

information and meaning

info-20002: foundations of informatics

information in context

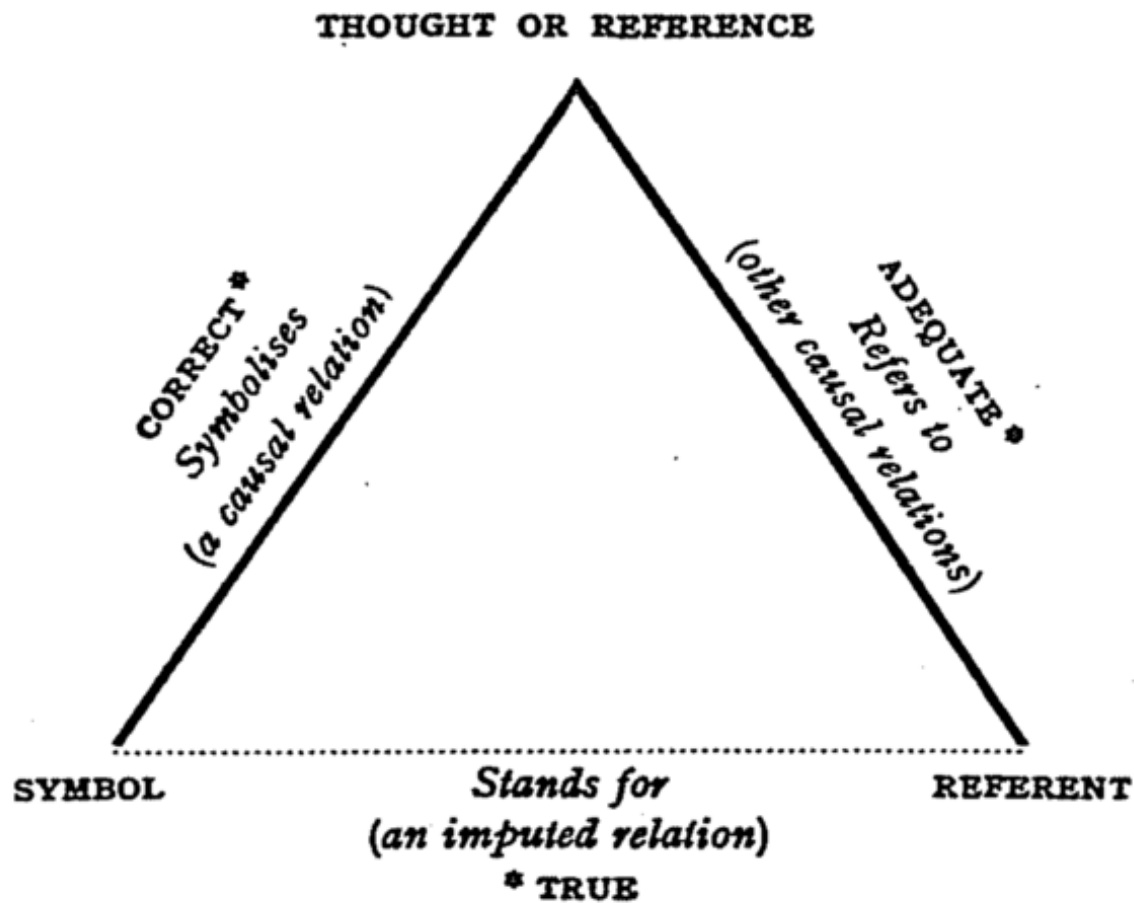
- Data as signals (Shannon's Information) ignores the meaning of its content
- Information in context considers observers (subject) and what the information means to them
- Information as a relationship between the subjective and the objective
- As information is shared, information is also a form of communication.

"Information is the transfer of form from one medium to another. In the context of human information-exchange, 'communication' is a more descriptive term than 'transfer', and since form is about relationships, we can tentatively define information as the communication"

(von Baeyer, Information: The New Language of Science, p. 25)

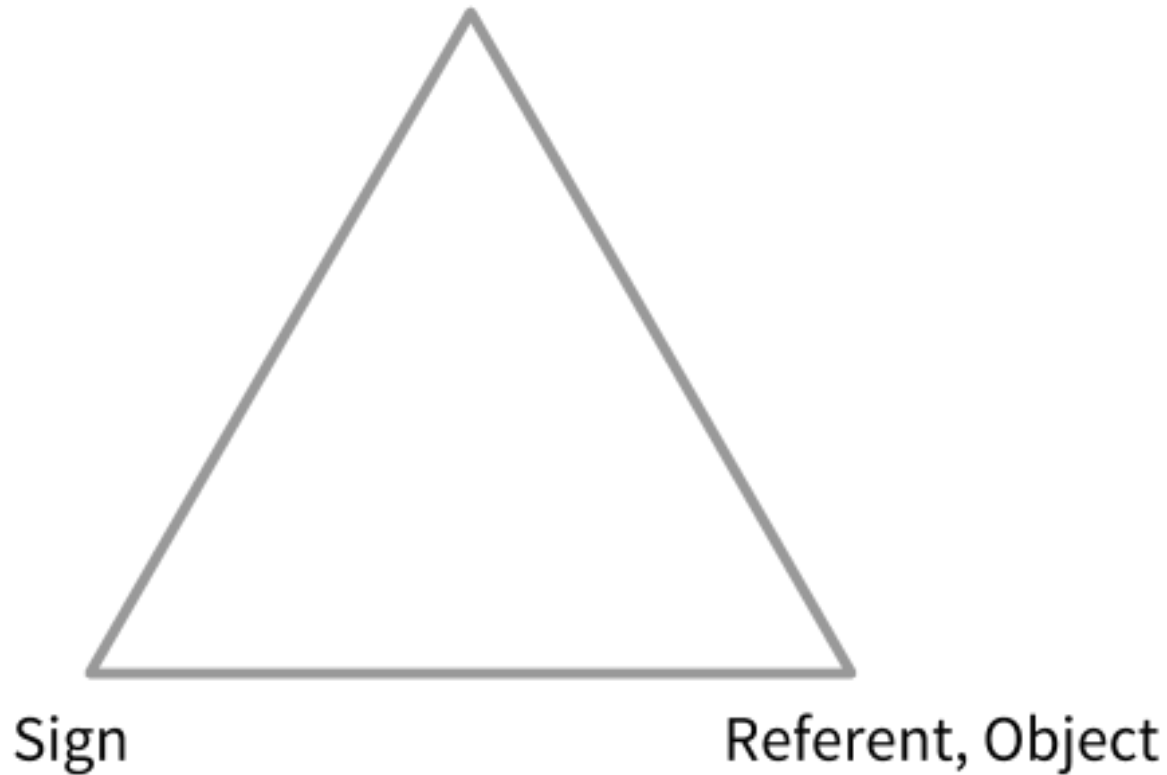
information as signs

- Within communication, information acts as a language
- Information as a system of signs
- Semiotics: study of meaning making, formal doctrine of signs (Peirce)
- It includes:
 - *Syntactics*: formal structures of signs, grammar/rules of signs construction and relation.
 - *Semantics*: relation between signs and objects (the things to which they refer) in the mind of the observers.
 - *Pragmatics*: relation between signs and their context (of the observers that interact with the things).



C. K. Ogden and I. A. Richards (1923). "The Meaning of Meaning"

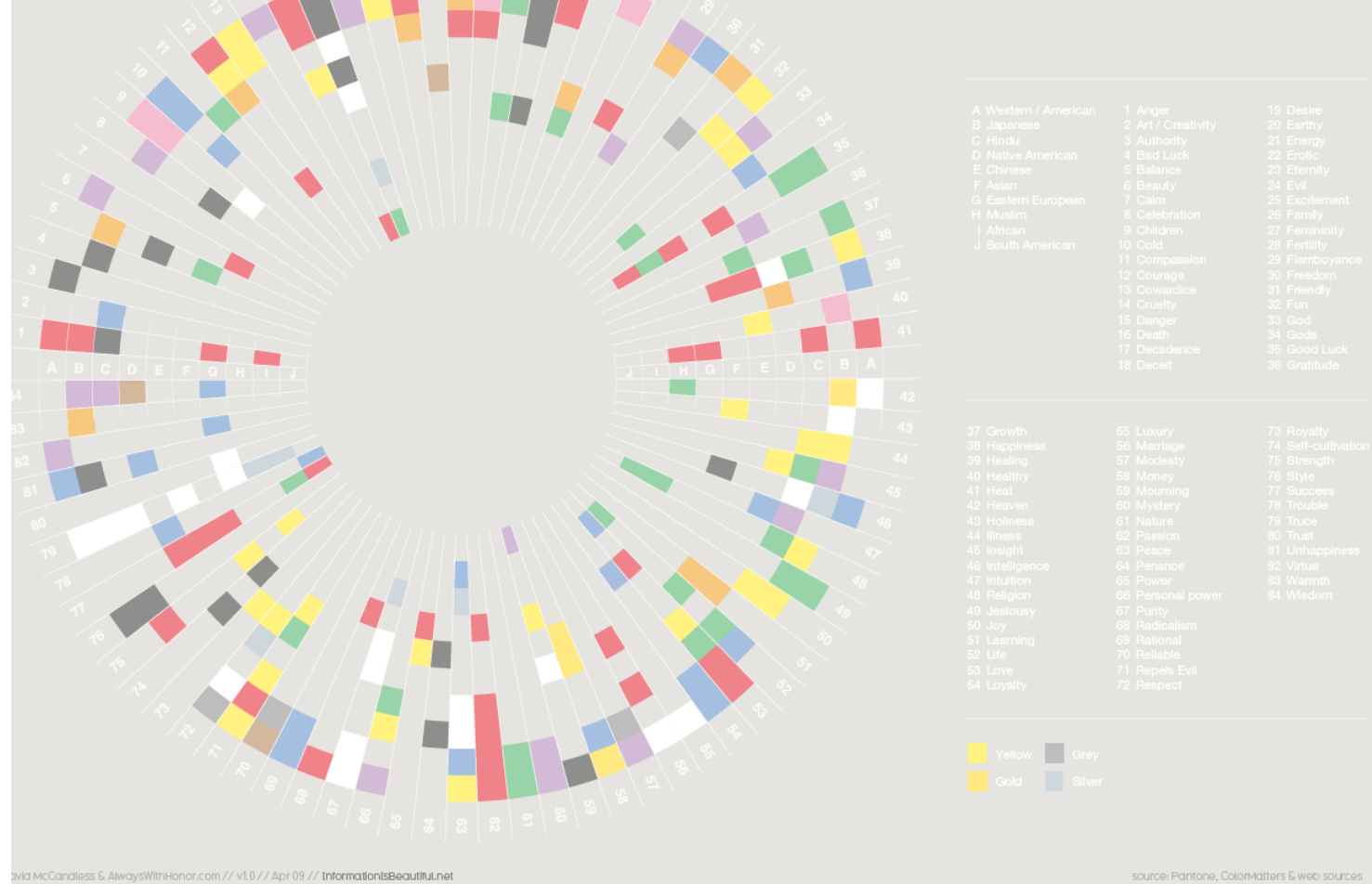
Reference, Concepts, Subject, Interpretant



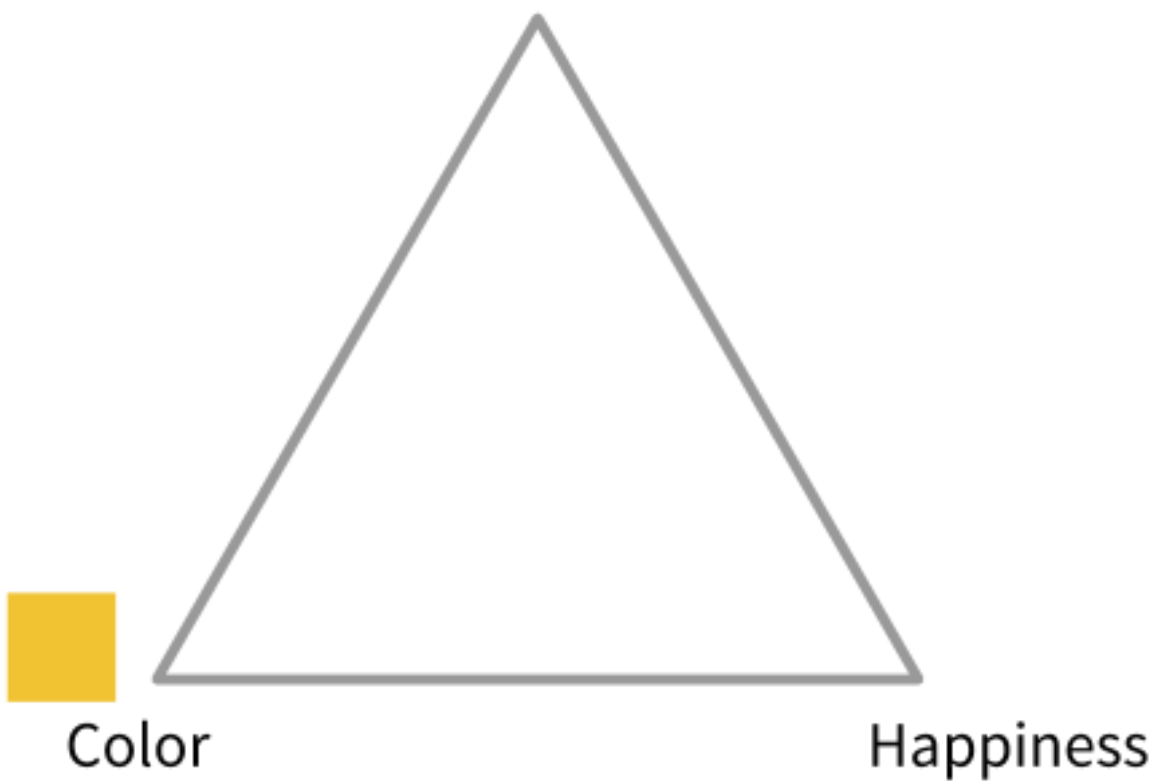
Sowa's Meaning/Semiotic Triangle

Sowa, J. F. - "Ontology, Metadata, and Semiotics"

David McCandless (2013). "Colors in Culture", from Information is Beautiful. CC Creative Commons BY-NC 3.0.



Western's Concept of Happiness



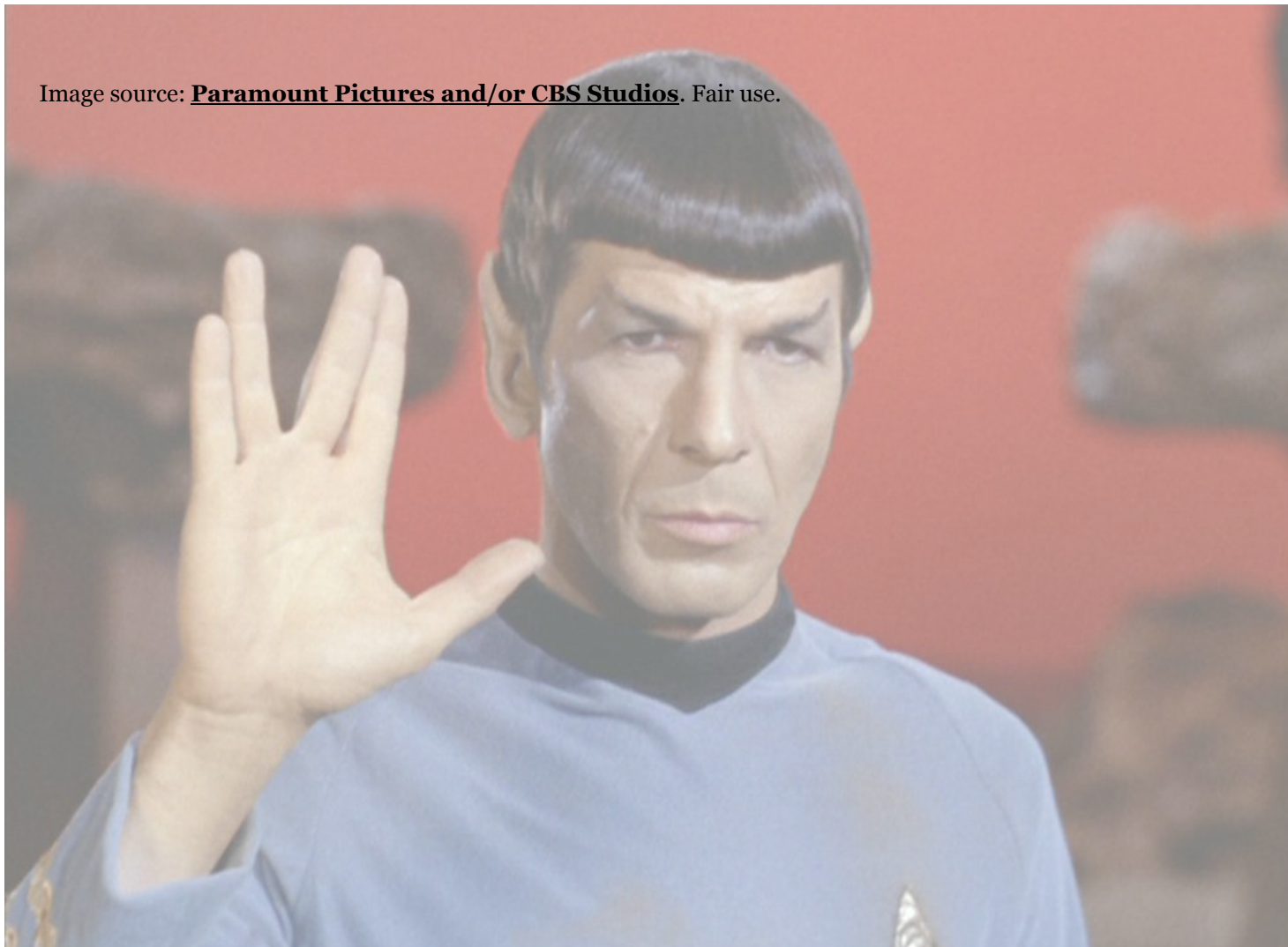
Peirce's typology of signs

Three forms of "representations" in the sign systems:

- *Icons*:
 - "Likenesses": direct, similar representations of objects, shared quality.
 - Road signs, computer icons
- *Indices*:
 - "Correspondence in fact": indirect representations of objects.
- *Symbols*:
 - "Imputed character": arbitrary representations of objects
 - A social convention should be established to understand the representation

"Peirce's Theory of Signs", from Stanford Encyclopedia of Philosophy.

Image source: **Paramount Pictures and/or CBS Studios**, Fair use.



quiz

In this 21st century, give one example of *indices* that almost all of you experience almost everyday?

laundry signs

Image source: From a pair of shorts purchased in Huwei, Taiwan. CC BY-SA 2.0.



laundry signs



Image source: **Washicons**
Ginetex Textile Care Symbol

from icons to symbols

Yin, J. J. (2006). **The History of Chinese Characters**. in Fundamentals of Chinese Characters. Yale University Press.

Image source: **Chinese Character Classification**. WP:CC BY-SA.



application in informatics/computing/information systems

- developer as the designer of software
semiotics to understand who the users (agent) are, what they need (object), and their relation with their needs
- *human computer interaction*
software as a collection of signs: understanding of data and actions (icons, vocabularies)
user interface design [1]
- *information systems quality*
semiotic understanding of information quality [2]
- *requirement analysis*
pragmatic understanding of the implication of information systems in organisation

[1] Nadin, M. (1988). Interface design: A semiotic paradigm.

[2] Price, R., Shanks, G. (1988). A Semiotic Information Quality Framework: Development and Comparative Analysis. Journal of Information Technology (2005):20 pp. 88-102.