

CS 205/299: Professional and Social Issues in Computing

Pushpak Karnick, with help from Ethan Hall

Workable Ethical Theories

How ethical reasoning can be made practical

Remember that this stuff isn't dogma, or "correct"

- *Professor Hall's theory of good game design: a game is not good if it doesn't include Mario as a playable character*
- So, we can say that all games that do NOT have Mario in them (Persona, Fire Emblem, Metal Gear Solid, GTA Vice City, Pokémon, Elden Ring, Wario Land 3, Hollow Knight, Hotline Miami) are NOT good games
- And of course, Super Mario Bros 3 is a good game, because it has Mario in it
- Your immediate reaction is "bullSHIT those aren't good games!"
- But you'd be wrong; those are NOT good games*. WHY are you wrong?

Remember that this stuff isn't dogma, or "correct"

- *Professor Hall's theory of good game design: a game is not good if it doesn't include Mario as a playable character*
- You're wrong if you're trying to argue that Elden Ring is good **from the perspective of the above theory**
 - The **theory** doesn't care about your personal opinion
- You can argue about how things fit into the framework
 - "Actually there's a secret way to play as Mario in Wario Land 3, so that doesn't hold up!"
 - OK, good point! We can argue that Wario Land 3 is a good game
- But don't spend energy arguing AGAINST the framework
 - "Elden Ring is clearly a masterpiece, and doesn't NEED Mario to be good"
 - This is a decent argument against the **framework/theory**, but it **doesn't change the answer** if you're using Professor Hall's theory to evaluate if a game is good or not
- Pay attention to what DOES and DOES NOT fit into the rules of the ethical framework; you can't will something to be right/wrong IN THAT FRAMEWORK if the rules don't allow it

What is a Workable Ethical Theory?

- A workable ethical theory allows its proponents to
 - Examine moral problems,
 - Reach conclusions, and
 - Defend those conclusions before a larger (skeptical, but open-minded) audience

“Workable” Ethical Theories

Which frameworks fit the definition of a “workable ethical theory?”

Ethical Theory Scoreboard

NOT WORKABLE

- Subjective Relativism + Cultural Relativism
 - Don't give us solid ground to debate morality, since the justification for whether something is ethical or not is "Each person/culture decides for themselves"
- Divine Command Theory
 - Not everyone subscribes to the same religion, and some aren't religious at all
 - Also, is God's word good because it's God's word? Or is it the other way around?
- Ethical Egoism
 - Acting only in self-interest can lead to blatantly immoral behavior
 - Other moral principles are superior to self-interest

2.6 Kantianism

Critical Importance of Good Will

“People’s actions ought to be guided by moral laws, and these moral laws are universal”
– Kant, that one time

- These laws overlap with religious teachings, however the laws can be logically derived through reason
- Kants views are founded on “Good will”: the desire to do the right thing
- If we’re rational beings, then **our logical reasoning** should **cultivate a desire to do the right thing**



Immanuel Kant
(1724 – 1804)

Kantianism

- “What is always good without qualification?”
 - Only thing in the world that is good without qualification is a *good will*
- “Virtues” (like intelligence, courage etc.) can also be used for bad ends/harm
 - Takes a decent amount of courage and intelligence to plan a heist!
- Individuals with *good will* often accomplish good deeds
 - However, the expectation of the outcomes is not what drives the actions
 - People often try to do good even though they’re not sure of the final outcome!
 - *The intent of doing good is sufficient, even if the efforts may fall short*
 - Kantianism overlaps with religious scriptures (Bhagvad Gita, Bible)
- Thus, Kant argues that we focus not on what we want to do...
- But on what we *ought* to do: **dutifulness**

How can we be dutiful?

- Through **imperatives**
 - Ways in which reason commands the will
 - Two different kinds that Kant identified
- Hypothetical imperative (not used as moral bedrock)
 - A conditional rule
 - “If you want X then do Y”
 - Provides **means for achieving an end**
- Categorical Imperative (DO follow this to be moral)
 - An *axiom* that is **universally held true**
 - **“You should follow this rule, regardless of any other circumstances”**
 - In Kantianism, only categorical imperatives can be moral imperatives
 - Kant had different “formulations” of the categorical imperative
 - These formulations are the lens through which we make a Kantian assessment

Categorical Imperative (1st Formulation)

Act only from moral rules that you can at the same time will to be universal moral laws.

- In other words
 - You should act only on moral rules that you can imagine everyone else following, *without deriving a logical contradiction* in the process

Illustration of 1st Formulation (1 of 2)

Act only from moral rules that you can at the same time will to be universal moral laws.

(You should act only on moral rules that you can imagine everyone else following, *without deriving a logical contradiction* in the process)

- Question: Can a person in dire straits make a promise with the intention of breaking it later?
 - ...and still be morally correct?
- So, let's propose a rule, and see if it can fit with the 1st Formulation
- Proposed rule: "I may make promises with the intention of later breaking them."
- The person in trouble wants his promise to be **believed** so he can get what he needs.

Illustration of 1st Formulation (2 of 2)

Act only from moral rules that you can at the same time will to be universal moral laws.

(You should act only on moral rules that you can imagine everyone else following, *without deriving a logical contradiction* in the process)

- **Proposed rule:** “*I* may make promises with the intention of later breaking them.”
- **Universalized rule:** “*Everyone* may make promises with the intention of later breaking them.”
- Everyone breaking promises would make promises unbelievable, contradicting desire to have promise believed
- The rule is flawed. The answer to the question is “No.”

Another Way to Reason It out (1 of 2)

Act only from moral rules that you can at the same time will to be universal moral laws.

(You should act only on moral rules that you can imagine everyone else following, *without deriving a logical contradiction* in the process)

- Question: Can I make a promise with the intention of breaking it later?
 - ...and still be morally correct?
- I want my false promise to be believed.
- In order for my false promise to be believable, I want *everyone except myself* to be truthful all the time.

Another Way to Reason It out (2 of 2)

Act only from moral rules that you can at the same time will to be universal moral laws.

(You should act only on moral rules that you can imagine everyone else following, *without deriving a logical contradiction* in the process)

- In other words, I want to **privilege my needs and desires over those of everyone else.**
- **Contradiction** between what I want to do and what I want others to do.
 - Rule cannot be universally applied (*“that you can imagine everyone else following”*)
- Therefore, what I am considering doing is wrong.

A Kantian Checklist (for the 1st Formulation)

- When evaluating a proposed action, reverse roles
- What would you think if that person did the same thing to you?
- Negative reaction → evidence/red flag that your will to do that action violates the Categorical Imperative

Categorical Imperative (2nd Formulation)

Act so that you treat both yourself and other people as ends in themselves and never only as a means to an end.

- This is usually an easier formulation to work with than the first formulation of the Categorical Imperative.

Kant: Wrong to Use Another Person Solely as a Means to an End



Professional Scenario

- ABC Semiconductors
 - Working on an 8-inch wafer for computer chips (*new technology*)
 - You are a manager working in this foundry
 - You are aware that the company will close this plant in the next year and move operations to an out-of-state foundry with upgraded facilities
- Your requirements
 - Need to hire qualified technicians for current foundry, in the meantime
 - Many applicants are out-of-state, so they'd be moving to the **current** foundry
 - Should you disclose the move when interviewing candidates?
- **YES: else we are treating the applicants as a means to our ends (a way to produce wafers) and not ends in themselves (rational beings/people)**

Plagiarism Scenario

- Carla
 - Single mother
 - Works full time
 - Takes two evening college courses/semester
 - If she passes this semester, she graduates
- Modern European History class
 - Requires far more work than normal
 - Carla earning an “A” on all work so far
 - Has never violated academic integrity before, for any class
 - Carla doesn’t have time to write final report
- Carla purchases report; submits it as her own work
 - Or uses ChatGPT, and submits it as her own work

Evaluating with the 1st Formulation

- State the rule that the protagonist is acting under
 - “I want to” / “You may ...” / “One should ...”
- Consider a generalization of this rule to everyone else
 - What would happen if everyone acted according to this rule?
- Find any logical contradictions in the resulting scenario
- Work in groups to find the answer

Moral Rule: I want to

Generalization: Everyone should

Reasoning: The resulting generalization should not violate the 1st Formulation.

If we find a logical contradiction, then the Moral Rule is no longer applicable!

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Kantian Evaluation (1st Formulation)

- Carla wants credit for plagiarized report
- Rule: “You may claim credit for work performed by someone else”
- If this rule is universalized, reports would no longer be credible indicators of student’s knowledge, and professors would not give credit for reports
- Proposed moral rule is self-defeating
- It is wrong for Carla to turn in a purchased report

Evaluating with the 2nd Formulation

- Identify the participants in the scenario
- Who benefited from the actions?
- Did their benefit come at the expense of the other participants?
 - If so, then the moral rule violates the 2nd Formulation

Kantian Evaluation (2nd Formulation)

- Carla submitted another person's work as her own
- She attempted to deceive the professor
- She treated professor as a means to an end
 - End: passing the course
 - Means: manipulate professor
 - The professor isn't a person, they're a grade-generating machine
- Might also say she treated the original writer as a means to an end
 - End: getting material to pass the course
 - Means: purchase or ChatGPT
 - The person(s) that wrote the original report are just access to needed material
 - Instead Carla could approach them as someone to learn from to write her OWN report
- What Carla did was wrong

Some observations (?)

- What are the extenuating circumstances?
 - Carla getting A's up to that point
 - Her being a single mother with a full-time job
- We feel the need **to balance the act** (singular) with **a larger set of actions** that would exonerate Carla
- Limitation of Kantianism – does not take temporality or larger context into account
 - **Temporality:** Good behavior so far up until the act under consideration
 - **Context:** Good behavior towards everyone else except for this one incident/person

Real-world Example

- [People Vs Turner](#)
 - Brock Turner was convicted on sexual assault charges
- Testimony of friends and family
 - Dan Turner (father) - "steep price to pay for 20 minutes of action out of his 20 plus years of life."
 - At least 39 people defended Brock's character in various ways
- Sentenced for six months in jail, followed by three years of probation
- Aaron Persky, the judge, who handed the sentence, was recalled
 - Persky was a Stanford Alum himself

Real-world Example

- By standing in a particular corner of Kantianism, Turner is morally OK
- The 39 people defending his character are making the case that up to this point, he has been a good person! His intentions are generally good, and this is a one-time aberration/mistake. We should judge him on his **good will** rather than the **outcome** of his actions
- Of course, it's pretty clear that he used another human being as a means to an end (2nd formulation), so this argument doesn't hold much water
- But this points to a limitation of Kantianism: we need to take outcome into account, not just intention

Perfect and Imperfect Duties

Act only from moral rules that you can at the same time will to be universal moral laws

- We try to follow rules that fit the categorical imperative
 - One should always be honest -> fits as a universal moral rule
- But a proposed rule may be at odds with another existing rule
 - How do we choose the best one?
- **Perfect duty:** duty obliged to be fulfilled **without exception**
 - Example: Telling the truth
- **Imperfect duty:** duty obliged to be fulfilled **in general but not in every instance**
 - Example: Helping others
 - Example: Self development/improvement
 - If you have a talent in music, you are not required to learn every instrument in the orchestra as a **moral duty**
- Kant distinguished between these (but I'm not aware of ALL of them, because I didn't study Kant in depth)
- Takeaway: Rules that fit the categorical imperative could be either of these, with perfect duties trumping imperfect ones

Case for Kantianism

- Treats all persons as **moral equals**
 - If all humans are created and treated equally, it gives us a framework to address discrimination
- Gives all people **moral worth** as **rational, autonomous beings**
 - The 2nd formulation explicitly imparts inherent dignity to others (people are ends in themselves, not a means to an end!)
- Holds everyone to the **same standard**
 - According to the 1st formulation, there are no grounds for exceptions based on your background, wealth, political clout, or other parameters
- Produces **universal moral guidelines**
 - Kantianism aligns with the universally held belief that same moral principles should apply to all people for all of history
 - *Human sacrifice IS bad, no matter when it occurs*

Case Against Kantianism



- Sometimes no single rule adequately characterizes an action
 - “I can steal food in order to feed starving children.”
 - The Categorical Imperative does not allow for a **contextual discussion**
 - Who are we stealing from? How much food? Etc.
 - If a rule doesn’t fit the Categorical Imperative, it shouldn’t be acted from
- Sometimes there is no way to resolve a conflict between rules
 - In a conflict between a perfect duty and an imperfect duty, perfect duty prevails
 - In a conflict between two perfect duties, no solution
 - Perfect Duty: “One should not steal.” (**Ever.**)
 - Imperfect Duty: “One should feed starving children (**if one has the means**).”
- Kantianism allows no exceptions to perfect duties
- **Conclusion: Despite weaknesses, a workable ethical theory**
- **Though it has flaws, we can use it to reason if an action is moral or not**

Takeaway?

- Intent / good will alone is not enough to cast ethical judgement
- We must also observe the fallout of the actions
 - Take **consequences** into account

Ethical Theory Scoreboard

NOT WORKABLE

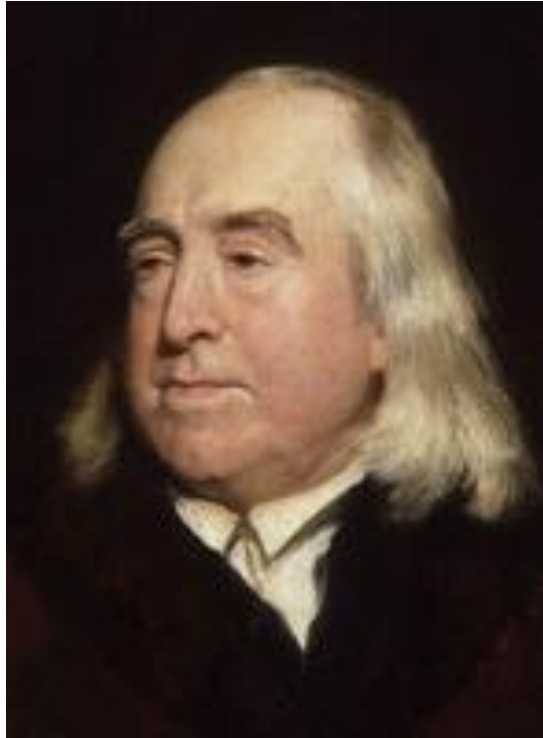
- Subjective Relativism
- Cultural Relativism
- Divine Command Theory
- Ethical Egoism

WORKABLE

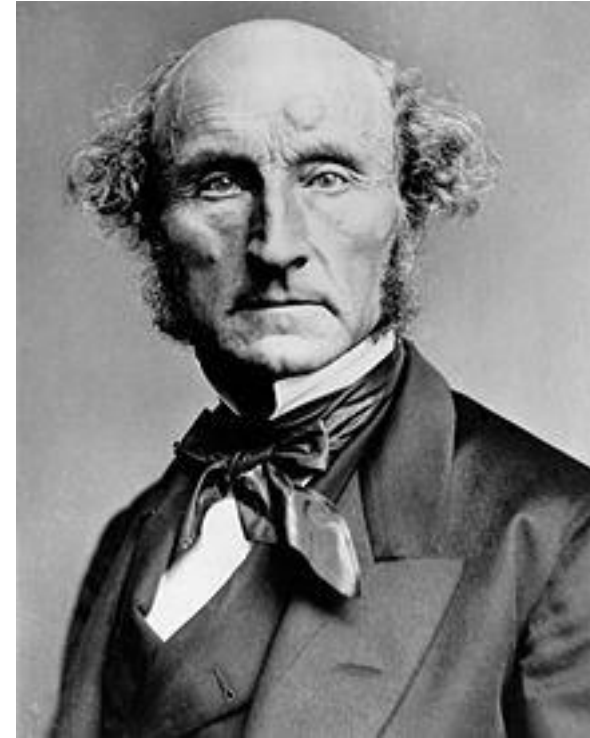
- Kantianism

2.7 Act Utilitarianism

Utilitarianism



[Jeremy Bentham](#)
(1748 – 1832)



[John Stuart Mill](#)
(1806 – 1873)

<https://museumcrush.org/jeremy-benthams-preserved-head-goes-back-on-public-display-for-first-time-in-decades/>

Principle of Utility (1 of 2)

- An **action** is **good** if its **benefits exceeds its harms**
- An **action** is **bad** if its **harms exceed its benefits**
- Utility: tendency of an object to produce happiness or prevent unhappiness for an individual or a community
- Happiness = advantage = benefit = good = pleasure
- Unhappiness = disadvantage = cost = evil = pain

Principle of Utility (Greatest Happiness Principle)

An action is right (or wrong) to the extent that it increases (or decreases) the total happiness of the affected parties.

- A very mathematical way to calculate “happiness”
- Choose the option that maximizes (minimizes) the total happiness (unhappiness) in a given situation
- Definitely the min-maxer’s ethical theory of choice
- Contrast with Kantianism: doesn’t mention intent!

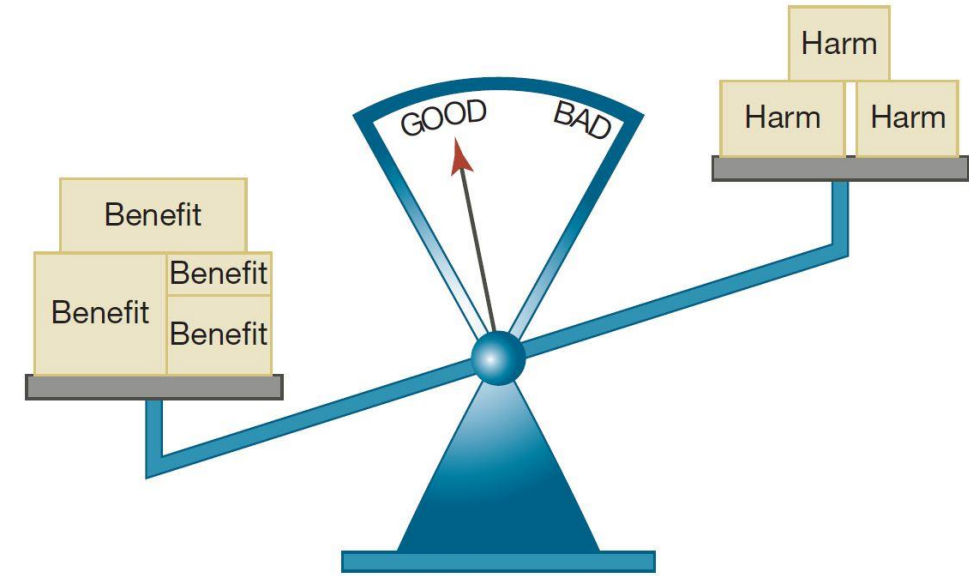


Principle of Utility (2 of 2)

- Morality of an action ***has nothing to do with intent***
(the road to hell...)
- “An example is the introduction of [invasive species](#), like [Asian carp](#) (bighead, black, grass, and silver carp) imported into the [US](#) in the 1970s as a method to control nuisance algal blooms in wastewater treatment plants and aquaculture ponds as well as for human food. Unfortunately, within ten years, the carp escaped confinement and spread to the waters of the Mississippi River basin and other large rivers like the Missouri and Illinois.” - *Wikipedia*
- Utilitarianism is a **consequentialist** theory -> Focuses on the consequences of an action

Act Utilitarianism

- Add up change in happiness of all affected **beings**
 - $\text{Sum} > 0$, action is good
 - $\text{Sum} < 0$, action is bad
- Right action to take: one that maximizes the sum
- But that begs the question... how do we “add up the change in happiness of all affected beings”?
- Or, said another way: how do we measure **UTILITY** (tendency of an object to produce happiness or prevent unhappiness)



Bentham: Measuring benefit versus harm

Parameter being observed	Description of the parameter
Intensity	Magnitude of the experience
Duration	How long does the experience last?
Certainty	Probability that the experience will actually happen (100% for an event in the past)
Propinquity	How close is the experience in Space and Time?
Fecundity	Can this experience produce more experiences of its kind?
Purity	The extent to which “pleasure” is not diluted by “pain”
Extent	Number of beings affected

Highway Routing Scenario

- State may replace a curvy stretch of highway
- New highway segment 1 mile shorter
- 150 houses would have to be removed
- Some wildlife habitat would be destroyed

Evaluation

- Costs
 - \$20 million to compensate homeowners
 - \$10 million to construct new highway
 - Lost wildlife habitat worth \$1 million
- Benefits
 - \$39 million savings in automobile driving costs
- Conclusion
 - Benefits exceed costs (\$8 million benefit)
 - Building highway a good action

Highway routing via Act Utilitarianism

Parameter being observed	Description of the parameter
Intensity	Long-term, large-scale impact of the change
Duration	~ 3 months (for construction)
Certainty	50% (city council needs to vote to approve the construction and displacement of humans & wildlife)
Propinquity	1 (One-of-its-kind experience)
Fecundity	80% chance other cities may follow suit
Purity	\$39 million (see previous slide)
Extent	Humans: $150 \times 4 = 600$, wildlife: 500 approximately

Highway routing via Act Utilitarianism...?

Parameter being observed	Description of the parameter	Numeric value / quantification [-10,10]
Intensity	Long-term, large-scale impact of the change	+10
Duration	~ 3 months (for construction)	-3 / 12 months = -0.25
Certainty	50% (city council needs to vote to approve the construction and displacement of humans & wildlife)	0.5 * 5 (weight given to city council input) = +0.25
Propinquity	1 (One-of-its-kind experience)	+1
Fecundity	80% chance other cities may follow suit	0.8 * 8 (weight given to influence of our actions on other cities) = +0.64
Purity	\$39 million (see previous slide)	+10
Extent	Humans: 150 x 4 = 600, wildlife: 500 approximately	10/39M * -31M = -7.95
Total		13.69

Highway routing via Act Utilitarianism

- Let's take just one of the parameters and talk it out a bit more: what are the factors contributing to "Extent" (number of beings affected)?
- Cost to build the highway section (In terms of money/materials? People getting hurt?)
- Cost to compensate homeowners displaced by the construction
- Cost to rehabilitate the wildlife
- Benefit to workers – employment opportunities, separate from the cost to build
- Benefit to the economy – the workforce (and their families) will live in the community for 3 months and spend money on local shops
- Benefit to community – some of the transient workers may end up settling in this city and thereby enrich the community
- **Calculating the actual extent is not trivial**

Real-world Scenario

- Federal Aid Highway Act of 1956
- Aimed at building the Interstate network throughout the US
- New highways cut through communities of color
 - Sometimes purposefully!
- Government seized houses by eminent domain
 - 475,000 households displaced
- New infrastructure was **biased against mass transit & pedestrians** (which carried Black and other poor minorities)



[Southern State Parkway, Nassau County \(1960\)](#)

- This probably wasn't factored in to the "utility" of this project! (or more maliciously, it was considered and given little weight)

At the other end – Vancouver, BC

Worst traffic congestion in Canada

Second-only behind Los Angeles if considering US + Canada!

1. Los Angeles.
 2. Vancouver.
 3. Miami.
 4. Seattle.
 5. Tampa.
 9. Toronto.
 10. Ottawa.
 12. Montreal.
 16. Calgary.
 23. Edmonton.
- (Source: TomTom)



Police start clearing German village condemned for coal mine (Jan 11 2023)

<https://apnews.com/article/climate-and-environment-germany-europe-business-8cacc38aac7b336a17e3044b15675b3e>



Environmentalists say bulldozing the village to expand the nearby Garzweiler coal mine would result in huge amounts of greenhouse gas emissions. The government and utility company RWE argue the coal is needed to ensure Germany's energy security.

However, a study by the German Institute for Economic Research calls into question the government's stance. Its authors found other existing coal fields could be used instead, though the cost to RWE would be greater.

Another alternative would be for Germany to increase production of renewable power, cut demand through energy efficiency measures, or import more coal or gas from abroad, the study found.

Citing the study and the urgent need to curb global carbon emissions, protesters refused to heed a court ruling Monday that effectively banned them from the area.

Some activists expressed particular anger at the environmentalist Green party, which is part of both the regional and national governments that reached a deal with RWE last year allowing it to destroy the village in return for ending coal use by 2030, rather than 2038.

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Vice Chancellor Robert Habeck, a Green who is Germany's economy and climate minister, defended the agreement as "a good decision for climate protection" that fulfills many of the environmentalists' demands and saves five other villages from demolition.

"I think climate protection and protests need symbols but the empty hamlet of Luetzerath, where no one lives any more, is the wrong symbol from my point of view," Habeck told reporters in Berlin.

Climate campaigners counter that expanding a massive open-cast coal mine goes against Germany's international commitments to reduce emissions of planet-warming greenhouse gases. The country is expected to miss its ambitious targets for the second year in a row.

Case for Act Utilitarianism

- Focuses on happiness
 - Intuitive concept of **maximizing happiness as much as possible**
- Down-to-earth (practical)
 - Can be implemented by an algorithm!*
 - No emotional biases involved
 - Can (in theory) solve any controversial issues**
- Comprehensive
 - Takes into account the holistic view of the problem

* *Uh... is that a good idea?*

** <https://www.redmond-reporter.com/news/residents-concerned-about-potential-pot-facilities-on-redmond-ridge/>



Case Against Act Utilitarianism

- Unclear **whom to include** in calculations and **how far out into the future** to consider
 - There might be indirect consequences that we might miss
- **Too much work**
 - Each moral question must be thoroughly investigated against all the parameters
- Ignores our **innate sense of duty**
 - *People, and their lives, should not be quantified with a few variables!*
 - We can also “game” the system by choosing appropriate values
- We **cannot predict consequences** with certainty
 - Certainty, intensity, and duration are usually estimates and not 100% accurate
- Susceptible to the problem of **moral luck**
 - Is it right for the moral worth of an action to depend solely on its consequences, when those consequences are not fully under the control of the moral agent?
- **Conclusion: Overall, a workable ethical theory but with weaknesses**

Does this scenario fall under moral luck?

- Elderly aunt in the hospital
- You send her flowers through an online service
- Flowers received, but trigger an allergic reaction
- Extended stay in the hospital and a bigger bill to pay!
- Under Act Utilitarianism... this was a bad thing to do! You caused more harm than good!



[Hospital installs silk flower vending machine in the face of a bouquet ban.](#)

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Evaluate the scenario under the weights defined under Act Utilitarianism:

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- Divine Command Theory
- Ethical Egoism

WORKABLE

- Kantianism
- Act Utilitarianism

2.8 Rule Utilitarianism

Act Vs Rule

- Act Utilitarianism is **not governed** by a uniform set of principles
 - The same act can have different consequences depending on when/how it was performed
 - One city may be more inclined to save the wildlife over spending \$21M
 - It provides **more weight to immediate benefits** and costs as we cannot predict long-term effects reliably
 - We did not account for [induced demand](#) due to faster travel along the highway
 - We are seeing an **inverted** example right before our eyes on Willows Rd.
- Rule Utilitarianism attempts to solve these issues
- It is believed that John Stuart Mill was actually a Rule Utilitarianist

Applying Principle of Utility to Rules

- Still in the utilitarian realm
 - However, we expand the effect of the benefit and loss

*We ought to **adopt moral rules** which, **if followed by everyone**, will lead to the **greatest increase in total happiness***

- **Act utilitarianism** applies Principle of Utility to **individual actions**
- **Rule utilitarianism** applies Principle of Utility to **moral rules**

Rule Util. Vs Kantianism

Rule Utilitarianism	Kantianism
Follow a moral rule because its universal adoption leads to greatest net increase in happiness or benefit	Follow a moral rule as per the Categorical Imperative: All humans are created equal, and should not be a means to an end
Looks into the consequences of the action	Looks into the will motivating the action

Anti-Worm Scenario

- August 2003: [Blaster worm](#) infected thousands of Windows computers
- Soon after, [Welchia](#) worm appeared
 - Took control of vulnerable computer
 - **Located and destroyed copies of Blaster**
 - **Automatically downloaded** software patch to fix security problem
 - Used computer as launching pad to try to “infect” other vulnerable PCs
 - Programmed for self-removal on Jan 1 2004, or 120 days after activation, whichever comes first

```
0 00 00-6D 73 62 6C msbl
0 6A 75-73 74 20 77 ast.exe I just w
9 20 4C-4F 56 45 20 ant to say LOVE
0 62 69-6C 6C 79 20 YOU SAN!! billy
0 64 6F-20 79 6F 75 gates why do you
3 20 70-6F 73 73 69 make this possi
0 20 6D-61 6B 69 6E ble ? Stop makin
E 64 20-66 69 78 20 g money and fix
7 61 72-65 21 21 00 your software!!
0 00 00-7F 00 00 00 ♣ δ♥▶ H △
0 00 00-01 00 01 00 ð_ð_ ☺ ☺ ☺
0 00 00-00 00 00 46 á☺ L F
C C9 11-9F E8 08 00 ♦lêèù¬¬fþ
0 00 03-10 00 00 00 +▶H`☺ ♣ ♥▶
3 00 00-01 00 04 00 p♥ ò ð♥ ☺ ♦
```

Hex dump of the [Blaster Worm](#), with a personalized message for Bill Gates!

Evaluation Using Rule Utilitarianism (1 of 2)

- Proposed rule:
If I can write a helpful worm that removes a harmful worm from infected computers and shields them from future attacks, I should do so
- Who would benefit
 - People who **do not** keep their systems updated (worm provides automatic updates)

Evaluation Using Rule Utilitarianism (2 of 2)

- Every bad worm is followed by many good worm “vigilantes”
 - No control on security risks posed by hundreds of such worms!
 - No worm would be guaranteed to be free of defects/bugs
 - Nachi/Welchia worm disabled infected Diebold ATM machines
- Who would be harmed
 - People who use networks
 - Network traffic would soon be overtaken for worm-business
 - People whose computers are invaded by buggy anti-worms
 - Now the infected machine has **two worms** to deal with
 - System administrators
 - Extra load on their work schedule
- **Conclusion: Harm outweighs benefits. Releasing anti-worm is wrong.**

Case for Rule Utilitarianism

- Not every moral decision requires performing utilitarian calculus
 - Complex decision-making process devolved to a simple Yes/No check on **what is allowed**
- Moral rules survive exceptional situations
 - Not possible to manipulate the parameters of the problem to get away with immoral behavior
- Avoids the problem of moral luck
 - Not all individuals are allergic to specific flowers. So no harm in continuing to send actual flowers to hospitals!
- Reduces the problem of bias
 - Focus shifts from “Can I do this?” to “Should everyone be allowed to do this?”
- Appeals to a wide cross-section of society
 - A rule-based moral system is usually well-received due to its clarity of purpose

Case Against Utilitarianism in General

- All consequences must be measured on a single scale.
 - All units must be the same in order to do the sum
- **In certain circumstances utilitarians must quantify the value of a human life**
- Leads to disparity:
<https://www.npr.org/2021/06/29/1004347023/why-fema-aid-is-unavailable-to-many-who-need-it-the-most>
- Another disturbing thought:
what is your pet's life actually worth?



Case Against Utilitarianism in General

- Utilitarianism ignores the problem of an unjust distribution of good consequences.
 - Utilitarianism does **not** mean “the greatest good of the greatest number”
 - That requires *a principle of justice* (which is NOT pure Utilitarianism)
 - What happens when a conflict arises between the Principle of Utility and a Principle of Justice?
- **Conclusion: Despite weaknesses, both act utilitarianism and rule utilitarianism are workable ethical theories**

Ethical Theory Scoreboard

NOT WORKABLE

- Subjective Relativism
- Cultural Relativism
- Divine Command Theory
- Ethical Egoism

WORKABLE

- Kantianism
- Act Utilitarianism
- Rule Utilitarianism

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