow$  will be of great importance as well as properties related to generalisation of these.
- Future investigations - relations  $\rightarrow$ ,  $\leftrightarrow$  of the human-o:  
**environment, media, border**

Thank you cordially for your attention!



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PS.: The presentation can later also be found at:  
<http://www.dr-heiden.com/Vortraege.htm>



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