

The Utensil and the Tool - Making Definitions Gender Inclusive

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ABSTRACT

In *Thinking through technology*, Carl Mitcham puts forward his philosophical framework on technology in four aspects; objects, activities, knowledge and volition. When describing technology as objects, he presents a 'slightly modified and enlarged' list than that of Lewis Mumford, specifying 'some basic types of technology as object'. By dividing the body of technological objects into *clothes*, *utensils*, *structures*, *apparatus*, *utilities*, *tools*, *machines*, and *automata*, I argue that these divisions and descriptions of the objects will create gendered perceptions of technological objects. One example of this is the dichotomy of utensils as objects used *inside* the home, and tools as objects usually used *outside* the home. In this research paper, I intend to discuss these conceptualisations of the philosophy of technology as expressed by Carl Mitcham, arguing for more gender inclusive definitions of the utensil and the tool. Technology and masculinity have been closely intertwined for a long time and can partly be traced to women's exclusion from the labour market. Despite numerous initiatives in the past of enhancing women's attitudes, interest or will to pursue technology, the gender balance in the field has remained little affected. I argue that without an inclusive philosophy to rely on, the field of technology will continue to exclude half of the earth's population. Departing from Mitcham's philosophy of technology as object, I examine and discuss contemporary definitions of utensil and tool using a cultural lens. Finally, I endorse definitions presented by Mumford relying on function rather than culture as a way to describe technological objects.

Key Words: Philosophy of technology, Utensils, Tools, Gender, Carl Mitcham

1. INTRODUCTION

The content and orientations of technology have been imbued by male perspectives and priorities (Berner, 2003). This is an ongoing process in the co-production of gender and technology, where technology is both a source of and consequence of gender relations.

The philosophy of a field can be seen as points of departure for the field, influencing how the field evolves and will evolve over time. This makes it important for philosophers to create a ground for equality, where previous biases are critically examined. As the field of philosophy has a history of being dominated by men, the field is imbued by male experiences and perspectives

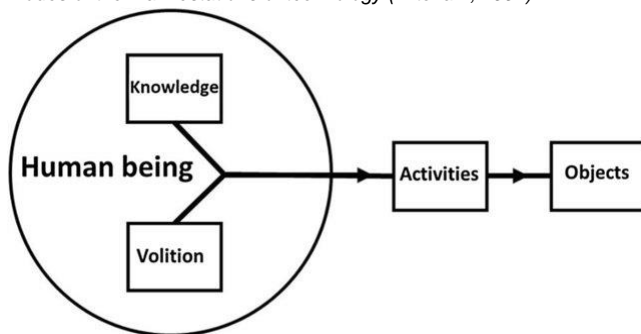
(Bornemark, 2022). With this in mind, it is not surprising that the philosophy of technology is coloured by male perspectives, as both the field of philosophy as well as the field of technology are influenced by masculine ideals. However, if we continue to uncritically rely on previous body of work, we will continue to reproduce gendered ideals and not disseminate inclusive conceptualisations of technology.

In this paper, I will critically examine the definitions of two technological objects, the utensil and the tool, and show how these conceptualisations, when loaded with gendered meanings, contribute to the dichotomy and hierachisation of female and male technology. As a contribution to more sustainable definitions, I put forward existing definitions that has the potential of defining tools and utensils in accordance with their functions.

2. TECHNOLOGY AS OBJECT

Carl Mitcham has had a great impact on the philosophy of technology with his model of manifestations of technology, including technology as object, activity, knowledge and volition (Figure 1). Technology as object is considered to be the most common way of conceptualising technology (Mitcham, 1994; Svenningsson, 2020). Mitcham describes technology as objects in categories (Table 1) that he developed out of definitions originally presented by Lewis Mumford.

Figure 1.
Modes of the manifestations of technology (Mitcham, 1994).



Mumford describe elements in technology as either dynamic or static. The dynamic elements consist of tools and machines, and these are 'transforming the environment by changing shape and location of objects' (Mumford, 1934, p. 11). The static elements consist of utensils, apparatus and utilities and are used to 'effect [...] chemical transformations' (ibid, p. 11). Throughout his text, Mumford put forward the equal necessities of the two elements (Mumford, 1934).

In his, from Mumford's 'slightly modified and enlarged', list of objects, Mitcham contrasts the instruments used at home, utensils, with instruments used outside the home, tools (Mitcham, 1994, pg, 162). He further quotes Noiré (1880, as cited in Mitcham, 1994) in the division between tools and utensils:

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.)

Table 1.
Basic types of technology as object by Mitcham (1994).

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

2.1. Contemporary definitions of utensils and tools

As ideals change, so do the descriptions and meanings of concepts. In a perhaps more contemporary definition of utensils and tools, these are differentiated by the level of skill they require for use (Merriam-Webster.com Dictionary, 2023). Accordingly, Utensil 'applies to a device used in domestic work or some routine unskilled activity', whereas 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). This distinction of tools requiring more skill than utensils begins to arrange the two concepts in a hierarchical order.

Another contemporary description of the utensil-tool dichotomy found in a website on lifestyle, defines a utensil as something that serves a purpose in the kitchen, whereas a tool is used to accomplish a goal elsewhere:

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. 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)

In a language column in a Swedish newspaper, Strömquist makes an effort in trying to detangle utensils and tools using a definition from Nusvensk ordbok: 'The difference between utensils¹ and tools² is that with a tool something is made, with a utensil something is done' (Strömquist, 2004,

¹ translated from *redskap*

² translated from *verktyg*

para. 2, author's translation). Further, Strömquist either suggests that area of use or the nature of the use is defining the instrument as either utensil or tool. Finally, Strömquist conclude the interchangeability of the concepts.

Consulting a textbook used in technology secondary education in Sweden, the tool concept has a different meaning (Karlsson & Brink, 2017). In a section called 'Technology solves small problems', the instruments in the kitchen are described as tools, referring to knives, containers and bowls. The term utensil is not used.

3. THE PRINCIPLES OF THE GENDER SYSTEM

Discursive formations in our language are formed in accordance with cultural and historical settings and carry meaning that has consequences for power relations in our society (Fairclough, 2009). The power relations between women and men, the gender system, are described by Hirdman (1988) as two principles, the separating and the hierarchising. The separating principle is structuring places, occupations, and qualities into different categories. The hierarchising principle is ordering the male as norm. The separation principle can be seen in perceptions and expectations of how a woman or a man should be.

In the industrial and commercial society that has evolved throughout the last centuries, the social division of work can be described as 'labour' and 'home' (Connell, 2009). 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 (ibid).

In the social construction of women and men as separate and opposite, certain qualities have been put forward as differentiating the genders. For example, in discussions on the biological differences between women and men, there are arguments that the biological differences are manifested in qualities such as men being faster and stronger, technically skilled, aggressive, rational and women as nurturing and intuitive (Connell, 2009). These constructions can also be seen when looking at synonyms for or definitions of 'feminine' and 'masculine'. Synonyms for 'feminine' are soft, delicate, gentle, tender, graceful, refined, modest (Oxford Languages, 2023). The Wikipedia site for 'masculinity' presents the quality as 'Traits traditionally viewed as masculine in Western society include strength, courage, independence, leadership, and assertiveness' ('Masculinity', 2023).

I will in the following section explore how these constructions imbue the definitions of utensil and tool.

4. THE UTENSIL AND THE TOOL AS GENDERED CONCEPTS

The various definitions of utensil and tool can be seen as attempts to structure technological objects. To create frameworks and definitions is of course essential for creating an understanding. However, as many of the definitions of utensil and tool are constructed and contrasted to each

other, this creates implications of the instruments and their users. By referring to utensils as used inside the home, requiring less skill and passive, and tools as used outside the home, performing skilled activities and active, the two objects are separated and contrasted to each other. This orders tools on top of utensils in the hierarchy of technological objects (Table 2).

Table 2.
The utensil-tool dichotomy

Utensil	Tool	Source
passive	active	Ludwig Noiré (1880)
preservation of life	creative principle	Ludwig Noiré (1880)
static	dynamic	Lewis Mumford (1934)
inside the home - domestic sphere	outside the home - public sphere	Mitcham (1994)
something is performed	something is built	Strömquist (2004)
-	solves small problems	Karlsson & Brink (2017)
unskilled activity	skilled activity	Merriam-Webster.com
		Dictionary (2023)
serve a specific purpose	accomplish a goal	Sewell (2011) at Hunker.com

4.1. The inside-outside home dichotomy

As women have traditionally (in the western world) been occupying the home sphere, Mitcham establishes a connection between the utensil and the woman by referring to utensils as 'instruments of the hearth and home'. The work in the home has also had less status, possibly shaping the perception of the utensil requiring less skill for use than equipment used in labour work.

The website on lifestyle, Hunker.com (Sewell, 2011), contrasts utensils as serving a specific purpose in the kitchen, and tools as helping the user accomplishing a goal elsewhere. Similarly to Mitcham, the website describes the instruments occupying different spheres, the kitchen and elsewhere. Moreover, by giving the users in the description of the utensils and tools different genders, 'hers' and 'his', the separation is reinforced. Furthermore, the description of utensils as serving a specific purpose does not acknowledge the wide application of a whisk. A whisk can stir, whip and mash just as a drill can make a hole in wood, concrete, and metal.

If utensils are defined as instruments used inside the home, it is hard to categorise objects that are found inside the home but show similarities with other categories. Apparatus, for example, has similarities with utensils in that both describe containers. The difference is, according to Mitcham (1994), that containers of the apparatus type is used for 'physical or chemical processes'. However, with Mitcham's categorisation, a container used inside the home for physical or chemical processes is a utensil. Again, this division connects apparatus with labour work and utensils with the work done in the home.

As technology often is defined in relation to tools and machines, the inclusion of utensils, to include technological objects from the female sphere, could some time ago have seemed like an attempt to widen the concept of technological objects. However, to put all technological objects handled in the home in one category is contributing to the separation principle by categorising all

instruments handled in the female sphere as utensils and those handled in the male sphere as tools. It is the division relying on the where, inside or outside the home, i.e., its cultural context and with whom this is connected, that limits the possibilities of creating inclusive descriptions of technology as objects, or descriptions that do not reproduce gender norms. By connecting the utensil to the home, the sphere of unpaid work, and the tool to paid work, the sphere of labour, this loads the objects with different status. Moreover, as the definitions of utensils and tools continue to contrast the two to each other, especially using value laden terms, the cultural reproduction is at work.

4.2. The passive-active dichotomy

Research is commonly coloured by contemporary ideologies (Ah-King, 2012). Noire's (1880, cited in Mitcham, 1994) dichotomous descriptions of utensils as 'passive' and serving the 'preservation of life', and tools as 'active' and corresponding to the 'creative principle' is drawing on, for that time, contemporary ideals of women and men.

A spoon is one of the examples that Mitcham categorises as a utensil. As a spoon is usually found in 'the hearth and home', this might be the definition Mitcham is relying on in this categorisation. However, as a spoon can 'act to transform or move the material world' by stirring or scooping up liquid or fine-grained materials, it could also be a tool with Mitcham's definition.

4.3. The preserving-creating dichotomy

Ideals of men as creators and women as nurturers can be seen in the separation of 'creative principle' and 'preservation of life'. If considering the tasks to build a house and to prepare a meal, these can both be considered to preserve life although the former uses tools, and the latter uses utensils, according to Mitcham (1994, p. 162).

4.4. The unskilled-skilled dichotomy

To say that tools require more skill for using than utensils do, like Merriam-Webster.com Dictionary (2023) stated, is a misconception. As many people eat roughly three times a day, there are many opportunities to practice the use of a knife. In an average home, the drill is not used daily, thus the opportunities given to practice the use of the drill are much fewer. The lack of practice could give the impression that it requires more skill to use a drill than a knife. However, it requires more skill to fillet a fish than it does to drill a hole in a wooden wall (without electric cabling in the wall).

4.5. The tool in the kitchen

In the technology textbook (Karlsson & Brink, 2017), instruments used in the kitchen are called tools. The use of the word tool, instead of utensil, for instruments used in the kitchen, can be seen as a way to rise the status of the work done in the kitchen. While other sources compare the two concepts to each other and describing tools as the more sophisticated, the textbook, directed to young people learning technological concepts, attempt to give the work done in the kitchen the same status as work done outside the home.

5. FUNCTIONAL INSTEAD OF CULTURAL DESCRIPTIONS

If we want to achieve a more equal access to technology and technological objects, we need to make sure the language we use supports that intent. When technological objects are classified and defined using cultural meanings, they become loaded with values on who is the natural user and the quality of the work that user performs. Instead, the aim should be to raise definitions of utensils and tools that are clear and that do not connect the concepts to cultural contexts reproducing gendered structures. Value loaded words should also be avoided when describing technological objects as they contribute to hierarchically ordering the objects and its users. For example, words like 'unskilled' degrades the user of such objects.

One way of avoiding reproducing gender in the conceptualisations of utensils and tools could be to use more gender-neutral words like instruments or devices as this category includes utensils as well as tools. As there are a lot of similarities between the instruments that Mitcham has classified as utensils and tools, it can be difficult at first sight to tell them apart. A knife and a saw perform the same task, to cut or slice items, although used in different spaces of our everyday life. A fork and a hayfork, used for pinching, poking or stabbing things. A spoon and a spade are both used for moving 'the material world' from one place to another. To discuss these similarities, we can instead raise the likenesses, which is a powerful act to change the dynamics of the gender system (Hirdman, 1988).

As I have shown, both Mitcham's definitions and contemporary definitions of technological objects rely on cultural descriptions. However, to discard 'utensil' and 'tool', i.e., suggest their dismissal, might neither be possible nor fruitful for the discussion on the philosophy of technology. Technology is intertwined with our culture, thus culture will find its way into the definitions. But if we in our definitions lean on the descriptions focusing on the functionalities of the technological objects, we can get closer to accurate definitions without soiling them with cultural biases.

A framework suitable to build these definitions from is that by Mumford. Dividing technological objects in the rather neutral categories 'static' and 'dynamic', the definition of tools as 'transforming the environment by changing shape and location of objects' and utensils as 'effect [...] chemical transformations' can be built upon (Table 3). Previously mentioned definitions can be added to pinpoint the concepts. For tool to 'fulfill a goal' (Merriam-Webster.com Dictionary, 2023) or 'act to move or transform the material world' (Mitcham, 1994) and utensil - to 'serve a purpose' (discarding 'specific', Merriam-Webster.com Dictionary, 2023). In that case, the definition of utensil is similar to Mitcham's apparatus just like Mumford intended when he categorised them both as 'static', but without specifying where they are used.

Table 3.
Functional definitions of utensil and tool

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

In this way a kitchen knife is a tool in the sense that it fulfills the goal of chopping vegetables; it transforms the vegetables from one shape to another. Similarly, a saw is a tool, as it fulfills the goal of cutting off a plank to the desired length. It transforms the plank from one length to another (shorter). A whisk is a tool, as it fulfills the goal of whipping, stirring or mashing food. It transforms the cream from one texture to another, moves the ingredients of the sauce from being separated to united, and mashes the whole potatoes to small grains or even down to starch chains.

A cutting board would be a utensil in the sense that it serves the purpose of protecting the kitchen countertop from the knife and protecting the knife from getting blunt. With a cutting board on its own, it would be difficult to achieve any kind of substantial goal (if perhaps it is used outside its scope to smash a nut, but in that case, it would better be defined as a tool). A clamp is a utensil, as it serves the purpose of holding the material in place while doing a job on it, and when holding together pieces of material in order for the glue (the tool!) to fulfill the goal of sticking the pieces together. A pin is a utensil, as it holds the fabric together while sewing. A paint tray is a utensil, as it serves the purpose of accommodating the paint for the roller to be dipped in. And so on.

Of course, in this endeavour, we come across instruments that do not fit in either category. We look at the spirit level, the measuring tape, and the volume measuring kit, and think: What is this? On their own, they are not enough to fulfill a goal if the goal is not simply to measure. Nor do they act to move or transform the material world (if the volume measure is not used for scoping, in that case it is a tool). These are all concerned with the quality of the goal. We aim for putting up a straight shelf, not a shelf where things on it come rolling off. We aim for sewing a close-fitting dress, not a dress of any size. We aim for baking a delicious and fluffy cake, not a burned one. Without their help, we would be able to achieve the goal of a set up shelf, a dress, and a cake, but with questionable quality.

6. CONCLUSION

Although philosophers of technology do not have the almighty power of deciding how languages are to be used, we can critically examine our own use of technological concepts and discuss definitions as we aim to lay out a solid foundation for our field to grow in, for all genders.

This is only a small part of the cultural conceptions of technology (Wajcman, 2010). It could be important for technology educators to be aware of the various conceptions of utensil and tool, and

to be able to critically examine these definitions to not support further gendering of technological items. Definitions relying more on function than on culture could be a way forward in nuancing technological objects without loading them with gendered meanings.

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