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The relational view of autonomy recognizes the need to collectively organize society's resources so

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The ethical principle of autonomy is among the most fundamental in ethics, and it is particularly salient for those in public health, who must constantly balance the desire to improve health outcomes by changing behavior with respect for individual freedom. Although there are some areas in which there is a genuine tension between public health and autonomy—childhood vaccine mandates, for example, or motorcycle helmet laws—there are many more areas where not only is there no tension, but public health and autonomy come down to the same thing. These areas of overlap are often rendered invisible by a thin understanding of autonomy.

Better integrating newer theoretical insights about autonomy into applied ethics can make discussions of public health ethics more rigorous, incisive, and effective. Even more importantly, bringing modern concepts of autonomy into public health ethics can showcase the many areas in which public health and autonomy have the same goals, face the same threats, and can be mutually advanced by the same kinds of solutions.

Scholars in bioethics have begun to identify what Bruce Jennings has termed a "relational turn" in our understanding of autonomy.<sup>1</sup> This view of autonomy rejects a centuries-old belief that the individual can or does somehow stand apart from his or her community, social circumstances, and political environment. As the philosopher John Christman puts it, "In any number of ways we are constituted by factors that lie beyond our reflective control but which nonetheless structure our values, thoughts, and motivations."<sup>2</sup>

Much of the most exciting work on autonomy comes from feminist philosophers.<sup>3</sup> Although there

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are variations within this tradition in the understanding of autonomy, they all recognize that individuals' beliefs and values are arrived at through social processes. Jennifer Nedelsky calls the notion of autonomy as isolation from outside influence a "pathology" and observes, "[I]f we ask ourselves what actually enables people to be autonomous, the answer is not isolation, but relationships—with parents, teachers, friends, loved ones."<sup>4</sup> Partly for this reason, the external environment must promote autonomy.

Feminist philosophers have argued that once we recognize that individuals are all constituted by others, notions of autonomy shift from isolation to processes of self-reflection that enable individuals to choose among the norms and beliefs that the external world makes available to them. Marina Oshana and others have pointed out that the external world makes genuine choice possible.5 At the same time, individuals must have the capacity to engage in a process of self-aware and self-respecting reflection about their own motivations, values, and beliefs.6

In the relational way of thinking, autonomy is understood, not as individual isolation, but as individual empowerment. This approach reaches back at least as far as the institutional economists of a hundred years ago, who mocked the notion of an isolated individual as "a globule of desire."7 More recently, the capability theory of Jean Drèze and Amartya Sen emphasizes how social and economic structures can either succeed or fail to provide the individual with means to basic needs as well as to the kinds of accomplishments and freedoms that constitute well-being.8

From this starting point, the relational view of autonomy recognizes the need to collectively organize society's resources so as to enable human flourishing, and it has much in common with the mission of public health, which has been defined as "[w]hat we, as a society, do collectively to assure the conditions for people to be healthy."<sup>9</sup> Yet while the philosophy of autonomy is both deep and rapidly changing, public health has often both operated with and been critiqued through very elementary understandings of autonomy. As a result, public health debates often invoke the concepts of freedom and liberty without any clear sense of what these terms mean.

The purpose of this article is to provide a schema for relational autonomy in a public health context and to give concrete examples of how autonomy can be served through public-health interventions. Rachel Haliburton has argued that autonomy requires an external environment that offers an adequate range of choices as well as a process of reflection that is not influenced by manipulation, exploitation, or decepof which has different implications for autonomy. The field of economics is used as the frame in this section because economics has sold itself-to a very large extent successfully-as the theory of choice. Economists study not just traditional economic spheres like employment and prices but also choices around many health-relevant decisions concerning, for example, food; physical activity; medication adherence; insurance; risky sexual behavior; and drug, alcohol, and cigarette use, abuse, and addiction. Modern economics has to some extent incorporated insights about decision-making from psychology. Economic models of choice begin with the rational choice model.

*Rational choice.* The rational choice model assumes that people

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tion.<sup>10</sup> Building on this conception, this article marshals insights from sociology, psychology, and philosophy to advance a theory of autonomy and coercion that recognizes three potential threats to autonomy: threats to choice sets, threats to knowledge, and threats to preferences. The goal is to provide greater clarity about public health challenges that implicate autonomy, including protecting autonomy in a public-health policy context, identifying the desiderata of autonomy when balancing autonomy against the principles of beneficence or justice, and engaging in ethicsbased advocacy in the political realm.

### **Theories of Choice**

An understanding of autonomy will depend on one's understanding of how the mind works. Modern conceptions of the mind can be summarized through three alternative choice theoretical frameworks, each have fixed preferences that they understand perfectly-in the sense that they know how particular choice options will sit with them-and that people carefully weigh the affective costs and benefits of all choice options and then choose the one that best aligns with their preferences. (On top of these assumptions, economists often layer additional assumptions about perfect information, frictionless markets, perfect enforcement of agreements, smooth investments, and so on. These additional assumptions are not necessary to the rational choice model, but the rational choice assumptions are essential to all of orthodox economics.)

In rational choice theory, only the most flagrant coercion is possible. Short of having a gun pointed at one's head, a choice once made is a choice made well, a doctrine formalized in the theory of revealed preference. It is rational choice theory that has supported the negative view of autonomy as a state of individual isolation and atomistic independence. In political and popular discourse, moreover, rational choice theory is often taken to imply that the power of coercion is limited to government, so that autonomy becomes a simple matter of limiting government power.

The rational choice model is widely embraced in the United States and serves as the default model-often unacknowledged although nearly always present-for policy-making. For some narrow uses-such as predicting the reduction in demand that will follow an increase in a consumption tax—the model is a close-enough approximation. But as a conceptualization of how the mind works, rational choice is completely wrong. A huge body of research in public health,<sup>11</sup> psychology,<sup>12</sup> sociology,<sup>13</sup> philosophy,14 institutional economics,15 and behavioral economics16 has demonstrated that the rational choice theory has both conceptual and empirical fatal flaws.

*Two-brain models.* A common example of the failure of rational choice occurs when people are asked how much a ball costs if a ball and a bat together cost \$1.10 and the bat costs \$1.00 more than the ball.<sup>17</sup> Most people get the answer wrong, guessing 10 cents.

To explain results like these, many scholars have resorted to a theory of two brains: we are said to have a fast brain and a slow one, or an intuitive one and a reasoning one, or an emotional one and an effortful one.18 Two-brain theory leads us to believe that there is a perfectly good rational brain that is interfered with by a dogged competitor that is somehow both dumber than the rational brain yet also able to regularly outfox it. In the ball-and-bat example, students at the Massachusetts Institute of Technology are far more likely than others to provide the right answer, and on this basis, it has been argued that those who do poorly on questions like these are lazy thinkers, "impulsive, impatient, and keen to receive immediate gratification."19

Two-brain theory has been criticized on ethical grounds,<sup>20</sup> but it is unsatisfying for other reasons as well. It is empirically weak (in that it cannot be falsified as a causal model), and it is descriptively false—even its proponents recognize that there are not actually two distinct structures in the brain.<sup>21</sup> By preserving an assumption of complete rationality on the part of one of the two brains, twobrain theory also preserves all the conceptual and empirical flaws of the rational choice model itself while offering no new advantages or insights.

*Multilevel theory.* Against the two-brain model is multilevel theory, which reaches back to conceptions of habit at the origins of psychology<sup>22</sup> to suggest that people's thinking is organized by cognitive habits, or chains of related thoughts that are, in the words of one modern neuroscientist, "chunked together"<sup>23</sup> for greater efficiency, much like subroutines within a computer program.<sup>24</sup> Each has its job to do and is maximized for that operation.

Language use is an example of cognitive habits, with more sophisticated and abstract words learned through the use of-and ultimately replacing—longer chains of simpler and more concrete words learned early on. Cognitive habits are inherently social, as others constantly influence the development of our own cognitive habits. In multilevel theory, we don't so much have fixed preferences as cognitive habits that we reach for as the situation demands. As we confront more and more complex situations, these cognitive habits become more elaborate, and they evolve over time so as to direct our actions toward that which serves our own true interests. We are not rational in every decision, but, left undisturbed, our cognitive habits ensure that generally we get it right in the long run.

People make mistakes because they use cognitive habits that were developed for one situation in other situations that are superficially similar. The MIT students are better at the baseball-and-bat question not because of some innately superior moral quality,<sup>25</sup> but because, unlike non-MIT students, they have a cognitive habit readily available that lets them solve for x when x + (x + 1.00)= \$1.10. Developing such a cognitive habit requires dedication over the long term, along the lines of Jimi Hendrix practicing guitar or Michael Jordan layups.

In multilevel theory, people's cognitive habits evolve over the lifespan to better manage the decisions and challenges people face. Faced regularly with math problems, people will develop more elaborate cognitive habits for math. Bus drivers faced regularly with complicated spatial and social challenges of steering a bus through a crowded city will develop elaborate cognitive habits that enable them to avoid crashes. Cognitive habits promote well-being in people's usual environments.

Because cognitive habits are both learned from others and adapted to a particular environment, multilevel theory supports the relational turn in autonomy in "reject[ing] the notion that an individual can be abstracted from social being and ecological place."<sup>26</sup>

### A Conceptual Model of Autonomy

The field of public health wishes to move people's cognitive habits toward healthy behavior, but it is also ethically bound to respect autonomy. Public health accordingly has a strong interest in developing a sophisticated understanding of autonomy. The relational turn suggests that autonomy is rooted in securing an environment in which people have the capacity to choose lives that are authentic in the ways sketched above. This is a very consequential difference in what autonomy means for public health.

A good starting place to enrich our understanding of autonomy is to recognize three threats to autonomy that can come from other individuals, but also from social, political, or economic structures. These threats to autonomy may be categorized into three non-mutually exclusive mechanisms: threats to a person's choice set, threats to a person's preferences, and threats to the knowledge a person has to make decisions. Concrete examples of each of these threats follow.

*Threats to choice sets.* In a classic case of coercion, a fellow with a gun approaches a mark in a dark alley and, brandishing his weapon, demands, "Your money or your life!" This scenario is unambiguously coercive. Even though the victim is offered a choice, and even though this choice has many of the hallmarks of an individual decision, the options in the victim's choice set are poor. And in fact, the choice set has been made poor through the deliberate actions of someone else, who hopes to influence the choice made.

George W. Bush made a similar threat to Saddam Hussein in the runup to the second Gulf War, saying that Saddam should fully cooperate with United Nations weapons inspections or face bombing by the United States. "It's his choice," said Bush repeatedly. Severe limitations on abortion providers limit the choice sets available to women with unplanned pregnancies. In this example, claims of beneficence are made that, if valid, would qualify the limits on choice sets as not being manipulative or coercive. Yet these claims of beneficence are contestable, and whatever beneficence there is could be secured by a less extreme limitation of the choice set. The result is a form of manipulation: the restriction by others of women's set of choices constrains women's autonomy.

These scenarios illustrate the first threat: constriction of the choice set. They are all rather stark in that they involve the deliberate manipulation of a choice set to achieve a particular end. But threats to autonomy can exist even in the absence of frank coercion, especially if the choice set is limited to unappealing or harmful options.

Acting on the advice of public health experts, school cafeterias around the country have stopped serving milk that contains milkfat. The resulting impoverishment of choice sets has meant that kids have to choose between tasteless skim milk or sugared skim milk. Public health experts have justified this manipulation of children's choices on the basis of beneficence. Yet there has never in fact been any solid evidence of a health benefit associated with replacing consumption of whole milk with consumption of skim milk, soda, or even water. The idea that skim milk is less fattening than whole milk was pushed by the dairy industry as a means of selling the otherwise useless byproduct of butter production.<sup>27</sup> Restricting choice sets to achieve a particular behavioral end cannot be ethically justified in the child's inwould and do choose to bike.28 Improving the reliability and frequency of buses also expands the choice set, as do safe-routes-to-school initiatives. Yet many governments at the local, state, and federal levels prioritize road-building and road-widening expenditures that serve only a subset of the population (without in fact producing the benefits claimed<sup>29</sup>) and do nothing to expand the transportation choice set. The result is that even when people prefer active transportation as a way of getting to work, school, or a store, they are unable to choose it: their choice set does not include biking. In the context of transportation, expanding the choice set would promote autonomy.

And indeed, many public health actions work best when they expand

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terest if the public health community has not done its due diligence to make certain that the behavioral change is in fact beneficial. In this example, public health did not wish ill for the children, but, out of insufficient professional attention to beneficence, allowed itself to be used by the dairy industry. Restricting choice sets is ethically suspect and should be understood as requiring particularly careful justification.

In many situations, such as the examples above, the constriction of choice sets is obvious, and it's a deliberate goal of policy. But in other situations, the constriction of choice sets may be less obvious and not as tightly tied to a particular end.

A community that simply hasn't gotten around to building a network of safe bike trails is not guilty of coercion. Yet at the same time, expanding the bike network will unambiguously foster autonomy by broadening the choice set. Installing protected bike lanes significantly increases the percent of commuters who say they people's choice sets—creating more paths to healthy behavior. For example, when farmers' markets accept food stamps, the purchase of fruits and vegetables among low-income shoppers increases. The public health benefit operates, not through any form of coercion, but through the expansion of choice sets.

Examples of threats to choice sets are rife in public health and in public policy generally. Some, like food deserts, are relatively obvious and have received considerable attention in public health. Others, like a lack of affordable housing that causes people to experience low disposable income, extreme crowding, or long commutes—thereby limiting capabilities for active living and healthy eating are subtler.

When autonomy is understood as broadening choice sets, it dovetails with public health's goal of promoting full engagement with society.

*Threats to preferences.* There is a large literature in philosophy and institutional economics about what

preferences are or even whether they exist in any meaningful sense. It is easy to believe that we have strong likes and dislikes and that these are consistent and well understood. Yet both empirical evidence and critical theory suggest that our preferences are not this simple.

Economist Dan Ariely has conducted a fascinating experiment falsifying the notion of stable preferences.<sup>30</sup> After reading a bit of poetry to his classes, he announces that he'll be giving a poetry reading a few days later and would like to invite his students to attend. In some classes, he tells the students that he is worried that no one will show up and, to avoid embarrassment, he is willing to pay them to attend. He takes a survey of this class, asking how much they would have to be compensated to listen to his poetry reading. In other classes, he tells students that the venue is overbooked but that, for a price, he can get them in. His survey to these students asks how much they would be willing to pay to attend the reading. The results are fascinating. The students who were told that they would have to pay to get in are willing to pay, and the students who were told that they would be compensated for showing up demand payment. What's more, there is a strong dose-response relationship: students demand twice as much payment-or are willing to pay twice as much-when the poetry reading is six minutes long as when it is only three minutes long. Not only can preferences be manipulated; in this experiment, they are essentially created de novo.

Poetry may be an area in which people don't have fixed notions. Yet even on more consequential matters, people's preferences can be easily manipulated. The research demonstrating this—in the context of university studies—is subject to careful safeguards designed to limit any potential damage from the deception and manipulation. Of course, there are no such limits in the broader world of advertising. A host of studies have demonstrated the effectiveness of a variety of marketing techniques, including advertising, but also product placement, bundled pricing, product location within a store, store location within neighborhoods, and packaging. Such marketing has a strong influence on people's food choices,<sup>31</sup> as well as on patients' and physicians' choices around medical treatment.<sup>32</sup>

Although these threats to preferences are ubiquitous, they are not always evenly distributed. One study found that advertisements for obesigenic foods and alcohol are six times as prevalent (on either a per-person or per-square-mile basis) in low-income minority neighborhoods as in high-income white neighborhoods.<sup>33</sup> (Both race and income independently contributed to this disparity.)

Because many effects of advertising operate at the unconscious level—as they are purposefully designed to do—much of consumers' behavior in response to it cannot fit under even the minimum definition of autonomy offered by feminist philosophers, which requires that there be a process of conscious and thoughtful decisionmaking in determining the contours of one's life.<sup>34</sup>

In one of the most widely invoked—and perhaps most misremembered—articles in public health, John McKinlay introduced the concept of "upstream factors" in the determinants of health. McKinlay's article begins with an allegory:

There I am, standing by the shore of a swiftly flowing river and I hear the cry of a drowning man. So I jump into the river, put my arms around him, pull him to shore and apply artificial respiration. Just when he begins to breathe, there is another cry for help. So I jump into the river, reach him, pull him to shore, apply artificial respiration, and then just as he begins to breathe, another cry for help. So back in the river again, reaching, pulling, applying, breathing and then another yell. Again and again, without end, goes the

sequence. You know, I am so busy jumping in, pulling them to shore, applying artificial respiration, that I have no time to see who the hell is upstream pushing them all in.<sup>35</sup>

Today, the term "upstream factors" is typically used for factors like education or income and less commonly for population-level factors such as the built environment. It's as if the field has understood the task as one of going upstream to teach people to swim before the river becomes too treacherous. McKinlay's radical point was closer to the opposite of this approach: he insisted that someone is pushing people in, and he called these agents "manufacturers of illness." As examples of these manufacturers of illness, McKinlay offered advertisers and political lobbyists-two groups whose job it is to manipulate preferences.

*Threats to information.* "It was a very smart thing the sugar industry did, because review papers, especially if you get them published in a very prominent journal, tend to shape the overall scientific discussion,"<sup>36</sup> said medical researcher Stanton Glantz, discussing revelations that the sugar industry paid Harvard researchers in the 1960s to emphasize the role of fat in heart disease and minimize the role of sugar.

Anyone who can convincingly tell a lie can make a few bucks conning the naïve. Anyone who can get an expert to tell a lie can make a mint getting people to do things that aren't in their interest—taking Avastin for breast cancer, taking supplements to ward off disease, widening roads to reduce traffic. And anyone who can manipulate the production of scientific evidence can control huge segments of our lives for decades.

Everything we know—except perhaps our most immediate experience—is socially constructed. Does high sugar intake lead to diabetes? Is global warming happening? Is the earth round? Questions like these are too large to be answered exclusively through individual personal experience, and so we depend on an elaborate social apparatus for answers we believe we can trust. We hide the social part of this apparatus behind a thick velvet curtain by calling it science, but in fact, science is only as strong as scientists—individually and collectively—and scientists can be swayed.

Some believe that they are on solid ground when they put their trust in an evidence-based scientific consensus, rather than in, say, Jenny McCarthy. But as the history of the sugar industry's role in medical research illustrates, even a strong scientific consensus can rest on shaky foundations. In 2017, a major review of the evidence base for dietary guidelines around sugar intake37 was assailed immediately after publication for its omission of key studies and arbitrary evaluation of evidence quality. The review had been funded by the food industry but had undergone a rigorous peer-review process and been published in a top-tier scientific journal. Even if the major findings of this review are ultimately vindicated, there is no doubt that the vast quantities of self-interested money washing through the scientific process cannot be good for the quality of evidence.<sup>38</sup> What one scholar has called "a culture of influence and accommodation that naturalizes the presence of commerce within medicine"39 vitiates medical information.

These problems are exacerbated by the public's common misconception of the scientific process, which is of course neither rapid nor direct. Frequent dead ends and faulty theories are a necessary part of science, yet these problems can be taken by a cynical public as implying that scientists don't know what they're talking about. As a result, science can be misunderstood both as being too good-immune from self-interested meddling-and yet also not good enough-slow and inherently full of errors even without the effects of self-interest.

Oddly, the idea that decision-makers must have access to high-quality information to make decisions consistent with autonomy is well recognized in clinical ethics yet largely ignored in public health ethics. The history of ethics recognizes that it is an impingement on autonomy to present people with false information relevant to a choice they must make. For the same reason, it should be seen as an impingement on autonomy to interfere in the social processes through which information is produced.

When a government agency funds an academic review to determine whether spinal fusion reduces back pain, the resulting analysis contributes to informed decision-making. But when a group of orthopedic surgeons successfully lobbies Congress milk is healthier than whole milk, the petroleum industry's false notion that climate change is uncertain, and the neoconservative movement's deeply incomplete notion that markets are efficient.<sup>43</sup> But the biggest and best example of deep capture is the belief that deep capture itself doesn't exist that science is a teleological force independent of powerful meddling, that people make up their own minds about preferences, and that everyone has free choice.<sup>44</sup>

### **False Autonomy**

In 2010, the Federal Trade Commission charged Pom Wonderful with false advertising because of its unsupported claims that its pomegran-

Autonomy requires an environment in which each person is free to choose life options—such as healthy behaviors and health investments—out of a self-confident and self-aware process of reflection.

to reduce funding for the agency that funded the research, that violates autonomy.<sup>40</sup> The surgeons are using patients as means to the surgeons' ends, not as ends in themselves.

Similarly, evidence is now emerging that the pharmaceutical industry misled physicians about the addictiveness of opioid pain medication. This subterfuge involved both threats to information and—through traditional pharmaceutical marketing campaigns—threats to preferences. As a result, opioid abuse is one of the leading causes of lost life years in the United States. The pharmaceutical companies are almost literally manufacturers of illness.

The process of manipulating science or public agencies to change the types of information that people know has been called "deep capture."<sup>41</sup> Examples of deep capture include the food industry's false nostrum that obesity is mainly the result of inadequate physical activity,<sup>42</sup> the dairy industry's false notion that skim ate juice prevents heart disease and erectile dysfunction and can "cheat death." In response, Pom placed large banner ads at the top of major news websites, inviting customers to reach their own conclusions: "FTC vs. POM: You be the judge."

This is not merely an isolated incident, but an example of a much larger problem. In what has been called an "extreme form of epistemological relativism,"<sup>45</sup> people are encouraged to believe that they should decide not merely what they want to do, but what the facts are about climate change, the health dangers of smoking, and the adverse effects of vaccines.

The truth about matters like these—in fact, in most matters—is never knowable in any immediate or absolute sense. Instead, philosophers in the pragmatic tradition have argued that the truth is a hypothetical construct—never reachable but ever more approachable—that we are fated to believe after careful inquiry and undistorted debate. Critical to this definition is the notion of a social group. Solipsism and truth are incompatible. For that reason, it makes no sense to ask individuals to decide whether the FTC or POM has the truth. Autonomy is not served by asking consumers to decide on facts. On the contrary, this is a false autonomy-an appeal to individual choice that in fact limits informed decision-making, and therefore autonomy, because it specifically forecloses the path through which philosophers have argued we get closer to the truth. In this sense, asking individuals to make up their own minds about such matters serves ignorance, not truth.

### **Autonomy in Public Health**

The conceptualization of autonomy **I** advanced here—involving threats to choice sets, threats to preferences, or threats to information-implies that autonomy is less about the absence of external influences than about creating an environment in which each person is free to choose life options-healthy behaviors; health investments; the time, place, and manner of living, working, playing, and praying-out of a self-confident and self-aware process of authentic reflection. Autonomy in this account is understood in reference to a structured environment that provides many options, good information, and the absence of manipulation of preferences by self-interested outsiders. As Mildred Solomon and Bruce Jennings have succinctly stated, "Independence relies on interdependence."46

Such an understanding of autonomy enables public health to build ethics into its core mission, that of "assuring conditions in which people can be healthy."<sup>47</sup> Although there are many proposed public health strategies that interfere with autonomy as it is represented here, there are many more that, even if they seem to infringe isolationist autonomy, in fact support relational autonomy. One example is in the Affordable Health Care mandates to the individual to purchase health care (with ample subsidies for low-income people) and to insurers to sell insurance to all comers regardless of health status (with subsidies to insurers who enroll more than their share of high-risk people). These mandates were explicitly and loudly criticized for infringing autonomy, but they also are what makes the market possible. The mandates make for autonomy in the sense of creating options for people to make self-reflective choices about their own fate. As public health pursues this mission, a respect for autonomy—previously portrayed as a constraint on public health—can instead be seen as not only consistent with the mission but inherent to it.

Public health has long been fighting a kind of rear-guard action against those who accuse it of trifling with autonomy. Charges of nanny-statism are persistent toward public health, and some of these charges, as in the whole-milk libel, are indeed warranted. Public health has occasionally overstepped its role in excessively limiting choice sets, and it has skirted close to influencing preferences in ways that clearly make people uncomfortable. Yet, the three threats presented here suggest ways in which public health can make an emphasis on autonomy an asset rather than a liability. Public health can and should advance its goals by expanding autonomy: advocating for more and better options in people's choice sets as it has always advocated for choices in medical care, leveraging the value that Americans place on free speech to continue to influence preferences but with more attention to evidence-based beneficence, and safeguarding the social construction of knowledge as it has always safeguarded supplies of food and water. The future of public health will be written in its embrace of relational autonomy.

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