# Speech 1AC Yale Rd 1 vs Central Catholic 9-17 3PM

Theory after phil

### FW

#### The litmus test for ethics is certainty and non-arbitrariness – blurry guidelines for ethics allows agents to inconsistently understand morality or arbitrarily opt out which renders ethics useless since it can’t serve as a guide to action.

#### Thus, the meta-ethic is practical reason.

#### 1] Empirical Uncertainty – only a priori truths are certain for agents – relying on the empirics is incoherent because different agents have different interpretations and the external world is uncertain because of the possibility of a simulionat.

#### 2] Infinite Regress – certainty must answer “why” because it would otherwise allow agents to infinitely question why it’s true – other frameworks allow agents to question every part of it, but questioning reason concedes its authority which proves its inescapable.

#### 3] Is-Ought Gap – descriptive claims cannot prescribe action – “arsenic is poison” doesn’t mean “one ought not drink arsenic” because it doesn’t ought to be that way. Only a nonnatural a priori premise can form ought statements.

#### 4] Action Theory – any action can be divided into infinite parts. Any other theory is incoherent because there are infinite ends to look to. Prefer reason because it’s the only thing unifying all those actions.

#### Practical reason is universalizable – its incoherent to claim that 1+1=2 for me, but not for everyone else.

#### Thus, the standard is consistency with universalizable maxims – actions are ethical insofar as willing it doesn’t infringe on the ability to will it.

#### 1] Performativity – when you enter debate, you presume that you will be free to set and pursue ends in the round because of a system of reciprocally enforced constraints.

#### 2] TJFs – oguth

#### A] Ground – a rights-based FW robustly accounts for the intercommunal nature of IP.

Osei-Tutu 17 [Bracketed for G-Lang. Julia Janewa Osei-Tutu (she is the current Editor in Chief of the African Journal of Legal Studies, and one of the founding directors of the Center for International Law and Policy in Africa, Ghanaian-Canadian, Associate Professor of Law @ Florida International University, LL.M. from McGill University, J.D. from Queen’s University, B.A. from the University of Toronto. “Humanizing Intellectual Property: Moving Beyond the Natural Rights Property Focus”. Florida International University College of Law. 2017. Accessed 8/24/21. <https://ecollections.law.fiu.edu/cgi/viewcontent.cgi?article=1353&context=faculty_publications> //Xu]

International [humxn] human rights can, therefore, enrich the natural rights IP discourse-and help to promote the public interest-in at least two ways. First, the rights of the individual must be considered in relation to the rights of other members of society.1 9 In other words, rights do not exist in a vacuum but are exercised within a community. Human rights theories require an analysis of IP rights in relation to other equally valid rights. Second, [humxn] human rights framing de-emphasizes the property interest. Natural rights IP advocates place the property interest at the center of the analysis. 20 In addition, scholarly analyses of IP rights, whether based on utilitarian or natural rights theories, tend to be conversations about property. [Humxn] Human rights theory expands the scope of the discussion, and thereby alters the nature of the analysis. Commentators disagree about which theories should guide the crafting of IP laws. 21 Yet these important theoretical inquiries help shape the answers to challenging issues. As one scholar notes, the policy debate about the appropriate level of IP protection is "neither political nor legal, but 'conceptual."' 22 The question is whether, like utilitarian theories, natural rights theories can adequately account for the public interest. Human rights framing that aims to bring greater balance to the IP regime must, therefore, be distinguished from expansionist natural rights theories for IP.

#### B] resource disparaties

#### C] phil ed

#### 3] Ideal Theory Good –

#### a] end point – we’d constantly be fixing injustices as a precondition to ethical action so we never get to the bottom of what is actually ethical

#### b] relevance – every society has different injustices that occur – the resolution is a universal values statement which means you cannot universalize any theory under nonideal theory

#### 4] The rules of logic claim that the only time a statement is invalid is if the antecedent is true, but the consequent is false.

SEP [Stanford Encyclopedia of Philosophy.] “An Introduction to Philosophy.” Stanford University. <https://web.stanford.edu/~bobonich/dictionary/dictionary.html> TG Massa

Conditional statement: an “if p, then q” compound statement (ex. If I throw this ball into the air, it will come down); p is called the antecedent, and q is the consequent. A conditional asserts that if its antecedent is true, its consequent is also true; any conditional with a true antecedent and a false consequent must be false.  For any other combination of true and false antecedents and consequents, the conditional statement is true.

#### If the aff is winning, they get the ballot is a tacit ballot conditional which means denying the premise proves the conclusion that I should get the ballot.

#### 5] Ethics must be universalizable – skep.

Kinsella 02 Stephan Kinsella is a practicing patent attorney, a libertarian writer and speaker, Director of the Center for the Study of Innovative Freedom. "Defending Argumentation Ethics." Anti-state. 19 September 2002. [www.stephankinsella.com/publications/defending-argumentation-ethics/](http://www.stephankinsella.com/publications/defending-argumentation-ethics/). PeteZ

What about universalizability? I am not sure if MC really reject the universalizability requirement – but if they do, I fail to see how they can themselves adhere to any notion of rights; rejecting universalizability means that any norm whatsoever can be proposed, by simply making up a particularistic reason for it. Without the universalizability principle, literally “anything goes,” which of course leads to ethical relativism and/or skepticism. I will assume that MC are not ethical relativists or skeptics and thus do not reject universalizability. But I am not sure they fully appreciate this principle.

#### 6] Isolating unconditional worth within the other is uniquely liberatory and the basis from which other theories begin, so my offense turns and outweighs yours.

#### **Farr 02** [Arnold Farr(Black Professor of philosophy at University of Kentucky, focusing on German idealism, philosophy of race, postmodernism, psychoanalysis, and liberation philosophy). “Can a Philosophy of Race Afford to Abandon the Kantian Categorical Imperative?” JOURNAL of SOCIAL PHILOSOPHY. Vol. 33, No. 1. Spring 2002.]

Whereas most criticisms are aimed at the formulation of universal law and the formula of autonomy, our analysis here will focus on the formula of an end in itself and the formula of the kingdom of ends, since we have already addressed the problem of universality. The latter will be discussed ﬁrst. At issue here is what Kant means by “kingdom of ends.” Kant writes: “By ‘kingdom’ I understand a systematic union of different rational beings through common laws.”32 The above passage indicates that Kant recognizes different, perhaps different kinds, of rational beings; however, the problem for most critics of Kant lies in the assumption that Kant suggests that the “kingdom of ends” requires that we abstract from personal differences and content of private ends. The Kantian conception of rational beings requires such an abstraction. Some feminists and philosophers of race have found this abstract notion of rational beings problematic because they take it to mean that rationality is necessarily white, male, and European.33 Hence, the systematic union of rational beings can mean only the systematic union of white, European males. I ﬁnd this interpretation of Kant’s moral theory quite puzzling. Surely another interpretation is available. That is, the implication that in Kant’s philosophy, rationality can only apply to white, European males does not seem to be the only alternative. The problem seems to lie in the requirement of abstraction. There are two ways of looking at the abstraction requirement that I think are faithful to Kant’s text and that overcome the criticisms of this requirement. First, the abstraction requirement may be best understood as a demand for intersubjectivity or recognition. Second, it may be understood as an attempt to avoid ethical egoism in determining maxims for our actions. It is unfortunate that Kant never worked out a theory of intersubjectivity, as did his successors Fichte and Hegel. However, this is not to say that there is not in Kant’s philosophy a tacit theory of intersubjectivity or recognition. The abstraction requirement simply demands that in the midst of our concrete differences we recognize ourselves in the other and the other in ourselves. That is, we recognize in others the humanity that we have in common. Recognition of our common humanity is at the same time recognition of rationality in the other. We recognize in the other the capacity for selfdetermination and the capacity to legislate for a kingdom of ends. This brings us to the second interpretation of the abstraction requirement. To avoid ethical egoism one must abstract from (think beyond) one’s own personal interest and subjective maxims. That is, the categorical imperative requires that I recognize that I am a member of the realm of rational beings. Hence, I organize my maxims in consideration of other rational beings. Under such a principle other people cannot be treated merely as a means for my end but must be treated as ends in themselves. The merit of the categorical imperative for a philosophy of race is that it contravenes racist ideology to the extent that racist ideology is based on the use of persons of a different race as a means to an end rather than as ends in themselves. Embedded in the formulation of an end in itself and the formula of the kingdom of ends is the recognition of the common hope for humanity. That is, maxims ought to be chosen on the basis of an ideal, a hope for the amelioration of humanity. This ideal or ethical commonwealth (as Kant calls it in the Religion) is the kingdom of ends.34 Although the merits of Kant’s moral theory may be recognizable at this point, we are still in a bit of a bind. It still seems problematic that the moral theory of a racist is essentially an antiracist theory. Further, what shall we do with Henry Louis Gates’s suggestion that we use the Observations on the Feeling of the Beautiful and Sublime to deconstruct the Grounding? What I have tried to suggest is that instead of abandoning the categorical imperative we should attempt to deepen our understanding of it and its place in Kant’s critical philosophy. A deeper reading of the Grounding and Kant’s philosophy in general may produce the deconstruction35 suggested by Gates. However, a text is not necessarily deconstructed by reading it against another. Texts often deconstruct themselves if read properly. To be sure, the best way to understand a text is to read it in context. Hence, if the Grounding is read within the context of the critical philosophy, the tools for a deconstruction of the text are provided by its context and the tensions within the text. Gates is right to suggest that the Grounding must be deconstructed. However, this deconstruction requires much more than reading the Observations on the Feeling of the Beautiful and Sublime against the Grounding. It requires a complete engagement with the critical philosophy. Such an engagement discloses some of Kant’s very signiﬁcant claims about humanity and the practical role of reason. With this disclosure, deconstruction of the Grounding can begin. What deconstruction will reveal is not necessarily the inconsistency of Kant’s moral philosophy or the racist or sexist nature of the categorical imperative, but rather, it will disclose the disunity between Kant’s theory and his own feelings about blacks and women. Although the theory is consistent and emancipatory and should apply to all persons, Kant the man has his own personal and moral problems. Although Kant’s attitude toward people of African descent was deplorable, it would be equally deplorable to reject the categorical imperative without ﬁrst exploring its emancipatory potential.

### Affirm

#### IP is an encroachment on the intellectual commons – expansionist tendencies threaten discursive expression and the cultivation of potentiality.

Barron 11 [Anne Barron (Law Department, London School of Economics and Political Science). ”Kant, copyright and communicative freedom.” Law and philosophy. pp. 1- 48. 2011. Accessed 8/22/21. <http://eprints.lse.ac.uk/37521/1/Kant_Copyright_and_Communicative_Freedom_%28lsero%29.pdf> //Xu]

This assumption is contested in a large literature (and an associated political movement) that has emerged by way of a backlash against IP expansionism and the hegemony of its justificatory theory. Here the category of the ‘public domain’ plays a key role. In ordinary parlance, information is said to be in the public domain when it is publicly available, i.e. not secret. In the context of the contemporary resistance to IP expansionism, however, it generally refers to “information resources that are unencumbered by intellectual property rights”5 as well as being publicly available in that sense. Defenders of this public domain argue strenuously against its colonization via the ‘second enclosure movement’6 that they claim is represented by IP expansionism and legitimated by neoclassical economic theory. They argue for a positive re-valuation of non-propertized ‘information resources’: overcoming the negative representation of the public domain as a kind of wasteland, “a sad jumble of things that don’t deserve to be protected by intellectual property laws or … a netherworld where old information goes to die,”7 as one sympathetic commentator has put it. There is now a well-established tendency to conceptualize the public domain as a kind of cultural ‘environment,’8 which in turn has yielded calls for strategies of ‘environmental preservation’ analogous to those around which the environmental movement took shape in the 1970s. Yet these tendencies are frequently underpinned by concerns to emphasize the economic value of the public domain and the inefficiencies that can result from privatizing its contents, and this tends only to reinforce liberal-utilitarianism’s hegemony as the privileged lens through which to view copyright law and the fields that it affects.9 So while it is easy to be sympathetic towards the general ambition underlying these arguments, the arguments themselves have not so far been premised on a particularly rich understanding of what ‘culture’ is, what its social dynamics are, and what exactly, therefore, is threatened by IP expansionism in general and copyright expansionism in particular. This article forms part of an ongoing project to address these questions. One promising starting point from which to begin to address them is the idea that an author is a kind of speaker (i.e. one who creates works with a view to communicating with a public), that ‘culture’ is the realm in which dialogue between speakers occurs, and that copyright law rightly forms part of the legal framework that facilitates this dialogue. Theorists of copyright law who adopt this starting point frequently assume that authorial rights (as well as limits on these rights) are legitimated by a more general individual right to freedom of expression, with copyright law – as the United States Supreme Court famously put it in 1985 – serving as the ‘engine’ of free expression by establishing marketable rights in expressive products.10 On this standard liberal view, culture is envisioned on the model of a ‘marketplace of ideas’, underpinned by an actual market in authors’ works, which in turn is underpinned in various ways by law. In so far as copyright law helps to produce the conditions in which competitive markets in authors’ works can flourish, it is said to be consistent with freedom of expression.11 Its recent expansionary tendencies – which have made copyrights ever less like the limited property rights they were originally designed to be, and ever more like rights of absolute dominion over intellectual creations – have yielded a standard diagnosis of how copyright law can threaten freedom of expression. Given the oligopolistic structure of markets for cultural commodities, bloated copyrights produce a ‘permission culture’ that chills expression (since permission to use copyright material as raw material for follow-on creativity “is not often granted to the critical or independent”).12 The negative liberty of individuals is thereby endangered; some have argued that space for the self-cultivation of each individual’s potentialities (‘autonomy’ as understood within the tradition that includes J.S. Mill and Joseph Raz) is also restricted.13 Consequently, the benefits that accrue to society as a whole from the clamour of competing claims and perspectives – a diversity of opinions and forms of creativity, information which is reliable because tested in the heat of public debate, the dissemination of knowledge, a more effective democracy – are diminished. From the perspective of this liberalism, a free culture emerges from the freedoms of individuals to say what they choose to say and experience what others choose to say, unhindered in either dimension by intellectual property rights unless aggregate welfare (or on the Razian view, liberal-democratic culture as a ‘common good’)14 is thereby advanced.

#### The right of necessity proves that unequal access to medications because of exclusive IP is non-universalizable – 2 warrants.

Silk 5/3 [Matthew S.W. Silk (PhD in philosophy from the University of Waterloo. His research specializes in philosophy of science and the nature of values. He has also published on the history of pragmatism and the work of John Dewey). “COVID-19 Vaccines and Drug Patent Laws”. The Prindle Post. May 3, 2021. Accessed 8/24/21. <https://www.prindlepost.org/2021/05/covid-19-vaccines-and-drug-patent-laws/> //Xu]

Most agree that it is permissible for a starving man to ‘steal’ a loaf of bread in order to save his own life. However, there are two very different explanations that one can give of that permissibility. On the one hand, you might think that while taking the bread is indeed an act of theft, that act of theft can be justified since it is necessary for the man to save his own life. On this view, the starving man violates the property rights of the baker, but such right violations are justified in order to save a life. On the other hand, you might think that the man is justified in taking the bread because, to use Aquinas’s language, it is not even “properly speaking theft.” According to this view, it is not that you are justified in violating someone’s property rights. Rather, the other person does not have a property right over the bread in the first place. If the baker has a surplus and there are others in true need, then the baker does not have a property right against them. Philosophers who take this second view, including Thomas Aquinas, Hugo Grotius, Samuel Puffendorf, and Alejandra Mancilla, believe in a right of necessity, a right to that which is necessary to survive. There are many different arguments that one can give for a right of necessity. One argument, inspired by Puffendorf, is that you cannot justify to everyone a system of property that allows some to starve. What justification could you give to the starving man for why they should consent to, or accept, a system of property in which they die? Being dead, they will not receive any benefits of the system. Another argument, this one inspired by Aquinas, is that we create systems of private property so that everyone can more efficiently acquire those goods necessary for their well-being. Nature originally belongs equally to everyone, and we divide it up into private property because it enables everyone to secure their well-being more easily. However, since private property is created to enable everyone to more easily secure that natural right, private property cannot contradict the natural right of people to that which they need to survive. The Right of Necessity and Intellectual Property If there is a right of necessity, what implication would that have for intellectual property rights over life-saving medication? Life-saving medication, almost by definition, is often necessary for survival. Thus, if the right to necessity justifies stealing bread from those who have extra, so too it would seem to justify stealing a vial of unaffordable medication. Similarly, if I can steal an unaffordable vial of life-saving medication to save a life, then it would be strange to think I cannot violate an international patent to create that life-saving vial. It seems, then, that if we accept the old doctrine that there exists a right of necessity, it would have profound implications for the justice of intellectual property law. Nations, according to such reasoning, possess a natural right to break patents if it is necessary to produce life-saving medication for those who could otherwise not afford them. (The affordability qualification is an important one. Just as it would be theft for me, who can afford to buy food, to steal a loaf of bread. So too it would be unjust to violate international patents for patients who can otherwise afford to buy the medication.) But even with the affordability qualification in place, there is currently a huge problem of access to life-saving medications by the global poor. As such, the right of necessity suggests a standing right to break many international medical patents.

#### Intellectual objects are constituted by universal accessibility – traditional conceptions of property don’t apply.

Kanning 12 [Michael A. Kanning (Graduate School at University of South Florida). “A Philosophical Analysis of Intellectual Property: In Defense of Instrumentalism”. A thesis submitted in partial fulfillment of the requirements for the degree of Master of Arts Department of Philosophy College of Arts and Sciences University of South Florida. January 2012. Accessed 8/22/21. <https://digitalcommons.usf.edu/cgi/viewcontent.cgi?referer=&httpsredir=1&article=5290&context=etd> //Xu]

By distinguishing between traditional property and intellectual property, we can see that the kinds of things covered by intellectual property are capable of universal accessibility, meaning that use by one person does not preclude the enjoyment of other possessors of tokens of the same type. For me to scan and copy my token copy of Lolita and give it to someone else does not reduce my ability to enjoy my token copy of Lolita. In fact, sharing of the work would probably help me enjoy the work even more as I could engage in dialogue and interpretation of the text in unison with others. My ownership of my bicycle, on the other hand, is different. If I give my bicycle to you to ride, I can no longer enjoy it in the same way. Your possession and use of the bicycle is exclusive in that your use excludes usage by others. As Trerise (123) notes, this distinction between token and type is not philosophically unproblematic. One could challenge the claim that intellectual property involves ownership of types. Nonetheless, in this simple form it helps make clear a fundamental distinction between traditional conceptions of property over land and material objects and the kind of ownership of abstract objects that occurs in intellectual property.

### Method

#### 1] 1AR theory is legit – anything else means infinite abuse

#### – drop the debater – 1AR is too short to make up for the time trade-off

#### – no RVIs – 6 min 2NR means they can brute force me every time

#### – competing interps – reasonability narrows the theory debate to one issue of brightline, making it easy for the Neg to collapse to the issue in the long 2NR

#### – 1AR theory is the highest layer – the NC has 7 minutes to be abusive and 6 minutes to leverage the abuse against 1A theory in the 2N, making checking abuse lexically impossible

#### 2] Give me new weighing in the 2AR for 1AR shells – I don’t know what arguments will be read in the 2NR so 1AR weighing is impossible as I don’t know what to weigh against.

#### 3] Affirm if I win offense to a counterinterp

#### A] Timeskew – 6 Minute 2NR with collapse to whatever I undercover means that you can win theory and substance, but I need to go for both in half the time and split it between the 2 layers.

#### B] Reciprocity – you get T and theory so I should get theory and an RVI to make the burden reciprocal.

#### 4] Nothing in the 1AC has triggered it, but Presumption and permissibility affirm –

#### a) We always default to assuming something true until proven false ie if I told you my name is Daniel you would believe me

#### b) empirics

**Shah 19,**[Shah, Sachin. “A STATISTICAL ANALYSIS OF SIDE-BIAS ON THE 2019 JANUARY-FEBRUARY LINCOLN-DOUGLAS DEBATE TOPIC.” NSD Update, National Symposium of Debate, 16 Feb. 2019, <http://nsdupdate.com/2019/a-statistical-analysis-of-side-bias-on-the-2019-january-february-lincoln-douglas-debate-topic/> ]//LHPSS accessed 9/4/19

As a final note, it is also interesting to look at the trend over multiple topics. In the rounds **from** 93 TOC bid distributing tournaments (**2017 – 2019** YTD), **the neg**ative **won 52.99% of ballots** (**p-value < 0.0001)** and 54.63% of upset rounds (p-value < 0.0001). **This suggests the bias might be structural, and not topic specific, as this data spans six different topics.**

#### 5] give both debaters 30 speaks

### Adv

#### Plan – The member nations of the World Trade Organization ought to reduce intellectual property protections for medicines by implementing a one-and-done approach. Spec and definitions in doc.

The – “used to point forward to a following qualifying or defining clause or phrase”. Google. <https://www.google.com/search?q=the+definition&rlz=1C1CHBF_enUS877US877&oq=the+definition&aqs=chrome.0.69i59j69i64j69i61j69i60l2.2103j0j7&sourceid=chrome&ie=UTF-8>

member nations of the World Trade Organization – it’s a term of art so put away your aprioris – we will defend official list – <https://www.wto.org/english/thewto_e/whatis_e/tif_e/org6_e.htm>

Ought – “used to express obligation”. Merriam Webster. <https://www.merriam-webster.com/dictionary/ought>

To – “used as a function word to indicate application or attention”. Merriam Webster. <https://www.merriam-webster.com/dictionary/to>

Reduce – “bring someone or something to (a lower or weaker state, condition, or role)” – Google. <https://www.google.com/search?q=reduce+definition&rlz=1C1CHBF_enUS877US877&oq=reduce+definition&aqs=chrome.0.69i59l2j69i60l2.3332j0j7&sourceid=chrome&ie=UTF-8>

Intellectual property protections – it’s a term of art – “Intellectual property rights are the rights given to persons over the creations of their minds. They usually give the creator an exclusive right over the use of his/her creation for a certain period of time”. WTO. https://www.wto.org/english/tratop\_e/trips\_e/intel1\_e.htm

For – “used as a function word to indicate an intended goal”. Merriam Webster. <https://www.merriam-webster.com/dictionary/for>

Medicines – “the science or practice of the diagnosis, treatment, and prevention of disease”. Google. <https://www.google.com/search?q=medicines+definition&rlz=1C1CHBF_enUS877US877&oq=medicines+&aqs=chrome.2.69i59l4j69i60l3.1898j0j7&sourceid=chrome&ie=UTF-8>

Feldman 19 Robin Feldman 2-11-2019 "‘One-and-done’ for new drugs could cut patent thickets and boost generic competition" <https://www.statnews.com/2019/02/11/drug-patent-protection-one-done/> (Arthur J. Goldberg Distinguished Professor of Law, Albert Abramson ’54 Distinguished Professor of Law Chair, and Director of the Center for Innovation)//SidK + Elmer

I believe that one period of protection **should be enough**. We should make the legal changes necessary to prevent companies **from building patent walls** and piling up mountains of rights. This could be accomplished **by a “one-and-done” approach** for patent protection. Under it, a drug would receive just one period of exclusivity, and no more. The choice of which “one” could be left entirely in the hands of the pharmaceutical company, with the election made when the FDA approves the drug. Perhaps development of the drug went swiftly and smoothly, so the remaining life of one of the drug’s patents is of greatest value. Perhaps development languished, so designation as an orphan drug or some other benefit would bring greater reward. The choice would be up to the company itself, based on its own calculation of the maximum benefit. The result, however, is that a pharmaceutical company chooses whether its period of exclusivity would be a patent, an orphan drug designation, a period of data exclusivity (in which no generic is allowed to use the original drug’s safety and effectiveness data), or something else — but **not all of the above** and more. Consider Suboxone, a combination of buprenorphine and naloxone for treating opioid addiction. The drug’s maker has extended its protection cliff eight times, including obtaining an orphan drug designation, which is intended for drugs that serve only a small number of patients. The drug’s first period of exclusivity ended in 2005, but with the additions its protection now lasts until 2024. That makes almost two additional decades in which the public has borne the burden of monopoly pricing, and access to the medicine may have been constrained. Implementing a one-and-done approach in conjunction with FDA approval underscores the fact that these problems and solutions are designed for pharmaceuticals, not for all types of technologies. That way, one-and-done could be implemented through **legislative changes to the FDA’s drug approval system**, and would apply to patents granted going forward. One-and-done would apply to both patents and exclusivities. A more limited approach, a baby step if you will, would be to invigorate the existing patent obviousness doctrine as a way to cut back on patent tinkering. Obviousness, one of the five standards for patent eligibility, says that inventions that are obvious to an expert or the general public can’t be patented. Either by congressional clarification or judicial interpretation, many pile-on patents could be eliminated with a ruling that the core concept of the additional patent is nothing more than the original formulation. Anything else is merely an obvious adaptation of the core invention, modified with existing technology. As such, the patent would fail for being perfectly obvious. Even without congressional action, a more vigorous and robust application of the existing obviousness doctrine could significantly improve the problem of piled-up patents and patent walls. Pharmaceutical companies have become adept at maneuvering through the system of patent and non-patent rights to create mountains of rights that can be applied, one after another. This behavior lets drug companies keep competitors out of the market and beat them back when they get there. We shouldn’t be surprised at this. Pharmaceutical companies are profit-making entities, after all, that face pressure from their shareholders to produce ever-better results. If we want to change the system, we must change the incentives driving the system. And right now, the incentives for creating patent walls are just too great.

#### We are in an innovation crisis – new drugs are not being developed in favor of re-purposing old drugs to infinitely extend patent expiration.

Feldman 2 Robin Feldman 2-11-2019 "‘One-and-done’ for new drugs could cut patent thickets and boost generic competition" <https://www.statnews.com/2019/02/11/drug-patent-protection-one-done/> (Arthur J. Goldberg Distinguished Professor of Law, Albert Abramson ’54 Distinguished Professor of Law Chair, and Director of the Center for Innovation)//SidK + Elmer

Drug companies **have brought great innovations** to market. Society rewards innovation with patents, or with non-patent exclusivities that can be obtained for activities such as testing drugs in children, undertaking new clinical studies, or developing orphan drugs. The rights provided by patents or non-patent exclusivities provide a defined time period of protection so companies can recoup their investments by charging monopoly prices. When patents end, lower-priced competitors should be able to jump into the market and drive down the price. **But that’s not happening**. Instead, drug companies build massive patent walls around their products, extending the protection **over and over again**. Some modern drugs have an avalanche of U.S. patents, with expiration dates **staggered across time**. For example, the rheumatoid arthritis drug Humira is **protected by more than 100 patents**. Walls like that **are insurmountable**. Rather than rewarding innovation, our patent system is now largely repurposing drugs. Between 2005 and 2015, **more than three-quarters** of the drugs associated with new patents **were not new ones** coming on the market but existing ones. In other words, we are mostly churning and recycling. Particularly troubling, new patents can be **obtained on minor tweaks** such as adjustments to dosage or delivery systems — a once-a-day pill instead of a twice-a-day one; a capsule rather than a tablet. Tinkering like this may have some value to some patients, but it nowhere near justifies the rewards we lavish on companies for doing it. From society’s standpoint, incentives should drive scientists back to the lab to look for new things, not to recycle existing drugs for minimal benefit.

#### Reforming the Patent Process would lower Drug Prices and incentivize Pharma Innovation by revitalizing the Market.

Stanbrook 13, Matthew B. "Limiting “evergreening” for a better balance of drug innovation incentives." (2013): 939-939. (MD (University of Toronto) PhD (University of Toronto))//Elmer

At issue in the Indian case was “evergreening,” a now widespread practice by the pharmaceutical industry designed to extend the monopoly on an existing drug by modifying it and seeking new patents.2 Currently, half of all drugs patented in Canada have multiple subsequent patents, extending the lifetime of the original patent by about 8 years.3 Manufacturers, in defence of these practices, predictably tout the advantages of new versions of their products, which often represent more potent isomers or salts of the original drugs, longer-lasting formulations or improved delivery systems that make adherence easier or more convenient. But the new versions are by definition “**me too” drugs**, and demonstration that the resulting **incremental benefits** in efficacy and safety are clinically meaningful **is often lacking**. Moreover, the original drugs have often been “blockbusters” used for years to improve the health of millions of patients. It seems hard to argue convincingly why such beneficial drugs require an upgrade, often just before their patents expire. Rather than the marginal benefits accrued from tinkering with already effective agents, patients worldwide are in desperate need of new classes of pharmaceuticals for the great many health conditions for which treatments are presently inadequate or entirely lacking. But developing truly innovative drugs is undeniably a high-risk venture. It is important and necessary that pharmaceutical companies continue to take these risks, because they are usually the only entities with sufficient resources to do so. Therefore, companies must continue to perceive **sufficient incentives** to continue investing in innovation. Indeed, there is evidence that the prospect of future evergreening has become part of the incentive calculation for innovative drug development.4 But surely it is perverse to extend unpredictably a period of patent protection that the government intended to be clearly defined and predictable, and to maintain incentives that drive companies to divert their **drug-development resources away from innovation**. **Current patent legislation may not be optimal** for striking the right balance between encouraging innovation and facilitating profiteering. Given the broad societal importance of patent legislation, ongoing research to enable active governance of this issue should be a national priority. In the last decade, Canada’s laws have been among the friendliest toward evergreening in the world.5 We should now reflect on whether this is really in our national interest. Governments, including Canada’s, would do well to take inspiration from India’s example and tighten regulations that currently facilitate evergreening. This might involve **denying future patents for modifications** that currently would receive one. An overall reduction in the duration of all secondary patents on a therapy might also be considered. Globally, a more flexible and individualized approach to the length of drug patents might be a more effective strategy to align corporate incentives with population health needs. Limits on evergreening would likely reduce the **extensive patent litigation** that contributes to the **high prices of generic drugs** in Canada.3 Reducing economic pressure on generic drug companies may facilitate current provincial initiatives to lower generic drug prices. As opportunities to generate revenue from evergreening are eliminated, research-based pharmaceutical companies would be left with no choice but to invest more in innovative drug development to maintain their profits.

#### Only innovation now solves AMR super-bugs -- timeframe’s key.

Sobti 19 [Dr. Navjot Kaur Sobti is an internal medicine resident physician at Dartmouth-Hitchcock-Medical Center/Dartmouth School of Medicine and a member of the ABC News Medical Unit. May 1, 2019. “Amid superbug crisis, scientists urge innovation”. <https://abcnews.go.com/Health/amidst-superbug-crisis-scientists-urge-innovation/story?id=62763415>] Dhruv

[The United Nations](https://abcnews.go.com/Politics/amal-clooney-angelina-jolie-speak-us-weighed-vetoing/story?id=62574726) has called antimicrobial resistance a “global crisis.” With the [rise in superbugs](https://abcnews.go.com/Health/superbug-fungus-global-health-threat-600-us-infected/story?id=62297532) across the globe, common infections are becoming harder to treat, and lifesaving procedures riskier to perform. Drug-resistant infections result in about 700,000 deaths per year, with at least 230,000 of those deaths due to multidrug resistant tuberculosis, [according to a groundbreaking report from the World Health Organization (WHO).](https://www.who.int/antimicrobial-resistance/interagency-coordination-group/IACG_final_report_EN.pdf?ua=1) Given that antibiotic resistance is present in every country, antimicrobial resistance (AMR) now represents a global health crisis, according to the UN, which has urged immediate, coordinated and global action to prevent a potentially devastating health and financial crisis. With the rising rates of AMR -- including antivirals, antibiotics, and antifungals -- estimates from the WHO show that AMR may cause 10 million deaths every year by 2050, send 24 million people into extreme poverty by 2030, and lead to a financial crisis as severe as the on the U.S. experienced in 2008. Antimicrobial resistance develops when germs like bacteria and fungi are able to “defeat the drugs designed to kill them,” according to the Centers for Disease Control and Prevention. Through a biologic “survival of the fittest,” germs that are not killed by antimicrobials and continue to grow. WHO explains that “poor infection control, inadequate sanitary conditions and inappropriate food handling encourage the spread” of AMR, which can lead to “superbugs.” Those superbugs require powerful and oftentimes more expensive antimicrobials to treat. Examples of superbugs are far and wide, and can range from drug-resistant bacteria like Pseudomonas aeruginosa and Staphylococcus aureus to fungi like Candida. These bugs can cause illnesses that range from pneumonia to urinary tract and sexually transmitted infections. According to the WHO, AMR has caused complications for nearly 500,000 people with tuberculosis, and a number of people with HIV and malaria. The people at the [highest risk for AMR](https://www.who.int/news-room/detail/27-02-2017-who-publishes-list-of-bacteria-for-which-new-antibiotics-are-urgently-needed) are those with chronic diseases, people living in nursing homes, hospitalized in the ICU or undergoing life-saving treatments such as organ transplantation and cancer therapy. These people often develop infections, which can become antimicrobial-resistant, rendering them difficult, if not impossible, to treat. [(MORE: Melissa Rivers talks about her father's suicide with Dr. Jennifer Ashton)](https://abcnews.go.com/Health/melissa-rivers-talks-fathers-suicide-dr-jennifer-ashton/story?id=62733179&cid=clicksource_26_null_headlines_hed) The CDC notes that “antibiotic resistance has the potential to affect people at any stage of life,” including the “healthcare, veterinary, and agriculture industries, making it one of the world’s most urgent public health problems." AMR can cause prolonged hospital stays, billions of dollars in healthcare costs, disability, and potentially, death. “The most important thing is to understand and embrace the interconnectedness of all of this,” said Dr. Robert Redfield, director of the CDC, in a recent interview with ABC News’ Dr. Jennifer Ashton. It’s not just our countries that are connected.” Research has shown that superbugs like Candida auris “came from multiple places, at the same time. It wasn’t just one organism that [evolved]” in a single location, Redfield added. Given longstanding concerns about antimicrobial misuse leading to AMR, physicians have embraced a medical approach called antibiotic stewardship. This encourages physicians to carefully evaluate which antibiotic is most appropriate for their patient, and discontinue it once it is no longer medically needed. WHO has also highlighted that the inappropriate use of antimicrobials in agriculture -- such as on farms and in animals -- may be an underappreciated cause of AMR. Noting these trends, the WHO has urged for “coordinated action...to minimize the emergence and spread of antimicrobial resistance.” It urges all countries to make national action plans, with a focus on the development of new antimicrobial medications, vaccines, and careful antimicrobial use. Redfield emphasized the importance of vaccination during the global superbug crisis, stating that “the only way we have to eliminate an infection is vaccination.” He added that investing in innovation is key to solving the crisis. While WHO continues to advocate for superbug awareness, they warn that AMR has reversed “a century of progress in health.” The WHO added that “the challenges of antimicrobial resistance” are “not insurmountable,” and that coordinated action will “help to save millions of lives, preserve antimicrobials for generations to come and secure the future from drug-resistant diseases.”

#### Extinction - generic defense doesn’t apply.

Srivatsa 17 Kadiyali Srivatsa 1-12-2017 “Superbug Pandemics and How to Prevent Them” <https://www.the-american-interest.com/2017/01/12/superbug-pandemics-and-how-to-prevent-them/> (doctor, inventor, and publisher. He worked in acute and intensive pediatric care in British hospitals)//Elmer

It is by now no secret that the human species is locked in a race of its own making with “superbugs.” Indeed, if popular science fiction is a measure of awareness, the theme has pervaded English-language literature from Michael Crichton’s 1969 Andromeda Strain all the way to Emily St. John Mandel’s 2014 Station Eleven and beyond. By a combination of massive inadvertence and what can only be called stupidity, we must now invent new and effective antibiotics faster than deadly bacteria evolve—and regrettably, they are rapidly doing so with our help. I do not exclude the possibility that bad actors might deliberately engineer deadly superbugs.1 But even if that does not happen, humanity faces an existential threat largely of its own making in the absence of malign intentions. As threats go, this one is entirely predictable. The concept of a “black swan,” Nassim Nicholas Taleb’s term for low-probability but high-impact events, has become widely known in recent years. Taleb did not invent the concept; he only gave it a catchy name to help mainly business executives who know little of statistics or probability. Many have embraced the “black swan” label the way children embrace holiday gifts, which are often bobbles of little value, except to them. But the threat of inadvertent pandemics is not a “black swan” because its probability is not low. If one likes catchy labels, it better fits the term “gray rhino,” which, explains Michele Wucker, is a high-probability, high-impact event that people manage to ignore anyway for a raft of social-psychological reasons.2 A pandemic is a quintessential gray rhino, for it is no longer a matter of if but of when it will challenge us—and of how prepared we are to deal with it when it happens. We have certainly been warned. The curse we have created was understood as a possibility from the very outset, when seventy years ago Sir Alexander Fleming, the discoverer of penicillin, predicted antibiotic resistance. When interviewed for a 2015 article, “The Most Predictable Disaster in the History of the Human Race, ” Bill Gates pointed out that one of the costliest disasters of the 20th century, worse even than World War I, was the Spanish Flu pandemic of 1918-19. As the author of the article, Ezra Klein, put it: “No one can say we weren’t warned. And warned. And warned. A pandemic disease is the most predictable catastrophe in the history of the human race, if only because it has happened to the human race so many, many times before.”3 Even with effective new medicines, if we can devise them, we must contain outbreaks of bacterial disease fast, lest they get out of control. In other words, we have a social-organizational challenge before us as well as a strictly medical one. That means getting sufficient amounts of medicine into the right hands and in the right places, but it also means educating people and enabling them to communicate with each other to prevent any outbreak from spreading widely. Responsible governments and cooperative organizations have options in that regard, but even individuals can contribute something. To that end, as a medical doctor I have created a computer app that promises to be useful in that regard—of which more in a moment. But first let us review the situation, for while it has become well known to many people, there is a general resistance to acknowledging the severity and imminence of the danger. What Are the Problems? Bacteria are among the oldest living things on the planet. They are masters of survival and can be found everywhere. Billions of them live on and in every one of us, many of them helping our bodies to run smoothly and stay healthy. Most bacteria that are not helpful to us are at least harmless, but some are not. They invade our cells, spread quickly, and cause havoc that we refer to generically as disease. Millions of people used to die every year as a result of bacterial infections, until we developed antibiotics. These wonder drugs revolutionized medicine, but one can have too much of a good thing. Doctors have used antibiotics recklessly, prescribing them for just about everything, and in the process helped to create strains of bacteria that are resistant to the medicines we have. We even give antibiotics to cattle that are not sick and use them to fatten chickens. Companies large and small still mindlessly market antimicrobial products for hands and home, claiming that they kill bacteria and viruses. They do more harm than good because the low concentrations of antimicrobials that these products contain tend to kill friendly bacteria (not viruses at all), and so clear the way for the mass multiplication of surviving unfriendly bacteria. Perhaps even worse, hospitals have deployed antimicrobial products on an industrial scale for a long time now, the result being a sharp rise in iatrogenic bacterial illnesses. Overuse of antibiotics and commercial products containing them has helped superbugs to evolve. We now increasingly face microorganisms that cannot be killed by antibiotics, antifungals, antivirals, or any other chemical weapon we throw at them. Pandemics are the major risk we run as a result, but it is not the only one. Overuse of antibiotics by doctors, homemakers, and hospital managers could mean that, in the not-too-distant future, something as simple as a minor cut could again become life-threatening if it becomes infected. Few non-medical professionals are aware that antibiotics are the foundation on which nearly all of modern medicine rests. Cancer therapy, organ transplants, surgeries minor and major, and even childbirth all rely on antibiotics to prevent infections. If infections become untreatable we stand to lose most of the medical advances we have made over the past fifty years. And the problem is already here. In the summer of 2011, a 43-year-old woman with complications from a lung transplant was transferred from a New York City hospital to the Clinical Center at the National Institutes of Health (NIH), in Bethesda, Maryland. She had a highly resistant superbug known as Klebsiella pneumoniae carbapenemase (KPC). The patient was treated and eventually discharged after doctors concluded that they had contained the infection. A few weeks later, a 34-year-old man with a tumor and no known link to the woman contracted KPC while at the hospital. During the course of the next few months, several more NIH patients presented with KPC. Doctors attacked the outbreak with combinations of antibiotics, including a supposedly powerful experimental drug. A separate intensive care unit for KPC patients was set up and robots disinfected empty rooms, but the infection still spread beyond the intensive care area. Several patients died and then suddenly all was silent on the KPC front, with doctors convinced they had seen the last of the dangerous bacterium. They couldn’t have been more mistaken. A year later, a young man with complications from a bone marrow transplant arrived at NIH. He became infected with KPC and died. This superbug is now present in hospitals in most, if not all U.S. states. This is not good. This past year an outbreak of CRE (carbapenem-resistant enterobacteriaceae) linked to contaminated medical equipment infected 11 patients and killed two in Los Angeles area hospitals. This family of bacteria has evolved resistance to all antibiotics, including the powerful carbapenem antibiotics that are often used as a last resort against serious infections. They are now so resilient that it is virtually impossible to remove them from medical tools such as catheters and breathing tubes placed into the body, even after cleaning. Then we have gonorrhea, chlamydia, and other sexually transmitted diseases that we cannot treat and that are spreading all over the world. Anyone who has sex can catch these infections, and because most people may not exhibit any symptoms they spread infections without anyone knowing about it. Sexually transmitted diseases used to be treatable with antibiotics, but in recent years we have witnessed the rise of multi-drug resistant STDs. Untreated gonorrhea can lead to infertility in men and women and blindness and other congenital defect in babies. As is well known, too, we have witnessed many cases of drug-resistant pneumonia. These problems have arisen in part because of simple mistakes healthcare professionals repeatedly make. Let me explain. Neither superbugs nor common bacterial infections produce any special symptoms indicative of their cause. Rashes, fevers, sneezing, runny noses, ear pain, diarrhea, vomiting, coughing, fatigue, and weakness are signs of common and minor illnesses as well as uncommonly deadly ones. Therefore, the major problem for clinicians is to identify a common symptom that may potentially be an early sign of a major infection that could result in an epidemic. We know that dangerous infections in any given geographical area do not start at the same time. They start with one victim and gradually spread. But that victim is only one among hundreds of patients a doctor will typically see, so many doctors will miss patients presenting with infections that are serious. They will probably identify diseases that kill fast, but slow-spreading infections such as skin infections that can lead to septicemia are rarely diagnosed early. In addition, I have seen doctors treating eczema with antibiotic cream, even though they know that bacteria are resistant to the majority of these drugs. This sort of action encourages simple infections to spread locally, because patients are therefore not instructed to take other, more useful precautions. On top of that, some people are frivolous about infections and assume doctors are exaggerating the threat. And some people are selfish. Once I was called to see a passenger during a flight who had symptoms consistent with infection. He boarded the plane with these symptoms, but began to feel much worse during the flight. I was scared, knowing how infections such as Ebola can spread. This made me think about a way to screen passengers before they board a flight. Airlines could refund a traveler’s ticket, or issue a replacement, in case of sickness—which is not the policy now. We currently have no method to block infectious travelers from boarding flights, and there are no changes in the incentive system to enable conscientious passengers to avoid losing their money if they responsibly miss a flight because of illness. Speaking of selfishness, I once saw a mother drop her daughter off at school with a serious bout of impetigo on her face. When I asked her why she had brought her daughter to school with a contagious infection, she said she could not spare the time to keep her at home or take her to the doctor. By allowing this child to contact other children, a simple infection can become a major threat. Fortunately, I could see the rash on the girl’s face, but other kids in schools may have rashes we cannot see. Incorrect diagnosis of skin problems and mistaken use of antibiotics to treat them is common all over the world, and so we are continually creating superbugs in our communities. Similarly, chest infections, sore throats, and illnesses diagnosed as colds that unnecessarily treated with antibiotics are also a major threat. By prescribing antibiotics for viral infections, we are not only helping bacteria develop resistance, but we are also polluting the environment when these drugs are passed in urine and feces. All of this helps resistant bacteria to spread in the community and become an epidemic. Ebola is very difficult to transmit because people who are contagious have visible and unusual symptoms. However, the emerging infections and pandemics of the future may not have visible symptoms, and they could break out in highly populous countries such as India and China that send thousands of travelers all over the world every day. When a person is infected with a contagious disease, he or she can expect to pass the illness on to an average of two people. This is called the “reproduction number.” Two is not that high a number as these things go; some diseases have far greater rates of infection. The SARS virus had a reproduction number of four. Measles has a reproduction number of 18. One person traveling as an airplane passenger and carrying an infection similar to Ebola can infect three to five people sitting nearby, ten if he or she walks to the toilet. The study that highlighted this was published in a medical journal a few years ago, but the airline industry has not implemented any changes or introduced screening to prevent the spread of infections by air travel passengers, a major vehicle for the rapid spread of disease. It is scary to think that nobody knows what will happen when the world faces a lethal disease we’re not used to, perhaps with a reproduction number of five or eight or even ten. What if it starts in a megacity? What if, unlike Ebola, it’s contagious before patients show obvious symptoms? Past experience isn’t comforting. In 2009, H1N1 flu spread around the world before we even knew it existed. The Questions Remains Why do seemingly intelligent people repeatedly do such collectively stupid things? How did we allow this to happen? The answer is disarmingly simple. It is because people are incentivized to prioritize short-term benefits over long-term considerations. It is what social scientists have called a “logic of collective action” problem. Everyone has his or her specialized niche interest: doctors their patients’ approval, business and airline executives their shareholders’ earnings, hospitals their reputations for best-practice hygienics, homemakers their obligation to keep their own families from illness. But no one owns the longer-term consequences for hundreds of millions of people who are irrelevant to satisfying these short-term concerns. Here is an example. At a recent Superbug Super Drug conference in London that I attended, scientists, health agencies, and pharmaceutical companies were vastly more concerned with investing millions of dollars in efforts to invent another antibiotic, claiming that this has to be the way forward. Money was the most pressing issue because, as everyone at the conference knew, for many years pharmaceutical companies have been pulling back from antibiotics research because they can’t see a profit in it. Development costs run into billions of dollars, yet there is no guarantee that any new drug will successfully fight infections. At the same conference Dr. Lloyd Czaplewski spoke about alternatives to antibiotics, in case we cannot come up with new ones fast enough to outrun superbug evolution. But he omitted mention of preventive strategies that use the internet or communication software to help reduce the spread of infections among families, communities, and countries. It is madness that we don’t have a concrete second-best alternative to new antibiotics, because we need them and we need them quickly. Of course, this is why we have governments, which have been known occasionally in the past as commonwealths. Governments are supposed to look out for the wider, common interests of society that niche-interested professionals take no responsibility for, and that includes public health. It is why nearly every nation’s government has an official who is analogous to the U.S. Surgeon General, and nearly every one has a public health service of some kind. Alas, national governments do not always function as they should. Several years ago physician and former Republican Senator Bill Frist submitted a proposal to the Senate for a U.S. Medical Expeditionary Corps. This would have been a specialized organization that could coordinate and execute rapid responses to global health emergencies such as Ebola. Nothing came of it, because Dr. Frist’s fellow politicians were either too shortsighted or too dimwitted to understand why it was a good idea. Or perhaps they simply realized that they could not benefit politically from supporting it. Plenty of mistakes continue to be made. In 2015, a particularly infectious form of bird flu ripped through 14 U.S. states, leading farmers to preventively slaughter nearly 40 million birds. The result of such callous and unnecessary acts is that, instead of exhausting themselves in the host population of birds, the viruses quickly find alternative hosts in which to survive, and could therefore easily mutate into a form that can infect humans. Earlier, during the 1980s, AIDS garnered more public attention because a handful of rich and famous people were infected, and because the campaign to eradicate it dovetailed with and boosted the political campaign on behalf of homosexual rights. Methicillin resistant Staphylococcus aureus (MRSA) in hospitals, by far the bigger threat at the time, was virtually ignored. Some doctors knew that MRSA would bring us to our knees and kill millions of people worldwide, but pharmaceutical companies and device and equipment manufacturers ignored these doctors and the thousands of patients dying in hospitals as a result of MRSA. They prioritized the wrong thing, and government did not correct the error. And that is partly how antibiotic-resistant infection went from an obscure hospital problem to an incipient global pandemic. Politics well outside the United States plays several other roles in the budding problem that we are confronting. Countries often will not admit they have a problem and request help because of the possible financial implications in terms of investment and travel. Guinea did not declare the Ebola epidemic early on and Chinese leaders, worried about trade and tourism, lied for months in 2002 about the presence of the SARS virus. In 2004, when avian influenza first surfaced in Thailand, officials there displayed a similar reluctance to release information. Hospitals in some countries, including India, are managed and often owned by doctors. They refuse to share information about existing infections and often categorically deny they have a problem. Reporting infections to public health authorities is not mandatory, and so hospitals that fail to say anything are not penalized. Even now, the WHO and the CDC do not have accurate and up-to-date information about the spread of E. coli or other infections, and part of the reason is that for-profit hospitals are reluctant to do anything to diminish their bottom line. Syria and Yemen are among those countries that are so weak and fragmented that they cannot effectively coordinate public healthcare. But their governments are also hostile to external organizations that offer relief. Part of the reason is xenophobia, but part is that this makes the government look bad. Relatedly, most poor-nation governments do not trust the efficacy of international institutions, and think that cooperating with them amounts to a re-importation of imperialism. They would rather their own people suffer and die than ask for needed help. That brings us to the level of international public health governance. Alas, sometimes poor-country governments estimate the efficacy of international institutions accurately. The WHO’s Ebola response in 2014-15 was a disaster. The organization was slow to declare a public health emergency even after public warnings from Médecins Sans Frontières, some of whose doctors had already died on the front line. The outbreak killed more than 28,000 people, far more than would have been the case had it been quickly identified. This isn’t just an issue of bureaucratic incompetence. The WHO is under-resourced for the problems it is meant to solve. Funding comes from voluntary donations, and there is no mechanism by which it can quickly scale up its efforts during an emergency. The result is that its response to the next major disease outbreak is likely to be as inadequate as were its responses to Ebola, H1N1, and SARS. Stakeholders admit that we need another mechanism, and most experts agree that the world needs some kind of emergency response team for dangerous diseases. But no one knows how to set one up amid the dysfunctional global governance structures that presently exist. Maybe they should turn to Bill Frist, whose basic concept was sound; if the U.S. government will not act, perhaps some other governments will, and use the UN system to do so. But as things stand, we lack a health equivalent of the military reserve. Neither government leaders nor doctors can mobilize a team of experts to contain infections. People who want to volunteer, whether for government or NGO efforts, are not paid and the rules, if any, are sketchy about what we do with them when they return from a mission. Are employers going to take them back? What are the quarantine rules? It is all completely ad hoc, meaning that humanity lacks the tools it needs to protect itself. And note, by the way, the contrast between how governments prepare for facing pandemics and how they prepare for making war. War is not more deadly to the human race than pandemics, but national defense against armed aggression is much better planned for than defense against threats to public health. There is a wealth of rules regarding it, too. Human beings study and plan for war, which kills people both deliberately and accidentally, but they do not invest comparable effort planning for pandemics, which are liable to kill orders of magnitude more people. To the mind of a medical doctor, this is strange. Creating Conditions for Infections to Spread Superbug infections spread for several interlocking reasons. Some are medical-epidemiological. Most of the infections of the past thirty years have started in one place and in one family. As already noted, they spread because many infectious diseases are highly contagious before the onset of symptoms, and because it is difficult to prevent patients who know they are sick from going to hospitals, work, and school, or from traveling further afield. But again, one reason for the problem is political, not medical. Many governments have no strategies in place to prevent pandemics because they are unwilling to tell their people how infections spread. They don’t want to worry people with such talk; it will make them, they fear, unpopular. So governments may have mountains of bureaucracy with great heaps of rules and regulations concerning public health, but they are generally unwilling to trust their own citizens to use common sense on their own behalf. This, too, seems very strange. Until now, no one has come forward to help us develop strategies to educate people how to identify and prevent the spread of infection to their families and communities. The majority of stakeholders have also been oblivious to the use of new technologies to help reduce the spread of these infections. There are some exceptions. In a fun blog post called Preparedness 101: Zombie Apocalypse, the CDC uses the threat of a zombie outbreak as a metaphor to encourage people to prepare for emergencies, including pandemics. It is well meaning and insightful, yet when my colleagues and I try to discuss ways of scaling up the CDC’s example with doctors and nurses, they shut down. Nobody plans for an actual crisis partly because it is too scary and hence paralyzing to think about. But it is also because it is not most health professionals’ job; it is not what they are trained and paid to do. It is always someone else’s job, except that it has turned out to be nobody’s job. Worse, the situation is not static. While we sit paralyzed, superbugs are evolving. Epidemiological models now predict how an algorithmic process of disease spread will move through the modern world. All urban centers around the entire globe can become infected within sixty days because we move around and cross borders much more than our ancestors did, thanks to air travel. A new pandemic could start crossing borders before we even know it exists. A flu-like disease could kill more than 33 million people in 250 days.3