

Past and present drivers of waste management

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Pre urbanization waste deposits are fairly limited

About 5000 years old waste management:

Piles of shattered cooking stones

Celtic fields



Development of perspectives on waste management in urban times

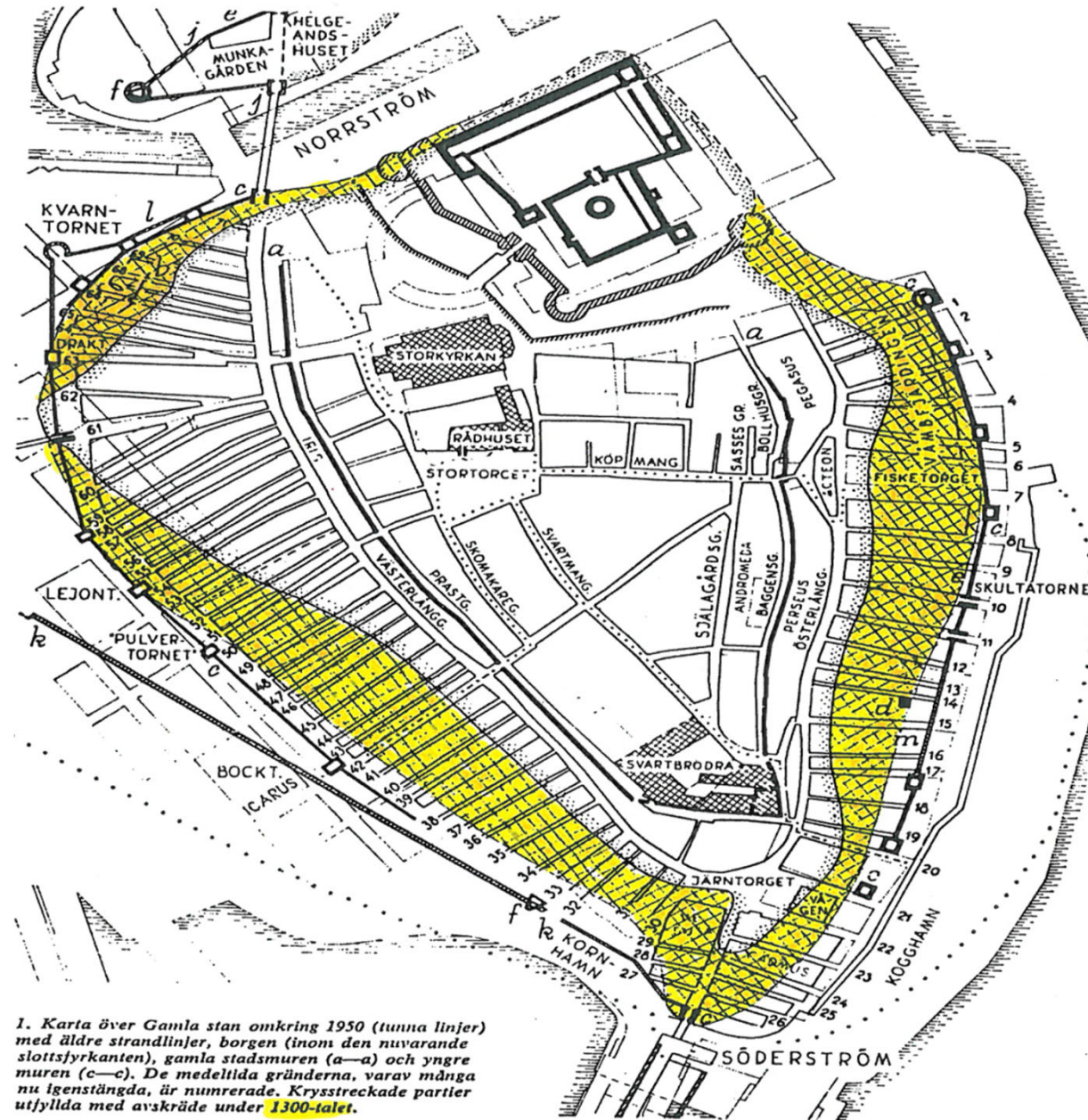


1. Removal problem & fire hazard
2. Hygienic and health problem
3. Environmental load
4. Resource and fairness issue

Waste and wealth
the case of
Stockholm:

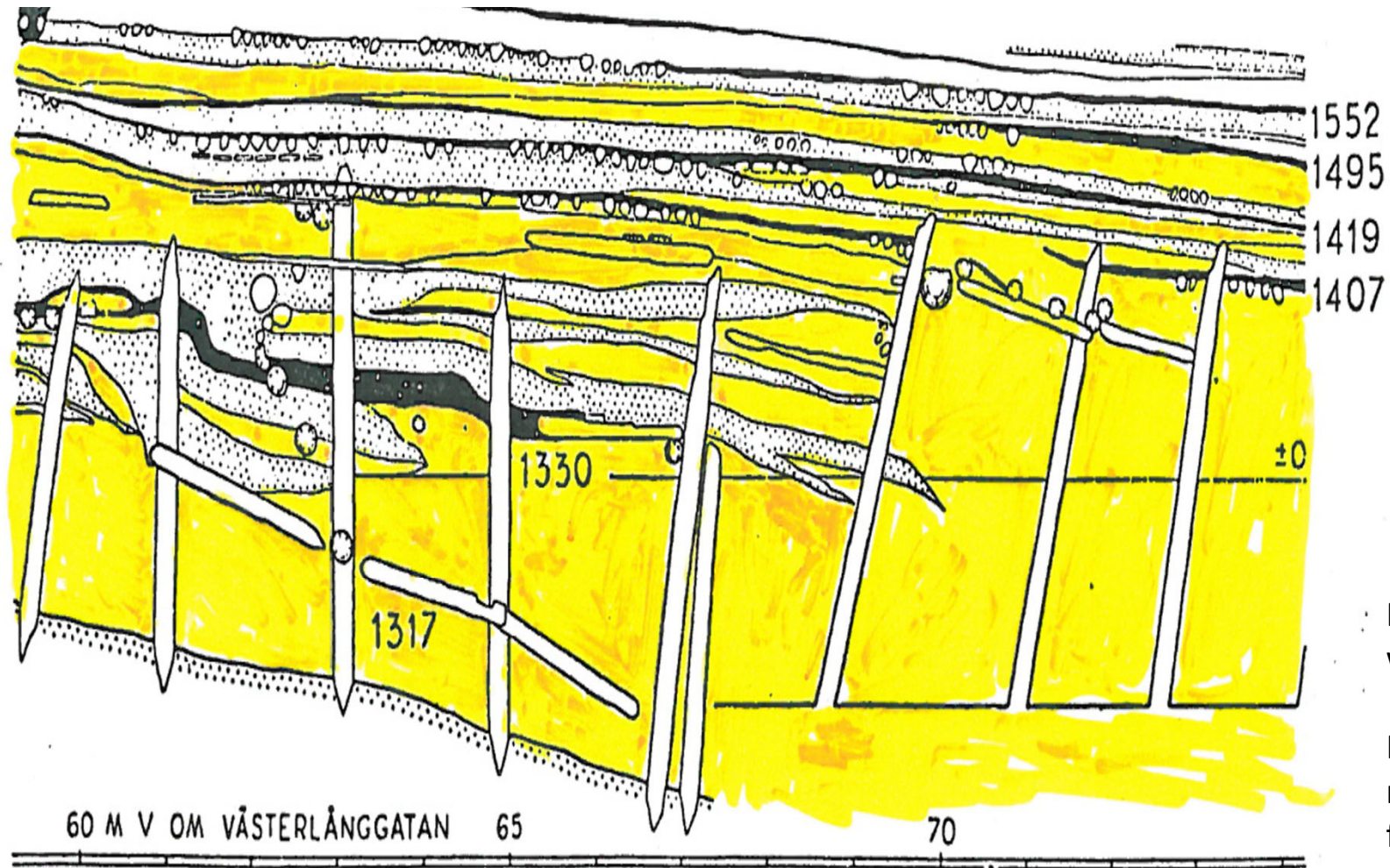
The area of the
Old Town island
tripled from the
year 1200 to 1500

14th Century
expansion in
yellow



1. Karta över Gamla stan omkring 1350 (tunna linjer) med äldre strandlinjer, borgen (inom den nuvarande slottsyrkantens), gamla stadsmuren (a—a) och yngre muren (c—c). De medeltida grundarna, varav många nu igenstängda, är numrerade. Krysstreckade partier utfyllda med avskräde under 1300-talet.

In the 14th century, Stockholm was boom-town




Rich times =
wastefulness

Poor times =
resource
focus

 Waste  Ashes  Construction wastes

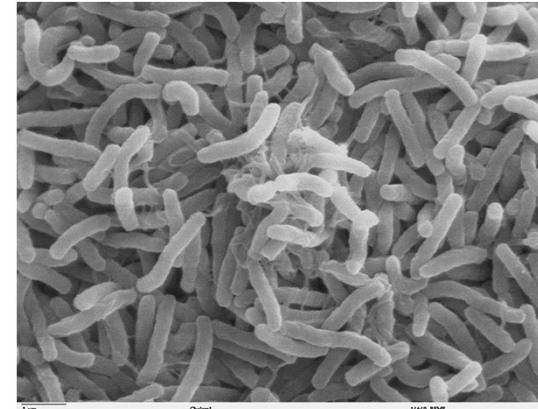
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Germ theory of diseases developed in the 1880ies, and gives rise to the hygienic perspective

In 1883 Robert Koch identified *Vibrio cholerae*, as the cause of Cholera.


Waste management was organized after military style to emphasize the importance, the staff had uniforms and grades and often had to sleep in garrisons.



The first waste incinerator was built and waste was dumped in special places, well away from drinking water sources.



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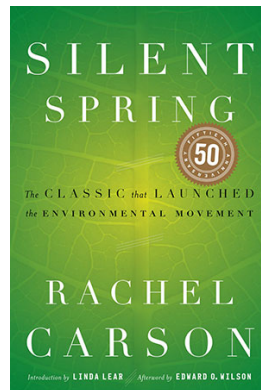
Post WW 2 the waste impact on environmental quality got attention.

Three important eye-openers:

The Minamata disaster of mercury pollution, described in 1956:


The impact of Pesticides like DDT on birds as described in the book Silent Spring by Rachel Carsson, 1960.

The health impact on Love Canal residents, 1980-ies



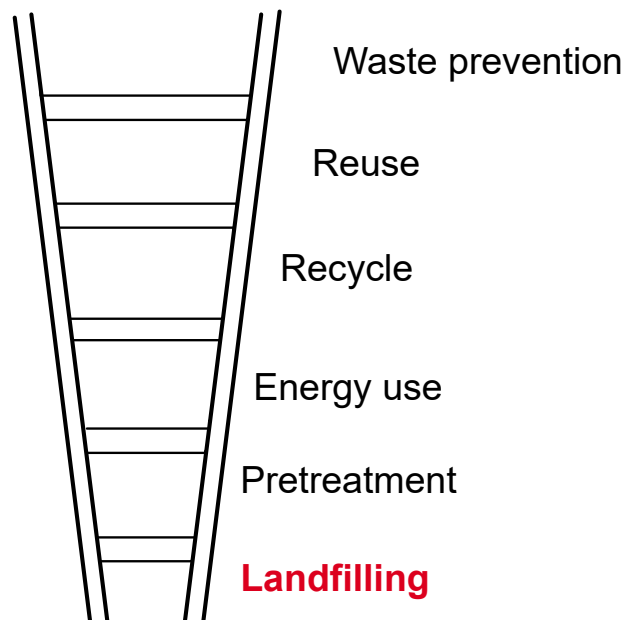
Environmental protection agencies were organised world wide in the seventies as a response.

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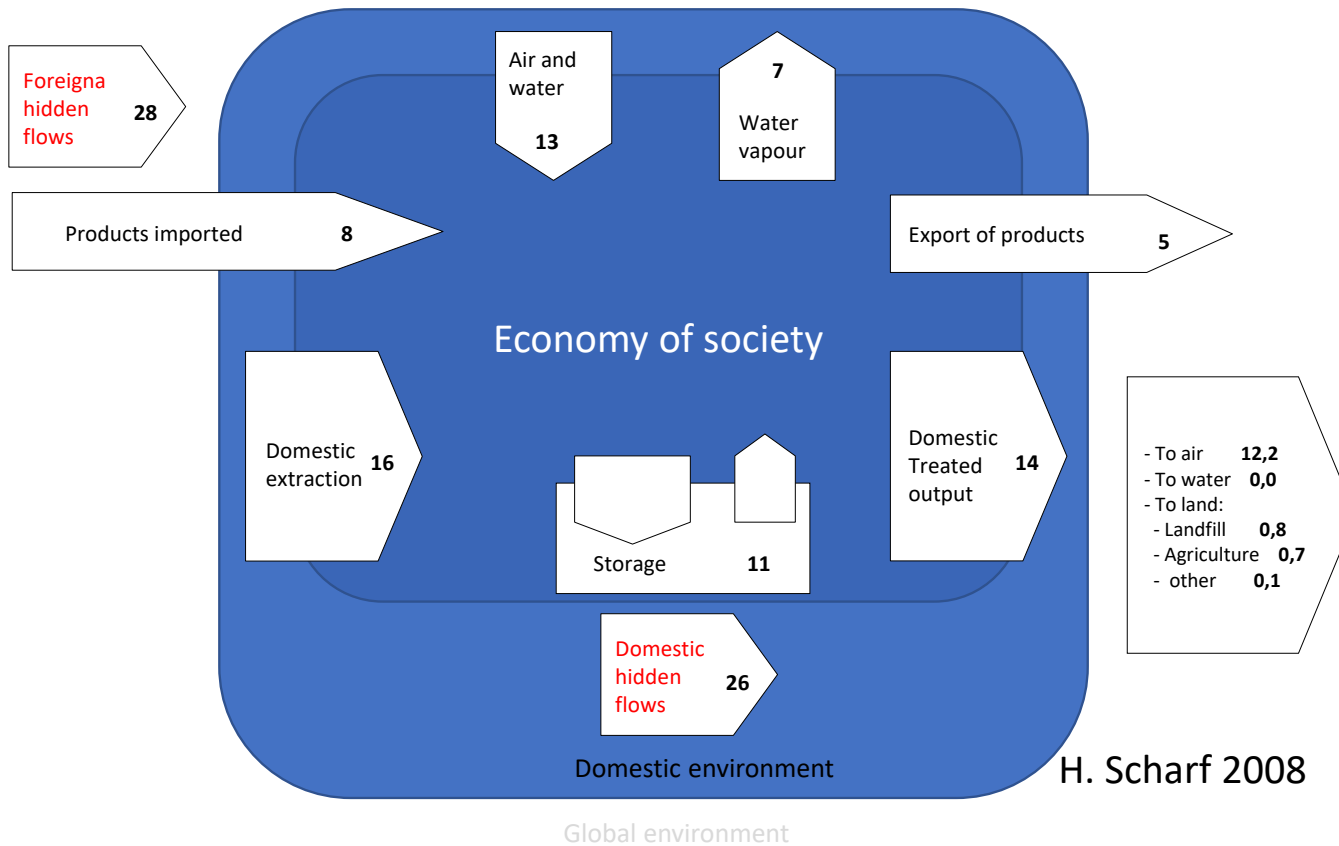
Emphasis on waste prevention and resource recovery in the 1980-ies.

The waste hierarchy and the focus on circular material paths are expressions of this resource perspective, which started after the "oil crises" in the 1970-ies.



Emphasis on globalization and redistribution of waste: a fairness perspective develops

Average mass flows in Germany and the Netherlands, tonnes per person and year:



Waste exports to developing countries, especially hazardous waste, like e-waste:



In conclusion

1. Removal problem & fire hazard
2. Hygienic and health problem
3. Environmental load
4. Resource and fairness issue
5. What comes next?

Acknowledgement

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