



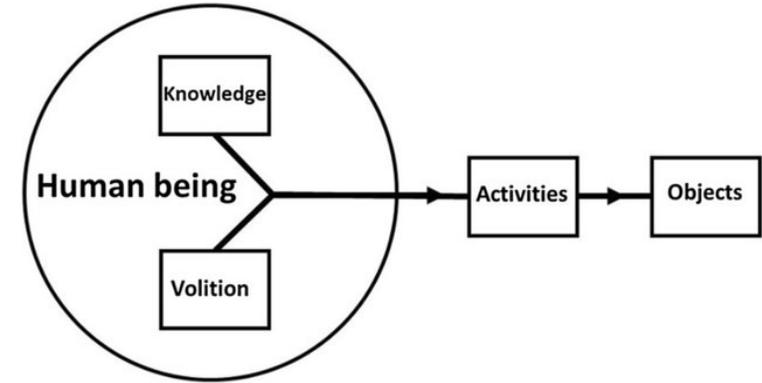
The Utensil and the Tool – Making Definitions Gender Inclusive

[The 40th Pupils' Attitudes Towards Technology Conference](#)

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It started at a course...

- ... in the Philosophy of Technology
- Reading Carl Mitcham (among others)
- Intending to reveal manifestations of technology in images from upper secondary schools
- But got interested in the definitions of technology as object
- And thought: "These descriptions can contribute to the gendering of technological objects."





A background to the background

- My thesis project is also about “gender in technology”, but more specifically about gender in technology education.
- This: a theoretical observation and discussion.

Technology as object by Mitcham (1994)

Some basic types of technology as object

*“Slightly modified
and enlarged...”*

Clothes	artifacts for covering the human body
Utensils	e.g., baskets, pots, spoons; storage containers and instruments of the hearth and home
Structures	houses and stationary artefact where human activity takes place
Apparatus	dye vats, containers for chemical or physical processes
Utilities	paths, roads, reservoirs, electric power networks
Tools	instruments operated manually that act to move or transform the material world, usually outside the home (contrast household utensils); typically, implements a worker uses to perform work, although there are certainly tools of communication and scholarship (paper and pen) as such
Machines	tools that do not require human energy input, but human direction
Automata	machines neither requiring human energy nor input



Technological elements by Mumford (1934)

- Statics
 - Utensils
 - e.g. basket, pot
 - Apparatus
 - E.g. dye vat, brick kiln
 - Utilities
 - E.g. reservoirs, aqueducts, roads, buildings
- Dynamics
 - Tools
 - Machine-tool
 - Machines

“...overemphasize the parts played by the more mobile and active parts in our industrial equipment...”

“While tools and machines transform the environment by changing shape and location of objects, utensils and apparatus have been used to effect equally necessary chemical transformations” (pg. 11, Mumford, 1934).



Gender - Culture, language and power (Fairclough)

- Discursive formations in our languages (how we use words, connect them with each other – e.g. synonyms)
- These are formed in historical and cultural settings (they are specific for time and place)
- They carry meanings that has consequences for power relations in our society...
 - ...for example the relation between women and men

- I will show you how Mitcham and a couple of contemporary sources define utensils and tools in a way that has consequences for how we interpret technological objects.

Social construction of women and men as separate and opposite

- Women as nurturing and intuitive (Connell, 2009).
- Men as being faster and stronger, technically skilled, aggressive and rational (Connell, 2009).
- Synonyms for 'feminine' are soft, delicate, gentle, tender, graceful, refined, modest (Oxford Languages, 2023)
- Masculinity in Western society is associated with qualities such as strength, courage, independence, leadership and assertiveness (Wikipedia, 2023).

The logics of the gender system relies on two principles: the separating (construct women and men as separate) and the hierarchising (orders the male as norm).

Mitchams definitions

Utensils

e.g., baskets, pots, spoons; storage containers and instruments of **the hearth and home**

Tools

instruments operated manually that act to move or transform the material world, usually **outside the home** (contrast household utensils); typically, implements a worker uses to perform work, although there are certainly tools of communication and scholarship (paper and pen) as such

Drawing on the social division of labour – home sphere contrasted to labour sphere.

The labour sphere is described as the sphere for paid work and production for the market and culturally defined as a man's world. The home sphere is described as the sphere of unpaid work and culturally defined as a woman's world (Connell, 2009).

Noiré's (1881) definitions (as described by Mitcham)

‘The tool corresponds to the **creative** principle. The utensil serves the **preservation** of life.... Thus we understand why utensils almost always are regarded as **passive** and named from the way in which they are produced, while tools are conceived as **active** and named from the actions they perform’
(Mitcham, 1994, p. 163).

The preserving-creative dichotomy is drawing on ideas of women as nurturing and men as creators.
The passive-active dichotomy is drawing on conceptions of femininity and masculinity.

Compare to Mumfords division

- static – passive
- dynamic - active

Compare again! To: Technical boys and creative girls... by Wong and Kemp (2018)



The Dictionary

Utensil 'applies to a device used in domestic work or some **routine unskilled activity**' (Merriam-Webster.com Dictionary, 2023)

Tool 'suggests an implement adapted to facilitate a definite kind or stage of work and suggests **the need of skill** more strongly than implement' (Merriam-Webster.com Dictionary, 2023)

Differentiating by the level of skill required.

Critique using Mitcham's definition:
What you do daily in the kitchen e.g. use a knife, will give you more opportunities to practice which perhaps will give the impression of requiring less skill than e.g. a drill, that you use once in a while.

Critique using Mumford's definition:
Why is it even relevant to talk about 'skill' when you are using an object at rest?



The random website

Unlike tools, utensils serve a specific purpose in the kitchen. In addition to using **her** hands when preparing food, a cook also uses utensils such as a whisk or paring knives (Sewell, 2011, para. 3).

The purpose for tools includes helping a person accomplish a goal, whether **he's** working in a garden, constructing a building or creating a business (Sewell, 2011, para. 3).

The gender of the user.



To summarize...

- Utensils described as...

- Occupying the home sphere
- Serves the preservation of life
- Passive
- Requiring less skill
- She is the user

- Tools described as...

- Occupying the labour sphere
- Adhere to the creative principle
- Active
- Requiring more skill
- He is the user

Mumford as a way forward

- Mitcham's definitions of utensils and tools are based on **cultural definitions**, whereas Mumford's definitions are based on the **technical functions**.

Utensil	Tool	Source
static	dynamic	Mumford (1934)
effect chemical transformations	transforming the environment by changing shape and location of objects	Mumford (1934)
	act to move or transform the material world	Mitcham (1994)
serve a purpose	fulfill a goal	(Merriam-Webster.com Dictionary, 2023)

Implication for practice

- As technology teachers encounter many definitions of technology, they are an important filter for their students.
- The selection and conveyance of definitions can/will have an impact on who indentify themselves as a subject in the field of technology.
- Definitions relying more on function than on culture could be a way forward in nuancing technological objects without loading them with gendered meanings.



Thoughts, comments, feelings?