

Wired-Up Words

Description

An A-Z of Awkward Ideas for a Wired World

(DRAFT in process, [Admin](#))

Introduction: Networks and Word Play

The public platform of the **Word Wide Web** (*sic*) is populated with neologisms, portmanteau terms, the alleged language of the street, and bad puns — not to mention spelling mistakes. Writers for the web now have license to use difficult and made-up words. Any person reading web pages can look up obscure terms in a browser and find more familiar substitutes.

Contrary to the predictions of linguistic pedants and purists the broadminded approach to language and expression promoted by digital media seems not to diminish the way words are valued and used. At most we are experiencing an accelerated evolution in the inevitable and persistent processes of word play.

Wikipedia, Wiktionary, Urban Dictionary, Thesaurus, Etymol, and subscription services such as the Oxford English Dictionary provide obvious sources for word meanings, but any search engine will reveal a wealth of insights into, and examples of, how words get deployed in this digitally saturated age.

Browsing through any dictionary indicates to the linguistically alert that words are ambiguous. A word's particular meaning is settled for a moment according to the context in which it is being used. The Internet helps writers and readers not only to dredge up new words and definitions but supplies seemingly endless examples of the contexts in which those words occur. So the inquiring reader can enhance their understanding of word meanings by having access to this multiplicity of contexts.

There's a lot of noise, but it's not so difficult to filter out. The filtering process amounts to discriminating between contexts of presentation. We can generally sniff out advertising blurb and detect its difference from formal legal documents and academic papers. Most people can spot the difference between weblog posts, magazine copy, news items, encyclopaedia entries, and variations in quality and authority among them. We can detect the difference between rants, informal notes, off-the-cuff comments and considered prose — at least for the time being.

This lexicon is not a compendium of technical terms, except where such terms carry significant cultural connotations. — Electroencephalography, — for example, is a highly specialized technology for scanning human tissue. Its extension into the area of brain scans and sensing the emotional state of a computer game player or a test subject viewing a movie trailer, has important cultural ramifications.

The words selected for this A-Z are not only ambiguous but also *awkward*, or, at least, I devote most attention to the more awkward. Sometimes we web-savvy consumers of, and writers for, web words

presume to understand more than we do. This lexicon is an attempt to expose the stubborn difficulties in what we take for granted in digital media, and the cultural contexts in which such media are developed and consumed. My secondary goal is to thereby add clarity. When it comes to the meaning of words there's *probably* nothing more confusing than a false certainty.

The lexicon that follows provides an alphabetical matrix, an encyclopaedic landscape, into which are inserted postings and comments that illustrate the usage of key ideas in contemporary digital media theory.

Can a lexicon have a main point, a thesis, a proposition, and make an argument? This one does. My main proposition is that a practical orientation to digital media is preferable to an idealised one, or one that draws on abstract calculation as a model of rationality and reason. Digital media and the contexts in which it operates are messy, which is to say awkward. This is what it is to be *realistic*. Not only are the words and ideas about digital media awkward, but so is the medium itself. It doesn't always work, or deliver to our expectations. It's attention to the gaps, the flaws, the leftovers, and the surpluses in digital media that yield the intellectual reward.

At the same time I'm alert to the knee-jerk criticisms advanced towards digital media without evidence, or with evidence that could be interpreted otherwise: the decline of literacy, libraries, morals. This lexicon harbours a liberal defence of digital addictions, the displacement of serious art with pop culture, miscreant youthfulness and other supposed deviancies and awkward practices.

Lexicon

A A

Access

Another word for *entry*. This term is often preceded by *equality of*. Access for all is the goal, but that need not exclude the possibility of systems, websites, and interaction design that is difficult for some of us some of the time. Innovation requires experimentation that often produces sub-optimal solutions. Just because something is easy to access or use it doesn't follow that it's helpful, functional, useful, pleasurable or on track to something even better. See *Seamless*.

Activist

Activists seek reform through action. According to *The Activist's Handbook*, they use strategies and tactics to campaign for change. Activists often take over the instruments of the institutions they seek to reform. So they could use the mass media and commercial advertising strategies against commerce itself (as *culture jamming*). Commercial organisations and institutions can also play on the culture of activism, wanting to project an equally edgy and radical image. At their most sophisticated, activists are aware of their place in a spiral of moves and countermoves, deploying the resources of the mass media, news reporting, as well as *viral* techniques, events, and flash mobs, for purveying action and opinion through online social networks and whatever media are to hand. See *Culture jamming*.

- Klein, Naomi. 2005. *No Logo*. London: Harper Perennial.

- Shaw, Randy. 2001. *The Activist's Handbook: A Primer*. Berkeley, CA: University of California Press.

Addiction

Compulsive behaviour towards life online is not always detrimental. Substitute "habit" for "addiction" and see if the complaint is the same. Also see Geek. [A nation addicted to smartphones](#)

Adjustment

Always necessary when sitting at a computer for long periods. Equipment has to be adjusted to meet the needs of the user, and the user has to adjust to the equipment. In architecture, components and plans get adjusted on site. Software and hardware is adjusted to fit the circumstances of the user. To acknowledge, if not celebrate, adjustment is to displace any notion of an ideal form or solution. Adjusting to circumstances is highly creative in any case, and is the key to successful biological adaptation. See also *Music and Tuning*.

Aesthetic judgment

Aesthetic judgment is not only a theme for the arts. The pragmatic philosopher John Dewey asserts that, when conducting an experiment, the chemist inspecting and comparing two test tubes containing solutions is involved in aesthetic judgment, that is, in feelings such as pleasure, satisfaction, and displeasure. In fact this tendency to judge according to what looks, feels, tastes, smells and sounds right is not a supplement to reason but indistinguishable from it. There are as many differences between what an art connoisseur and a chemist do, as there are among chemists. The consequences and validity of the judgment will vary according to context. In any case, according to Dewey we don't have to add emotions into the observed world: "Nature is kind and hateful, bland and morose, irritating and comforting, long before she is mathematically qualified or even a cogeries of 'secondary' qualities like colors and their shapes." (p.16) By this reading we can conclude that the design, manufacture and experience of digital media is aesthetic through and through, from the calculations necessary for the design of the digital circuitry, to the contemplation of a Mozart etude on a portable stereo. Something similar applies to the industry, manufacture and labour involved in producing the hardware. As in nature, the experience for all concerned in digital production is not always enriching, edifying, fair or beautiful, but it is still "aesthetic." Also see *Beauty*.

- Dewey, John. 1980. *Art as Experience*. New York: Wideview Perigee.

Anamnesis

Recollection as a concept in ancient philosophy. Few people agree with Plato now that we are capable of remembering a pristine, pure and ideal condition prior to conception and birth, and that learning is therefore a process of recollection "remembering the eternal and innate truths that we knew all along. But any thought that information is innate, or at the core of everything, that everything is information, or can be converted to information is subject to similar implausible idealism, a kind of

technoanamnesis. See *Memory*.

Anarchist

Anarchy is the breaking of rules, and even believing that governments, organization, and rules shouldn't or cannot exist. Anarchists were amongst the first mass groups to populate the web in the 1990s, continuing a long tradition of pamphleteering. See *Intellectual property* and the more enduring label of *Activist*. See *Privacy*.

- Kropotkin, Petr Alekseevich, and Marshall Shatz. 1995. *The conquest of bread and other writings*. Cambridge ; New York: Cambridge University Press.

Animation

Movement, and in this context a whole art form and industry, particularly when we consider the development of digital animation techniques. Animation is no latecomer to digital imagery, but was there at the outset of screen-based displays. The first computer screens were inevitably animated, due to the necessity for the screen image to be refreshed. Think of the circular movement and animation of the lines and symbols on a radar screen, or vector graphics displays common in the 1980s where you could observe glowing lines drawing themselves across phosphorescent screens of deep green. See *Anime*.

Anime

This is animation or animated film in Japanese, popular throughout East Asia, where it seems to have assumed a status and style of greater intensity than European animation. To European sensibilities it's probably the eyes of anime characters that are the most striking: bulbous, glossy, and widely spaced, as if the archetypal anime character is a very small child or baby deer. Other types, such as predators, demons, witches, robots and monsters, present themselves as deviations from this infantine archetype. In keeping with narrative practices from around the world, anime often makes reference to myths, legends, classical literature, and animal characters, such as the Chinese story of the Monkey King and his pilgrimage to India with the pig, the ogre and the horse. Anime themes also give vent to post apocalyptic anxieties referencing the bombing of Hiroshima and Nagasaki. See *Stereopsis*.

Archive

A collection of documents. These can be paper-based or electronic, and number in the few to the massively many. The documents can be disordered, or precisely arranged, catalogued and indexed. Archives can be personal, private, institutional and/or public. [Derrida and WikiLeaks](#)

Artificial Intelligence

Theories and practices around the idea of programming a computer to do what human beings do when they think. Also see *Logic* and *Wicked problem*. [Neuroscience eclipses AI](#)

Audience

A group of people watching or listening to a performance. Increasingly the challenge is to engage audiences in the performance in some way. Online media such as YouTube suggest a blurring of the distinction between audience and performer, as audiences are also “content providers,” and switch between the roles of producer and audience. Of course this alternation and confounding of roles has been a mainstay of experimental theatre and performance art, and is evident in many folk traditions where all participate, or take turns in performing. [What are audiences for?](#)

Augmented reality

This is a move to augment or enhance the everyday reality of people’s lives, rather than replace it. Also see *Cyberspace* and *Virtual reality*. [Obliquitous computing](#)

Aural culture

Ideas and practices that put the human ear at the centre of attention. Other traditions might locate the eye and its characteristics as dominant in human culture. Aural culture focuses on listening, speaking, hearing, music making and storytelling, particularly where these are not scripted or written down. As a plural term “aural cultures” commonly refers to pre-literate communities, where people have not yet developed practices of writing things down.

- Havelock, E.A. 1986. *The Muse Learns to Write: Reflections on Orality and Literacy from Antiquity to the Present*. New Haven: Yale University Press.
- Illich, Ivan, and B. Sanders. 1988. *ABC: The Alphabetization of the Popular Mind*. San Fransisco, CA: North Point Press.
- Ong, Walter J. 2002. *Orality and Literacy: The Technologizing of the Word*. London: Routledge.

Authenticity

The attribute of an object or human practice that relates to its originality. So an authentic work of art is one that preserves its singular character as an authored work. If it’s a mere copy, or a fake, then it’s not authentic. The concept of authenticity has been under question ever since artists learned to copy, but increasingly so due to the widespread user of printing and other reproduction techniques, as amplified in the case of ubiquitous digital reproduction and dissemination. See *Genius*. [Being David Hockney](#)

“B”

Baudrillard, Jean

A worthy entry in a lexicon of awkward words in digital media and culture due to his very popular essay “Simulacra and simulation,” which also appears as the title of a book on Neo’s bedside table in the film *The Matrix*. In a famous interview about *The Matrix*, Baudrillard asserts that the creators of the film (Larry and Andy Wachowski) misunderstood the point of Baudrillard’s writing on simulation. See *Simulation* and *Virtual reality*.

- Baudrillard, Jean. 1994. *Simulacra and Simulation*. Ann Arbor: University of Michigan press.
- Baudrillard, Jean, and Aude Lancelin. 2004. *The Matrix Decoded: Le Nouvel Observateur Interview With Jean Baudrillard*. *International Journal of Baudrillard Studies*, (1) 2, online journal:

<http://www.ubishops.ca/baudrillardstudies>.

Beauty

The quality of a thing that brings pleasure: a delight that is aspirational and references an ideal. That beauty is the highest good in art is an old concept practically irrelevant in the contemporary world of media saturation. In contemporary art it is no longer high praise to describe something as beautiful. Audience preferences reflected in mainstream media indicate an appetite for the disturbing, shocking, grotesque, synthetic, hybrid, and even ugly. Perhaps we want them all in some measure, and in different doses and to varying time frames. Television makeover shows draw on the transition from the plain to the beautiful and back again: not just variety, but transition, carefully timed and artfully controlled. So we hover at the precipice between safety and danger, pleasure and pain, the locus of the sublime. See *Sublime*.

- Burke, Edmund, and James Boulton (ed.). 1958. *A Philosophical Enquiry into the Origin of our Ideas of the Sublime and Beautiful*. Notre Dame: University of Notre Dame Press.
- Kant, Immanuel, and Paul Guyer. 2000. *Critique of the Power of Judgment*. Cambridge: Cambridge University Press.
- Lyotard, Jean-François. 1986. *The Postmodern Condition: A Report on Knowledge*. Manchester: Manchester University Press.
- Mosco, Vincent. 2004. *The Digital Sublime: Myth, Power, and Cyberspace*. Cambridge, Mass.: MIT Press.

Blog

Interlinked and date-stamped journals, diaries, and opinions logged on the web (web-logs) for anyone to read and comment on. See also *Microblog* and *Social media*. [Written any good books lately?](#)

Body

Carried around by humans and animals, and increasingly interfaced with electronic devices and media. See also *Embodiment*. [Accidental people](#)

Brain scans

A kind of neuroimaging, ie non-invasive procedures for taking pictures of living brain tissue. The most commonly referenced are computerized axial tomography (CAT), magnetic resonance imaging (MRI) and Electroencephalography (EEG). These scanning techniques provide precise maps of brain structures and the locations of brain activity, and require a human subject to be stationary while her head is positioned within a large scanning device. Apart from clinical applications these techniques are used increasingly to improve our understanding of how people think, feel, respond and create. See *Creativity* and *EEG*.

Bureaucracy

An office environment where people are organised according to tasks, specialisms, and clearly demarcated lines of responsibility: the division of clerical labour. This is one of the first associations between the computer and human organization, at least to the critically inclined. The computer was

named after the legions of clerks who would perform the routine calculative tasks required in an office, notably bookkeeping. The computer became similarly associated with office automation (OA) and data entry, the dehumanization of work, and the reduction of organizations and the people in them to numerical calculation, not least monitoring by numerical efficiency measures. The image of the computer and the networks that support it underwent a makeover in the 1980s and 90s with the advent of graphic interfaces, a realization of their potential for aiding social interaction, and the development of the role of the computer in leisure and entertainment. Anxieties about bureaucratization and control persist, but generally against the misuse of computer networks or restrictions to access, rather than against computers as the primary perpetrator of bureaucratization. See *Calculation*.

- Weizenbaum, Joseph. 1976. *Computer Power and Human Reason: From Judgment to Calculation*. San Francisco: W. H. Freeman.

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Calculation

A *calculus* was a small pebble used in an abacus for counting. All calculations can be reduced to a process of counting, eg multiplication is adding a number to itself several times over. *Calculation* is strongly associated with a reductive process, as if something is only of value if its worth can be calculated numerically. If someone is calculative then they are probably evaluating the circumstances for their own maximum gain. Calculative, instrumental, commodified reason: thereâ??s a simple transformation here from numbers to capitalism, and hence social critique. See *Bureaucracy*.

- Adorno, Theodor W. 1991. *The Culture Industry: Selected Essays on Mass Culture*. London: Routledge.

Calibration

A material property of a thing whereby it needs to be adjusted in order to interoperate, ie to interact with other things. So a measuring rule needs to be calibrated against a standard so that the results it yields can be compared reliably against someone elseâ??s ruler similarly calibrated. The calibration of electronic equipment works against attempts to integrate equipment seamlessly, especially when components are prone to drift out of alignment. You sometimes need to re-calibrate your hand-held GPS device against magnetic north by waving it around in the air. Calibration brings humanity back into calculation as calibration is very difficult to automate, and draws attention to context and the particular. See *Adjustment*, *Seam* and *Tuning*.

Capitalism

This is an economic system based on the accumulation of wealth, initially in terms of tangible assets such as buildings, persistent physical goods, and land, but increasingly in terms of stored cash, debt records, and promises of money. Karl Marx contrasted capital with labour (farm labourers and factory workers) that he thought were exploited by those who owned the capital, the capitalists. Now capitalism is a global operation, abetted by computer networks, and a target of recurrent criticism by liberal intellectuals. As wealth is accumulated by the few, the rest are lulled into the role of acquiescent

consumers, buying products they don't need or can't afford to preserve existing concentrations of capital. Most critics think that capitalism is not something we can ever escape, though we can ameliorate the worst of its inequalities, and remain forever critical.

- Buchholz, Todd G. 1999. *New Ideas from Dead Economists: An Introduction to Modern Economic Thought*. London: Penguin.
- Friedman, Milton. 1962. *Capitalism and Freedom*. Chicago, Ill.: University of Chicago Press.
- Marx, Karl. 1977. Capital. In D. McLellan (ed.), *Karl Marx: Selected Writings*: 415-507. Oxford: Oxford University Press.
- Weber, Max. 1992. *The Protestant Ethic and the Spirit of Capitalism*. London: Routledge.

Celebrity

Personal identity communicated by the mass media, by which an individual becomes a brand defined by that brand's qualities and associations. This brand has cash value as others want to find out more and associate with it. Celebrity also involves the commodification of personal attributes. Online media appear to offer everyone the promise or threat of celebrity if they want it. Celebrity seems to require support teams for its maintenance. It's a contemporary and commercial manifestation of the hero archetype, and a variant of what Max Weber called "charisma," an essential quality of a strong leader.

- Weber, Max. 1992. *The Protestant Ethic and the Spirit of Capitalism*. London: Routledge.

CGI

Computer graphics imaging now a commonplace in movie production. See *Cyberspace* and *Virtual reality*. [Computer images and realism](#)

Chance

An aspect of an event that is unpredictable, even where the same causal processes occur. The field is sewn up by probability theory in mathematics, but there's still a wide gulf between how people think of chance and what the math tells us: "A person is more likely to be hit by a bus than win the lottery. I don't buy lottery tickets because I don't want to play with those kinds of odds."

Chaos theory

A theory about the order existing within apparent chaos, or the relationship between order and chaos. See *Fractals*.

Cheating

Breaking the rules of a game in a clandestine way and to the cheater's own advantage, which is what most players of video games do if they can. Cheating is part of the game. From his study of heroic contest in myth Johan Huizinga concludes that "the act of fraudulently outwitting somebody else has itself become a subject for competition, a new play-theme, as it were" (p.52).

- Huizinga, Johan. 1955. *Homo Ludens: A Study of the Play Element in Culture*. Boston: Beacon Press.

Collaboration

Working together. This is one of the major promises of digital media in the workplace: an aid to better collaboration. Computer-supported collaborative working (CSCW) displaces office automation (OA) as the reason for embracing computers. Computer networks help people to work together across time and geographical distances. The novelty of CSCW in the workplace is now largely eclipsed by social media, which it is starting to copy. See *Social media*.

Communication

It's about transferring messages between agents, ie people, other organisms, components, machines, groups. See *Language*. [Thought transfer](#)

Complexity

A familiar property of a very large network or system contributing to the difficulty we have in using or understanding it. It depends on your point of view as to whether a thing is complex. Complex things can become simple if you look at them in the right way, but how you do that is a complex question. See *Confusion* and *Fractals*.

Computation

Computation is really the same as calculation, but due to the "comp" part of the word is more strongly associated with computers. See *Calculation*.

Confusion

A state of mind in which comprehension is supplanted by a sense of disorder. The early systems theorists tried to persuade professionals that they needed clear cut and well-documented procedures to inject clarity into the confusion of a fast moving and ever more connected series of business and social relationships. Sometimes it takes effort to persuade people that they are in fact in a state of confusion. In this sense sowing confusion is a necessary prerequisite for the introduction of some new product, medium or system that will bring clarity to people's disordered lives. A confessed state of confusion is often as artfully constructed, laying on others the burden of delivering clarity. If confusion, and its avoidance, is such a byword then perhaps it could be built in to digital systems: controlled confusion, regulated, traded and networked - a flow of confusion.

Connection

An essential requirement for anything to be regarded as a network or part of a network. Networks consist of nodes or junction points with connecting lines between them. [Now is the winter of our disconnect](#)

Connectionism

This is a set of theories about how the brain works, or, at least, how it's possible to replicate certain thought processes on a computer. The processes simulated are akin to the way massive numbers of

signals get activated and propagated in parallel fashion through nerve cells in the brain. There are many methods for simulating this process, each involving network representations. So-called neural networks are typically “trained” on lots of different input and output conditions that each contribute to subtle changes in the whole network. The network therefore appears to “learn” what output goes with what input, and can even generate new outputs from input configurations it’s never been exposed to before. So the intelligent behaviour, or at least the information, contained in a neural network is not identified with any particular network node or location but is distributed across the whole network. The approach is also referred to as “parallel distributed processing” (PDP), an approach to computation very different to the use of abstract logic, or symbolic computation (ie logic or mathematical rules). The fact that PDP seems to work well for certain classes of problems provides evidence that human thinking does not operate with logical rules and categories, but something more akin to prototypes, ie examples. So I don’t recognize a chair because I have a mental representation of chairs, with properties (four legs, a seat), and as a subspecies of furniture, that belongs to the class of moveable objects in rooms. I recognize this as a chair because it’s a bit like other objects I’ve encountered that were called chairs. One of the many interesting facets of connectionism is that it suggests the possibility that human thinking involves the whole nervous system, extending to the rest of the body outside the brain, and even outside the body. See *Extended mind*.

Content

The stuff that gets delivered through a medium, and is inevitably influenced by it. So it’s convenient to talk about *content providers* (those who write the novels, make the films, perform the music), and the *content delivery* systems (television broadcasters, book publishers, computer networks). It’s as if creative content is a fluid that travels through the tubes of the media. It’s a metaphor that gets leaky and sticky, but is helpful in some circumstances. See *Communication*.

Copying

There’s word-for-word, bit-for-bit, copying, and there’s productive copying that invariably involves some form of interpretation, inflecting the original with something new. Caribbean musicians created reggae when they thought they were simply copying rock and roll. Copying a style, mood or ethos is rarely the subject of disapproval, unless it involves a registered brand. See *Simulation*.

Craft

Making things without recourse to factory-based mass production. Craft is arguably an outcome of industrial production rather than something that precedes it. Prior to mass production and the machine age there was only making, ie art or *techne*. The digital age has introduced a heightened sense of awareness of the virtues of the hand made, even though access to the necessary skills might be on the decline.

- McCullough, Malcolm. 1999. *Abstracting Craft: The Practiced Digital Hand*. Cambridge, Mass.: MIT Press.
- Sennett, Richard. 2008. *The Craftsman*. London: Penguin (Kindle Edition).

Creativity

A way of describing those productive human practices that we think we don't quite understand, such as making art, inventing new products, and being a success at business. [Brain Scans and Creativity](#)

Critical theory

An intellectual movement that took its inspiration from Karl Marx, but that disassociated itself from the Marxist revolutions that took place in the early to mid twentieth century. See *Capitalism, Ethics* and *Secret*.

Crowd

A group of people, generally more than two. A prefix to several neologisms: crowd-sourced, crowd-funded, and sometimes replaced by 'mob', as in flash-mobs. The terms 'public' or 'polis' used to be in vogue, whereas 'mob' and 'crowd' sound less organised and polite. A crowd is a riot about to happen, but their formation and reformation aided by mobile phones takes on an organic quality, as if a crowd is a rational agent mobilising itself for something better than the sum of its parts. See *Mob*.

Cryptography

The study and methods of concealing a message by scrambling it or turning it into a code. See *Decoding*.

Crypto-anarchy

A movement that advocates the right to encrypt communications and thereby keep them secret. It is a counter movement to those who advocate that for reasons of national security there should be those in the police force or other agencies who hold the key to any encryption system. Also see *Decoding*.

Culture jamming

Attempting to confound or expose the image of major corporations and institutions by adapting their methods of promotion and advertising, particularly by showing the corporations as they would not want to be seen. This cultural subversion and mischief is commonly achieved by graffiti on billboards eg turning the 's' in Esso into dollar signs, one of numerous examples found on Google image searches, or something more serious. See *Activism* and *Anarchy*.

- Klein, Naomi. 2005. *No Logo*. London: Harper Perennial.

Cutes

The presentation of synthetic characters in advertising and art designed to invoke in people the same emotions and protective instincts experienced when looking at babies and other small defenceless mammals. The Hello Kitty brand and product range provides the archetype. See also *Anime*.

Cyber

Prefix to a series of over-used terms such as cyberculture, cybernaut, cybersex, cyberpunk, and cyberspace. These are each derived from “cybernetics,” coined by Norbert Wiener to describe the new science of human-machine interaction systems. “Cyber” derives from “steersman,” the person who controls the direction a boat travels. Cyber anything implies automation, control, simulation, networking and virtuality.

- Weiner, Norbert. 1950. *The Human Use of Human Beings*. Cambridge, MA: Da Capo Press.

Cyberspace

The place you occupy when absorbed in heavy-duty network activity on a computer. See also *Virtual reality*. [Hygienic reality](#)

Cyborg

The earliest conception of the cyborg is the best. It was developed by scientist and musician Manfred Clynes and psychology researcher Nathan Kline. To survive in space you would need extra sensors that enhance the body’s ability to detect dangerous levels of radiation. Then effectors would kick in automatically to inject the body with counteracting chemicals in the right doses. The cyborg was this mechanically-chemically augmented body with feedback mechanisms able to survive in hostile environments. Later it came to mean an ambiguously hybrid machine-body, something we are all turning into. It was both a metaphor and symbol for human kind’s many politically troubled identities.

- Clynes, Manfred E., and Nathan S. Kline. 1995. Cyborgs and space. In C. H. Gray (ed.), *The Cyborg Handbook*: 29-33. New York: Routledge.
- Haraway, Donna J. 1991. *Simians, Cyborgs, and Women: The Reinvention of Nature*. London: Fab.

“ D ”

Decoding

Turning something that’s incomprehensible to most into a message that a few more people at least can understand. See *Secret*. [Phone hacking enigmas](#)

Derrida, Jacques

A major twentieth century philosopher who wrote very little about computers and digital networks. He and his exponents claimed that he was on to something radically new and challenging in the intellectual sphere. His claims in this regards are more plausible than those made by the intellectual digerati. He has been a major influence on those who think that playing with words is a serious business. See *Intertextuality*.

Design

Meeting a range of goals and requirements to create something new. The goals may be poorly defined. Creating something that meets a single well-defined requirement, such as the dimensions of a concrete beam to carry a known load might be classed as *routine* design, or not be considered design at all, just a calculation. A design is not necessarily the final new object, but could also be a set of drawings or instructions to someone who manufactures the object. Design is a difficult category of activity. Whereas many disciplines lay claim to the term, others reject it as a key descriptor of their particular productive activity. The latter category includes music composers, fine artists and film makers.

- Alexander, Christopher. 1988. A city is not a tree. In J. Thackara (ed.), *Design After Modernism*: 67-84. London: Thames and Hudson.
- Jones, J. C. 1970. *Design Methods: Seeds of Human Futures*. London: Wiley.
- Simon, Herbert. 1969. *The Sciences of the Artificial*. Cambridge: MIT Press.
- Winograd, Terry, and Fernando Flores. 1986. *Understanding Computers and Cognition: A New Foundation for Design*. Reading, Mass.: Addison Wesley.

Detuning

Putting an instrument out of tune, or some system out of alignment. This can be a productive process when under someone's control. See *Tuning*.

Digerati

People who talk or write with authority on digital media and have attained celebrity status in doing so. See *Celebrity*.

Digital democracy

If democracy means giving people a say in how they are governed and by whom, through voting, then digital media provides the potential for pushing the idea to extremes. Wired up citizens could vote on every decision that might affect their welfare. If nothing else, though technically possible, the implausibility of this scenario indicates the impossibility of democracy as an absolute, as opposed to a contested process and contingent on practicalities. Democracy also involves trust — trust in those who have been elected, and their appointees. See also *Wicked problems*.

Digital divide

A source or symptom of social inequality, whereby there is a sharp demarcation between those who have access to digital resources, particularly the Internet, and those who do not. See also *Access*.

Digital media

Computers and networks, particularly when deployed in the worlds of art, design, performance, music and other creative disciplines. Digital media intersects with computer-science, informatics and computer engineering. See also *Multimedia* and *New Media*.

Discrepancy

The bit left over after a formal calculation or measurement. See also *Tuning*. [Architectural remainder](#)

Disjunction

A break, gap, cut or discontinuity where you might expect seamless connectivity. So a tear in a piece of cloth might be a disjunction; so too a sudden change over time in the smooth running of a production line, or an abrupt change in climate that makes life difficult for one species but permits another to thrive. It can be a moment of upheaval, and is sometimes beneficial in the long term. See *Seam*.

- Tschumi, Bernard. 1994. *Architecture and Disjunction*. Cambridge, Mass.: MIT Press.

Distraction

Tasks that take you away from what you should be doing, such as watching YouTube videos when you should be going to sleep. [Computer-supported collaborative distraction](#)

Dystopia

A future or distant place where things are not as pleasant as you would like them to be. It's an interesting adaptation of the term "utopia" which means "not a place" to a word that means "the opposite of place," "difficult place," or "dysfunctional place." See *Utopia*.

?? E ??

Ear

The organ pertaining to hearing. For Marshall McLuhan the ear came to emblemize aural culture, that is, society prior to the introduction of writing, after which its orientation became more visual. See *Aural culture*.

E-commerce

Sets of financial transactions that take place over computer networks, which now includes most auditable monetary transactions. [Electronic commerce, philosophy and the Greek city](#)

Electroencephalography

Also known as EEG. This technique of neuroimaging involves placing electrodes on the surface of a person's scalp to measure the tiny electrical impulses generated by brain activity. Outside of clinical uses, the technology is deployed increasingly in market research to gauge people's arousal levels in response to video images and sounds. EEG devices are available at low cost and are used as a means of sensing a video game player's arousal levels in real time, and thereby providing feedback. For example, if the player is bored then the game program can increase the excitement of the experience, perhaps by introducing new challenges or bringing in new adversaries. See *Brain scan*, *Creativity* and *Embodiment*.

Email

A form of asynchronous messaging that has taken over from letter writing and the passage of office memos. Email uses the Internet rather than internal office communication channels. Emails are easily leaked, and can be sent to multiple recipients very easily and often by mistake. As well as being essential, Email is a continuous distraction to anyone in business and private life. See also *Communication*.

Embodiment

A recognition that there are human practices that really couldn't take place unless we had bodies, which is most practices, such as having an experience and thinking. [E-motion](#)

Emergence

The name given to sets of phenomena that occur unexpectedly or unpredictably through combining elements. So if you overlay two triangles of roughly the same size and shape but at different orientations on the same plane then a third shape will emerge where they overlap, probably an irregular polygon. There are computer algorithms that can detect and manipulate such emergent shapes, but this gets more complicated as the geometrical complexity increases. What emerges when you overlay complex objects that have properties which are not only geometrical: eg a sofa with a chainsaw? Here the emergent object is more like a hybrid, and sometimes monstrous. See *Hybrid*.

Encryption

Turning a message into something that no one can understand without a code book or decryption machine. It's now essential for data security. See *Decoding*.

Ethics

The study and practice of right living, either by rule, law, habit or instinct. The word relates strongly to *ethos*, which is about relationships within groups of people, implying that ethics is not a supplementary consideration in formal human transactions and business but pervades every aspect of human life. The ethical theme is pursued vigorously by theorists of critical theory, and within hermeneutics, both of whom present different viewpoints on ethics (see the grey box below). Here's a hit list of high profile ethical problems (or symptoms) in the development and use of digital media.

- Bad language
- Breach of contract
- Breach of cultural taboos
- Conspiracy to commit a crime
- Corruption of minors
- Corruption of morals
- Cyberbullying
- False advertising
- Inciting violence
- Intellectual property theft
- Invasion of privacy

- Security breaches
- Software piracy
- Uneven access to resources
- Unprofessional behaviour

In many cases these ethical problems constitute crimes. See *Critical theory* and *Hermeneutics*.
[Hermeneutics and ethics](#)

Ethnography

The study of real people in everyday situations without presuming that people behave in correct, polite, ordered, predictable or stereotypical ways. Ethnography also abandons the pretence that the observation of these behaviours can be entirely independent of and will never influence the processes being observed. So an ethnographic study of video game players might reveal when they sleep, rise, play the game, cheat, look up spoilers, drink coffee, socialize, reboot the game, and thump the game console. The resultant insights might be different to what you would get from surveys, interviews or an idealized account of what it is to be absorbed in the game: the adoption of new persona, or the presumption that game playing is anti social. See *Everyday*.

- Miller, Daniel, and Don Don Slater. 2000. *The Internet: An Ethnographic Approach*. Oxford: Berg.

Everyday

Ordinary. But note also the prefix. The everyday is what gets repeated every day. This makes it ordinary, but also habitual. • is related to • Everyday life takes place primarily where we live. See also *Habit*.

- Augoyard, Jean-François. 2007. *Step by Step: Everyday Walks in a French Urban Housing Project*. Minneapolis: University of Minnesota Press.

Extended mind

The view that the mind is not only in the brain, the head and the human body, but that human beings are already wired in to the world as an extended, thinking entity. The human organism is very economical with its cognitive activity and in order to resolve problems latches onto aspects of the world to which it is already in tune. See *Connectionism*.

- Clark, Andy. 1997. *Being There: Putting Brain, Body and World Together Again*. Cambridge, Mass.: MIT Press.

Extraordinary

An adjective meaning • It is over-used in British documentary. In any case its over-user tends to diminish the importance of the ordinary and the everyday. See *Everyday* and *Superlative*.

Eye

The favoured organ of the early modern period and the Enlightenment. It's study in cultural theory favours the perspective view, the privileged position of the viewer, and objectivity. The eye is sometimes in conflict with the ear as the favoured sense. See also *Ear*.

?? F ??

Forgetting

Not remembering; sometimes a temporary condition, and not necessarily the same as deletion. See *Memory*. [Amnesiac machines](#)

Fractals

These are continuous lines or curves that have infinite or indeterminate length and that can be calculated mathematically. The computational theory of fractals inspires thoughts of how natural systems appear and function. Among its many uses, fractal mathematics provides methods for generating visual and acoustic patterns by simple computer programs. The algorithms are modest but rely on large numbers of iterations (repeated processes with small changes in the values of variables) in order to generate and display the fractal data (shapes, lines, spaces, and sounds). Fractals have 4 basic properties: (1) self similarity, (2) complexity in simplicity, (3) a play between moments of stability and instability, and (4) the creation of ordered patterns for which there is no method of prediction. The shape of a fern frond exemplifies several of these properties, particularly the way in which its subparts bear some resemblance to the whole. The paradigm case of a fractal is that of the Mandelbrot set, discovered by Benoit Mandelbrot in 1980. Thought of purely graphically, the set appear as a series of connected bulbous forms with endlessly detailed and connected filigree patterns. The deeper you venture (zoom) into the filaments the longer it takes to compute and the more you see, including variations of the whole set and at different angles. There are many mesmerising videos of visual zooms into the Mandelbrot set on the Internet and on YouTube. The set features as a metaphor of the universe for some, though by most scientific understandings of the finitude of the Universe the set is infinitely bigger. If the Mandelbrot set is like the universe then it really is like flying down an abyss. The Mandelbrot set is intricately complex and infinitely large, but there's a strong sense that there's really nothing there. The Mandelbrot set might belong to what the philosopher Immanuel Kant referred to as the *mathematical sublime*. As a visual representation the Mandelbrot set and similar fractal patterns appear grotesque. There's an aesthetic aspect to such mathematical representations, and in spite of the universality of mathematics certain visualisations of fractal forms appear to be of their time. See also *Beauty* and *Sublime*.

- Gleick, James. 1988. *Chaos: Making a New Science*. London: Heinemann.

Free software

The Free Software Foundations advocates that there should be computer software available for all that is free of charge, can be distributed without restriction, can be shared and adapted, and can interoperate with other software. See also *Gift*.

?? G ??

Game

An organized context for play that is otherwise difficult to define according to Ludwig Wittgenstein. See *Play*.

- Wittgenstein, Ludwig. 1953. *Philosophical Investigations*. Oxford: Blackwell.

[Game noir](#)

Geek

A person highly skilled in the use of digital technologies to the detriment of developing aptitude in social interaction. [Otaku architecture](#)

Generation

A process by which things get produced; analogous to growth and evolution in biology. [De-generation](#)

Genius

A person or quality that claims to be unique, singular, or special. See also *Celebrity*. [All watched over by Ayn Rand](#)

Gift

Prominent in the digital realm through the idea of the gift society, or gift economy. Why do computer programmers and developers contribute without payment to a collaborative open source software project, such as the development of WordPress, the Linux operating system or the Blender 3D modeling, rendering and animation package? There are many methods by which such collaborative projects are managed, and several answers to the question. The most interesting is that the society of the gift predates economics. As social creatures we are naturally inclined to transact freely, ie through the exchange of gifts rather than the exchange of money. Families could not function were they not gift societies, and this propensity extends to giving amongst friends, peers and business associates. See *Open source software*, and *Potlatch*.

- Barbrook, Richard. 1998. The High-Tech Gift Economy. *FirstMonday: OnLine Journal*.
- Godbout, Jacques T. 1998. *The World of the Gift*. Montreal: McGill-Queen's University Press.
- Godelier, Maurice. 1999. *The Enigma of the Gift*. Cambridge: Polity Press.
- Mauss, Marcel. 1990. *The Gift: The Form and Reason for Exchange in Archaic Societies*. New York: W. W. Norton.

Globalization

The transformation of local communication, exchange and commerce to something that takes place across the whole world. Prior to computer networks, these transformational processes were supported

by transportation infrastructures and the paraphernalia of trade. Transportation was characterized by substantial risks, time delays and they required sophisticated organization. Now with the Internet the infrastructures are such that anyone can claim to have a global business by purveying their products around the world. Globalization now implies a basic world-awareness. For some commentators it suggests the suppression or loss of local, regional and national differences. Rather than *globalization* the sociologist Anthony Giddens prefers to talk of a reconfiguration between the local and the global, and thereâ??s a neologism related to this, *glocalisation*, about thinking globally but acting locally. See *Capitalism*.

- Giddens, Anthony. 1999. *Runaway World: How Globalisation is Shaping Our Lives*. London: Profile Books.

â?? H â??

Habit

A type of loose-fitting clothing worn by members of a religious order. Itâ??s also some activity performed repeatedly, probably on a daily basis, such as brushing your teeth after breakfast, eating meals at regular times, and listening to the news. It can also be something you do that is difficult to give up, such as smoking or biting your nails, and there are good habits such as exercising and â??eating five a day.â?• A habit is something you put on; you carry it around or wear it like clothing. Itâ??s also something that you do habitually, everyday, and in your habitat, you home, or familiar environment. It therefore also relates to the domestic consumption of mass media. See *Everyday*, and *Schedule*.

Hack

Adapting or adjusting something rather than creating it anew. This also implies breaking the thing you are working on to some extent, as if breaking into a safe, or interfering with the security system of a computer network. Hacking carries connotations of resourcefulness and cunning, that are desirable traits for an inventor or innovator. Hardware hacking involves adapting some unused bit of electronics, such as a childâ??s toy electronic keyboard and wiring it to connect to a video display to make a visual art piece, or a clock. See also *Adjustment*.

Hardware

The physical and electronic medium that supports the operations of software, ie computer programs. See *Hack*.

Harmony

Agreement, sympathetic resonance. Itâ??s well known that the means deployed to produce seemingly harmonic ratios in music and architecture are in fact anything but harmonic or harmoniously executed. The well-tempered musical scales involve inelegant adjustments to each note to make them fit uniform transpositions of scale. In building, the thickness of components, the imprecision of edges, the vagaries of construction, and the quirks of perception require adjustments on site. They may even be a source of contractual arguments. Harmony has a technical meaning in music, acoustics and anything to do with

vibration, alternation and periodicity, but has no necessity as an overarching model of how things should be. The quest for harmony can occlude a-periodicity, discord, and disharmony, which in many cases is what interests people the most. See *Tuning*.

Hermeneutics

Interpretation. The term comes from the humanities, but was accorded significance in computer science and language study as a way of explaining why the quest for artificial intelligence is ill founded. There are different understandings of hermeneutics, but its main champion is the philosopher Hans-Georg Gadamer, who established that any interpretation we make is only possible because we always start from a condition of pre-understandings, sometimes called pre-suppositions, assumptions, or prejudices. This acceptance of prejudice is in direct contradiction to Rene Descartes and the philosophers of the Enlightenment, who appealed to the importance in thinking rationally of going back to first principles. They thought we could and should forget the baggage of tradition and start afresh. Our understanding is utterly dependent on tradition according to Gadamer, though we need to be in a perpetual state of reviewing and revising that tradition and hence revising our own individual presuppositions. See *Artificial Intelligence*, and *Ethics*.

- Winograd, Terry, and Fernando Flores. 1986. *Understanding Computers and Cognition: A New Foundation for Design*. Reading, Mass.: Addison Wesley.

Heterotopia

The philosopher Michel Foucault's term for 'other place', a kind of in between place, a place with paradoxical characteristics. He uses the examples of rest homes, psychiatric clinics, brothels, cemeteries, gardens, museums, prisons, motel rooms, and ships. This expansive set of categories suggests that heterotopias are everywhere. It's a case of how you look at things. He doesn't mention cyberspace, so we can infer that it's not necessary to look anywhere other than among the ordinary for the alien and the strange. See *Cyberspace* and *Non-place*.

High dynamic range

Image-making that reproduces the range of brightness in the visual field as experienced by people with normal vision. See also *Stereopsis*. [What were the skies like when you were young?](#)

Home

The habitat of a group or individual; the base station and point of origin; the point from which the traveller departs, and to which she returns. It's not as safe and secure as we think. Even in myth the home can be the site of trouble, and subject to frequent incursion from outside, and corruption from within. Unregulated intrusion from the Internet and their putative influence on the young and vulnerable are reminders of this.

- Douglas, Mary. 1991. The idea of a home: a kind of space. In A. Mack (ed.), *Home: A Place in the World*: 261-281. New York: New York University Press.
- Fortin, David T. 2011. *Architecture and Science Fiction Film: Philip K Dick and the Spectacle of Home*. London: Ashgate.

- Turow, Joseph, and Andrea L. Kavanaugh (eds). 2003. *The Wired Homestead: An MIT Press Sourcebook on the Internet and the Family*. Cambridge, Mass.: MIT Press.

Hybrid

An offspring from the mating of two different species. A metaphor for any such combination of ideas or objects. See *Generation*.

Hypertext

Words and texts linked across different documents, a bit like HTML and the world-wide web. See *Archive*. [The Internet as hypertext or archive](#)

â?? I â??

Identity

What and who you think yourself to be as an individual and as part of a group. How you define yourself and how others think of you. See *Genius* and *Celebrity*. [Profile yourself \(Narcissus on line\)](#)

Imitation

Someone might copy someone else's essay, but they would probably not think of *imitating* it. You might however try and imitate someone's handwriting, or behavior. Imitation pertains to practices, habits and behaviours, the copying (imitation) of which is likely to produce something different and even new. See *Copy*.

Immersion

Putting a body into a fluid, as when lowering your body into a swimming pool. It's become a metaphor for full-on engagement with some media experience, such as watching a film, playing a computer game, or having your body wired up with a head-mounted display device, earphones and even a body suit to induce a controlled synthetic sensory experience, as in virtual reality. Immersion implies blocking out extraneous distractions, which is hard to imagine possible with all those cumbersome attachments. See *Virtual reality*.

Information

To inform on someone is to expose something otherwise hidden and that they want to be kept secret. Note the stem: *inform*. There's reference here to the covert but essential property of a thing: its form, the form on which it is based or from which it is cast, of which it might be just a copy. The information content of a thing implies its truth, but *its secrets* would be closer to the mark. Information is the exposure of secrets to the clear light of day. In this light information processing is risky and even dangerous. See *Archive* and *Secret*.

Innovation

Creating something new. See *Design*, *Creativity*.

Intellectual property (IP)

Traditional concepts of property (eg in the law of ancient Rome) refer to land and physical objects that an individual or group own. Some community (society) has granted people permission to use, change, exchange, or dispose of that property. *Intellectual* property concerns intangible assets that are expressed in documents, films, recordings and other media. Electronic communications make these forms easy to exchange, transmit and broadcast. Contracts and legislation come into play to avoid and resolve disputes over the relationships among those who claim to have created the intellectual property: collaborators, performers, publishers, sponsors, purchasers, and consumers, as well as their heirs. The early anarchist Pierre Joseph Proudhon (1809-1865) wrote controversially about property as *robbery*: “every social advantage accorded, or rather usurped, in the name of superior talent or service, is iniquity and extortion” (p. 15). A provocation in its day, few would agree this is a helpful assertion now. There’s more weight to his argument that no one has an inalienable right to any property, or by extension the right to do with it as s/he pleases. If it comes to rights then there’s the right to discuss and reach agreement, to have a say on who decides, arbitrates and legislates, to have your case for ownership heard, and to be treated with respect. See *Anarchist and Genius*.

- Samuelson, Pamela. 2011. Legally speaking: Too many copyrights? *Communications of the ACM*, (54) 7, 29-31.
- Proudhon, Pierre Joseph. 1970. *What is Property? An Inquiry into the Principle of Right and of Government*. Toronto, Ontario, Canada: Dover,
- Creative Commons website: <http://creativecommons.org/>

Internet

The network of networks; the combination of free-to-use scientific, military and academic communication networks assembled in the 1970s, mainly developed in the United States. Messages sent on the Internet are broken into smaller packages of information, appropriately tagged and dispatched through the network to the address of a designated receiver, via switches and routers, until the messages are reassembled. Messages and their components might travel by various routes. The Internet is thought to be robust due to the redundancy built into the various paths that a message, or packets, can follow. If there’s a break or congestion in the network then the messages can instantly be re-routed. There are now many variations on this method of delivery. The Internet is still regarded as a public good, paid for by governments, and it contributes to the global flow of information. The Internet is a channel of dissent against some restrictive governments, who in turn have succeeded in imposing limited internet censorship and monitoring. See *Network*.

Interweb

A joke word for the Internet, as if presented by someone who is not up to speed with the terminology.

Interaction

This is what happens when humans encounter one another and work with machines. Interaction *design* has displaced an older idea of *interface* design, that was constrained by inputs and outputs transmitted via keyboard and screen. An interface also suggested a sharply defined line or plane separating the human from the hardware. Interaction can now involve kinetic movement, among a range of sensory

and behavioural modes. Computers, networks and devices are a means of enabling human beings to interact with one another. Interaction is a major consideration in the development of the whole techno-social field.

Intertextuality

A strategy adopted by Jacques Derrida and literary theorists in analyzing a text or piece of literature. It involves identifying and tracing particular words, detecting how authors use them in different contexts, and identifying the associations between a particular word and other words. Derrida adopted this strategy in his analysis of Plato's book *Phaedrus*. The word *drug* appears in a story about the mythical origins of writing. Derrida traces this word to some difficult and contradictory ideas about medicine that heals, poison that kills, fluids for embalming bodies, cosmetics, outcasts and parasites. Some commentators think that the chains of reference Derrida is able to deploy resemble the workings of hypertext, though there are important differences, not least the fixity of hypertextual linkages. Hypertext is an instrument rather than an argumentative strategy. See *Hypertext*.

- Derrida, Jacques. 1981. Plato's Pharmacy. *Dissemination*: 61-171. London: Athlone.
- Landow, George P. 1994. Hypertext as collage-writing. In P. Delany, and G. P. Landow (eds.), *Hypermedia and Literary Studies*: 150-170. Cambridge, MA: MIT Press.

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Journalism

This is the practice of keeping a journal, ie a report of events in which each entry is tagged with the time and place. The practice obviously extends to news reporting in the mass media of print, radio, and television. These media also currently draw on informal social media publication on the Internet. Weblogs, FaceBook, Twitter and YouTube are journalistic media, though without the editorial checks and balances exercised in the mass media. The Internet also encourages the idea of citizen journalism. At the moment the most authoritative journalism is that which gets produced, monitored and filtered by well-established journalism outlets, though this is changing. See also *Blog*.

â?? K â??

Knowledge Engineering

A branch of AI developed in the 1980s concerned with codifying human knowledge as rules, formulas and procedures. It assumes knowledge can be developed and stored as a *knowledge base* in a format that can be understood by human beings and processed by a computer *inference engine* that does the automated reasoning. The techniques relate in particular to practical, informal human knowledge, such as diagnosing medical conditions, or shutting down a nuclear power plant. It turns out to be harder than first thought to create a robust knowledge base that covers every problem case, is flexible and is reliable. One of the main outcomes of the field was to engender a profound respect for the nature of human problem-solving capability. See *Artificial intelligence*.

- Barr, Avron, Edward A. Feigenbaum, and Paul R. Cohen. 1981. *The Handbook of Artificial Intelligence*. Stanford, Calif.: HeurisTech Press.
- Coyne, Richard, Michael Rosenman, Anthony Radford, M Balachandran, and John Gero. 1990. *Knowledge-Based Design Systems*. Reading, Mass.: Addison-Wesley.

Knowledge Exchange (KE)

The transfer of information, thought of as knowledge, from one group of people to another. It's a two-way process. Originally KE was conceived as a process of transferring information from researchers to industry (knowledge transfer). In other contexts KE would simply be regarded as collaboration or education. See *Information*.

â?? L â??

Language

How humans and other creatures communicate, but also a medium that generates thought and action. The twentieth century saw several schools of thought about language. The *Analytic* school was concerned with the relationship between language, truth, and logic, the *Pragmatists* saw language in terms of performance (â??meaning is in useâ?•), the *Phenomenologists* in terms of the social and deeply ontological processes of interpretation (hermeneutics), and the *Structuralists* in terms of cultural oppositions. Arguably, *Structuralism* has contributed substantially to the creative arts in asserting that all cultural activity involves signs, and is therefore linguistic (eg architecture, graphic design, music, film, clothing, and even the cultural practices of drinking wine).

- Austin, John. 1966. *How to do Things with Words*. Cambridge, Mass.: Harvard University Press.
- Ayer, A.J. 1990. *Language, Truth and Logic*. London: Penguin.
- Barthes, Roland. 1973. *Mythologies*. London: Paladin.
- Hawkes, Terrence. 2003. *Structuralism and Semiotics*. London: Routledge.
- Heidegger, Martin. 1981. *Poetry, Language, Thought*. New York: Harper and Row.

[The Creosote Code](#)

Liminal

Pertaining to the space between things, or on the line or boundary. It's a position between territories, where you are neither in nor out. It's also a threshold condition and a zone of transition, and emblematic of all manner of ill-defined and indeterminate conditions, such as being in cyberspace. See also *Heterotopia* and *Transilience*.

- Turner, Victor. 1967. *The Forest of Symbols: Aspects of Ndembu Ritual*. Ithaca, NY: Cornell University Press.

Lines

Wavy or straight connections between points. See *Network*. [Travel guidelines](#) [Walking the line](#)

Logic

A formal language for making assertions and by which inferences can be drawn, and in a manner that is reproducible. That is, anyone else could reach the same conclusions by the same process. If we assert that all swans are white, and that the creature hidden in this box is a swan, then it follows that it must be white. No amount of observation would invalidate the *deduction*, though the initial assertions might be challenged by observation. *Predicate calculus* provides a particular form of logical expression involving variables. Any computer program can be converted to a series of statements in predicate calculus, though it would be cumbersome to do so. There are programs that automate logical inference, such as Prolog. Are thinking and reasoning logical? In so far as people assume this is the case then automated artificial intelligence is a possibility. In practice it turns out to be extremely difficult to convert an argument into predicate calculus in order to verify it, let alone derive new inferences. There are variants around the theme of formal logic. *Abduction* is the process by which you might derive that a creature is a swan from knowing that it is white. Considering all the other white creatures in the world you would have to ask, what are the odds that it's a swan? Abductive reasoning is also known as *plausible inference* involving the gathering of evidence. As an automated process it also involves calculating probabilities. *Induction* is the derivation of a general rule, such as all swans are white, from a large number of observations. Other logical approaches include *fuzzy logic*, *second order* and *non-monotonic logic*. In all these modes of inference deductive logic is still the model. Attempts at automating logical inference highlight the complexities of human reasoning, even leading to a (logical) conclusion that reason is not the same as logic. Also see *Artificial Intelligence*.

- Peirce, Charles Sanders. 1885. On the algebra of logic: A contribution to the philosophy of notation. *American Journal of Mathematics*, (7) 2, 180-196.

?? M ??

Magnetic Resonance Imaging (MRI)

A scanning technology for mapping the location, density and other properties of soft tissue (ie internal organs) within animal and human bodies. Of most interest in digital media is the use of MRI in localizing activities in the brain. See *Creativity*.

Malware

Also known as a computer virus; computer software introduced into your computer from an external source and designed to damage or re-purpose some aspects of your computer's operations, or to raid your computer for information. Malware may also take over some of your computer's external communications in order to spread to other people's computers, such as people listed in your email address book. Though clearly a destructive and illegal practice the spread of malware prompts some to think of computers as purveyors of a kind of artificial life, which could be constructive as well as malevolent. The development and sale of anti-viral software is a big business. See *Artificial Life*.

Mapping

An established correspondence between one representation and another, usually by an algorithm, method, or other convention. Not everything can be mapped with the same ease. See *Aural* and *Sound*. [Where is that sound?](#)

Mass media

A phrase commonly expanded to “the traditional mass media” or “mainstream mass media.” It’s also one-way, one-to-many broadcasting: a single provider broadcasts its content to an indeterminate number of receivers, ie people with televisions and radio sets. Similar processes apply to print media. The “mass” aspect of the mass media implies that very large numbers of people receive the broadcast information or programme content (sometimes several millions for a single television programme). The Internet has mass media aspects to it, and is now integrated into the operations of traditional media companies. Web 2.0 on the Internet defaults to two-way communication exposing the character of traditional mass media: its strengths, limits and possible future development. The Internet highlights the nature of niche markets, consumer communities, consumer-generated content, and citizen journalism. See *Journalism*.

Media

Strictly the plural form of medium, though used as both a singular and plural noun. It is the field, matrix, system of channels or other context that supports the transmission of signals assembled into messages. In experimental biology it’s also an artificially concentrated pool of nutrients for the growth of organisms. Artists talk of paints, clay, stone, glass, paper, metal and other raw materials as media, but the term elides with considerations of the mass media and the computer as medium. Early electronic devices were also seen as offering the potential to act as a medium for communication with spirits. So the term “media” seems to belong to everyone and no-one, perhaps encouraging Marshall McLuhan to coin the phrase “the medium is the message,” as well as “the medium is the message.”

- McLuhan, Marshall. 1994. *Understanding Media, The Extensions of Man*. Cambridge, MA: MIT Press.

Memory

The human capacity to bring people, events, places and things into consciousness even when they are not present. See *Forgetting*. [Portable memories](#)

Metamorphosis

Changing the form of something, or the condition in which a form changes itself. Caterpillars metamorphose into butterflies. There are computer algorithms that transform and combine three dimensional shapes and forms, and these are popular in the generation of *algorithmic architecture*, ie organically and digitally-inspired buildings and components of buildings. See *Organicism*.

Metaphor

Giving a thing a name that belongs to something else, according to Aristotle. A concept in rhetoric, poetry, philosophy, language, and psychology applicable also to computer interaction design, popularized through the concept of “desktop metaphor,” “mouse,” and “window.” Tom Erickson said, “Everyone at Apple knows the value of a good metaphor.” Sometimes it helps when learning to operate a new computer program to see it as something you are already familiar with. There’s more to metaphor though. Metaphor is ubiquitous in language, and there’s the question of whether describing something as *not* a desktop, *not* a mouse, and *not* a window, is also metaphor.

- Black, Max. 1962. *Models and Metaphors: Studies in Language and Philosophy*. Ithaca: Cornell University Press.
- Erickson, Thomas D. 1990. Working with interface metaphors. In B. Laurel (ed.), *The Art of Human-Computer Interface Design*: 65-73. Reading Massachusetts: Addison Wesley.
- Lakoff, George, and Mark Johnson. 1980. *Metaphors We Live By*. Chicago, Ill.: University of Chicago Press.

[This is not a hideout](#) [Digital metaphors and the baroque](#)

Metaphysics

The study of how and why people want certainties and hanker after first principles. See also *Wicked problems*. [Architecture as the last fortress](#)

Method

A recipe that if followed produced a particular outcome. It’s about plans and procedures to meet objectives. According to the language philosopher Walter Ong, the construction of a method was often deployed in the pre-modern period to explain why a medical treatment was unsuccessful in a particular case, ie the patient died. The philosopher Rene Descartes is attributed with the invention of a plausible method for solving philosophical problems. According to twentieth century critics, the idea of method involves a culturally situated faith in the application of procedures to get to the truth. It has been associated with the quest for certainties, a legacy from the Enlightenment. The twentieth century philosopher of science Paul Feyerabend wrote *Against Method*, and Hans-Georg Gadamer called his own major work *Truth and Method*, which is a polemic against method in favour of an understanding of the art of interpretation in the humanities. Design methods were popular in the 1960s as a way of getting to a design solution, though seemed mainly to be applicable to teaching rather than practice. The idea of *research methods* persists in the humanities and social sciences, in part as it’s difficult to find another word that suggests studying, engaging with, worrying about, theorizing, and even challenging the procedures by which you gather evidence, construct an argument and discover something new. See also *Logic*.

- Feyerabend, Paul. 2010. *Against Method*. New York, NY: Verso.
- Gadamer, Hans-Georg. 1975. *Truth and Method*. New York: Seabury Press.
- Ong, Walter J. 1972. *Ramus: Method, and the Decay of Dialogue from the Art of Discourse to the Art of Reason*. New York: Octagon.

Microblog

A short weblog posting or message. In the case of Twitter microblogging the message can be no longer than 140 characters. (Also see *weibo.com* used in China.) Twitter users subscribe to each other's postings (called tweets), ie they "follow" each other. You can view the tweets of people you are following as a chronological list updated in real time, called a "twitter feed." You view the feed on the Twitter website or a special app on your tablet or smartphone. If someone is following you then they'll see your postings in among all the others they may be following. There's another very popular mode of viewing tweets. This involves entering a key search term, preceded by the hash (#) symbol, into the Twitter browser. You'll then see a feed of every tweet that includes this key term (hash tag). So any Twitter-user can observe or join in a conversation about world events, a tv programme, sports, or the news, and as events unfold (#Libya, #Downton, #Xfactor, #Rugby, #Earthquake). Microblogging interoperates with other social media and can be accessed on a range of platforms. With a data projector you can project a twitter feed about your event onto a "Twitter Wall" to garner opinion and comment from audiences in real time. Participants may publish their tweets from their mobile phones. It's a fast and furious medium. There's barely time to compose a clever comment than your tweet is lost in the noise, though they can be searched for. Tweets can include links to web pages, and tweets can be generated automatically when you post your weblog, or release a new YouTube video. Tweets are also used for advertising, updates, alerts, and news reporting. It's an informal medium, anyone can read any tweet, and there are no security filters, which means that few organisations would trust it for internal office organization or communicating with contracted clients, customers or partners. Also see *Weblog*.

Mind

See *Extended mind*.

MMORPG

Massively Multiplayer Online Role Playing Games. These are screen-based computer games in which people assume roles as characters in an ongoing and open-ended series of interweaving stories. Other online players communicate with the same game play, and collaborate, compete, act out scenarios, develop their characters, and modify their environment. MMORPGs have developed from text-based games popular in the 1980s, eg *Dungeons and Dragons*. *World of Warcraft* is a famous (or notorious) example of an MMORPG. It's a fantasy game in which people act out parallel lives as fantasy characters. The wealth (gold) that can be accumulated in *World of Warcraft* has even been traded on eBay, and there are so-called "gold diggers," who employ bands of young game enthusiasts to earn game gold that is then sold on to other players. The gold is marketed outside of the game play. SecondLife is another game environment that is more open ended, encouraging players, known as "residents," to build their own three-dimensional environments and to set up virtual businesses. See *Virtual reality*.

Mobility

The ability to move from one place to another, and a factor in interaction design, particularly for people whose mobility needs to be assisted in some way. The term also extends to the development and use of computers and electronic devices that are portable. See *Portability*.

Multimedia

An idea developed when it was a novelty to think of combining sounds, images, video, text, and animations in computer documents and displays. Now interaction design has a much bigger palette to work with: tactile feedback, motion and pressure sensing, voice recognition, networked communications, location sensing, virtual reality, and computer functions built into everyday objects. The idea of multimedia now seems limited as a descriptor for the combining of all these factors, and has largely been supplanted by the more general term “digital media.” See *Digital media*.

Music

One of the primary arts, above architecture, and on the same level as arithmetic, geometry and astronomy, according to ancient tradition. As such music is not only a source of pleasure and a medium of creativity, but also involves principles thought to underlie all the arts, if only we could understand it adequately. See also *Sound and Tuning*. [Architecture and Music](#)

“ N ”

Network

A connected set of objects, things, ideas, or, more generically, *nodes*. Networks are really a particular kind of diagram made up of nodes and connecting lines (arcs). The nodes and arcs can be assigned symbols and numerical values, and any network may have particular properties: eg simple or complex, planar or non-planar. It’s also possible to do calculations with networks, and to calculate the characteristics of networks and their parts. The whole network idea extends to the way we think about transportation, utilities, cities, the body, the nervous system, organization in general, plumbing, electronics, and of course there’s the Internet. The network is also a very old idea. Think of fishing nets and weaving. It’s also a modernist idea, implying the sovereignty of control, order, and system. See *Line*. [Network notion](#) [Travel guidelines](#)

Neural network

A mathematical or computer simulation of how neurons in the brain interact to process inputs and outputs. See *Connectionism*

New media

No longer particularly new, but typically media involving digital electronics and networks. The term has currency in the art world, where it extends the range of “traditional” media, such as paint, ceramics, printing or fabrics. See also *Digital media* and *Multimedia*.

Noise

Unwanted sound. More technically, it’s distortion in a signal or message. See also *Sound*. [Making a noise](#)

Nomad

A traveller, habitually unsettled, and constantly on the move. It's also a metaphor for the contemporary wired-up human condition, especially with the advent of portable computing, as if humans no longer need a fixed abode or commitment to a place. A knowledge worker can perform her tasks anywhere in the world so long as she has access to the network. The philosophers Giles Deleuze and Felix Guattari contributed to the popularity of the theme by introducing the concept of *nomadology*, the subversive study of what it is to be transient and on the move. Also see *Line*.

Non-place

Somewhere you don't really want to be or where you don't feel comfortable. It's sometimes a place filled with signage telling you what to do and what you can't do. Also see *Activist*, *Capitalism* and *Critical theory*. [No way logo](#)

?? O ??

Obliquity

Seeing things at an angle, the non-orthogonal view. See *Augmented reality*.

Open source

Software that is available for programmers other than the original developers to see and manipulate. Technically, it means that others can inspect the *source code*, the human-readable lines of computer program prior to it being compiled in machine (only) readable form as distributed to your computer. If a programmer has the source code then they can probably work out how to make changes, and how to link its functions into the operations of other software, or recompile it for a different brand of computer. See *Free software*.

Organicism

This is a belief in the interconnection of all things leading to something greater than the sum of its parts, as cells go to make up a complex organism. The metaphor is that of life itself. It probably developed with the Stoics in Ancient Greece, but informs the idea of the Internet and other digital networks as evolving into lives of their own. See *Artificial life*, *Generation* and *Network*.

Original

The attribute of being the first, from which others are copied. Considering the evolution and circulation of ideas, artefacts and computer software, it's often difficult to identify an original. Sometimes we are surprised by a faithful copy, but the philosopher Jacques Derrida has remarked that we should be most surprised by the discovery of a first time for anything. See *Copy*.

?? P ??

Peak oil

A crisis point before fossil fuels become too expensive to exploit. It's a moment in time beyond which human kind will be forced to make radical shifts to renewable energy sources and sustainable life styles. At its most positive it conjures up an image of a future where old computers get repurposed and the world is even more wired up than it is now but with a fascinating mix of low-tech analogue equipment and highly sophisticated digital technologies, a relationship optimized for the continuation of Planet Earth. A more negative image is of a resource poor anarchic world full of incessant tribal battles. See also *Utopia*.

Phone

Short for 'telephone', a means for speaking across distances. Phones used to be connected exclusively by wires, but are now also carried around as portable phones (cell phones) by individuals, connected via wireless signals. Signals from cell phones are relayed through towers, transmitters and base stations. The term 'smartphone' came into common usage around 2009 to describe phones that not only aid speaking over a distance but incorporate a range of computer-related functions, including navigation, taking and viewing photographs, recording and listening to audio, video communication, and almost anything else that can be carried out on a desktop computer. The futuristic comic book detective Dick Tracy had a two-way wrist radio that was implausible in the 1930s and beyond. Today's smartphones exceed the imagined capabilities of such a device, and are far more convenient as a consumer item that fits in the palm of the hand, in the pocket or handbag. It's well known that the computing power that got man to the moon was long ago exceeded by the first generations of mobile phone. There were no mobile phones in the *Harry Potter* stories or *Star Trek* television series, though they've been used by characters in *Doctor Who*, usually hacked. See *Mobility*.

Photography

A process of transferring images permanently to a surface by means of optical devices such as lenses and arrays of photosensitive diodes. Also see *Body*. [We are all multiples](#)

Play

Often contrasted with 'work'. A capability evident in humans and many other animals for social interaction, rehearsal, practice and filling in time. See *Game*. [Play anywhere](#)

Plot

A series of related events in a story or narrative. Also see *Confusion* and *Game*. [Against understanding](#)

Popular culture

A vexatious category of art, literature, music, and film. It's art that has mass appeal. We can thank Plato for making the distinction clear, between made things that pander to the tastes of the masses and that which appeals to the nobler virtues of those schooled in the Ideas and the Intellect. See also *Mass media* and *Virtual reality*.

Portability

Advances in microelectronics and design are rendering computers and communications devices portable, whether or not they actually need to be carried. Portable objects are not just carried about, but they are taken out and brought back. There's a parallel here with the nature of a journey, an excursion followed by an inevitable return, or hope of return. In discussing tourism, John Urry talks about the importance of portable objects in colouring our experience of a place, and of the journey. We travel as assemblages of flesh, clothing and equipment, a combination that inevitably influences what we think of a place and what we bring back home. See *Mobility*.

- Urry, John. 2007. *Mobilities*. Cambridge, UK: Polity.

Potlatch

This is the tradition in some cultures of giving till it hurts. On reaching an agreement for peace, rival tribes might make gifts to one another, and do so even beyond the point of showing off. The tribal leaders might start tipping their own stores of precious jewels and even their slaves into the sea to demonstrate the surplus of their wealth. The idea of the potlatch has been adopted by cultural theorists such as George Bataille as a symbol of capitalism, the self-destructive character of conspicuous consumption. See *Capitalism and Gift*.

- Bataille, Georges, Fred Botting, and Scott Wilson (eds). 1997. *The Bataille Reader*. Oxford: Blackwell.

Pragmatism

A philosophical movement that acknowledges we are practical rather than theoretical beings. See also *Logic*. [Being practical](#)

Presence

Short for 'online presence': as in 'I have an online presence,' 'how many presences do you have?' Your online presence may simply be your Facebook, Twitter, Google+ or LinkedIn pages, your personal homepage, company bio, other accounts, or the sum of these. Online presence can be authentic, fake, singular, ambiguous, multiple, well-maintained, or careless. Also see *Identity*.

Privacy

Sometimes regarded as a basic human right, the entitlement to keep things you do, think or know secret. See *Anarchist* and *Secret*. [LOL Security reproduces the trickster function](#)

Publishing

The industry concerned with distributing literature, computer games, music and other media to points-of-sale such as shops. Publishers also act as gate-keepers and may contribute to the quality of what gets distributed, especially as their revenue stream is generally tied to volumes of sales. Publishers do not tend to create the content that is being delivered. The Internet provides the promise and the challenge of self-publishing, as it is relatively simple and almost free for any individual or group to distribution their own media content on line. The means of generating revenue from self-publishing is more elusive, as is the means of ensuring quality. Traditional mainstream publishers have also had to adapt to the changes brought about by the Internet, including competition from online distributors such

as Amazon and iTunes. See *Mass media*.

Q

Queer theory

An intellectual discourse that seeks to draw attention to any human behaviour that lies outside of what many think constitutes the norm. So the issue of sexual orientation provides a good exemplar of the theme. The term 'queer' is applied to any non-normative behaviour. The discourse embodies its own proposition of rehabilitating a pejorative term and bringing it into intellectually respectable discourse. See *Activist*.

R

Re-mediation

Remediation is what happens when the practices of one medium get transformed into another, or when a new medium references something older, for example, early film trying to emulate theatre, contemporary digital animation replicating the conventions of hand-drawn animation, a mobile phone display replicating a computer desktop display but in miniature. It is often when interaction design breaks away from the old forms that a medium is thought to have come of age.

- Bolter, J. David, and Richard A. Grusin. 1999. *Remediation: Understanding New Media*. Cambridge, Mass.: MIT Press.

Reading

Scanning a text by eye or touch (Braille) and either pronouncing the words out loud, by subvocalization, apprehending the text in chunks, or having it recited out loud by automated text scanning software. Is scanning text from a screen different from reading a printed sheet of paper, and do tablets and e-books prompt different reading practices to scanning a fixed vertical screen? In the age of the blog many people associate reading and writing more closely. See *Blog*.

Remainder

What's left over from some process, such as dividing one number by another. See *Discrepancy*.

Repetition

A mechanical operation where events that are very similar follow in a series, such as a dripping tap, the ticking of a clock, or a vibrating string. Repetition has a place in human psychology. Habits are repetitive practices. The psychoanalyst Sigmund Freud saw repetition in human behaviour as a re-enactment of childhood trauma. The kind of repetition where one thing reminds us of another is part of a similar process, and can invoke a feeling of the uncanny. See *Game* and *Rhythm*.

- Deleuze, Gilles. 1994. *Difference and Repetition*. London: Athlone Press.
- Kierkegaard, Soren. 2001. Repetition: An essay in experimental psychology by Constantin Constantius. In J. Chamberlain, and J. R  e (eds.), *The Kierkegaard Reader*: 115-150. London: Blackwell.

Research

Finding out things that matter in a way that can be reproduced by others and is auditable. See *Design* and *Ethnography*. [Design-led research](#)

Rhythm

The kind of repetition experienced in music and poetry, but also as one examines the cycles in organic life, and in nature generally. Daily routines have their rhythm, as does life on the land (agriculture) and in the city. For philosopher Henri Lefebvre, rhythm is not just mechanical repetition, but involves memory and variation. See *Habit*.

- Foster, Russell, and Leon Kreitzman. 2004. *Rhythms of Life*. London: Profile Books.
- Lefebvre, Henri. 2004. *Rhythmanalysis: Space, Time and Everyday Life*. London: Continuum.

   S   

Schedule

A time-ordered list of events. Broadcast media have traditionally distributed their programme content in terms of time-ordered events organised according to daily, weekly and seasonal schedules. See *Habit*. [Mass media schedules and generation Y](#)

Schizophonia

A term coined by the sound composer and innovator Murray Schafer to describe the separation of a sound from its source, a common occurrence thanks to electronic reproduction. See *Aural culture*, *Map*, and *Sound*.

- Schafer, R. M. 1977. *The Tuning of the World*. Toronto: McClelland & Stewart.

Screen

A surface for displaying images. Screens can be opaque or transparent, flat or curved. Images can be projected onto them from the front or behind, or the mechanism for producing the imagery may be integrated into the screen itself, which is the case with most computers, smartphones, tablets, and urban screens. It is common now to interact with software by touching and gesturing on a screen with your hands. Screens also interoperate. Tapping a screen on your mobile phone can cause some action to occur on a larger or more public screen, and of course you can have multiple screens on your desktop that mirror each other, or extend the computer desktop. Thanks to high-powered data projection, it  s possible to convert the surfaces on a stage set, a building facade or a cliff face into a screen, animating the surfaces by apparently playing with its geometry, as in urban projections, or projection mapping. So-called pico-projectors turn any surface into a screen through projection from a device as small as a mobile phone. So-called   electronic paper   display screens have similar

properties to paper, in that they require front illumination from an external source, can be read in bright sunlight and they don't need a constant electrical power source for the image to be maintained. They are most effective for static images that change periodically, such as the pages of an e-book. See *Interaction*.

Seam

Computer users often want interfaces and interactions that render computers invisible. The development of ubiquitous and tangible digital media indicates a tendency towards techno-human environments that are integrated, seamless and smooth. The discourse of smooth and seamless interaction also enjoys metaphorical extension to the realm of smooth forms: characterised by folded and averaged surfaces, metaphors of organic growth, responsive and integrated surfaces. It seems that the smooth is well served by technological advances. What of the seam and the disconnected? A counter-movement seeks to claim the cut, and work on the seam, without blurring it away; to promote the reality of the interactive experience. Installations and digital media art works commonly elaborate on the incongruous, the unlikely connection, and the discontinuous. Interaction design can seek to render the operations of digital processing conspicuous, rather than trying to meld it away. More to the point, the interaction designer can work with both the seam and the smooth, the space between the conspicuous and the inconspicuous. See *Calibration* and *Interaction*.

- Chalmers, Matthew. 2003. Seamful design and ubicomp infrastructure. *Proceedings of Ubicomp 2003 Workshop At the Crossroads: The Interaction of HCI and Systems Issues in UbiComp*. Seattle, WA: <http://www.dcs.gla.ac.uk/~matthew/papers/ubicomp2003HCISystems.pdf>.
- Coyne, Richard, Pedro Rebelo, and Martin Parker. 2004. Resisting the seamless interface. *International Journal of Architectural Computing (IJAC)*, (4) 2, 430-442.
- Ishii, Hiroshi, and Brygg Ullmer. 1997. Tangible bits: towards seamless interfaces between people, bits and atoms. *Proc. CHI 97, 22-27 March, Atlanta, Georgia* 234-241.

Secret

Information that is kept from others, but it's also part of the information idea. See *Archive* and *Information*. [The secret life of games](#)

Security

The challenge of preventing access by certain people to particular objects, documents, places, media content and data. See *Archive* and *Privacy*.

Semantic web

The future of the Internet according to some, where search engines should be able to deal intelligently with questions and not just word lookup in indexed texts. The semantic web requires layers of organization for web pages and documents beyond their content as strings of text. Semantic networks

are typically defined in terms of objects and relationships. The idea of the semantic web revisits a series of old problems. The main one is standardization. Everyone will have to agree on a standard way of representing data, or at least of describing concepts, objects and events. This has proven to be extremely difficult, even in a single industry like the construction industry. An electrical engineer will have a different understanding of the building to a civil engineer, an architect, or the planning department. The second major problem is that any such structuring of information will be highly constrained. Human intelligence does not seem to operate in the way suggested by semantic networks, is more dynamic, and takes account of context. Can we really expect the Internet to have agency in the manner of someone you could talk to or ask questions of? See *Artificial intelligence* and *Logic*.

- Berners-Lee, T, J Hendler, and O Lassila. 2001. The semantic web. *Scientific American*, (284) 5, 34-43.

Silence

The cessation of sound, but not altogether nothing. See *Sound*.

Simulation

A form of mimicry or copying, such that a person experiencing the simulation can behave in many ways as if the experience was the real thing - as in the case of operating a aeroplane on a flight simulator. See *Baudrillard* and *Virtual reality*.

Smart mob

A group of people interacting via digital social media to produce some outcome that none of them could have achieved in isolation. The mob may assemble in a physical location or simply online. It's clearly not just the technology that makes digital gatherings possible, and there's support from other media, tools and practices. Collaboration is what groups do anyway, and with varying degrees of organization. But the idea of the smart mob captures the mood of the social media milieu: spontaneity, lack of hierarchy, disregard for authority, and being tactical. Smart mobs can be involved in political protest, but also apparently self-serving opportunism, such as looting shops during a social disruption. See *Crowd* and *Non-place*.

- Rheingold, Howard. 2002. *Smart Mobs: The Next Social Revolution*. Cambridge, MA: Basic Books.

Smartphone

A mobile phone with many of the capabilities of an average laptop or desktop computer, along with location technologies, such as motion sensing, touch sensing, and GPS. It's sometimes also referred to as a "fully-featured smartphone." This is a distinction that will disappear, as smartphones become the only kind of mobile phone. See *Phone*.

Social media

Web 2.0 computer platforms for communicating with your peers. People sign up to each other's groups, or associates' or friends' lists. You can leave messages, chat, video call, display photographs, find out what other people are up to, play games, promote an event, tout for work or

customers, and build up a personal profile. Profile pages on social media websites effectively absolve users from designing their own, independent website, and are branded by the social media website provider. Any user may have a presence on more than one social media site: FaceBook, LinkedIn, Academia, RenRen, Orkut. Social media websites can be managed to interoperate with each other, and with other facilities, applications and services. So you might be able to log on to an online shop via your Facebook site, which may in turn access your FaceBook friends list. The sociability of current social media websites builds on the Bulletin Board systems of the 1980s such as the WELL (Whole Earth â??Lectronic Link), dating websites, and the social sites of special interest groups. See *Blog*, *Crowd*, *Microblog* and *Mob*.

Sound

A vibratory stimulus to the aural sense, but also felt kinetically, viscerally and with subtle influence on the whole sensorium. See *Aural culture*, *Ear*, *Map* and *Silence*. [Silent night](#)

Speech

The main product of the human and animal vocal apparatus of lungs, diaphragm, larynx, head cavities, throat and mouth. See *Sound*, *Silence*, *Map* and *Voice*. [The kingâ??s speech impediment](#)

Stereopsis

Seeing in three dimensions. Also see *Eye* and *Photography*. [3D passive unrealities](#)

Star ratings

A method of indicating preference for a product or service using a simple scoring system, ie a number of stars from zero to five or six. Stars suggest virtue. They are sparkly and important. Star ratings are also used in voting. Also see *Aesthetic judgement*, *Beauty* and *Superlative*. [Zero Stars](#)

Sublime

A category of aesthetic value that is neither just beautiful, ugly, pretty, delightful or scary, but involves some intermediate condition: perhaps a hovering, or a vibration between states. Also see *Aesthetic judgement* and *Beauty*. [The sublime indifference of waves](#)

Superlative

Good, better, best: â??bestâ?• is a superlative as thereâ??s nothing above it. Also see *Aesthetic judgement*, *Beauty* and *Hermeneutics*. [Superlatives](#)

Surveillance

Watching, observing, scanning, and recording what other people are doing, usually as a means of deterring crime and catching suspects. Video cameras positioned in buildings, public transportation and in urban areas are the main examples of surveillance infrastructures. The subjects of surveillance do not typically volunteer to be observed in this way, and they are particularly uncomfortable when the

means of surveillance is hidden. There is less resistance to visual surveillance than to secretly recording what people say – bugging. The ubiquity of surveillance cameras, webcams, and personal camera phones implies that we are constantly under observation by someone or other, though what most of us are recorded as doing will not be of interest to many. See *Dystopia, Privacy and Secret*.

- Levin, Thomas Y., Ursula Frohne, and Peter Weibel (eds). 2002. *CTRL [SPACE]: Rhetorics of Surveillance from Bentham to Big Brother*. Cambridge, Mass.: MIT Press.

Tag

Tag

A small item of data (an identification – ID) attached to something larger. A digital tag can be a word or number that operates as a symbol standing in for the larger object. So a weblog author can tag one of her blog postings with several tags (–holiday, –Madeira, –cat, –wedding–). Other people can search for the tag and see which postings have that tag attached. Tags are here the same as searchable key words. Hash (#) tags in Twitter provide similar functionality. Tagging in the context of digital information implies an informal activity that anyone can engage in. It's light touch, and implies something different to the official organization of data, as in a library catalogue, or a database of employees. Tagging cuts across classification systems. Tagging has become a digital social practice in its own right. You can tag your own and other people's photographs on photosharing web sites and blog postings. The supposed democratic aspects of tagging leads some to think in terms of –folksonomies– that are taxonomies or classification systems derived from consensus among interested amateurs rather than a system of organisation determined by experts. See *Microblog*.

Technological determinism

A common view that technology is transforming society, as if the technology itself is an independent agent of social change, eg that mobile phones are making us less aware of our immediate physical surroundings, or that social media is bringing about political revolution in the countries of North Africa and the Middle East. It's more accurate to think in terms of socio-technical systems as complicit in various kinds of change. Societies create and support the technologies they think they want, and in any case it's never just the technology that is involved in social transformation but the whole arrangement of infrastructures, educational systems, social values, and economic and political organisation in which the technologies develop. Marshall McLuhan adhered to a particular brand of technological determinism in asserting that the printing press changed the world. That's a powerful polemic perhaps designed to counteract those who say it was the invention of the clock, the steam engine, electricity, or the production line that augured social change. To insist on the defining role of technologies concerned with language is consistent with the –linguistic turn– in philosophy in the twentieth century. See *Democracy and Wicked problems*.

Technoromanticism

The opposite side of the coin to technorationalism. Technorationalists use calculation, logic and formal systems as the yardstick for deciding what's important. Technoromantics emphasise the role of the imagination, personal genius, the irrational and the incalculable. Technoromantics focus on cyberspace, immersion in imaginary virtual reality worlds, and utopian visions of holistic mind melds involving the

merging of people and machines. See *Artificial life*, *Organicism* and *Network*.

- Coyne, Richard. 1999. *Technoromanticis: Digital Narrative, Holism, and the Romance of the Real*. Cambridge, Mass.: MIT Press.

Text

Alphabetical characters laid out in sequence as words, phrases, sentences and whole documents, with occasional recourse to numbers and other symbols. But *text* also appears in *subtext* and *context*, so there's more going on. Texts are used to record and disseminate stories, and generally have a lot to do with meaning. See *Language*, *Reading*, *Speech* and *Writing*.

Things

A term for miscellaneous objects otherwise difficult to name at the moment you want to talk about them. The term often implies ordinariness, as if *mere things*. See *Everyday*. [No-thing as it seems](#)

Transilience

A term for the many different and conflicting ways that two ideas, objects or places can be related, or by which you traverse the space between them. See *Hybrid* and *Liminal*. [Transilience](#)

Translation

Transferring what is said or written in one language into another language. It's an emerging function of the Internet. Automated online translation services do not only work with formal vocabularies and grammars, but also word and phrase correspondences mined from countless websites. See also *Language*.

Tuning

Adjusting the relationship between musical notes so that they conform to a scale or other harmonic system, but also adjusting the operations of a machine or human relationships. See *Adjustment*. [Tuning as a!](#)

U

Ubicomp

Ubiquitous computing; computers everywhere, and secreted in ordinary, everyday things. In a way it's also a movement against the concept of virtual reality and cyberspace that suggest a rarefied, otherworldly mode of human-computer interaction. Ubicomp is interested in human factors, embodiment, materiality and the complex of human practices and interactions. See also *Interaction*.

UGC

User-generated content. The obvious example is the success of YouTube, where anyone can upload any video, subject to light-touch editorial control. See *Audience*.

Uncanny valley

The idea that people are not very comfortable with images of people, particularly in digital animation, that look almost human, but not quite. So we can cope with weird, animal-like, abstract, and cartoonish characterisations, as they are conspicuously *other*. In this case our imaginations can provide the necessary association with human characteristics. But photo-real human characters can look like corpses, or at least unwell, with limited facial expression. See *CGI* and *Game*.

- Brenton, Harry, Marco Gillies, Daniel Ballin, and David Chatting. 2005. The uncanny valley: does it exist? *Proceedings of Conference of Human Computer Interaction, Workshop on Human Animated Character Interaction*.

Unremarkable

Something about which people tend not to make a remark. See also *Everyday*, *Mobility* and *Superlative*. [The Future is Unremarkable](#)

Utopia

A future or distant place that is better than where you happen to be at present. It means “no-place” or “other place,” and was coined by the Tudor scholar Thomas More, whose book bears the name *Utopia*. Utopia is also nostalgia for the way things used to be. It involves looking back as well as looking forward. Karl Marx thought the quest for utopia an undesirable distraction for working class revolutionaries. See *Dystopia*.

- More, Thomas. 1965. *Utopia*. Harmondsworth, Middlesex: Penguin.

V

Virtual reality

A simulation of some experience that tries to convince you it is providing something equivalent to that experience. See *Augmented reality*, *CGI* and *Cyberspace*. [Reality re-structured](#)

Vision

The capability of seeing, usefully contrasted with hearing. The visual sense supports the development and prominence of what’s sometimes called “visual culture”: painting, drawing, advertising, film and other media in the creative arts. See *Eye*.

Voice

What you hear when someone speaks; the dominant driver in the development of the mobile phone and related portable technologies. See *Mobile phone* and *Speech*.

W

Wearable

Computer and communications equipment that you can wear as part of your clothing. Owing to the risk of loss and theft, people are more content with portable and detachable devices and equipment. See *Portable*.

Web 2.0

Now in common usage as a way of describing the World Wide Web as a two-way and many-to-many communications medium in which it is easy to publish your own material without having to maintain a web server. Web 2.0 is an open environment supported by social media, blogging and microblogging. See *Blog* and *Microblog*.

- O'Reilly, Tim. 2007. What is web 2.0: Design patterns and business models for the next generation of software. *Communications and Strategies* 65, 17-37.

Wicked problems

Problems not easily solved. See also *Artificial intelligence*, *Digital democracy*, *Knowledge engineering*, *Technological determinism* and *Logic*. [Wicked problems revisited](#)

Wikileaks

A website for posting and reading confidential and sensitive information, much acquired in breach of confidentiality laws and agreements. See *Archive*, *Privacy* and *Secret*.

Writing

A partner to reading practices, undergoing transformation in the age of the Internet. See *Blogs* and *Reading*.

WWW

The World Wide Web, a window into the Internet presenting it as a graphically rich, easy to navigate, hypertextual, platform-independent informational and communications resource. See *Hypertext*, *Intertextuality*, *Network* and *Social media*.

X

Xenakis

A handy insertion into an A to Z, and an important musician and composer who also worked with the architect Le Corbusier. He was also a mathematician, and created parametric compositions that also employed stochastic laws. See also *Chance* and *Sound*.

- Xenakis, Iannis. 1992. *Formalized Music: Thought and Mathematics in Music*. Stuyvesant, NY: Pendragon Press.

Y

Youths

A particular demographic of media consumers, who probably multitask with their electronic devices, take social media for granted, consume television content online and may never buy a television set. See *Non-place*, *Schedules* and *Y Generation*.

Y Generation

Or “generation Y,” the demographic cohort chronologically following on from generation X, ie people born in the 1980s and 1990s. Of most interest in the context of digital media is that this generation has grown up with digital communication as a normal part of their upbringing, at least among middle class households in the West. See *Youths*.

“ Z ”

Zizek

A prolific philosopher with a worthy place in a complete A to Z. He has brought film and media into the philosophical discourse, illuminated the difficult writing of Jacques Lacan, and demonstrated that it is possible to introduce popular cultural references into scholarly writing. His book and article titles indicate something of these proclivities. See *Archive*.

- Zizek, Slavoj. 2002. Big brother, or, the triumph of the gaze over the eye. In T. Y. Levin, U. Frohne, and P. Weibel (eds.), *CTRL [SPACE]: Rhetorics of Surveillance from Bentham to Big Brother*: 224-227. Cambridge, Mass.: MIT Press.
- Žižek, Slavoj. 1991. Looking Awry: An Introduction to Jacques Lacan through Popular Culture. Cambridge, Mass.: MIT Press.
- Žižek, Slavoj. 2011. Good manners in the age of WikiLeaks. *London Review of Books*, (33) 2, 9-10.

Other-wired words

Amateurization

Beep

Bestiary

BIM (building information modelling)

Blook

Censorship

Cyber bully

Deep Blue

Disruptive technology

Deus ex machina

Documentary

E-government

Hacktivism

History of â?!

IAD Internet addiction disorder

Library of Babel

Longitudinal

Machine Learning

Metonymy

Micro entrepreneur

Normative

Paronomasia

Peri-urban

Pico projection

RSS

Screen scraping

Silent disco

Steam punk

Synaesthesia

Tangible computing

Trickster

Turing machine

Ushahidi

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