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CS349

TECHNOLOGY AND POLICY

POLICY VACUUMS AND CONCEPTUAL MUDDLES

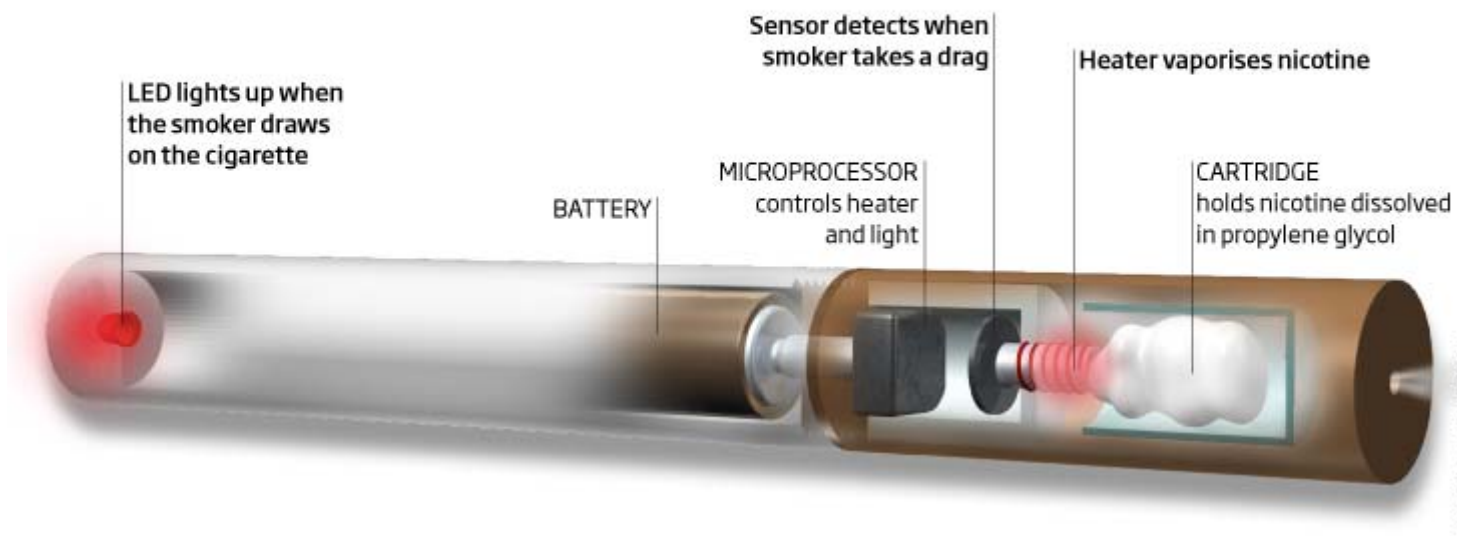
- ▶ A new technology appears
 - ▶ Muddle: what sort of thing is it?
 - ▶ Policy vacuum: how should it be used/sold/regulated/etc?

EXAMPLE: E-CIGS

- ▶ No tobacco or second-hand smoke, so not a cigarette
- ▶ ...but does contain nicotine and does worsen air quality

Smoke without fire

Suck on an e-cigarette and it produces a cloud of nicotine-carrying vapour with none of the toxic by-products of burning tobacco



SOCIETAL EFFECTS OF E-CIG MARKET GROWTH

- ▶ Some studies suggest they may help smokers quit
- ▶ Over 2M middle school and high school students were e-cig users in 2016
 - ▶ That's 11% of high schoolers and 4.3% of middle schoolers
 - ▶ Part of appeal for youth is that e-cigs come in flavors
- ▶ Emergence of small, distributed e-liquid industry

SHOULD THEY BE REGULATED LIKE CIGARETTES?

- ▶ In 2016 the Food and Drug Administration (FDA) extended the Center for Tobacco Products' (CTP) regulatory authority to include e-cigs
 - ▶ FDA regulates manufacture, import, packaging, labeling, advertising, promotion, sale, and distribution
- ▶ In 2017 the FDA loosened restrictions on e-liquid to focus on combustible cigarettes and tobacco

INSTAPOLL QUESTION: WHERE DO SCOOTERS BELONG?

- ▶ In the road
- ▶ In the bike lane
- ▶ On the side walk
- ▶ In a trash pile

EXAMPLE: SCOOTERS

- ▶ What sort of transportation (public/private/service) are scooters?
 - ▶ Who is responsible?
- ▶ How should they be regulated?
 - ▶ Safety issues?
 - ▶ Environmental issues?
 - ▶ Other impacts?

WHAT ABOUT THEFT?

- ▶ Is using a bash script the same thing as breaking and entering?

- ▶ "Stealing is stealing, whether you use a computer command or a crowbar." – Carmen Ortiz (former US Attorney for Massachusetts)

CASE STUDY: AARON SWARTZ

- ▶ Co-author of RSS
- ▶ Co-programmer of Reddit
- ▶ Co-wrote the Guerilla Open Access Manifesto
- ▶ Co-founded Demand Progress



SWARTZ AND JSTOR

- ▶ JSTOR is a large, digital library repository of academic content (books, journals, etc)
 - ▶ Unlimited downloading through annual subscription fee
- ▶ In 2011 Swartz was indicted with multiple felonies for downloading several million academic articles
 - ▶ Articles downloaded through MIT, which has a subscription
- ▶ JSTOR terms of service prohibit bulk downloading of articles
 - ▶ JSTOR declined to pursue charges after articles were returned

WHAT WAS SWARTZ'S CRIME?

- ▶ Prosecuted for violations of the Computer Fraud and Abuse Act (CFAA)
- ▶ In Federal District Court charged with four felony counts of wire fraud, computer fraud, unlawfully obtaining information from a protected computer, and recklessly damaging a protected computer
- ▶ Indicted by Middlesex County Superior Court grand jury for breaking and entering with intent, grand larceny, and unauthorized access to a computer network
 - ▶ Charges later dropped
- ▶ 9 more felony counts added to federal indictment for a 50 year prison sentence, and a fine of \$1M to pressure Swartz into plea bargain
 - ▶ Swartz rejected deal

OUTCOME

- ▶ In 2013 Swartz committed suicide
- ▶ Federal prosecution dropped the charges
 - ▶ Whether these charges would have held up in court still in question
- ▶ Legislation "Aaron's Law" introduced to remove terms of service violations from being covered under the CFAA
 - ▶ As of 2016 still has not been voted on
- ▶ Legislation "FASTR" introduced so that federally funded research would become freely available to the public 6 months after publication
 - ▶ Bill bipartisanly introduced to the House of Representatives in 2017
- ▶ Increased open access to academic material in Swartz's home state of Illinois

WHY SUCH LARGE CHARGES FOR SUCH A SMALL OFFENSE?

- ▶ Average sentence of a convicted rapist in the US is about 10 years with the actual time served around 5 years
- ▶ Outside of life and death sentences, average sentence for spousal murder is about 13 years

WHAT ISSUES DOES THE SWARTZ CASE RAISE?

ANOTHER EXAMPLE

- ▶ What conceptually is encryption?
- ▶ What policies should apply to encryption?

HOW DO WE FIT INTO THIS?

- ▶ Policy-makers do not necessarily understand technology
- ▶ We must be willing and able to contribute to the conversation
 - ▶ Both at a government level and among non-technical friends!
- ▶ We must contribute to the political process
 - ▶ Age 18-35 voters make up 31% of electorate but contributed only 19% of votes

NUMEROUS ORGANIZATIONS INVOLVED IN THIS CAUSE

- ▶ Computer Professionals for Social Responsibility (CPSR)
 - ▶ <http://cpsr.org/>
- ▶ Electronic Frontier Foundation (EFF)
 - ▶ <https://www.eff.org/>
- ▶ Online Ethics Center
 - ▶ <http://www.onlineethics.org/>
- ▶ ACM Ethics
 - ▶ <https://ethics.acm.org/>

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