# Glossary

Act utilitarianism—The ethical theory holding that a particular act are right just in case the consequences of that act are optimal.

Actant—According to French sociologist Bruno Latour, an actant is a technological artifact that performs actions. Example: a speed-bump that slows down cars.

Actor-network theory—A theory proposed by French sociologist Bruno Latour, according to which no sharp distinction can be made between objects (the external world) and subjects (human beings).

Anthropocentric ethics—The view that the primary concern of ethics is the interests, needs or wellbeing of human beings, not the interests, needs or wellbeing of animals, plants or ecosystems.

Artifact—A manmade object or thing. Example: a speed bump.

Aspirational ethics—Ethical principles that go beyond the bare minimum required for avoiding wrongdoing. Example: An engineer promotes the welfare of society by working for Engineers Without Borders in his free time.

Association for Computer Machinery (ACM)—The world’s largest society for computing professionals with thousands of members around the world.

Casuistry—A case-based method of ethical reasoning, holding that no general moral principles are required for reaching warranted conclusions about real-world cases.

Categorical imperative—A moral command in Kant’s ethical theory that is valid under all circumstances and in all situation, regardless of the agent’s wishes or desires. Example: “Act only according to that maxim whereby you can, at the same time, will that it should become a universal law.”

Co-constructivism—An intermediate position between technological determinism and social constructivism, which attributes the power to change history to technology itself as well as to a multitude of social forces: socio-economic, cultural, ideological and political factors.

Code of Ethics—A set of moral rules for managing ethical problems within a specific (professional) domain.

Coherence (in ethics)—The property a set of moral judgements has when they support and explain each other well.

Conceptual claim—A claim that is true or false in virtue of its meaning. Example: No triangle has more than four sides.

Conflict of interest—A set of circumstances that creates a risk that someone’s (professional) judgment will be unduly influenced by an inappropriate interest or consideration. A conflict of interest can be actual, potential, or merely apparent.

Courage—The virtue of acting in accordance with one’s (moral) convictions or beliefs.

Criterion of rightness—Necessary and sufficient conditions that separate morally right acts from wrong ones.

Critical attitude to technology—The view that technology as such is neither good nor bad, although some particular technologies may sometimes warrant criticism. Cf. technological optimism and pessimism.

Dichlorodiphenyltrichloroethane (DDT)—A highly toxic pesticide, which many experts falsely deemed to be safe for humans when it was first discovered. It was banned by the EPA in in 1972.

Doctrine of the mean—The claim that a virtuous agent should strive for the desirable middle between deficiency and excess.

Domain-specific moral principle—A moral principle that is applicable only to moral problems within a specific domain of professional ethics.

Duty ethics—An ethical theory according to which an act’s moral rightness or wrongness depends on the intention with which it is performed, rather than its consequences or the agent’s act dispositions.

Egalitarianism—The view that wellbeing, primary social goods, or other bearers of value ought to be distributed equally in society.

Ethical egoism—The view that it is morally right to do whatever produces to the best consequences for the agent herself.

Ethical theory—A general claim about what makes morally right acts right and wrong ones wrong. Examples: Utilitarianism, duty ethics, virtue ethics, and rights-based theories.

Ethics—Moral principles, values, virtues or other considerations that govern our behavior towards other persons or morally relevant entities.

Eudaimonia—A technical term in virtue ethics that is often translated as human flourishing or happiness.

Existentialism—A philosophical theory developed by French philosopher’s Jean-Paul Sartre and others, which emphasizes the individual’s freedom and responsibility to make decisions by exercising their free will.

Expected value—The probability that some outcome will occur multiplied by the value of that outcome.

Factual claim—A claim whose truth or falsity depends on what fact of the world obtain or do not obtain. Example: Many engineering students take courses in engineering ethics.

Foam shedding—The process in which insulating foam falls off from a space shuttle during the launch sequence; the cause of the Columbia disaster in 2003.

Ford Pinto—A small and cheap automobile manufactured by Ford between 1971-1980, which was infamous for its poor safety record caused by a poorly designed fuel tank that was prone to explode in read-end collisions.

Global Manhattan—A thought experiment in which the entire planet iscovered with highways, skyscrapers, airports, factories, and a few artificial parks for recreation.

Golden rule, The—The moral principle according to which you should“do unto others as you would have them do unto you.”

Hedonic pricing—A method for assigning monetary values to non-market goods, in particular the environment.

Hume’s Law—David Hume’s (1711-1776) claim that we cannot derive an “ought” from an “is”: every valid inference to a moral conclusion requires at least one (nonvacuous) moral premise.

Hybrid agent—A moral agent comprising human as well as technological parts.

Hypothetical imperative—A moral command in Kant’s ethical theory that is valid only if the agent has certain wishes or desires. Example: “If you wish to eat good pasta, then you should dine in Little Italy in New York.”

Imperfect duty—A duty that, according to Kant, does not have to be fulfilled under all circumstances.

Informed consent—The moral principle holding that it is morally permissible to do something to another person, or impose a risk on another person, only if the person affected by the act has been properly informed about the possible consequences and consented to them.

Institute of Electrical and Electronics Engineers (IEEE)—The world’s largest professional organization for engineers with hundreds thousands of members around the world.

Instrumental value—Something is valuable in an instrumental sense just in case it is valuable as a means to an end, rather than valuable for its own sake. Example: money.

Intrinsic value—Something is valuable in an intrinsic sense just in case it is valuable as a means to an end, rather than as a means to an end. Example: happiness.

Legal positivism—The view that law and morality are entirely distinct entities. Laws are social constructions and we cannot infer anything about what is, or should be, legally permitted from claims about what is morally right or wrong.

Mactroethics—The investigation of moral issues related to largescale societal problems, such as global warming.

Maxim— A*maxim* is the rule that governs the intention with which one is acting. It can often be formulated by stating the agent’s reason for doing something.

Microethics—The investigation of moral issues that concern the behavior of individuals or small groups of people, e.g. moral issues related to conflicts on interests in one’s workplace.

Mixing theory of labor—The view that one becomes the owner of something if one mixes one’s labor with something that is not owned by anyone, while leaving enough left for others.

Moral claim—A claim that expresses a moral judgement. Example: Engineers shall hold paramount the safety, health, and welfare of the public.

Moral dilemma—In a narrow, academic sense a moral dilemma is a situation in which all alternatives open to the agent are morally wrong. Such moral dilemmas are by definition irresolvable. In ordinary, nonacademic contexts a moral dilemma is a difficult moral choice situation, which need not always be irresolvable.

Moral principle—A claim about how one ought to behave.

Moral realism—Themetaethical view every moral statement is either true or false, in a sense that is independent of our feelings, attitudes, social conventions and other similar social constructions.

Moral relativism—Themetaethical view that moral statements are true or false relative

to some cultural tradition, religious conviction, or subjective opinion.

Morals—Ethical principles, values, virtues or other considerations that govern our behavior towards other persons or ethically relevant entities.

Narrow sustainability—The view that sustainability can only be achieved by eliminating all forms of significant long-term depletion of natural resources.

National Society of Professional Engineers (NSPE)—A learned society for engineers that addresses the professional concerns of licensed engineers (called Professional Engineers, or P.E.s for short) across all engineering disciplines.

Natural law theory—The view that moral concerns determine what is, or should be, legally permissible or impermissible.

Normalization of deviance—The process in which a technical error is accepted as normal, even though the technological system is not working as it should.

Nuremberg code—An influential set of ethical principles governing research on human subjects adopted in the wake of World War II.

Particularism—The view that ethical problems can and must be resolved without invoking any moral principle, only particular judgments about individual cases.

Perfect duty—A duty that, according to Kant, has to be fulfilled under all circumstances.

Preventive ethics—Moral principles that seek to prevent accidents and other types of problems from arising.

Principlism—A method of ethical reasoning in which a set of domain-specific moral principles are balanced against each other for reaching a warranted conclusion about some real-world case.

Prioritarianism—Prioritarians believe that benefits to those who are worse off count for more than benefits to those who are better off. Wellbeing has a decreasing marginal moral value, just like most people have a decreasing marginal utility for money.

Professional Engineer (P.E.)—In the U.S. a professional engineer is someone who has obtained a license to practice engineering by taking a written tests and gaining some work experience. Only Professional Engineers can become members of The National Society of Professional Engineers (NSPE).

Prohibitive ethics—Moral principles that seek to prohibit certain types of actions, e.g. cheating and bribery.

Proper engineering decision (PED)—A Proper Engineering Decision is a decision that requires technical expertise and may significantly affect the health, safety and welfare of others, or has the potential to violate the standards of an engineering code of ethics in other ways.

Proper management decision (PMD) —A Proper Management Decision is a decision that affects the performance of the organization, but does not require any technical expertise and does not significantly affect the health, safety and welfare of others, nor has any potential to violate the standards of any engineering code of ethics.

Prudence—The virtue of being cautious and exercising good judgement.

Quality Adjusted Life Years—A method for assigning monetary values to non-market goods in the health care sector.

Risk—The term risk has different meanings in different contexts. According to the *engineering definition of risk*, the risk of some unwanted event is the product of the probability that the event will occur and the value of the harm caused by the event, measured in whatever unit deemed appropriate.

Rule utilitarianism—An ethical theory holding that we ought to act per a set of rules of that would lead to optimal consequences if they were to be accepted by an overwhelming majority of people in society

Social experiment—An experiment in which a large group of individuals in society participate as test subjects.

Socially constructed right—The view that rights are created by society. On this view we do not have any rights merely in virtue of being moral agents (or patients).

Technê—An ancient Greek term often translated as the craft or art to build or make things.

Techno-fix—A technological solution to a social problem.

Technological determinism—According to Heilbroner, this is the view that “there is a fixed sequence to technological development and therefore a necessitous path over which technologically developing societies must travel.”

Technological mediation—The claim that technological artifacts sometimes change or enhance our perception of the world or our actions.

Technological optimism—The view that technological progress has mostly improved our living conditions and that further technological advancements would make us even better off.

Technological pessimism—The view that technological progress has no or little value and that we are therefore no better off that we would have been without modern technology.

Technology assessment—A method for predicting and assessing the consequences of a new technology.

Temperance—The virtue of moderation or self-restraint.

Foreign Corrupt Practices Act (FCPA) —This law prohibits U.S. citizens and corporations to make payments to foreign officials to assist in obtaining or retaining business, even if such payments are legal in the country in which they are made.

Precautionary principle—The principle holding that reasonable precautionary measures ought to be taken to safeguard against uncertain but non-negligible threats.

Prisoner’s dilemma—A type of situation in which rational and fully informed agents acting in accordance with their self-interest that is suboptimal from each agent’s own point of view.

Problem of many hands—A situation in which there is a “gap” in the distribution of responsibility within a group of agents. The total responsibility assigned to the individual members of the group may, for instance, not accurately reflect the magnitude of a disaster.

Right to be forgotten—In the European Union, individuals have the right to ask search engines to remove links with personal information about them, and under certain conditions the search engines are obliged to comply.

Tragedy of the commons—This is a version of the Prisoner’s dilemma with more than two agents.

Travel cost method—A method for assigning monetary values to non-market goods, in particular the environment.

Trichlorethylene—A clear non-flammable liquid commonly used as a solvent. For many years it has remained uncertain whether trichlorethylene is a human carcinogen. In 2011, the U.S. National Toxicology Program’s concluded that trichloroethylene can be “reasonably anticipated to be a human carcinogen.”

Trolley problem—A moral choice situation in which you have to choose between killing one person, which will prevent the death of five others, or let the five die.

Utilitarianism—The ethical theory holding that an act is right just in case it brings about the greatest sum total of pleasure or wellbeing for everyone affected by the act.

Virtue—An act disposition or character trait that is stable over time, in particular ones that characterize morally excellent individuals.

Whistleblowing—The act of breaking with the protocol to bypasses the ordinary chain of command by e.g. contacting the press (external whistleblowing) or the supervisor’s supervisor (internal whistleblowing) to reveal serious moral or legal wrongdoing.