# Doomsday: A Look at the Ethical Issues behind the Government's Coercive Powers in Response to a Public Health Nightmare

Jacob Chapman
Managing Editor | Berkeley Business Law Journal
Boalt Hall School of Law, Class of 2007
University of California, Berkeley
Tel. 510.333.3742
Email. jake ucb@yahoo.com

#### INTRODUCTION

It's March 10, 2010 and John Doe is returning home to New York from a business trip in Mumbai. He has a minor cough, but feels just fine despite the fact that he is incubating the first pandemic horror of the 21<sup>st</sup> century. He's already contagious, and the virus is airborne. By the time the Airbus A380 lands, a sizable portion of the 555 passengers have been exposed. Half of the passengers stay in New York, while the other half make their connecting flights to Los Angeles, Chicago, San Francisco, Dallas, and elsewhere. It takes another 3-4 days before John realizes that he isn't battling a run of the mill flu. By the time he gets to the emergency room, he is running a fever of 106. John dies shortly thereafter. The doctors, learning that John recently made a trip to Africa, know to contact public health officials. Two days later, as the virus is discovered to be something novel, emergency procedures go into action to contact all those who were potentially exposed. Passengers of John's flight begin to pour into emergency rooms across the country. Two weeks after the flight landed, most of those exposed to the virus on the plane are dead. The virus has continued to spread despite the efforts of the Centers for Disease Control (CDC) and states' Departments of Health to quarantine and isolate those who were potentially exposed.

Researchers discover that Jane, the person sitting immediately next to John on the plane, never developed symptoms. However, her blood tests indicate that she was definitely exposed. After several more horrendous weeks, it becomes apparent that a small group of people, perhaps 1 in 10 million, has a natural immunity to the devastating pandemic. These people have no trace of the virus in their systems. The virus poses no threat to them, and they pose no threat to anybody else. Public health authorities

<sup>&</sup>lt;sup>1</sup> http://www.airbus.com/en (Last visited 4/27/06)

desperately need access to their bodies to run a series of potentially painful or deadly trials which together have a small probability of producing an effective treatment against the virus. However, this small group of genetically gifted individuals expressly refuses to participate in any research whatsoever. This paper will examine the ethical frameworks for dealing with just such a doomsday scenario.<sup>2</sup>

The above scenario is one not contemplated by our current public health institutions. At first blush it may seem as though the law has already dealt with the doomsday hypothetical (hereinafter doomsday). For example, the law grants the state governments wide latitude in dealing with public health emergencies under the 10<sup>th</sup> amendment to the Constitution, which grants the states police powers.<sup>3</sup> However, there are two key differences between doomsday and all previous exercises of the police power. First, in all previous scenarios, the exercise of authority over an individual has conferred a benefit on the individual. However, in doomsday Jane and her cohort have nothing to fear from the virus, and would receive no direct benefit from the research.<sup>4</sup> Second, in all previous scenarios, government exercise of authority over an individual has been premised on protecting society from that individual.<sup>5</sup> Here, Jane and the others do not carry the virus and pose no direct threat to society. These differences have profound ethical implications which have not been dealt with before. Not only have we never

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<sup>&</sup>lt;sup>2</sup> This paper is constructed around the ethical dilemmas inherent in a frightening hypothetical scenario. The epidemiological ins and outs of the above hypothetical are outside the scope of the paper.

<sup>&</sup>lt;sup>3</sup> Annas, George J. "Bioterrorism, Public Health, and Civil Liberties," New England Journal of Medicine. vol. 346:1337-1342, April 25, 2002 num. 17.

<sup>&</sup>lt;sup>4</sup> The contemplated virus is not one which would so devastate the world population that Jane's life would be substantially put at risk by the deterioration of society. Therefore, Jane's most rational self-interested outcome is to not participate in the research.

<sup>&</sup>lt;sup>5</sup> Gostin, Lawrence O. "When Terrorism Threatens Health: How far are limitations on personal and economic liberties justified?" 55 Fla. L. Rev. 1105, 1148 (Dec. 2003)

answered the question of whether or not a person in Jane's condition may be compelled. but it is a question that must be addressed before we are confronted with it in real life.

The goal of this paper is to encourage prior debate about what limits the government should be subjected to when doomsday is fast approaching. The question of whether or not the government should be able to force an individual to submit to potentially harmful research in an emergency situation where there is no possibility of benefiting the individual, and where the individual is not a threat to anyone is one which must not be addressed in the heat of a raging pandemic. Ethical choices must not be made based on emotionally charged rhetoric, but should rather be made with appeals to cool reason. 6 There are 3 other reasons we should address the question prior to having it thrust upon us.

First, if we as a democratic society make the decision to strip the genetically gifted people in the doomsday scenario of their rights to bodily integrity and autonomy as a hypothetical, then Jane herself will have in some way taken part in the debate. In this way, we perhaps avoid the charges of exploitation that we would otherwise be subject to if we decide to use Jane's body for the furtherance of society. The more fair and open the debate, the less exploitative any decisions arising out of that debate could be considered because everyone will have had an opportunity to be heard.

Second, the death toll from a new pandemic or from a bioterrorism attack could easily stretch into the seven figures. 8 This vast potential harm requires a rapid response

<sup>&</sup>lt;sup>6</sup> Ingram, David B.; Parks, Jennifer A. The Complete Idiot's Guide to Understanding Ethics; Alpha Books, Indianapolis, IN (2002)

<sup>&</sup>lt;sup>7</sup> Young, Iris Marion. "Five Faces of Oppression" *Justice and the Politics of Difference*; Princeton University Press, Princeton, NJ (1990).

<sup>&</sup>lt;sup>8</sup> Kellman, Barry. "Biological Terrorism: Legal Measures for Preventing Catastrophe." 24 Harv. J.L. & Pub. Pol'y 417 (2001).

capability. If we are confronted with tough ethical and legal questions in the midst of a doomsday scenario, our response could very easily be bogged down by a series of court injunctions and confused legislative actions. Thus a lack of legal and ethical preparedness will compound the effects of a naturally occurring pandemic or bioterrorist attack.

Third, if the doomsday scenario is brought to life as an act of terrorism, we must be especially vigilant in protecting against the perception of extra-constitutional government action. One of the goals of terrorism is to use fear to force democratic societies to undermine their own legitimacy. In the heat of a bio-terrorism event, if we were to allow Jane and her cohort to be limitlessly used by the government we would open ourselves to much criticism, and would undermine the legitimacy of our own systems. Rather, by debating the appropriate steps prior to the doomsday scenario, we can democratically create emergency mechanisms that while potentially quite harsh have been reconciled with our constitution and with our consciences.

American culture - social, economic, and legal - has always been founded on notions of individual liberty. It's not surprising that this is so because the founding fathers themselves were highly influenced by the liberal thinkers of their day. The constitution they drafted and the institutions that they created were infused with this liberal ideology. The Declaration of Independence grounded the philosophical justification for breaking away from England in the social contract theory. <sup>10</sup> It declared that, "Governments are instituted among Men, deriving their just powers from the consent of the governed, --That whenever any Form of Government becomes destructive of these ends, it is the Right of the People to alter or to abolish it, and to institute new

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<sup>9</sup> Id.

<sup>&</sup>lt;sup>10</sup> Ingram, David B.; Parks, Jennifer A. *The Complete Idiot's Guide to Understanding Ethics*; Alpha Books, Indianapolis, IN (2002) pg 129

Government. ..."

Thomas Jefferson did not limit the underpinnings of the Declaration of Independence to social contract theory, but also appealed to the more austere deontological theories of Kant. The Declaration of Independence famously states that, "all men are created equal" and that all men are endowed with "unalienable rights." 12

Despite the strong respect of individual liberties, the founding fathers were also influenced by notions of Utilitarianism, and perhaps even by a small degree of Communitarianism. In part one of this paper, the ethical theories of John Locke, John Rawls, Immanuel Kant, John Stuart Mills, and various communitarians will be considered. Each of these ethical frameworks would approach the doomsday hypothetical differently. An analysis of these differences will give us the tools necessary for crafting a rational ethical approach to the doomsday scenario. In part two of this paper, the limited legal precedent for government compulsion in the public health context will be considered. This precedent is important as it provides the starting point from which the ethical approaches in part one will need to begin. In part three of this paper, analogous situations in which the government either is or is not allowed to interfere with individual liberty will be examined. The differences between these analogous scenarios and the possible rationale for those differences will shed light on which of the ethical frameworks is most likely to be used in constructing an alternative response to emergency public health concerns.

#### Part I

## **Ethical Frameworks**

 $<sup>^{11}</sup>$  http://www.archives.gov/national-archives-experience/charters/declaration (last visited 4/27/06)  $^{12}$  Id.

#### A. John Locke

The founding fathers were probably most influenced by the liberal social contract theoreticians. Lawrence Gostin has observed that, "Liberalism has become the de facto political philosophy in late twentieth and early twenty-first century America." Therefore that is where our analysis will begin.

Social contract theory is based on two major premises. The first premise is that all people possess certain "natural rights." These rights include the right to liberty or autonomy, the right to property, and the right to the pursuit of happiness. Essentially, liberal theoreticians argue that natural rights are rights of negative liberty. This means that all people have a right to be free of coercion. The second premise is that in the state of nature, meaning the natural condition of humans without governance, men and women will compete and fight over scarce resources thereby constantly invading upon one another's natural rights. This premise was developed by Thomas Hobbes who famously declared that in the state of nature the life of man is, "solitary, poor, nasty, brutish, and short."

The reconciling of these two conflicting premises is the goal of Social Contract theory. Because humans are rational and will realize the inherent conflict in the state of

<sup>&</sup>lt;sup>13</sup> Gostin, Lawrence O. "When Terrorism Threatens Health: How far are limitations on personal and economic liberties justified?" 55 Fla. L. Rev. 1105, 1141 (Dec. 2003)

<sup>&</sup>lt;sup>14</sup> Ingram, David B.; Parks, Jennifer A. *The Complete Idiot's Guide to Understanding Ethics*; Alpha Books, Indianapolis, IN (2002) Chp 11

<sup>&</sup>lt;sup>15</sup> Murphy, Liam. "Beneficence, Law, and Liberty: The Case of Required Rescue." 89 Geo. L.J. 605, 637 (Mar. 2001).

<sup>&</sup>lt;sup>16</sup> Ingram, David B.; Parks, Jennifer A. *The Complete Idiot's Guide to Understanding Ethics*; Alpha Books, Indianapolis, IN (2002) pg 125

nature, people will naturally come together and contract to achieve a solution.<sup>17</sup> In this social contract, Locke argues that people agree not to interfere and coerce other people so long as other people agree not to coerce in turn. Because all contracts need an enforcement mechanism, government is created to ensure that no person unjustifiably coerces another.<sup>18</sup> This scenario, however, creates the inevitable situation in which a government has been empowered to coerce its citizens. Locke dealt with this problem by declaring that if a government breaches its part of the social contract, by either not providing protection from coercion, or by itself impeding the liberty of its subjects, then the subjects had a right and a duty to rise up and over-throw the government. This last part of Locke's argument is what the colonists seized upon in the Declaration of Independence.

On the surface, Social Contract theory doesn't leave much room for public health law and the attendant invasions of personal liberty inherent in that law. Disease is hardly coercion from which the government is bound to protect citizens. How then could public health intervention which substantially impedes a liberty interest be justified? There are two possible answers provided under traditional Social Contract theory.

First, when Locke spoke of a Social Contract he of course wasn't envisioning a constitution that every citizen read upon the age of majority and then signed onto. Rather, he saw it is an imaginary pact between citizen and government in which a citizen's acceptance of the benefits of that pact equaled tacit agreement to its terms. <sup>19</sup> A defender

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<sup>&</sup>lt;sup>17</sup> Ingram, David B.; Parks, Jennifer A. *The Complete Idiot's Guide to Understanding Ethics*; Alpha Books, Indianapolis, IN (2002) Chp 11

<sup>&</sup>lt;sup>18</sup> Murphy, Liam. "Beneficence, Law, and Liberty: The Case of Required Rescue." 89 Geo. L.J. 605, 637 (Mar. 2001).

<sup>&</sup>lt;sup>19</sup> Ingram, David B.; Parks, Jennifer A. *The Complete Idiot's Guide to Understanding Ethics*; Alpha Books, Indianapolis, IN (2002) pg 130

of public health intervention would argue that interventions such as vaccinations, quarantine, and mandatory screening confer a benefit on the individual. The benefit of vaccinations, for instance, is that if my neighbor has been vaccinated, he is far less likely to spread illness to me. Therefore, the acceptance by the individual of the benefit is acquiescence to the term that the individual will submit to the intervention if it is required. This rationale is only partially applicable to the doomsday scenario. Jane would receive no direct benefit in exchange for her freedom. Thus, how can she be said to have tacitly agreed to a term requiring her to surrender her freedom. This essentially amounts to a "no consideration" argument in contracts. While it is true that in the specific doomsday scenario Jane will not have agreed to give up her freedom if, before the doomsday scenario occurred, the legislature had debated and agreed to allow the infringement of a citizen's rights in the doomsday scenario, then Jane can be said to have benefited from that policy. Jane will have benefited from the policy because she would have gained the security of knowing that if the doomsday scenario occurred and Thomas had been the genetically gifted party, Jane would have received the benefit of Thomas's acquiescence to research. Jane's benefit is essentially an insurance policy that she may never need to collect.

Second, the Social Contract should be looked at more broadly than as just a contract between a single citizen and an amorphous government. Instead, the agreement is between each and every citizen. As the Supreme Court once opined a "fundamental principle of the social compact [is] that the whole people covenants with each citizen, and each citizen with the whole people, that all shall be governed by certain laws for the

'common good'."<sup>20</sup> Thus, looked at more generically, Jane could be said to have agreed to reasonable coercion by the government if it is motivated by an interest in the common good.<sup>21</sup> This reading of the social contract begs the question of whether or not it is reasonable for the government to inflict harm on one of its citizens when that citizen has no chance of personally benefiting from the harm. The reasonability of the government's coercion must be made on a case by case basis.

Traditional social contract theory provides two rationales which could potentially justify a substantial invasion of Jane and her cohort's right to autonomy, and right to bodily integrity. The next theory we will examine is a modification of social contract theory proposed by John Rawls, which was aimed at reducing the injustices of traditional social contract theory.

#### B. John Rawls

Rawls' addition to the social contract is to argue that nobody deserves the handicaps or advantages that they are born into. 22 These extraneous factors such as familial wealth, race, and nationality, are responsible for many of the inequities in today's society. Rawls posits that an ethical society would be one in which the terms of the social contract were agreed upon by the contracting parties without the contractors having any knowledge of who they are in the real world. These decisions made from "behind the veil of ignorance" would be more equitable, because as rational actors, the contracting parties

<sup>&</sup>lt;sup>20</sup> Jacobson v. Mass., 197 U.S. 11, 27 (1904). <sup>21</sup> Id at 29.

<sup>&</sup>lt;sup>22</sup> Ingram, David B.; Parks, Jennifer A. *The Complete Idiot's Guide to Understanding Ethics*; Alpha Books, Indianapolis, IN (2002) pg 131

would realize that they are more likely to be disadvantaged than to be advantaged by severe inequality.<sup>23</sup> Additionally, as the decisions made from behind the veil are theoretically freely negotiated, none of the permitted impositions on the rights of individuals violate liberal ideals.

Rawls' theory of justice provides a useful tool with which to analyze novel ethical problems. How would our democratic society respond to the doomsday scenario if we were all operating from behind the veil of ignorance? If decisions were made from behind the veil, none of the contracting parties would know for sure if they were Jane, or if they were someone whose life depended on an unlikely successful drug developed at the expense of Jane's freedom or life. The contracting parties as rational actors would know that their chance of being in Jane's cohort is relatively small when compared to their chance of being afflicted by the virus. Moreover, rational parties would recognize that not only their own well being, but the well being of their families and of society itself is at stake in the doomsday scenario. This realization, however, would not induce a rational actor to permit terrible atrocities against Jane or any numerical minority. The rational actors must still consider the small chance that they or someone they care about is a part of the cohort. Furthermore, the rational party will realize that unrestrained barbarism, if committed for little or no purpose, will have far reaching negative impacts on the social fabric, quite apart from the pandemic itself. Thus, we can assume that rational actors operating from behind the veil of ignorance would permit some amount of invasion of the bodily integrity of Jane and her cohort, but that this permission would be tempered by

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<sup>&</sup>lt;sup>23</sup> Parmet, Wendy. "Liberalism Communitarianism, and the Public Health: Comments on Lawrence Gostin's Lecture" 55 Fla. L. Rev. 1221, 1229 (Dec. 2003)

some type of oversight requiring that the invasion be as minimal as possible, and that it be done in a reasonable fashion.

The exact form of the restrictions placed on government by a Rawlsian framework would vary, but they would try to strike a balance between the welfare of all of the individuals in the society, and the rights of Jane and her cohort to bodily integrity and personal freedom to be infringed. The next ethical framework we will look at was proposed by Immanuel Kant.

### C. Immanuel Kant

Kant believed that reason could be used to develop a small set of universal ethical rules which must be respected at all times by all people. <sup>24</sup> Further, Kant argued that the morality of any particular act could not be derived from the overall consequences of that act, but must be derived from the intention behind the act itself. *Id.* Kant formulated two categorical imperatives which he argued must be complied with at all times. The first categorical imperative states that one should "act in such a way that [one] treats humanity, whether in your own person or in the person of another, always . . . as an end and never as a means." <sup>25</sup> The second formulation of the categorical imperative states that one "should never act except in such a way that [one] can also will that [one's] maxim should become a universal law." <sup>26</sup> Each of these imperatives has important implications.

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<sup>&</sup>lt;sup>24</sup> Ingram, David B.; Parks, Jennifer A. *The Complete Idiot's Guide to Understanding Ethics*; Alpha Books, Indianapolis, IN (2002) Chp 12

<sup>&</sup>lt;sup>25</sup> Beschle, Donald. "Kant's Categorical Imperative: An Unspoken Factor In Constitutional Right's Balancing." 31 Pepp. L. Rev. 949, 965 (May 2004). <sup>26</sup> *Id*.

The ends/means imperative was derived from Kant's understanding that humans were unique in that they have an autonomous will, and that they possess the ability to legislate moral law.<sup>27</sup> Because this autonomy is what sets people apart from mere things, Kant argued that we must not take that autonomy away from others. In restricting the autonomy of others in any way, we begin to treat them like things, which is a moral evil.<sup>28</sup> Kant did not argue that we could never use people, only that we must not use them *purely* as a means. This imperative has led Kantians to demand a strong sphere of protected personal autonomy.<sup>29</sup> Kantians have even gone so far as to argue that "coercion is virtually never appropriate to achieve public health goals [, and that] . . . individuals have fundamental rights to refuse physical interventions. . .."<sup>30</sup>

Kant's second formulation of the imperative is similar to the golden rule. He posits that whenever one wills to act in a certain way, that person must consider the consequences if everyone acted in that way. Furthermore, Kant argued that if one acts in a certain way, one must be willing to accept that others will act that way towards the initial actor, and the actor will be considered to have tacitly consented to that behavior. Kant derives this formulation by saying that if we are to grant respect to each person's autonomous will, we must be willing to treat that person as they treat others since that is the best evidence of how they morally view the world. This formulation is used by Kantians to justify the death penalty because if a person chooses to murder another, that

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<sup>&</sup>lt;sup>27</sup> Id.

<sup>&</sup>lt;sup>28</sup> *Id*.

<sup>&</sup>lt;sup>29</sup> Gostin, Lawrence O. "When Terrorism Threatens Health: How far are limitations on personal and economic liberties justified?" 55 Fla. L. Rev. 1105, 1142 (Dec. 2003)

<sup>&</sup>lt;sup>31</sup> Ingram, David B.; Parks, Jennifer A. *The Complete Idiot's Guide to Understanding Ethics*; Alpha Books, Indianapolis, IN (2002) pg 143-144.

person has chosen to inhabit a moral realm where murder is acceptable. Thus, it is society's duty to respect the murderer's will by executing him.<sup>32</sup>

Using Kant's end/means formulation of the categorical imperative, how should society respond to the doomsday scenario? If Jane and her cohort have expressly refused to participate with researchers, then coercing them under the first imperative would appear to be using them purely as a means to an end which is not their own. Some scholars have argued that in the research context, one can never use a subject unless the subject has consented and has accepted the ends of the researcher as their own ends. Any other use turns an individual into a mere object, and denies her right to autonomy. Because Kant claims that an individual's right to autonomy should be respected even if that individual's behavior hurts herself or another in the process, it appears that even in the doomsday scenario Kant would not approve of the use of Jane and her cohort.

Despite the result achieved by using Kant's ends/means formulation of the categorical imperative, his golden rule formulation might be used to reach a different conclusion. The will of Jane and her cohort to not help is an extreme form of selfishness which would border on the malicious. In the doomsday scenario, Jane and her cohort are electing to stand from the sidelines and watch as society potentially collapses around them. This decision to stand on the sidelines is an implicit devaluation of all of the individuals condemned to die. Thus, government coercion of Jane and her cohort before they refuse to consent to participate in research would be ethically wrong both because of the ends/means formulation of the categorical imperative and because society ought not

<sup>&</sup>lt;sup>32</sup> *Id*.

<sup>&</sup>lt;sup>33</sup> Hans Jonas

<sup>&</sup>lt;sup>34</sup> Ingram, David B.; Parks, Jennifer A. *The Complete Idiot's Guide to Understanding Ethics*; Alpha Books, Indianapolis, IN (2002) pg 143.

to coerce individuals under the second formulation of the categorical imperative lest society be coerced. Contrastingly, after Jane and her cohort refuse to participate in the research, their will is an implicit devaluation of the autonomy of individuals opening themselves up to similar devaluation and forced participation in the public health research.

Upon initial consideration, the above reasoning which justifies the coerced participation of Jane may appear to be circular, but the key distinction is in the chronology. In first allowing Jane and her cohort an opportunity to voluntarily participate in the research, we are respecting their ability to act autonomously. If we instead used force immediately, we would be using Jane and the others purely as a means to an ends, as a mere object. However, after Jane and her cohort have made the selfish choice not to participate, forced participation in the research is merely respecting the root selfish will motivating Jane's decision.

The previous ethical frameworks all evaluated the morality of actions based on the intrinsic nature of the actions, without regard to the consequences of those actions. The next framework, championed by John Stuart Mill, focuses much more heavily on the consequences.

#### D. John Stuart Mill

Mill was a proponent of Utilitarianism. Utilitarianism is the belief that decisions regarding moral rightness or wrongness can be reduced to a determination of which acts

will produce the most human happiness for the greatest number of people. For Mill, the maximization of human happiness is the only valid goal of a just government. While Mill subscribed to Utilitarianism, his framework was made more complex by his belief that individual autonomy was the key to maximizing human happiness. Mill did not believe that utility could be maximized by a long list of heavy handed government regulations, rather individuals as autonomous, rational beings were the best suited to determine their own utility-maximizing behavior. As Mill stated "[h]e who lets the world, or his own portion of it, choose his plan of life for him, has no need of any other faculty than the ape-like one of imitation. Mill's support for individual autonomy was not limitless. Mill broke behaviors down into 2 categories, self-regarding behaviors and other-regarding behaviors.

Self-regarding behaviors are those things an individual does which concern only her own well being. Because Mill was a staunch supporter of individual autonomy as a means to maximizing human happiness, he believed that self-regarding behaviors should be completely off limits to governmental regulation. Regulation of self-regarding behavior, according to Mill, amounts either to paternalism or moral legislation, both of which fail to maximize human happiness. If something is truly self-regarding (almost nothing is totally self-regarding) then even if it is objectively unwise for the individual to undertake the act, if the individual is rational, she will only take the act if for her it

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<sup>&</sup>lt;sup>35</sup> Ingram, David B.; Parks, Jennifer A. *The Complete Idiot's Guide to Understanding Ethics*; Alpha Books, Indianapolis, IN (2002) Chp. 13

http://www.plato.stanford.edu/entries/mill/ (Last visited 3/30/06)

<sup>&</sup>lt;sup>37</sup> Murphy, Liam. "Beneficence, Law, and Liberty: The Case of Required Rescue." 89 Geo. L.J. 605, 631 (Mar. 2001).

<sup>&</sup>lt;sup>38</sup> *Id*.

<sup>&</sup>lt;sup>39</sup> Gostin, Lawrence O. "When Terrorism Threatens Health: How far are limitations on personal and economic liberties justified?" 55 Fla. L. Rev. 1105, 1146 (Dec. 2003)

maximizes happiness. Thus, Millians reject seat belt laws, motorcycle helmet laws, antismoking laws, and similar restrictions on individual choice.<sup>40</sup>

Other-regarding behaviors are those things an individual does which directly impact others. Opining on this category of behaviors, Mill professed his widely known harm principle, "The only purpose for which power can rightfully be exercised over any member of a civilized community, against his will, is to prevent harm to others. His own good, both the physical and moral, is not sufficient warrant."41 Thus, other-regarding behaviors like theft or murder can be constrained by the government because they harm another. Other-regarding behaviors, in harming another individual, interfere with that individual's ability to maximize her own utility. The harm principle then is not an exception to Mill's utilitarianism, it is just a clarification.

In analyzing how a Millian would approach the doomsday scenario, the question that must first be answered is whether Jane's behavior is self-regarding. If Jane's behavior is self-regarding, then Mill would argue that the government ought not to coerce her. The choice not to participate in the research seems self-regarding. The choice not to participate is rarely thought of as an affirmative choice to interfere with others. However, in this instance, Jane's choice is more like opting out of a necessary regulatory regime. It is as though Jane decided not to pay her taxes. Jane's decision not to pay taxes while not actively harmful, has a negative impact on every single person in her community both in terms of a greater financial burden and in terms of encouraging others to free ride.

If Jane's decision is classified as other-regarding, the next step is to apply Mill's harm principle. The harm principle allows the government to coerce an individual if

<sup>&</sup>lt;sup>41</sup> Mill, John Stuart. *On Liberty* (Cambridge University Press, 1989)

doing so would prevent harm to others. Importantly, it does not limit government coercion to preventing an individual from personally harming others. 42 Consequently. despite the fact that Jane herself is not the cause of the harm, Mill would allow her to be coerced in order to prevent harm to others. Once it is determined that Jane can be coerced, a simple calculation taking into consideration that "health is necessary for much of the joy, creativity, and productivity that each person derives from life," and that a much greater number of people could be helped than would be hurt, should conclude that coercion of Jane and her cohort would be the happiness maximizing option.

#### F. Communitarians

Communitarians reject the liberal belief that individuals possess rights which necessarily supersede the rights of the community as a whole. Rather, they argue that communities ought to be the primary point of reference we use when developing a moral framework. To support their premise that society is the a priori moral actor, communitarians make a couple of different arguments. 43 First, they argue that humans are intrinsically social animals. Humans lack all concept of the self if community is taken away. 44 Community, for instance, provides us with language, values, meaning, and relationships. 45 We cannot reproduce the species alone, and we can't be maximally productive alone. We depend on long-term cooperative communal arrangements.<sup>46</sup>

<sup>&</sup>lt;sup>42</sup> Mill, John Stuart. *On Liberty* (Cambridge University Press, 1989) pg 13.

<sup>&</sup>lt;sup>43</sup> Ingram, David B.; Parks, Jennifer A. *The Complete Idiot's Guide to Understanding Ethics*; Alpha Books, Indianapolis, IN (2002) pg 264.

<sup>&</sup>lt;sup>44</sup> *Id*.
<sup>45</sup> *Id*.

<sup>&</sup>lt;sup>46</sup> *Id.* at 265.

Second, Communitarians argue that individual freedom is only meaningful if it is enforced by some community mechanism.<sup>47</sup> Without social enforcement and respect of individual liberties, individual liberties would be meaningless. 48 Therefore, communitarians argue that communities are the primary rights holders.

As primary rights holders, communities ought to establish ethical frameworks which support the well being of the community as a whole. In the public health context, Lawrence Gostin argues that: "Without minimal levels of health, populations cannot fully engage in the social, economic, and political interactions necessary for community survival. Health is foundational for engaging in many aspects of public life . . . Public health, then, becomes a transcendent value because a basic level of human functioning is a prerequisite for engaging in activities that are critical to communities."49

Communitarians in the doomsday scenario would almost certainly allow for the coercion of Jane and her cohort. Communitarians, as primarily concerned with the well being of the whole community, would be willing to subject some individuals to coercive research, if that community decided that the harm caused by the coercion to the community would be outweighed by the benefits of the research. A recent analysis of the SARS epidemic suggests that heavy handed public health measures in China drove some of the ill into hiding instead of into the arms of the medical profession.<sup>50</sup> This effect potentially accounts for some of the greater virulence of SARS in China as opposed to Canada where public health measures were much more voluntary. 51 Essentially, in the

<sup>&</sup>lt;sup>47</sup> Id. <sup>48</sup> Id.

<sup>&</sup>lt;sup>49</sup> Gostin, Lawrence O. "When Terrorism Threatens Health: How far are limitations on personal and economic liberties justified?" 55 Fla. L. Rev. 1105, 1157 (Dec. 2003)

<sup>&</sup>lt;sup>50</sup> Ries, Nola M. "Public Health Law and Ethics: Lessons from SARS and Quarantine." Health Law Review vol. 12 num. 1 (2005). <sup>51</sup> *Id*.

communitarian framework, the question asked is what is the best solution for the community in a holistic sense. In the doomsday scenario where the very life of the community is threatened, the answer would likely be that the forced participation of Jane and her cohort in research is what is best for the community.

Having examined the various ethical frameworks for dealing with the doomsday scenario this paper will now look at how the law has dealt with coercion in the public health context in the past, and at how it would likely deal with the doomsday scenario if it were to occur today.

#### Part II

# Legal Frameworks

#### A. Public Health Powers

This section will briefly summarize from whence the government derives it public health powers. When the colonies gave up their independence to the Federal Government, they retained their police power in the 10<sup>th</sup> Amendment to the Constitution.<sup>52</sup> This power reserved to the states the authority to protect the public's health and safety.<sup>53</sup> Consequently, most public health law is state law. While most public health decisions are handled as a matter of state law, the police power of states obviously is still limited by the Constitution. Moreover, the Federal government has several methods for intervening in

<sup>53</sup> Annas, George J. "Bioterrorism, Public Health, and Civil Liberties," New England Journal of Medicine. vol. 346:1337, April 25, 2002 num. 17.

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<sup>&</sup>lt;sup>52</sup> Sapsin, Jason W. "Public Health Legal Preparedness Briefing Memorandum #4: Overview of Federal and State Quarantine Authority." Center for Law and the Public's Health at Georgetown and John's Hopkins Universities. Pg 2

the public health. First, the government, via the commerce clause, is permitted to regulate those things which may have an impact on interstate commerce.<sup>54</sup> Thus, the director of the CDC can take reasonable measures to stop the spread of disease if the director determines that local efforts are insufficient to halt the spread. 55 Second, the Federal government has the authority to control the movement of people in and out of the country to prevent the spread of contagious diseases. <sup>56</sup> Lastly, because the Federal government has a duty to see to the national defense, if an act of bioterrorism is suspected, the Federal government has the authority to conduct public health interventions. <sup>57</sup> In the next section we will look at how public health provisions have been applied to quarantines, forced inoculations, and compelling one individual to help another.

#### B. Public Health Cases

Coercive quarantine is one of the police powers available to states in responding to public health emergencies.<sup>58</sup> In *Barmore*, Mrs. Barmore was confined to her residence by the health officials of Chicago as a carrier of Typhoid. Mrs. Barmore was not suffering from any symptoms, but several of her borders had become infected with Typhoid. Mrs. Barmore pleaded with the court to be released from quarantine. The *Barmore* court denied Mrs. Barmore's plea stating, "[t]hat the preservation of the public health is one of the duties devolving upon the state as a sovereign power will not be questioned. Among

U.S. Const. Article I, Section 8, Clause 3
 42 C.F.R. §70.2 (2002 West).
 42 U.S.C.A. §§264, 266 (West).

<sup>&</sup>lt;sup>57</sup> Annas, George J. "Bioterrorism, Public Health, and Civil Liberties," New England Journal of Medicine. vol. 346:1337, April 25, 2002 num. 17.

<sup>&</sup>lt;sup>58</sup> Barmore v. Robertson, 302 Ill. 422 (1922).

all the objects sought to be secured by governmental laws none is more important than the preservation of public health."<sup>59</sup> The court went on to say that legislatures should be granted great deference when regulating the public health, and that as long as the interventions are not "arbitrary, oppressive, and unreasonable," the courts should not review the regulations. 60 Clarifying when courts should step in, the *Barmore* court held that a person could not be forcefully quarantined upon mere suspicion, but that if there was a reasonable belief that the person could be harming others, that person could be quarantined.

The Barmore court, intentionally or not, based its justification for coerced quarantine both in Social Contract theory, and in Utilitarianism. The Court's reference to the duty of the state to provide for the public health is an appeal to the state's contractual duty to protect its citizens. Furthermore, the fact that Mrs. Barmore probably benefited from the quarantine of other individuals infected with other diseases in her community means that she tacitly approved of the practice of quarantine, and was therefore bound to submit to it. The *Barmore* Court's limitation of coerced quarantine to those individuals who were likely to harm other individuals as a result of being a carrier, is a perfect application of Mill's harm principle. In other words, the autonomy interest of Mrs. Barmore could not justly be interfered with unless it was shown that not interfering in her autonomy interest would likely lead her to harm other individuals.

The decision in *Barmore* unfortunately sheds only a little light on the doomsday scenario. Barmore dealt with the quarantining of a person who if not constrained would have been the source of harm to others. Jane and her cohort, on the other hand, are not the

<sup>&</sup>lt;sup>59</sup> *Id* at 427 <sup>60</sup> *Id*.

initiators of harm. It could be argued that Mrs. Barmore, though the source of harm, is no different than Jane in that neither Jane nor Mrs. Barmore would have chosen to be in the position that they are in. Neither Jane nor Mrs. Barmore intended to cause harm. Despite this similarity, the fact that Mrs. Barmore is the genesis of harm is a substantial difference. Moreover, Mrs. Barmore was not likely to be injured by her quarantine, beyond the injury of confinement, and may even have received some medical benefit. Mrs. Barmore could have been cured of her condition, thus, enabling her to leave quarantine and to re-enter her normal life, whereas Jane in the doomsday scenario would not receive any direct benefit and could be left substantially worse off. What Barmore does teach is that the courts are likely to refer to Social Contract and Utilitarian frameworks when confronting ethical issues in the public health context.

Another landmark public health case dealt with the issue of mandatory vaccinations. <sup>61</sup> In *Jacobson*, Mr. Jacobson refused to submit to a small pox vaccination in contravention of a city ordinance requiring all able bodied people to be vaccinated. The court upheld the statute, appealing to multiple ethical frameworks including Social Contract theory, Utilitarianism, and even Communitarianism.

As quoted supra the *Jacobson* Court believed that the "whole people covenants with each citizen" for the common good. 62 Mr. Jacobson definitely received the benefit of living in a community in which most of the citizens had been inoculated against small pox. Thus, under a Lockian Social Contract model, he can be said to have tacitly consented to mandatory vaccinations.

<sup>&</sup>lt;sup>61</sup> Jacobson v. Mass., 197 U.S. 11. <sup>62</sup> Id. at 27.

The appeal to Utilitarianism made by the *Jacobson* Court once again refers to the harm principle. The court held that "real liberty for all could not exist under the operation of a principle which recognizes the right of each individual person to use his own, whether in respect of his person or his property, regardless of the injury that may be done to others." Thus, Mr. Jacobson's liberty reaches its limit when his actions potentially harm others in his community.

Finally, the *Jacobson* court appeals to Communitarian principles. The court states that "[u]pon the principle of self-defense, of paramount necessity, a community has the right to protect itself against an epidemic disease. . .."<sup>64</sup> The Court here isn't speaking of the right of individuals to be protected from disease, but rather is justifying the interference with the bodily integrity of an individual for society's well being. It is odd to see an American court appealing to Communitarian principles, but in the context of public health, Communitarian principles seem to be almost if not equally as important as traditional American liberal ethical principles.

Like *Barmore*, there are several key differences between *Jacobson* and the doomsday scenario. Mr. Jacobson was being coerced into receiving a small pox vaccination. The vaccine was unlikely to do him any harm.<sup>65</sup> In fact, small pox is a devastatingly lethal virus, and the vaccine would have likely conferred a strong health benefit on Mr. Jacobson. Contrastingly, Jane and her cohort are not being coerced into something that is objectively beneficial to them. On the contrary, the hypothetical

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<sup>&</sup>lt;sup>63</sup> *Id.* at 26

<sup>&</sup>lt;sup>64</sup> *Id.* at 27

<sup>&</sup>lt;sup>65</sup> The small pox vaccine is actually one of the most dangerous vaccines ever used, which factored into its demise even before small pox was completely eradicated. However, the actual risk of serious permanent harm is still very small on the order of 16 serious permanent injuries per 1 million vaccinations. *See* www.http://www.cbsnews.com/stories/2002/12/11/60II/main532706.shtml (Last viewed 4/27/06.)

suggests that Jane et al are being potentially coerced into dangerous and painful procedures. The second key difference is that Jane et al do not pose a direct risk to society whereas Mr. Jacobson by not being vaccinated was creating the risk of introducing small pox into his community. Jacobson is more similar to the doomsday scenario than Barmore, because in Jacobson, while Mr. Jacobson could be thought of as potentially harming the community, an equally valid framing would look at him as simply refusing to confer a benefit on the community. This refusal to confer a benefit is the same driving force behind the doomsday scenario. While this case gets us closer to judicial precedent concerning the doomsday scenario, it is not perfect; it does however indicate that Social Contract theory, Utilitarianism, and Communitarianism can all play a part in grappling with public health conundrums.

While the courts have been solicitous of the greater good in most public health cases, they are less likely to condone coercion in more personal cases. <sup>66</sup> In McFall, Mr. McFall was a patient suffering from a likely terminal bone marrow disease. His cousin had been determined to be a match, and had his cousin consented to a procedure, Mr. McFall's likelihood of survival would have improved dramatically. Unfortunately, Mr. McFall's cousin refused to consent to the procedure, thereby condemning Mr. McFall to an untimely demise. The court, though sympathetic to Mr. McFall, denied his plea for relief.

The underlying rational of the McFall court drew heavily from Kant, declaring that individuals have an absolute right to their bodily integrity. The court opined that "[f]or a society which respects the rights of one individual, to sink its teeth into the jugular vein or neck of one of its members and suck from its sustenance for another member, is

66 McFall v. Shimp, 10 Pa. D. & C.3d 90.

revolting to our hard-wrought concepts of jurisprudence. Forcible extraction of living body tissue causes revulsion to the judicial mind."67

What light does McFall shed on the doomsday scenario? The biggest difference between McFall and the doomsday scenario is that in McFall, the court was being asked to compel one individual for the sake of another individual. Contrastingly, the doomsday scenario asks for a small handful of people to be compelled for the sake of a great many people. Additionally, because of the possible devastation of a run-away pandemic, one could frame the doomsday scenario as a handful of people being compelled for the sake of society, and not for the sake of any particular individuals. Despite this difference, there are several key similarities between McFall and doomsday. First, in McFall, the cousin was not a cause of the harm, but was uniquely suited to relieve the harm. Similarly in doomsday, Jane and her cohort don't cause the virus, but are uniquely situated to meliorate its effects. Second, the cousin in McFall would not have received any benefit for assisting McFall. Similarly, Jane et al will not receive any foreseeable benefit for participating in the research.

While McFall and the doomsday scenario are similar, the result in McFall would not control in the doomsday scenario for two reasons. The first and probably most important reason is the difference in the number of people receiving the potential benefit from coercion. A 1:1 ratio is radically different from a 10:1 ratio, and the doomsday scenario envisions something much closer to a 1,000,000:1 ratio than to a 1:1 ratio.

The second reason is that traditional American formulations of Social Contract theory, Utilitarianism, Deontology, and even Communitarianism would not have provided an ethical basis for Mr. McFall's request. Social Contract theory falls short

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<sup>&</sup>lt;sup>67</sup> Id

because as no compelled live tissue donation had ever occurred or been debated, it is impossible to argue that McFall's cousin had tacitly agreed to it as a term in the social contract. McFall's cousin had never been put on notice that compelled tissue donation was part of the social contract in America. Moreover, a Rawlsian would probably not argue that someone operating from behind the veil of ignorance would give anyone with a donor match to anyone else a claim to that person's tissues. A person behind the veil may at first be tempted to approve of compelled tissue donation, after all, many people require some type of tissue donation over the course of their lives. However, a society where at anytime someone might lay claim to parts of your body, be it bone marrow, eggs, sperm, blood, a retina, a kidney, or anything else, would be a fear society. Utilitarians would apply the harm principle to the coercive demands of Mr. McFall, and would declare that his attempted coercion of his cousin was an immoral act. To lay claim to another person's tissue is clearly other regarding behavior, and the potential to bring harm to that person in claiming the tissue means that compelled tissue donation would run afoul of the harm principle. Finally, Communitarians with their concerns being focused on the rights of society at large would be unlikely to allow one individual the right to another individual's body. The social harm wrought by widespread compelled tissue donation would likely outweigh the benefits achieved in the handful of cases where a successful donor is identified yet refuses to donate. Thus, the differences between McFall and the doomsday scenario, while not large, are significant enough to lead to drastically different ethical conclusions.

Having gained an understanding for how courts have dealt with public health issues in the past, we will now look at how they would likely address the doomsday scenario were it to arise today.

# C. Likely Legal Response to Doomsday

If the doomsday scenario were to happen today, some Federal agency would likely attempt to coerce Jane et al as a means of averting catastrophe. Jane et al would ask a court to intervene, and it would almost certainly would. The case would eventually land in front of the Supreme Court, but not before much time and life would likely have been lost. Lawrence Gostin argues that in this eventuality, the Supreme Court would likely analyze the coercion of Jane under a strict scrutiny approach, because the compulsion of Jane would likely be considered a violation of a fundamental right to bodily integrity under Cruzan v. Director Mo. Dept. of Health. <sup>68</sup> Under strict scrutiny, the exercise of compulsory powers by the government would not be allowed unless 1. the government could show a compelling purpose behind the coercion, 2.the government could show a close connection between the means of the coercion and the compelling ends, and 3. that the coercion is the least restrictive alternative. <sup>69</sup> Under this test, an order coercing Jane and her cohort to submit to research would be unlikely to be upheld.

The first prong of strict scrutiny requiring a compelling state interest in invading the bodily integrity of Jane and her cohort would likely be met. In the doomsday scenario, all of society is potentially at risk. If enough people were to fall victim to

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<sup>&</sup>lt;sup>68</sup> Gostin, Lawrence O. "Public Health Law in a New Century: Part II Public Health Powers and Limits." Journal American Medical Association vol. 283, no. 22 (June 2000) pg 2982.

disease, the economy, the culture, and all social processes would grind to a halt. Not only are these overarching impacts part of the government's interest in compelling Jane *et al*, but there is also an interest in simply saving the lives of its citizens. Short of the avoidance of nuclear war, it is hard to imagine a more compelling interest than the government's interest in stemming the effects of a devastating pandemic. Thus the Court would move on to consider the next prong of strict scrutiny.

The second prong of strict scrutiny, which requires the means of the intervention to be closely related to the ends, may not be met. This means/ends requirement is designed to limit irrational and capricious government action.

Unfortunately, in the doomsday scenario, the likelihood that the invasion of Jane's bodily integrity will result in a generalizable treatment before the pandemic has run its course is very small. Furthermore, even if research were likely to lead to a treatment eventually, each individual breach of Jane's bodily integrity would likely be little more than a shot in the dark. Consequently, the Supreme Court would be hard pressed to conclude that the compelled participation of Jane and her cohort in research would be sufficiently related to the goal of stopping a pandemic.

The third prong of strict scrutiny requiring that the invasion of bodily integrity be the least restrictive alternative to accomplish the desired ends would probably not be met either. Because the likelihood that research on Jane and her cohort would yield a helpful treatment is so small, other less invasive methods for coming up with an effective treatment in time may be just as good. These methods might include computer modeling, animal research, research on infected people, etc. While these methods are undoubtedly unlikely to arrive at a useful result, they may not be less likely to arrive at a useful result

than the coercion of Jane. Moreover, the government would first need to try to be minimally invasive with Jane and her cohort. They could try to offer her incentives to participate, or could begin research in the least invasive ways possible. This attempt to be minimally invasive, even if successful at passing the third prong of the strict scrutiny analysis would take valuable time away from the response to the pandemic.

It appears as though the coerced participation of Jane in the doomsday scenario would not survive strict scrutiny. Additionally, even if the coercion did survive strict scrutiny, the question is close enough that it would consume a great deal of time before being answered. This consumption of time is unacceptable in the doomsday scenario. The current strict scrutiny approach is not the appropriate method to deal with complex public health emergencies. A more streamlined predetermined process must be put into place so that valuable time is not lost debating the ethical questions.

Because the current legal approach to the doomsday scenario is insufficient, the next section will look at which of the ethical frameworks might be used to develop an alternative legal approach to public health emergencies.

#### Part III

An Alternative Response to Public Health Emergencies.

This part of the paper will compare situations which are analogous to the doomsday scenario and where the government compels individuals with situations that are analogous to the doomsday scenario, but where the government does not compel individuals. The goal of this comparison is to expose which ethical frameworks

predominately determine whether or not government coercion is proper in a given situation. Using this framework, an alternative response to public health emergencies can be developed.

# A. Analogous situations in which the government compels individuals.

There are three major characteristics of the doomsday scenario shared by all of the following analogies: (1) the individual is compelled to confer a benefit on a group, (2) the individual is not directly responsible for the harm (3) the individual will likely be harmed in some way by the government coercion, above and beyond the intrinsic harm of being coerced.

The first situation in which the government coerces individuals in a way analogous to the doomsday scenario is in the context of compelled testimony. Just as the doomsday scenario extracts a potential cure for a societal ill (pandemic) against the will of an individual, compelled testimony extracts a potential cure for a societal ill (crime) against the will of the individual who is compelled. Additionally, just as the compelled individual in the doomsday scenario is not responsible for the harm that they are being forced to abate, neither is the compelled individual testifying in court necessarily involved with the crime they are testifying about. Finally, just as the compelled participation in research is likely to cause some degree of harm to the compelled individual, so too is compelled testimony likely to cause harm to an individual. Individuals who are compelled to testify are harmed both in that they give up a part of their autonomy, and in that they open themselves up to potential reprisals from those whom they testify against.

The second analogous example of government coercion is the draft. Conscription forces an individual to confer a benefit on society against his or her will, in the form of military service. Furthermore, conscription compels people who have not necessarily taken part in starting the military conflict that necessitated the use of the draft. Finally, conscripted soldiers run a substantial risk of being harmed. In fact, the U.S. uses professional troops whenever possible partly because conscripted soldiers are much poorer soldiers, and therefore might be at greater risk of harm.<sup>70</sup>

These two examples are structurally identical to the likely government coercion in the doomsday scenario. We shall now look at which ethical frameworks justify compelled testimony and the draft.

1. Social Contract theory can justify both compelled testimony and the draft in two ways. First, social contract theorists could argue that tacit consent exists for both the draft and for compelled testimony. Both issues have received lengthy debate in the public sphere be it protests to the draft, or judicial challenges to compelled testimony. The decision to reside in the U.S. knowing that both policies are in effect, and the decision to receive the benefit of both policies in the form of national security and public safety, equals tacit consent to abide by the policies. Second, a Rawlsian approach could justify both policies. A decision made from behind the veil would likely agree to allow both forced conscription and compelled testimony. Conscription, as long as it was handled justly, could be necessary to protect the lives of all the individuals in the society. Thus, the contracting parties would likely see it as a necessary step towards achieving national security. Similarly, the contracting parties would likely see compelled testimony as a necessary means of enforcing the other agreed upon laws. If witnesses could not be

<sup>70</sup> Henderson, David R. "Draft Talk Premature." S.F. Chronicle, Oct. 24, 2004 pg E-5.

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compelled, criminal justice might severely suffer, which would threaten the social contract.

- 2. Kant's ethical framework would likely reject both compelled testimony and the draft. The categorical imperative that individuals not be used solely as a means to an end is violated by both conscription and compelled testimony. The draft potentially takes an individual against his or her express wishes and places him or her into military service. It does not do this for the individual, but does this solely to reach a particular end: either conquest or self-defense. It is the desperate nature of the draft which makes it treat individuals solely as a means. As far as compelled testimony is concerned, it uses the witness as though the witness were merely a video camera. Through non-leading extensive questioning, compelled testimony seeks simply to show to the court the physical perceptions of the witness so that the fact finder can come to its own determinations. Therefore, Kant would not approve of either the draft or of compelled testimony.
- 3. John Stuart Mill's branch of utilitarianism would probably approve of both the draft and compelled testimony. Mill's respect for an individual's autonomy as the best means of maximizing overall human happiness leaves only the harm principle as an exception to the ban on government coercion. Mill would probably think of a choice to not testify or a choice to not serve in the military as other-regarding behavior. These decisions to not act are not like decisions to use an illicit drug in the privacy of one's own home, rather the decision to not assist in a war effort, or the decision to not testify against a criminal are decisions which directly impact others. Once the decisions to not participate in the draft or to testify is understood as other-regarding behavior, Mill would

apply the harm principle. As a rule Utilitarian, Mill's harm principle asks whether an individual's behavior if adopted as a general rule would cause harm. The answer in the contexts of the draft and compelled testimony is almost certainly that harm would be caused. If everyone chose to disregard the draft, all individuals would be open to whatever ills conquest would bring. Thus the harm principle justifies the draft. Similarly if nobody chose to testify in criminal trials, crime would be rampant and the government would have little ability to protect citizens against it. Therefore, the harm principle justifies compelled testimony.

4. Communitarians would likely approve of both the draft and compelled testimony. Because Communitarians put social rights before individual rights, communitarians would ask very different questions than the other ethical theorists. In the context of the draft, Communitarians would ask whether society has a right to draft an individual if necessary for society's survival. The answer to this question is almost certainly yes. Individuals derive their identity and meaning from their society; consequently if society dies, in one sense, so to do the individuals. Therefore, to communitarians, the survival of society is more important than the survival of any individual members. Under this framework the draft would be approved. In the context of compelled testimony Communitarians would ask whether society has a right to compel testimony if necessary to enforce the laws. The criminal laws of society are what provide the framework which allows people to cooperate and form large social groups with one another. If these laws were to weaken because fewer people were willing to testify,

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<sup>&</sup>lt;sup>71</sup> Parmet, Wendy. "Liberalism Communitarianism, and the Public Health: Comments on Lawrence Gostin's Lecture" 55 Fla. L. Rev. 1221 (Dec. 2003)

society could potentially break down. Therefore Communitarians would allow for compelled testimony.

B. Analogous situations in which the government does not compel individuals.

There are at least two situations which are analogous to the doomsday scenario in which the government has declined to coerce individuals, compulsory bone marrow donation, and an affirmative duty to rescue.

A system of compulsory bone marrow donation is similar to the doomsday scenario. A compulsory donation regime would require all individuals to confer a benefit on society by providing society with a potential means to combat leukemia or other bone marrow diseases. This is just like the doomsday scenario, which seeks to produce a treatment for disease from the biological material of Jane and her cohort. People compelled to donate would not in any way be responsible for the harm that the bone marrow donation is supposed to address. Finally, just as in the doomsday scenario, a potential harm is done to the bone marrow donors. The donors are harmed by the coercion, by an invasion of their privacy, and by the painful bone marrow extraction process.

The positive duty to rescue (Good Samaritan requirement) is another analogous situation. While some states have enacted minor Good Samaritan laws, the penalties for disregarding them are small, and they only require aid where that aid will not impose a risk on the potential Good Samaritan.<sup>72</sup> A strong Good Samaritan law would require

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<sup>&</sup>lt;sup>72</sup> Murphy, Liam. "Beneficence, Law, and Liberty: The Case of Required Rescue." 89 Geo. L.J. 605 (Mar. 2001).

individuals to confer a benefit on society by always rendering aid when possible. This coercive duty to rescue would not only apply where the Good Samaritan was responsible for the harm he is rescuing the other from. Additionally, this coercive duty to rescue would potentially harm the Good Samaritan. In almost every rescue situation, there is a danger present which might ensnare the Good Samaritan as completely as it has ensnared the individual the Good Samaritan was trying to assist.<sup>73</sup>

These two examples are structurally identical to the doomsday scenario. We will now look at which ethical frameworks would justify strong Good Samaritan laws, and a mandatory bone marrow registry.

1. Social Contract theorists would likely approve of both the Good Samaritan laws and mandatory bone marrow donation. Just as in the first two analogies, the Social Contract theorists would appeal to tacit consent, the covenant between every individual and every other individual, and a behind the veil analysis. Compulsory bone marrow donation and Good Samaritan laws are perfect examples of tacit consent in a social contract. If either policy were to be proposed, they would elicit a great deal of public discourse, and if adopted would confer a potential benefit on everyone in the society. Therefore, anyone who chose to remain in the society and benefit from a compulsory donation regime or Good Samaritan laws could be said to have consented to them. The second basis on which a contract theoretician would support either of these policies is that if the social contract is between every individual and every other individual for the common good, then polices which encourage selfless behavior, such as the good

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<sup>&</sup>lt;sup>73</sup> There are of course rescue scenarios where the risk to the rescuer is almost non-existent. Throwing a flotation device to a potential drowning victim for instance places very little risk on the rescuer. However, a strong duty to rescue might also apply in situations where the rescuer faces greater risks such as the rescuing of someone from a fast moving river. The risk of a rescuer slipping on the bank of a river and falling in might be only 1 in 20, but the consequences to the rescuer of falling in could be grave.

Samaritan law, and policies which save the lives of valuable individuals, such as mandatory marrow donation, can be said to be in the common good. Lastly, a Rawlsian approach would also support these two policies. Rational contracting parties behind the veil will recognize that they are at least as likely to need a bone marrow transplant or a life saving rescue at some point during their lives as they are to have the opportunity to donate bone marrow or to make a rescue. Moreover, a bone marrow donation, while painful, is not deadly and a rescue, while dangerous, is less likely to lead to injury than being in a situation which requires rescue and not having rescue arrive. Thus, any rational actor in the original position would have been willing to agree to a compulsory donation regime, and strong Good Samaritan laws.

2. A Kantian ethical framework would likely not permit either mandatory bone marrow donation or Good Samaritan laws. Both of these analogous situations would violate the categorical imperative that individuals not be used purely as a means to an end. Mandatory bone marrow donation would exist purely to transfer life saving biological material from one person to another. The coercion of the donor is done purely for the prospective donee's benefit, and the biological material taken from the donor is treated as a mere object. Essentially, the donor is just a Petri dish used to grow life-giving tissue. Thus, Kant would probably not support government coercion in this instance. Similarly, Good Samaritan laws treat the Good Samaritan as an automaton. The ends of the law are to benefit society as a whole, and the means is the conveniently placed Good Samaritan. While Kant's golden rule formulation of the categorical imperative would condemn as moral monsters individuals who refuse to donate their bone marrow and

individuals who refuse to rescue others, this condemnation would not provide an ethical basis for government coercion.

- 3. John Stuart Mill would likely approve of both mandatory bone marrow donation and Good Samaritan laws. Just as in the first two analogies, the decisions to not donate bone marrow or not to rescue another individual are not self-regarding behaviors. These decisions directly impact the life chances of other individuals. Therefore, Mill would apply the harm principle. As a rule Utilitarian, Mill would ask whether a universal refusal to donate bone marrow would be harmful to individuals. Because it clearly would be harmful to many people in our society who suffer from bone marrow ailments, Mill would argue that the government must coerce people to participate in the registry. In the context of Good Samaritan laws, Mill would ask whether a universal refusal to render aid to individuals in need of help would be harmful. Because a refusal to render aid to those in need would result in injury to countless accident victims and other unfortunates, Mill would approve of coercive Good Samaritan laws.
- 4. Communitarians as primarily concerned with the well being of the social group, would likely approve of compulsory bone marrow donation, and of Good Samaritan laws. Both of these laws impose relatively minor burdens on individuals when compared to the potential benefits they confer on society. Mandatory bone marrow donation has the potential to save a great many lives. Every time an individual in a society dies, that society loses some value. By implementing a means of protecting the lives of its constituent parts, a society is protecting its resources. Because society's rights supersede the rights of its individuals, society can make a claim over the individual's bone marrow. Communitarians would support Good Samaritan laws for the same reason. Good

Samaritan laws impede on individual rights, but they save lives. This benefits the society, and because society's rights supersede individual rights, society can coerce rescue. Moreover, Communitarians would argue that Good Samaritan laws encourage a strengthening of social bonds by forcing people to help one another. This strengthening of social bonds is a benefit to the community, and justifies the imposition on individual liberties.

The next subsection will look at the disparities between the analogies, and will look for a pattern to describe how government should respond to the doomsday scenario.

# C. Disparities between the analogies

All of the analogies were structurally similar to one another, and to the doomsday scenario. The government compels an individual to confer a benefit on another to that individual's detriment despite the fact that the individual is not responsible for the initial harm. Regardless of this structural similarity, two analogous situations allow for government coercion and two do not. Similarly, two of the cases we looked at permitted the government to coerce an individual for health reasons, but one did not. Because the structural set-up of the scenarios was so similar in all of these cases, it must not be the guiding force behind policy. Neither does it appear as though the possible ethical frameworks are the guiding force behind policy.

In all four above analogies, the Kantian framework would not have permitted government coercion, therefore it can't be used to explain why the government is permitted to coerce in the contexts of the draft and compelled testimony, but not in the

contexts of the Good Samaritan law or mandatory bone marrow donation. Additionally, Kant was not appealed to in either compelled quarantine in *Barmore* or compelled inoculation in *Jacobson*. The only use of the Kantian framework appears to have been in McFall and potentially in the contexts of the Good Samaritan law and compulsory bone marrow donation. Similarly, Social Contract theory, Utilitarianism, and Communitarianism would all have permitted government coercion in the four analogies. Consequently, they can't be used to explain why the government is allowed to coerce in some scenarios and not in others. Furthermore, Social Contract theory, Utilitarianism, and Communitarianism could all have been used in McFall to justify the compulsory bone marrow donation, yet the court refused to apply any of them. While the court in McFall did not appeal to these theories, the courts in Barmore and Jacobson appealed to all of them to justify government intervention in the public health arena. The seemingly inconsistent application of these ethical frameworks makes it difficult to explain why government coercion is allowed in some cases, but not in others, and makes it difficult to extrapolate a means for dealing with the doomsday scenario.

Neither the structure of the analogies nor the ethical frameworks employed explain why government coercion is acceptable in some scenarios but not in others. The factor which appears to be decisive in government response is the exigencies of the circumstances. The appeal to practical considerations explains all of the variance between the cases, and the analogies. In the situations where the government is not permitted to coerce, the consequences of not coercing individuals do not endanger the society, but are relatively minor.

In *McFall*, and in the case of compulsory bone marrow donation, the consequences of not allowing government compulsion are minor. It seems rare that a family member who is a bone marrow match will refuse to donate that material. Thus, the number of lives put at risk by the decision in *McFall* is very small. Additionally, even though mandatory bone marrow donation could potentially save many lives, the consequences of those deaths for society as a whole are small. Society survived for centuries without the ability to transplant bone marrow from one individual to another. Because of this simple historical fact, there is little worry that society's survival is threatened by not coercing bone marrow donations.

Just as in the bone marrow context, Bad Samaritans don't threaten society itself.

Most of us want to believe, rightly or wrongly, that people will rescue others whether or not a law imposes a duty on them to do so. Because of this belief, the impact of not imposing a duty to rescue seems very small. While not imposing a duty to rescue probably results in a number of lives lost every year, again this loss does not even come close to threatening society's stability. Where there is little worry that the community will be substantially weakened, it appears that the government is not permitted to intervene in the autonomy interest of individuals. However, where there is a grave risk, intervention will be allowed.

Compelled quarantine and inoculation were both approved of by the courts in *Barmore* and *Jacobson* respectively. These two situations presented a substantial risk to communities. In the early 20<sup>th</sup> century, Typhoid and small pox presented substantial concerns. Medicine had not progressed to the level of being able to effectively treat Typhoid, and small pox even to this day remains a terrifying boogeyman which we fear

terrorists may unleash upon us. The courts, in granting the government coercive powers to deal with these threats, were concerned about the survival of society if these diseases were left completely unchecked. A small pox epidemic would not only kill potentially hundreds of thousands of people, but would leave thousands of orphans, could cripple the national economy for years, and could threaten the ability of a democracy to operate. These potentially community-shattering consequences were what justified government interference with individual liberty.

The consequences of not permitting conscription into the military are similarly severe. The draft is a mechanism for the government to shore-up the military in desperate circumstances. If the government were not able to compel people to join the military where necessary, the government could not protect national security. Society risks annihilation at the hands of foreign powers if it is not able to conscript soldiers. It is this total risk to the community which justifies the government's ability to intervene in its citizens' autonomy.

Compelled testimony is similarly necessary to stave off potentially society-crippling ills. While many people are willing to testify in criminal trials, if the government lacked the ability to compel testimony it is possible that the willingness to testify would dissipate. People know that if they don't voluntarily cooperate with the court, they can be held in contempt. Moreover, criminals know that threats to witnesses are likely to be ineffective because the government can equally threaten witnesses as well as protect them through the witness relocation program. With our society's deference to the defendant, it is possible that many criminal prosecutions would become unsuccessful. While we aren't sure what would happen in this counter-factual scenario, it is reasonable

to believe that crime would increase, and that society's functioning would be substantially impaired. It is this pragmatic fear which justifies the government's intervention in the liberty of its citizens in the case of compelled testimony.

Where pragmatic concerns are the driving force behind allowing government to intervene in the lives of individuals, it appears as though government would be granted near carte blanche in the doomsday scenario. As argued earlier, the government's interest in halting a highly lethal, highly contagious pandemic is perhaps second only to its interest in avoiding nuclear war. The potential consequence of not forcing Jane and her cohort to submit to research is a near total collapse of society. Even though forcing Jane and her cohort into research might result in their deaths, where those deaths could save the lives of millions, a pragmatic calculation must give the government the power to compel Jane.<sup>74</sup>

Having answered the question of whether or not Jane *et al* can be compelled in the doomsday scenario in the affirmative, all we are left with is the debate over which ethical framework to use to justify that decision.

## D. Is a pragmatic approach really an unprincipled approach?

The seeming discrepancies between the ethical approaches applied in the analogies and in the court cases expose the fact that in reality public health law does not fit neatly within any single ethical framework. The so called pragmatic framework is really much more of a communitarian framework tempered by a deep respect for individual autonomy

<sup>&</sup>lt;sup>74</sup> Jonas, Hans. "Philosophical Reflections on Experimenting with Human Subjects" Daedalus, Journal of the American Academy of Arts and Sciences vol. 98 no. 2 (Spring 1969) pg 227-229.

and rights.<sup>75</sup> The confusing outcomes between the court cases and the analogies is due to the fact that while the courts recognize public health law's connection to communitarian principles, the letter of the law itself is much more based in liberal principles. This disconnect helps to explain why on the one hand the government can force young men to go to war, but on the other hand can't force people to rescue their fellow citizens even when the risk of rescuing is low. The disconnect between communitarian policy and liberal law can be seen in the Supreme Court's strict scrutiny approach to coercion in the public health context.

The Supreme Court's three pronged approach, which looks at whether the government has a compelling interest, whether the ends are closely related to the means, and whether a less restrictive approach is possible, by not including a balancing element, is based in a liberal ethical framework. The first prong of the test does involve some consideration of the benefits of the potential government coercion to the community as a whole. Unfortunately, because the 3 part test is an element test, no matter how compelling the government's interest is, if either of the second two elements to the test is not met then the Court can not allow the government to coerce. This strong deference to individual rights does not interfere with effective public health response in the case of well known dangers such as small pox. This is because we have data that helps us to make an accurate ends/means calculation, and because we know the least intrusive means of achieving our public health goals. The problem is that in circumstances such as the doomsday scenario the Court's approach wouldn't work effectively. As discussed earlier

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<sup>&</sup>lt;sup>75</sup> It is actually hard to say whether the public health laws are communitarian in nature, but consider the impact of coercion of individuals on the community's overall well being, or if the public health laws are a combination of liberal and communitarian ideals. In the former circumstance respect for individuals is only considered because of its impact on the community, whereas in the latter respect for individuals is intrinsically valuable.

in the article, government coercion of Jane and her cohort would probably not pass the Supreme Court's strict scrutiny approach. However, Jane and her cohort would probably still be coerced into participating in the research because the exigencies of the circumstances would require their sacrifice even if the ends/means analysis showed that experimenting on Jane and her cohort had a very small likelihood of achieving a generalizeable treatment in time. As the old adage goes, "bad facts lead to bad (or inconsistent) law." The real ethical driver behind public health law, communitarian principles tempered by a respect for individual autonomy, would lead the Supreme Court to come up with a long and tortured justification for coercing Jane and her group, which would be confusing, inconsistent with precedent, and inconsistent with their prior formulation of strict scrutiny in the public health context. In order to avoid confusion the Court should adopt a new test for government coercion in the public health context, which acknowledges the communitarian roots of public health policy while still paying deference to the rights of individuals. The next section suggests what a new test might look like.

## E. Possible future approaches to the doomsday scenario.

A new test for determining when and under what circumstance the government may coerce one of its citizens into participating in dangerous research for the benefit of the public health, must be able to quickly and consistently address the whole range of possible public health emergencies. Nancy Kass, a bioethicist at Johns Hopkins School of

Public Health, has suggested a six step analysis for potential coercive public health interventions.<sup>76</sup>

This six step analysis seeks to carefully balance the needs and concerns of the public against the rights of the individual. Step one of the analysis is for the goal of the planned public health intervention to be determined.<sup>77</sup> The second step of the analysis is to evaluate the likely effectiveness of the planned intervention in achieving the identified goals of the intervention. 78 These first two analytical steps are critical in determining the kind and degree of benefit that the community can expect from the proposed coercive interventions. For instance, a proposed quarantine of HIV positive individuals would not be particularly effective at stopping the spread of HIV because it is not a particularly contagious virus. 79 The third step suggested by Nancy Kass is to assess the burdens placed on individuals by the proposed coercive action. 80 This step is critical because this is where the liberal ethical considerations over individual autonomy and an individual's right to bodily integrity come into play. The fourth step in the analysis is to consider whether the burdens placed on individuals can be reduced while still effectively achieving the goals of the planned public health intervention. 81 Nancy Kass, in asking whether the harm to individuals can be reduced while still gaining the public health benefit, again recognizes the importance of individual rights while still focusing on the rights of the community to be protected from disease. The fifth step is to determine how to implement the planned public health intervention in a fair manor and in a way which

<sup>&</sup>lt;sup>76</sup> Ries, Nola M. "Public Health Law and Ethics: Lessons from SARS and Quarantine." Health Law Review vol. 12 num. 1 pg 4 (2005).

<sup>&</sup>lt;sup>77</sup> Id. at 4

<sup>&</sup>lt;sup>78</sup> *Id*.

<sup>&</sup>lt;sup>79</sup> *Id*.

<sup>80</sup> *Id.* 

<sup>&</sup>lt;sup>81</sup> *Id*.

avoids groundless discrimination.<sup>82</sup> The final step in the analysis proposed by Kass is to ask whether the benefits of the proposed coercive action outweigh the costs of the action. 83 This final step in the analysis takes into consideration all of the answers from the previous five steps and makes a holistic evaluation as to whether or not the proposed coercive public health intervention is the best course of action. This determination is based on both the interests of the community (Communitarian framework), and the interests of the individuals whose rights are to be impeded (liberal/Kantian framework). Would Kass' analytical framework conclude that coercion of Jane and her cohorts is acceptable under the doomsday scenario?

The goal of coercing Jane and her cohort to participate in research in the doomsday scenario is to try to devise some sort of treatment for the illness, or to learn how to immunize others against the illness. The likelihood of achieving this goal by pressuring Jane and her cohort to participate in research is very small over a short period of time. At some point the deadly pandemic would likely burn itself out, thus, the most important goal is to devise a treatment quickly. On the other hand, one of the goals of coercive research would be to understand the illness better and to eventually devise a treatment. This less urgent goal would likely be helped by the coercion of Jane and her cohort. The third step in Kass' analysis would assess the burdens placed on Jane and her group by coercive research. The doomsday hypothetical supposes that these burdens are very high over and above the standard burdens of confinement and lack of self-determination. Jane will be subject to potentially painful and injurious experimentation. The fourth step in the analysis asks what can be done to reduce the burdens placed on Jane. Unfortunately, in

<sup>&</sup>lt;sup>82</sup> *Id*. <sup>83</sup> *Id*. at 5

the doomsday hypothetical, time is of the essence and so it would be difficult to substantially meliorate the burdens of the research. Jane and her group could certainly be offered substantial compensation for their forced participation, and all efforts at safety and pain reduction could be taken, but it would be difficult to avoid all discomfort. Moreover, the substantial burden of confinement against one's will could not be substantially reduced, no matter how nice the accommodations were made for Jane and her group. The fifth step in the analysis, which asks that the intervention be as fair as possible would determine that the intervention was being fairly targeted to those individuals who are most likely to be able to provide some sort of public health benefit by being subjected to research. The final part of the analysis would be to weigh all of the potential costs of coercing Jane and her cohort into injurious research against all of the potential benefits that the research could produce. The costs include not only the individual burdens born by Jane and her group, but also include the costs imposed on the community in allowing some members of the community to be coerced for the benefit of the other members of the community. These costs would then be weighed against the benefit that the community could receive from successful research multiplied by whatever the probability of success for that research is. While the probability of success is low, the great potential benefit of successful research in the doomsday scenario would mean that under Kass' analysis the government should be allowed to coerce Jane and her group.

Kass' analytical method does a good job of recognizing the important elements, which must be considered both from a Communitarian and from a Liberal/Kantian ethical framework. Moreover, her analytical method could easily be incorporated into the United

States' public health decision making process. The Supreme Court's strict scrutiny approach in the public health context could be modified to include consideration of all of Kass' steps simply by changing it into a factor analysis and by adding a fourth factor, which would weigh the costs of the coercion against the potential benefits. The first factor in the modified Supreme Court test would be whether or not the government has a compelling interest in coercing the individual. This factor would essentially set a threshold. When government interests did not pass the threshold established by this factor, the Court's analysis would be more heavily influenced by a Liberal/Kantian ethical framework, which would value individual autonomy over community interests. However, if the government's interest in coercing the individual surpassed the threshold, the Court would be more heavily influenced by communitarian considerations. The second factor in the modified test would be the ends/means comparison. The ends/means comparison basically replaces the first two steps in Kass' method by asking what the goals of the government's coercion would be, what the probability of achieving those goals is, and whether the proposed coercive method is the best method for achieving the goals. Additionally, the ends/means question also addresses Kass' fifth step by making sure that the coercive method is sufficiently targeted towards achieving the government's compelling interest. If the means of achieving the government's interest are discriminatory then they are not as highly targeted as they can be, and the Court should find that the means are not closely related enough to the ends. Thus, unjustifiably discriminatory coercive practices would not survive the modified Supreme Court test. The third factor in the modified Supreme Court test would look at whether the proposed coercive action is the least restrictive means of achieving the government's purpose. This factor correlates closely with Kass' fourth step, and ensures that the government will take all available steps to reduce the burdens on the individual. The fourth and final factor in the modified Supreme Court test is a cost benefit analysis. This factor mirrors Kass' sixth step and also ensures that the Court considers Kass' third step, which was an assessment of the costs likely to be imposed on the coerced individuals.

This modified test, if implemented by the Supreme Court in a future case or if imposed by congress, would be able to respond to public health questions in a consistent manner. By still requiring the government to meet the threshold of having a compelling interest in the coercive act, the Court grants a strong degree of deference to principles of individual autonomy. Moreover, the second and third factors of the Court's modified test protect individuals against capricious or discriminatory actions. Despite all of these protections for the rights of individuals, the fourth factor, which requires the Court to balance the interests of the community against the rights of the individuals grants the Court the ability to protect the public's health and to ensure that the rights of communities against unnecessary dangers can be protected. If Congress or the courts were to adopt this modified test, the agencies responsible for public health would undoubtedly adapt their regulations to conform with the new test so that the U.S. public health system as a whole could consistently respond to difficult ethical public health questions.

The biggest criticism of the proposed modified test is that by introducing a balancing test into the court's analysis the modified approach potentially creates a slippery slope problem. Somebody can almost always plausibly argue that society can be benefited as a whole by the coercion of a couple of individuals. For instance one could

argue that the community benefits if it forces one citizen to donate all of their organs, if those organs save the lives of two or more other people. However, this slippery slope argument can only be made if someone looks at the modified test in the most superficial of ways. The balancing factor in the modified test must consider all of the costs associated with a coercive action. These costs include the social and moral costs that would inevitably come from a decision to allow society to murder one individual for the benefit of several others. Consequently, the modified test suggested herein would be unlikely to lead to any results generally considered unconscionable by either a Liberal/Kantian or Communitarian ethical framework.

#### Part IV

#### Conclusion

The doomsday scenario must permit governmental coercion. While this may be the case, it is still critical that the question of whether or not Jane and her cohort can be compelled is publicly debated and settled before the doomsday scenario arrives in reality. As argued in the introduction, settling the question beforehand avoids several ethical problems, and allows the government to respond to an unparalleled emergency with the appropriate rapidity.

It may seem that past public health decisions have been made based purely on pragmatic concerns and not based on adherence to a particular ethical framework. This perception is created because the courts have not relied on a single ethical framework, but have incorporated elements of many different frameworks into their decisions.

Ultimately, it does not matter what ethical frameworks would be used in the decision making process regarding the doomsday scenario. The main purpose of ethical frameworks is to facilitate human interaction and cooperation. As Thomas Hobbes argued, ethical norms allow men to rise from the state of nature and to build connections with one another. Their purpose is to facilitate human advancement. However, when an external force such as a lethal pandemic arises which has the potential to force humans back into the state of nature, all other ethical imperatives must be pushed aside until the external threat is dealt with. When human society and development itself is threatened, all ethical rules which impede human society's defense must perish before the imperative that humans survive.

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<sup>&</sup>lt;sup>84</sup> Hobbes, Thomas, Edited by Richard Tuck; *Leviathan* Cambridge University Press, New York. NY (2000).

<sup>(2000).

85</sup> Jonas, Hans. "Philosophical Reflections on Experimenting with Human Subjects" Daedalus, Journal of the American Academy of Arts and Sciences vol. 98 no. 2 (Spring 1969) pg 227-229.