WORLD CULTURES AND TECHNOLOGY

The Social Meanings and Cultural Horizons of Technology

Expected Learning outcomes

- At the end of the learning module participants should be able to
  - define concepts such as technology, social meanings, cultural horizon, ethnocentrism, cultural relativism and rationalization.
  - recognize and demonstrate that technology is not simply the product of rational technical imperatives nor the making of autonomous, unbiased, impartial and objective experts.
  - distinguish between the cultural dimensions of technology, namely its social meanings and its cultural horizon.

Expected Learning outcomes

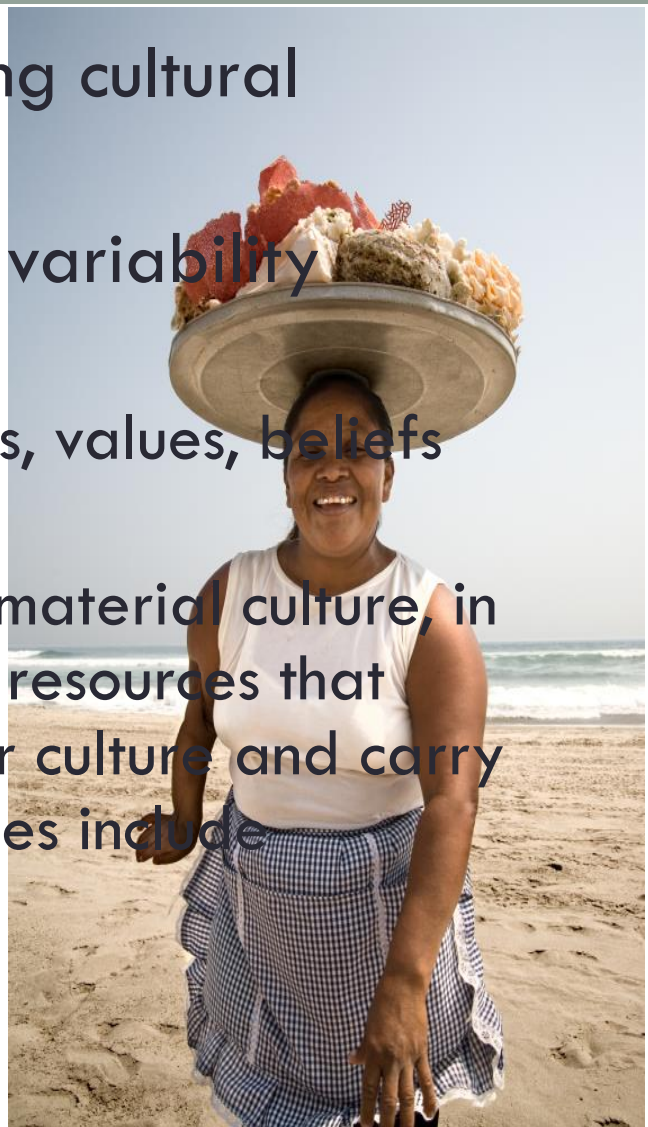
- At the end of the learning module participants should also be able to
  - recognize and demonstrate that different social agents or groups, often coming from different cultures, construe or assign different meanings to the very same technology.
  - recognize and demonstrate that any given technology embody, in the design itself, diverse social meanings and cultural assumptions about social values, worldviews, ideologies, discourses, beliefs, and social norms.
  - examine and evaluate technologies from the perspective of cultural relativism while avoiding ethnocentrism.

Cultural Diversity and Appreciation

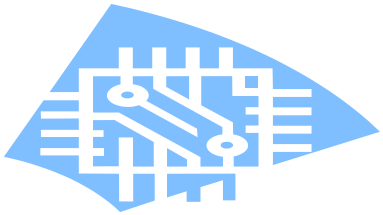
- In today's world it has become increasingly important to raise awareness about the importance of intercultural dialogue, cultural diversity and social inclusion.
- These days, promoting the awareness and appreciation of world cultures is progressively more important.

Cultural Diversity and Appreciation

- Cultural appreciation and cherishing cultural diversity go hand in hand.
- Cultural diversity refers to cultural variability between and within societies
  - Societies vary in terms of their norms, values, beliefs and practices or conducts.
  - Societies also vary in terms of their material culture, in terms of their artifacts, objects, and resources that people make and use to define their culture and carry out diverse activities. Material cultures include technology.



Technology

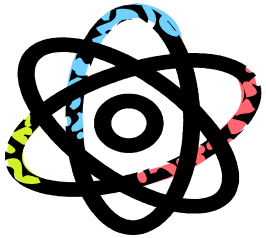


- The term technology is often used to refer to tools, machines and equipment, including computers and like devices.
- Sociologists and other social scientists, however, use a broader definition that includes social relationships dictated by the technical organization and mechanization of activities, for example, the technical organization of work and bureaucracies.

Technology and Cultural Diversity

- Technology is culture.
- To acknowledge cultural variability is to affirm that cultures vary in terms of their material culture and in terms of technology.
  - Different societies produce different technologies, even to do the very same thing.
  - People from different societies also use imported technologies—the very same technology—differently, according to their specific culture.
- Technology is an excellent window from which to study, understand and appreciate cultural diversity.

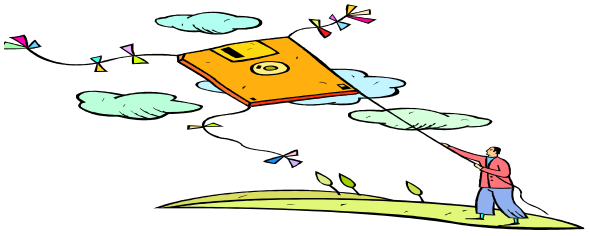
Beyond Rationality: The Social Construction of Technology



- From a sociological perspective, technology is not simply the product of rational technical imperatives, the making of autonomous, unbiased, impartial and entirely objective experts.
- Rather, any given technology results from a series of specific decisions made by particular groups of people in particular places at particular times for their own needs, interests and purposes.
- These decisions are made either in the context of conflict or in the milieu of cooperation.
- Either way, technologies bear the imprint of people, their social relations and their culture in a given place and time—the imprint of a socio-cultural context.

Technologies as Meaningful Artifacts

- Technologies are meaningful objects
- They have a function and for most purposes their meaning is identical with that function.
- However, we also recognize a penumbra of 'connotations' that associate technical objects with other aspects of social life independent of function.
  - Automobiles are means of transportation, but they also signify the owner as more of less respectable, wealthy, sexy, etc.

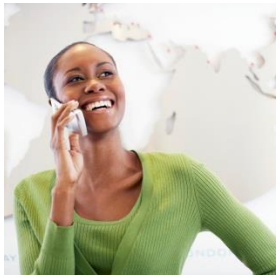


Technologies as Meaningful Artifacts

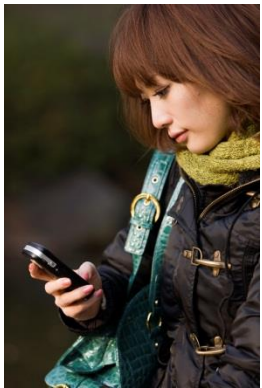
- The connotations and meanings given to a particular technology vary across cultures.
- Cell phones are a good example.
  - In a study comparing Americans and Indians with regards to cell phones Ira Jhangiani (2006) found that Americans were a lot more concerned with privacy issues than Indians.
  - Text messaging and being able to use it was more important to Indians than the Americans.
  - The importance of ringtones and usability ratings of the task was higher in India.
  - Indian users were more familiar with the concept of profiles than Americans.

Exercise: Think about it

- Answer the following question:



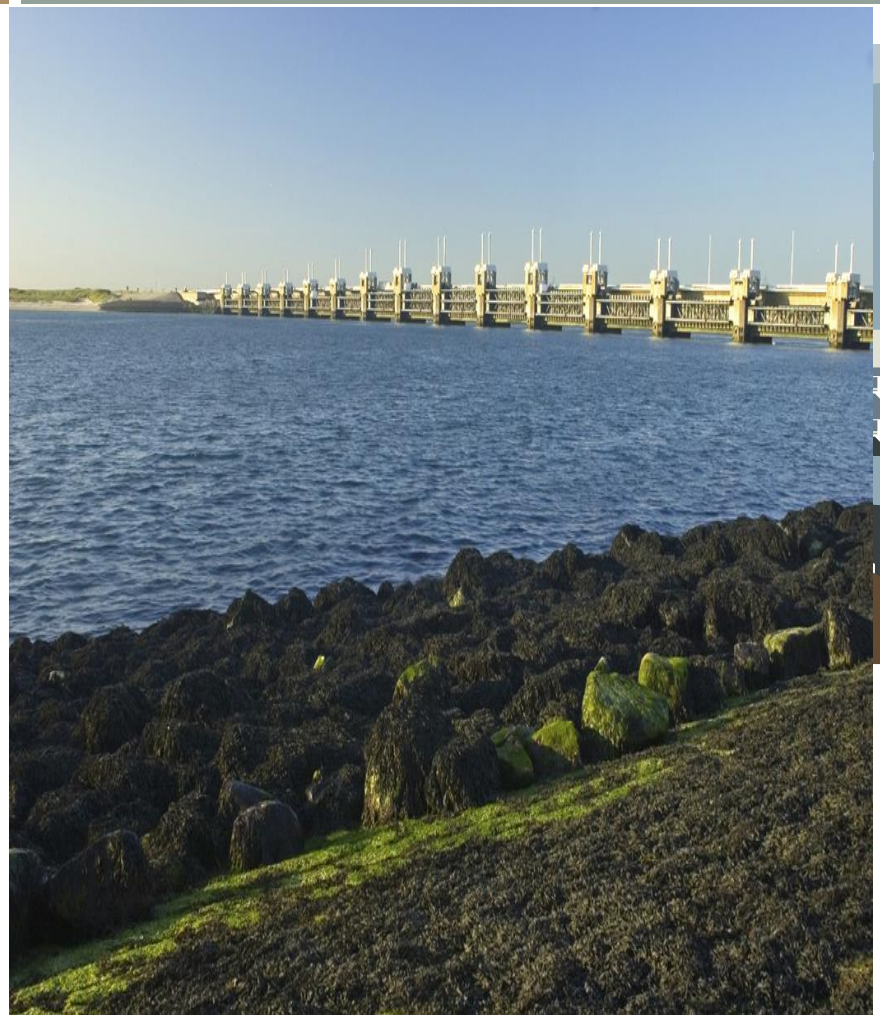
  - 1. Are you a cell phone user?
  - 2. How concerned are you about your privacy being violated due to features such as the camera, voice call and storing personal information on the cell phone?
  - 3. Consider your favorite ringtones. What are some of your favorite ringtones? Are these ringtones reflective of your culture? Why?
  - 4. How familiar are you with profiles? Why?



Technologies as Meaningful Artifacts

- Another good example to ponder the relationship between cultural diversity and technology are the differences in coastal defense structures.
- These technologies vary across cultures.
- The designing and building of coastal defense structures embody a diversity of legal, scientific and other socio-cultural concerns and meanings coming from various relevant stakeholders, including engineers, politicians, citizens, insurance companies, etc.
  - These structures, a particular technology are an amalgamation of their concerns and interests in the context of a given culture, which may be different in any other culture.

Dutch Coastal Technologies



American Coastal Technologies

Technologies as Meaningful Artifacts

- A study by Wiebe E. Bijker (2006) found differences between American and Ductch coastal technologies.
- For Bijker these differences were not due to expertise and competence nor were the differences a matter of quality.
- The difference were due to different conceptions and styles of risk management in relation to flooding.
  - Americans and Dutch engineers responded to different "technological cultures."

Technologies as Meaningful Artifacts

- Although engineers in both cultures share a concern with natural hazards and disasters the Americans tend to focus on predicting disasters and mediating the effects once they have happened.
- American coastal defense technologies embody these concerns with prediction and "flood hazard mitigation."
- Americans engineers are also concerned with insurance issues. The risk criterion that is used in designing levees and other coastal defense structures in the United States is a 1: 100 chance (a "hundred year flood"). This criterion is a technical norm but not a legal rule.
- By contrast, Dutch engineers focused on "keeping the water out." They were more concerned with prevention than mitigation. The risk criterion used in the Netherlands is 1: 10,000. This criterion is not only the technical norm in that country; it is also a governmental regulation, sanctioned by the law.

Technologies as Meaningful Artifacts

- American and Dutch engineers responded to different socio-cultural relations with nature and/or with different geographies.
- They also responded to different political cultures.
  - While Americans are less supportive of government involvement the Ducth are more open to its involvement in various affairs, including coastal defense technologies.

Technologies as Meaningful Artifacts

- Despite cultural differences coastal technologies in the United States or the Netherlands have, embedded within their design, representations rooted in scientific rationality.
- However, American coastal engineers are more concerned with scientific research than are the Dutch engineers.
- Nonetheless coastal technologies in either country embody the application of scientific expertise and techniques to a non-science context, flooding management.

Technology and Culture

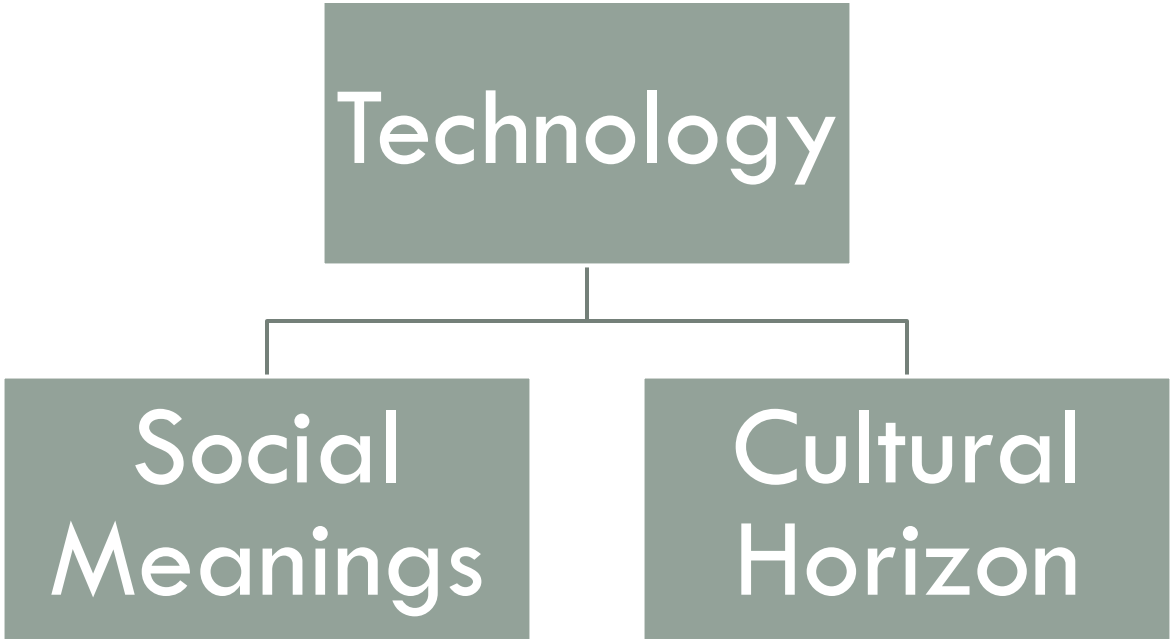
- The examples of cell phones and coastal technologies show that the social and the cultural are entangled in any given technology.
- Technology is a prevalent form of the embodiment of both culture and social relations.
  - Technology embodies culture in all its elements: values, beliefs, norms, ideologies, discourses, symbols, worldviews, and practices.
  - Technology is then culture.

Interpreting Technology

- Technology ought to be subject to interpretation like any other cultural artifact (Feenberg 1995).
- We should examine how culture determines both the meaning and content of technology and its uses and how technology, in turn, shapes culture.

Interpreting Technology

- A particular technology can be interpreted or studied in terms of two cultural dimensions: its social meanings and its cultural horizon (Feenberg 1995).



Social Meanings of Technology

- Technologies have social meanings, a symbolic and figurative content attached to it by various social actors and/or stakeholders.
- Put differently, diverse social agents or groups construe, signify, represent or assign different meanings to the very same technology.
- Often, these meanings are actually embedded, encoded and/or implanted in the technology itself. Technological objects thus embody and materialize multiple social meanings.

Social Meanings of Technology

- The social meanings of technology are social in the sense that these meanings are collective, not individual constructions and representations.
- The meanings given to any technology are also social in the sense that they are contingent, which means that the social meanings of technology vary across time and space.
  - One can find variations across different historical moments and one can also find cross-cultural variations in the meaning given to any technology.

Cultural Horizon of Technology

- The cultural horizon of technology refers to the set of assumptions about social values that inform and determine the design of technology (Feenberg 1995).
- It refers to the culturally general assumptions that form the often unquestioned background to every aspect of social life, including technology design, development and use.

Cultural Horizon of Technology

- Today, and especially when it comes to technology, rationalization, is our modern cultural horizon.
  - The essence of the rationalization process is the increasing tendency by social actors to the use of knowledge, especially scientific knowledge, in the context of interpersonal relationships, with the aim of achieving greater control of the world around them.
  - Technology is often thought, and even designed, as a mean to obtain greater control of the world around us, including social life.

Interpreting Some Technologies

Multi-player Online Games

Social Meanings

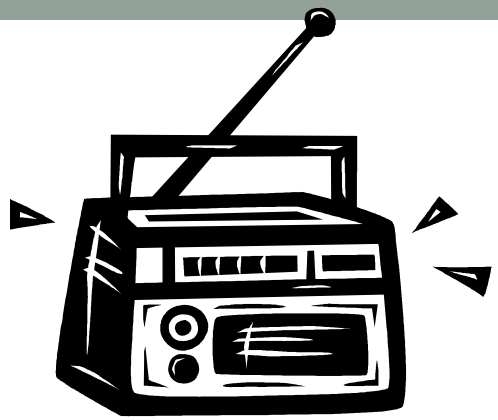
The artifact embodies a diversity of mostly social and cultural meanings and understandings coming from various relevant groups such as gamers, corporations, graphic and computer experts, parents, etc. These games denote entertainment, amusement or a hobby, relaxation, competition, status and even nostalgia.

Cultural Horizon

It is entrenched in and embodies the application of scientific expertise and rational techniques to a non-science context (Internet gaming) to impose a rational form on a sector of experience. These games are sites of social rationalization involving exchange of equivalents, classification and application of rules and the optimization of effort and calculation.

Interpreting Some Technologies

Stereos



Social Meanings

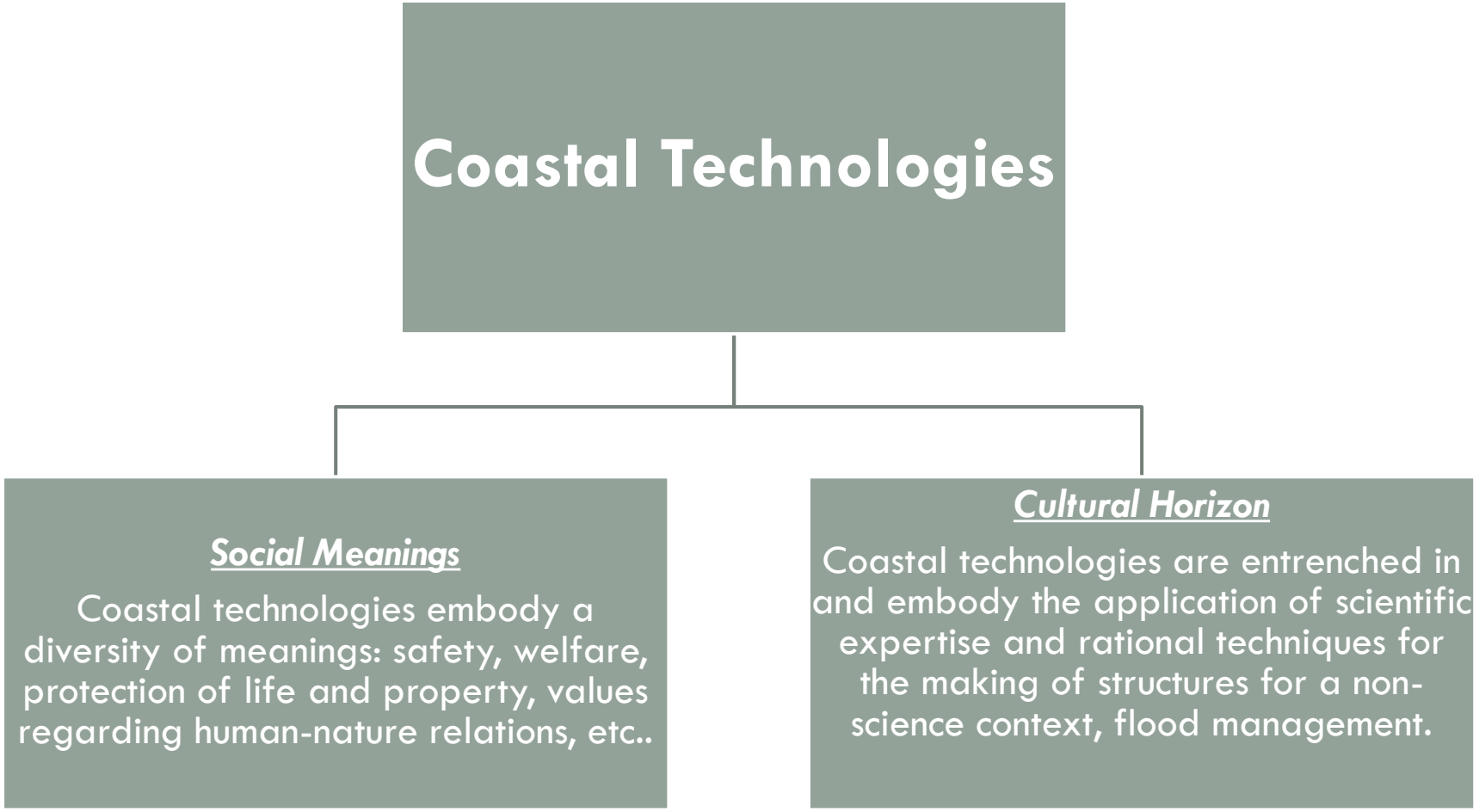
Stereos embody a diversity of meanings: entertainment, relaxation, hobbies, amusement, music appreciation.

It also represents the promise of disburdenment and cultural enrichment, the promise to provide music freely and abundantly (liberty and prosperity).

Cultural Horizon

Stereos are entrenched in and embody the application of scientific expertise and rational techniques for the making of a device for a non-science context, the free and entertaining enjoyment of music.

Interpreting Some Technologies



Appreciating Technologies from Other Cultures

- Identify and name the various stakeholders or groups of people that designed, produced, developed, tested and use the technology in question.
- Identify and list the diverse meanings, positive or negative, that these different groups attach to the technology in question.
- Identify the cultural horizon of the technology in question.

Appreciating Technologies from Other Culture

- In examining technologies from other cultures you must also avoid ethnocentrism, the assumption that one's group is superior to other groups.
- Avoid the deployment of prejudices, stereotypes and uncritical generalizations about other cultures.
- Examine technology from the perspective of cultural relativism, that is, you must understand other cultures, including their technology, in terms of that culture itself, not just yours.

Exercise: Interpreting a Pizza Vending Machine

- Imagine yourself on campus looking for something to eat. You find vending machines on the building's lobby.
- And besides the usual vending machines to get candies and soft drinks you find a pizza vending machine, a vending machine that bakes fresh pizza for you.

Pizza Vending Machine

Exercise: Interpreting a Pizza Vending Machine

- Invented by Italians, the Let's Pizza machine actually creates the pizza more or less from scratch, and then bakes it as you watch.
- They'll soon be found at "malls, airports, hospitals, restaurants, hotels, supermarkets, universities, gas stations, bus stations, etc."

Exercise: Interpreting a Pizza Vending Machine

- *Answer the following questions:*
  - The pizza making machine was invented by Italians. Pizza is Greek in origin. The ancient Greeks covered their bread with oils, herbs and cheese. Modern pizza, however, originated in Naples, Italy. What does this high tech pizza vending machine tells you about Italian culture?

Exercise: Interpreting a Pizza Vending Machine

- What social meanings are embedded in this Italian technology?
- According to this technology, what is of value in Italian culture? What Italian beliefs, symbols, ideologies, worldviews and tastes are embedded in these machines? What lifestyles or ways of life are associated to these pizza vending machines?
- Is there something about this pizza vending machine that makes it strictly Italian? Or, are these values, including a taste for pizza, found in other cultures around the world? Please, explain.

Exercise: Interpreting a Pizza Vending Machine

- What would these pizza vending machines mean to you?
- What do you think is the cultural horizon of these machines? Is it also rationalization? Why?
- Can you think of other general cultural assumptions that form the often unquestioned background to every aspect of social life in Italy that maybe informed and determined the design of these machines?
- Who will benefit from these vending machines? Who will not? [In answering thinks of the various stakeholders including inventors, corporations, vendors, traditional pizzerias and pizza making workers, consumers, etc, and the meaning they will attach to the pizza vending machine).

Assessment

- Please, complete the following statements:
  - Something new I learned from this learning module about technology was . . .
  - Which was the most important concept that you learned from this learning module on technology and culture?
  - Which was the muddiest point you confronted while completing this learning module on technology and culture?

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