



UC Berkeley School of Information

"Information: Word, Concept, Thing

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What puts the *i* in iSchool?

Why not the eSchool, v-School, cyberSchool...?

 The question everybody learns to duck:
"you're in the School of Information ... so what is information?"

WELCOME TO THE iSCHOOL



= flag for later discussion



What puts the *i* in iSchool?

What does it mean to be a "school of information"? Is it computer science or library science? Is it social science, law, or business? Is it information architecture or multimedia design? Are we pioneering the next big navigation tool? Or are we concerned with "the human element" of information: how it connects, separates, affects people?

The answer to all these questions is "yes," because the study of information — how it is created, shared, and transformed into actionable knowledge — touches a wide range of issues and disciplines, just as it addresses the vast diversity of human needs, activities, and relationships.

AnnaLee Saxenian, Dean's statement

WELCOME TO THE iSCHOOL





What puts the *i* in iSchool?

The iSchools are interested in the relationship between information, people and technology. This is characterized by a commitment to learning and understanding the role of information in human endeavors. The iSchools take it as given that expertise in all forms of information is required for progress in science, business, education, and culture. This expertise must include understanding of the uses and users of information, as well as information technologies and their applications.

iSchools Caucus at www.ischools.org



"Information" unifies & legitimates the iSchool enterprise 🚩



The Scope of "information"

It's not something we can see, really. We certainly can't touch, taste, hear, or smell it. Yet it's always there when we look for it, available wherever we bother to direct our attention. We can glean it from the pages of a book or the morning newspaper and from the glowing phosphors of a video screen. Scientists find it stored in our genes and in the lush complexity of the rain forest. The Vatican Library has a bunch of it, and so does Madonna's latest CD. And it's always in the air where people come together, whether to work, play, or just gab. What is it that can be so pervasive and yet so mysterious? Information, of course...

Business Week, "The Information Revolution," 1994



The Scope of "Information"

All technologies that "process information" (although they were never described in those terms in the predigital era) affect deeply the societies that use them. Johannes Gutenberg's printing press eventually helped reformers to erode the Catholic Church's political power: Books spread knowledge in ways the Vatican could not control.... But the world has never seen anything like the computer.

Business Week, "The Information Revolution," 1994



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What does "it" refer to?

"information" = One concept (monosemy)? Several related concepts (polysemy or family resemblance)? No unifying concept at all (chaosemy)?



"Information" as a keyword



ART
BEHAVIOR
CLASS
DIALECTIC
EXPERIENCE
FAMILY
GENIUS
HEGEMONY
INDUSTRY
JARGON

• **KEYWORDS** •
A VOCABULARY OF CULTURE AND SOCIETY
REVISED EDITION
RAYMOND WILLIAMS

LIBERATION
MEDIA
NATURALISM
ORDINARY
PEASANT
RACIAL
SEX
TRADITION
UNDERPRIVILEGED
VIOLENCE
WELFARE

Keywords:

"strong, difficult, and persuasive words in everyday usage" and...

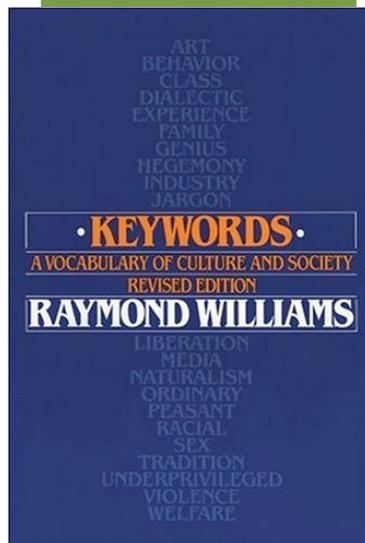
"words which, beginning in specialized contexts, have become quite common in descriptions of thought and experience."

"significant, indicative words in certain forms of thought. Certain usages [bind] together certain ways of seeing culture and society."

"This... is the vocabulary we share with others when we discuss many of the central processes of our common life."



The Variety of Keywords



Williams's keywords include:

alienation
aesthetic
common
culture
democracy
dialectic
ecology
elite
media
underprivileged
welfare...

But not *information*



Keywords

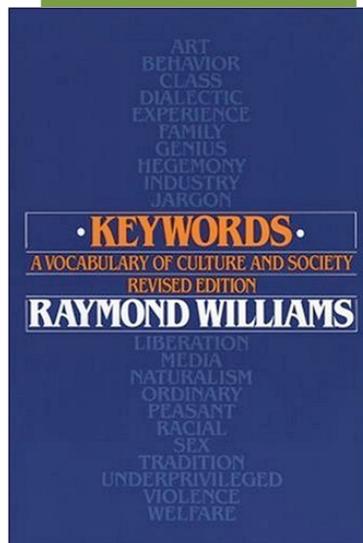


"strong, difficult, and persuasive words..."

Strong=?Words do a lot of cultural work

Difficult (Williams cites *class, culture, community, literature, consensus...*) = complicated?

Persuasive = words are charged with ideological significance (e.g. *community, consensus, democracy*)





"Information" defined: OED

I. 1. a. The action of informing (in sense 4 of the verb); formation or moulding of the mind or character, instruction, teaching; communication of instructive knowledge. Now rare or Obs. [1387]

3. a. Knowledge communicated concerning some particular fact, subject, or event; that of which one is apprised or told; intelligence, news. spec. contrasted with *data*. [1450]

c. Separated from, or without the implication of, reference to a person informed: that which inheres in one of two or more alternative sequences, arrangements, etc., that produce different responses in something, and which is capable of being stored in, transferred by, and communicated to inanimate things. [1937]

III. 8. attrib. and Comb., as *information content, explosion. flow, gap, service, storage, system, transfer, work; information officer, ~ processing, ~retrieval, ~ revolution, ~ science, ~ technology* Also INFORMATION THEORY.

Additions, 2003: *information overload, ~rich, ~-poor, superhighway, warfare*

But entry omits *information society, ~ anxiety, ~ glut, ~ haves & have-nots*

See def at <http://ischool.berkeley.edu/~nunberg/InfoDef.pdf>



"Information" defined: OED

Limits of the dictionary def.

Definitions are approximations (information \neq knowledge) 

Defs leave out many features. (Information as "public" notion; evaluative valence of information, etc.)

Historical development is much more complicated than defs suggest.



"Trailing clouds of etymology"

A word never—well, hardly ever—shakes off its etymology and its formation. In spite of all changes in the extensions of and additions to its meanings, and indeed rather pervading and governing these, there will still persist the old idea. In an *accident* something befalls: *by mistake* you take the wrong one: *in error* you stray... *J.L. Austin*

The emergence of the mathematical theory of information in the twentieth century could be seen as a further episode in the long story of humankind grasping for an adequate concept of structure, pattern, or form. *Brent D. Rubin, "The Concept of Information," 1988*



Words & Concepts

Was there a concept of information before "information"?

"All technologies that 'process information' (although they were never described in those terms in the predigital era) affect deeply the societies that use them." *Bus. Week*

What does it mean to have a word for something?



Popular Views of the Word- Concept Relation

Popular view: "Having a word for X" is a precondition for having the concept

Cf. "Language X has no word for Y"

e.g., French: "nice," "home," "shallow," "goofy"

Spanish: "sportsmanship," "flunky," "accountability"

Chinese: "brand," "yes," "privacy"

Arabic: "rape," "responsibility," "ironic," "compromise"

Russian: "marketing," "freedom," "privacy"

German: "humor," "frustration," "appreciate," etc.

English: *Gemutlichkeit*, "the area between the nose and the upper lip," "an expressive and meaningful silence,"

Futterneid ("what one feels when he likes someone else's food better than his own"), etc.

Note that some of these are supposed to be culturally significant, others not...



Ideological Implications

Cf the fable of Newspeak:

[In Newspeak] a heretical thought - that is, a thought diverging from the principles of Ingsoc - should be literally unthinkable, at least so far as thought is dependent on words. Its vocabulary was so constructed as to give exact and often very subtle expression to every meaning that a Party member could properly wish to express, while excluding all other meanings... Orwell, *1984*

English is the underlying force, at least indirectly, behind the outbreak of democratic reform sweeping the communist world. ...The common bond of democracies everywhere is the inherent capability of the English language to define and exhort the essence and spirit of government by consent of the governed. William Robertson, *Miami Herald*, 1989



Independence of Words & Concepts

Concepts that antedate their names

original Having the quality of that which proceeds directly from oneself; such as has not been done or produced before; novel or fresh in character or style. (1756)

originality in this sense from 1782

But cf. Milton's "things unattempted yet in prose or rhyme" (1667). Hist of concept of originality ≠ history of *originality*

Cf also development of *patriotism*, etc.

Cf *plot twist* (1920) "An unexpected turn of events in a work of fiction"



Independence of Words & Concepts

Concepts that antedate their names

The concept of information could have existed before the word existed or acquired its modern sense; concept could exist in lgs that have no specific word for this.

What makes it possible to talk about the "history of information," etc.



The Importance of Lexicalization

Still, lexicalization (giving a specific name to a concept or thing) obviously has historical & cultural implications:

e.g., “ethnics,” WASPS, lifestyle

Cf untranslatability of some ideological terms ("ownership society").



Psychological implications of lexicalization

Lexicalization of concepts facilitates coding & recall, "chunks" content, foregrounds lg-relevant percepts, makes reference more convenient...

relating to the maintenance of a balance between producing and using carbon, especially balancing carbon-dioxide emissions by activities such as growing plants to use as fuel or planting trees in urban areas to offset vehicle emissions

carbon-neutral





Social implications of lexicalization

"The surest sign that a group or society has entered into the self-conscious possession of a new concept is that a corresponding vocabulary will be developed, a vocabulary which can then be used to pick out and discuss the concept with consistency."

—Quentin Skinner, "Language and Social Change"

Assumptions:

- Concepts belong to social groups
- Lexicalization signals group (meta-)awareness of concept
- Concepts are associated with "vocabularies"



How do words shape concepts?

Words impute identity or similarity of distinct things:

Whenever we have made a word to denote a certain group of phenomena, we are prone to suppose a substantive entity existing beyond the phenomena, of which the word shall be the name.
William James, *Principles of Psychology*

e.g. terrorism,

E.g., "religious" attention to work, *racism*,

Provide cognitive models: metaphors

Not always easy to tell: cf "war on X"



How do words color concepts?

Words connect categories to paradigmatic instances/exemplars: e.g., *values*, *traditional*, *liberal*, *regime*

appeasement: "The policy of granting concessions to potential enemies to maintain peace..." (AHD)



How do words color concepts?

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How do words color concepts?

Words can invest categories with positive or negative valence: e.g., *community*

"Unlike all other terms of social organization (state, nation, society, etc.) [community] seems never to be used unfavourably, and never to be given any positive opposing or distinguishing term." Raymond Williams

E.g., the rottweiler ~, the Windows ~, the pedestrian ~, the asthma ~, the piercing and tattoo ~, the diaper ~

But not: "the Holocaust denier community"

I would implore them not to spend their time on an effort, that if successful, would be welcomed by the child molester community.



Words structure cultural formations

literacy: knowledge of letters; condition in respect to education, esp. ability to read and write (1893)

economic literacy 1943

functional literacy: 1954

cultural literacy: ca. 1990

Also: *literacy rate*, *literacy campaign*, etc.

literacy arises in US, implicates a complex relation between education, class, knowledge, citizenship, and the role of the state in culture



Words structure cultural formations

Implications of information in its collocations & oppositions:

information explosion, gap, storage, system, transfer, work; -gathering, -giving, -seeking; information processing, information retrieval, information revolution, information science, information technology, information overload, information rich, information warfare.

Not to mention *information society, information anxiety, information glut, information haves & have-nots* etc.

information in its semantic oppositions to *data, knowledge, wisdom...*

Moral: *information* implicates a semantic field or concept  scheme



Words originate in subdiscourses

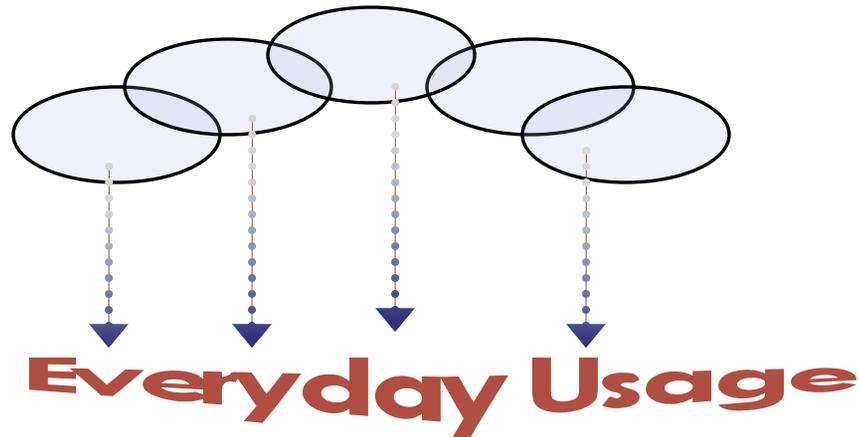


Semantic trickle-down:

Cf recent histories of *alienation*, *bureaucracy*, *conformist*, *ethnic*, *identity politics*, *peer-group*, *status symbol*, *economic*, *schizophrenic*, *psychopath*...

"Lately there ain't been much work on account of the economy"

Specialized discourses





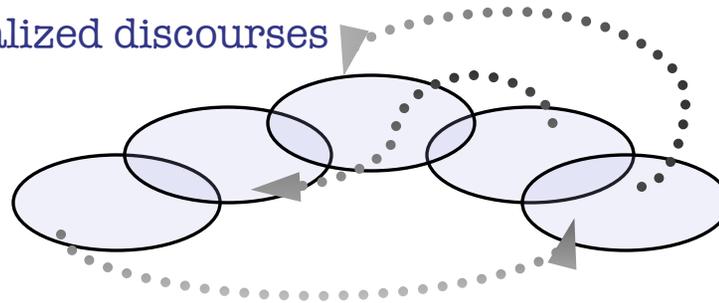
Words spread among subdiscourses



Words circle round the ivory tower
(*Wanderwörter*) 

Cf recent histories of *network*, *formalism*,
community, *information*...

Specialized discourses



Everyday Usage



Words are referred to subdiscourses



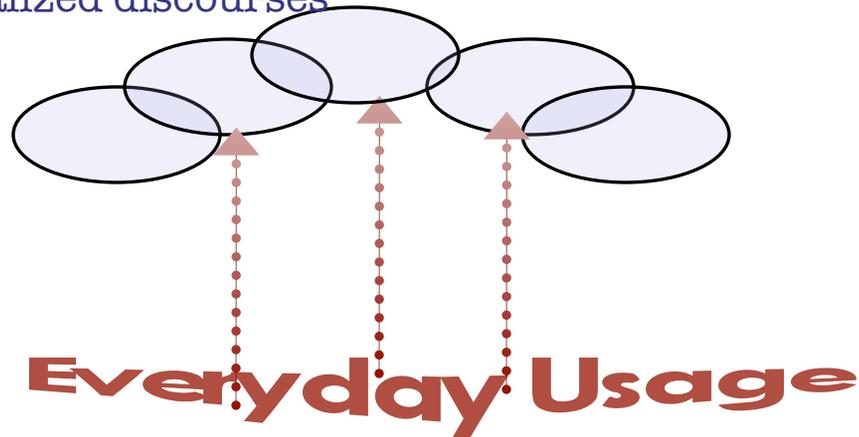
Words percolate up the ivory tower

”Technicalization” of vocabulary:

Cf modern development of *depression* (econ. & psych.)

Cf. also the development of *information*

Specialized discourses





Words move in all directions at once

