

# TECHNOLOGY, THINKING, AND IDENTITY: AN ACTIVITY THEORY PERSPECTIVE

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## Technology, thinking and identity

My goals—to show:

- 1) ways in which the activities that we do, which includes our thinking and our ways of being, are tied up with the tools or technology that our cultural context provides us with. These can include linguistic tools, IT tools, and material objects or artifacts,
- 2) a cursory analysis of the activity of *doing identity* and the role of social media in this activity using *cultural-historical activity theory*, and
- 3) how theory in the social sciences serves as a tool for making sense of human experience.

## Technology, thinking and identity

### On technology and being:

Karl Marx asserted that human nature (consciousness and behavior) forms, develops, and resolves not internally within the human individual or spirit, but rather in the dynamic interplay between the individual and his or her co-evolving material world while using and creating tools and artifacts. This perspective became known as *dialectical materialism*.  
(Cole & Scribner, 1978; Engeström & Miettinen, 1999)

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An example might make help you to appreciate some implications this view. Consider the effect getting our first car as a young adult. A car is a artifact a physical tool.

Consider how this might change our sense of geography, independence and agency, relationships with others, attention and memory, values, and identity.

This is a two-way dialectical relationship between use and our car. Our car can be changed as we express our identity as well!

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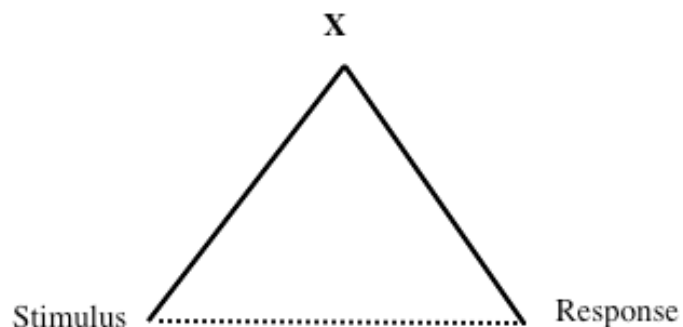
### Technology, thinking and identity

The Russian psychologist Lev Vygotsky extended Marx's dialectical view of human-environmental interaction to include the use of signs (different forms of language, writing, number systems, etc.) as well as tools.

According to Vygotsky human nature and human thinking are also tied to the language and other sign systems that are passed on to us from and that we internalize within our cultural contexts. Our ways of thinking are tied to material culture.

(Cole and Scribner, 1978)

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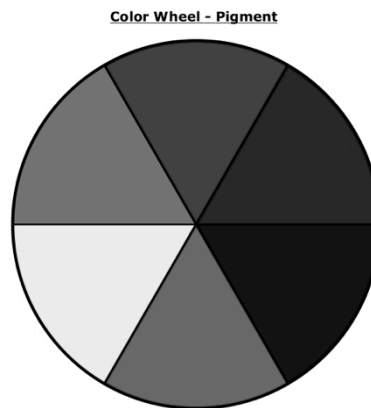
Vygotsky's (1934/1978) model of a complex mediated act or *the instrumental method of psychology* is central to his view of mediation and replaces a *simple stimulus-response* process .

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To put this another way, Vygotsky recognized the influence of linguistic and other cultural-semiotic (sign based) resources on the thinking and being of individuals. The semiotic resources (both the sign representations and their corresponding concepts/ meanings) that exist within one's cultural context provide ready means for attending to and responding to the world in particular ways with one another. These resources *grease the wheel* for us to think in culturally established ways.

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Speaking of wheels, compare the vocabulary and expressive possibilities of the colour wheel that we learned in elementary school art class with a house-painter's collection of colour swatches from a paint manufacturer.



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A side note:

Many of the implications of Marx and Vygotsky's work for understanding human activity, thinking, and personality were developed by Vygotsky's student and colleague Alexei Leont'ev (1978) who is credited as the originator of cultural-historical activity theory.

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Now let's turn to an example of a young adult, who I will call Jordan, whose goal is to fit in or maintain her/his fit with/within a target social group.

The object(ive) of Jordan's efforts is her/his identity or, to use terminology from the business world, her/his brand with this social milieu. This object(ive) includes both an ideal dimension and a practical or material world dimension.

The tools in this case include forms of language (and corresponding forms of thinking), and social media.

### Technology, thinking and identity

Other factors that can mediate or impact (directly or indirectly) Jordan's activity include the established social roles and norms or ways of participating within the target social group.

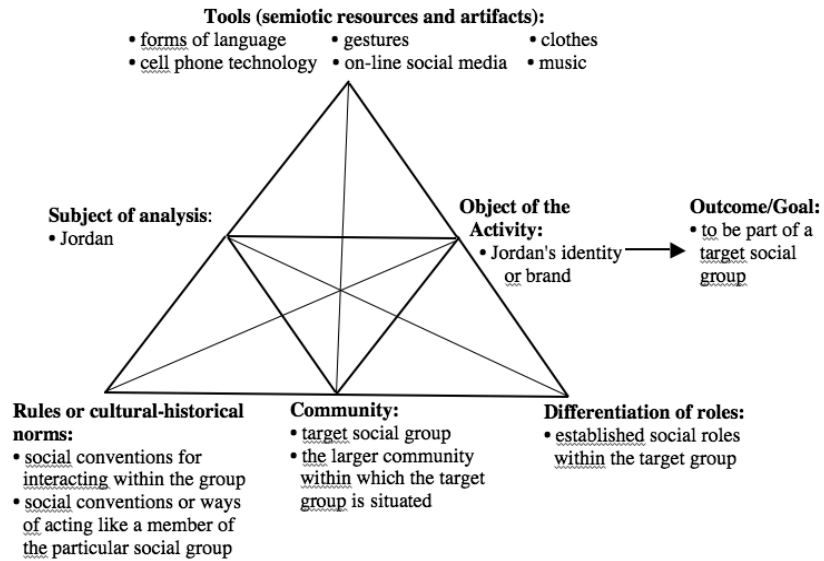
A most important point is that activity is always goal directed. We act in the ways that we do, we choose what information we convey and how we convey it, what technologies we use, and how we present ourselves for particular purposes.

### Technology, thinking and identity

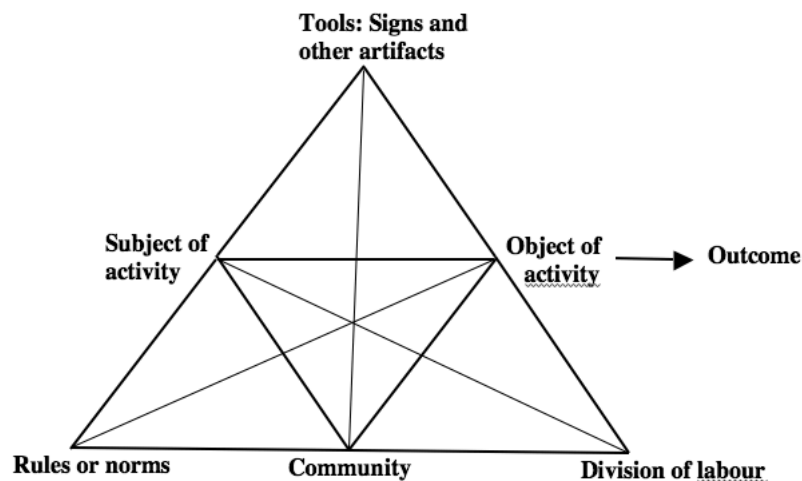
We can begin to represent the dialectical (two-way) mediating relationships between the components of this activity using the following diagrammatic representation.

The lines and smaller triangles within the model represent potential mediating relationships like the ones discussed earlier.

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## Technology, thinking and identity



The generic template of an activity system (Engeström 1987, 2001).

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According to cultural-historical activity theory, conflicts and efforts to resolve these conflicts serve as the engine of change/development of any activity system.

Possible conflicts within Jordan's activity system include:

- Jordan's understanding of the target group
- technical limitations of communication tools
- conflicts/tensions within the target group
- The fit between Jordan's beliefs and values and those of the target social group, etc.

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Within the activity theory research community some of the work that is most pertinent for our discussion here in COMN 2312 (e.g. Radford, 2008) focuses on:

- 1) The relationship between semiotic resources and technology and the ways we think and act. This situates thinking both within the material-cultural world and the mind of the individual.

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- 2) Particular ways in which cultural semiotic systems (along with their corresponding systems of meanings, categories, values, etc.) mediate the thinking, learning, and being of individuals.
- 3) Examining the dialectical relationship between the processes of noticing and becoming increasingly aware of cultural objects (a process called *objectification*) and the subject's own being (a process called *subjectification*)

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Jordan's objectification	↔	Jordan's subjectification
<ul style="list-style-type: none"> <li>• becomes increasingly aware of concepts (or cultural objects) and develops new ways of thinking</li> <li>• comes to see the world in new ways</li> </ul>		<ul style="list-style-type: none"> <li>• comes to act and be in the world (e.g. with peers, parents, authority figures, society at large) in ways that reflect these new conceptualizations and ways of thinking</li> </ul>

## Technology, thinking and identity

To summarize:

- 1) Cultural resources including language, tools and technology; and established social communities, roles, and norms play an inescapable role in our thinking and being.
- 2) In order to understand the inter-relations between technology, thinking and identity in a comprehensive way we need to understand the complex cultural-historical activities within which these are situated.

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- 3) Cultural-historical activity theory provides a means for understanding ways in which humans are dialectically inter-related with others and with our cultural-material world.

## Technology, thinking and identity

Turing back to the car example.

Within the past few years it has become commonplace for cars—our means of transportation—to have a variety of embedded communications/information technologies including: cell phones, GPS, mp3 players, and emergency response communication devices.

This, I would argue, is in response to our changing relationships to one another (driven by these very technologies) and our desire (need?) to sustain and even enhance these relationships.

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Thank-you for your interest and attention.