

# Understanding Environmental Racism through the Medical Studies of David Hosack and his contemporaries

By Molly Shapiro

Columbia University & Slavery Course

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## Abstract

This paper will discuss how medical advances of the early 19th C. facilitated environmental racism and socio-economic discrimination. Through the lens of David Hosack, a prominent professor at Columbia, we can begin to understand how the basis of medicine was built to oppress and suppress black communities. As a prominent physician, Hosack was known for his medical advancements and supposedly contemporary views on slavery and disease prevention, but upon further research we can see his supposed progress contributed to justifications of slavery and perpetuated notions of poor people as responsible for disease not disease as a condition of poverty. The argument will be made through the lens of contagious diseases, using both

1. Historic outlook of the disproportionate impact of diseases in crowded and marshy areas inhabited predominantly by immigrants and freemen, as described by David Hosack and other medical professionals
2. Contemporary context reflecting on the disproportionate impact of COVID-19 in black and brown communities, with environmental health factors adding to the vulnerability of the population.

## Biographical Introduction

David Hosack was born in New York city and briefly enrolled at Columbia College in 1786 before later becoming a trustee and professor at the College of Physicians and Surgeons in 1807[1]. The College of Physicians and Surgeons later became Columbia's Medical School. While Hosack spent time at the Rutgers Medical School and the Edinburgh Medical School, the majority of his medical findings were funded and researched at the College of Physicians and Surgeons. Hosack's primary fame came from opening the first public botanical garden in the United States to support his interest in medicinal plants. He brought from Europe Linnaean ideas of study and botanical organization. In addition to his rise in academia, Hosack quickly rose in political ranks and social realms amongst the New York elite, including Alexander Hamilton and Aaron Burr.

Due to his connections Hosack was able to gain visibility in the medical field, contributing to the medical canon and the physicians' efforts to establish their professional credentials and authority known as the idealization of professional doctors. In his "Original Communications; Being an Extract from an Introductory Lecture Delivered in the College of Physicians and Surgeons", he wrote, "Medical schools have led to numberless discoveries and improvements"[2], elevating the status of his

colleagues and profession. Hosack also commented on the specific advantages of medical training in New York, “the numerous and varied character of the disease of a city containing nearly 170,000 inhabitants, cannot fail to furnish abundant sources of instruction to the medical student”[3]. This alludes to the emphasis on clinical experience as part of medical training, implying that the basis of medical expertise rested on the objectification and use of bodies. Additionally, the concept that disease served as a basis for study contributed to the platform of medical advances made upon the death or use of disadvantaged bodies and populations. This necessity for advancement in the medical field was exacerbated by competition with other port cities, like Philadelphia and Boston, as well as the dense and commercial nature of New York making it a vulnerable location[4].

## Body politics and grave robbing in the early days of the college of physicians and surgeons

In his book *Ebony and Ivy*, Wilder outlines the role of early universities in the Atlantic region in supporting and being supported by the slave trade. In this first chapter on science in the academy, *All Students and All Americans - the Colonial Roots of Racial Science*, Wilder outlines the expansion of European science into the colonies and the expansion of this ideology via westward expansion. He writes, “Students from North America crafted a science that justified expansionism and slavery - a science that generated broad claims to expertise over colored people and thrived upon unlimited access to nonwhite bodies”[5]. In this way, Wilder posits that the access to nonwhite bodies fueled this scientific revolution. Through the lens of scientific advances, it is clear that many if not all “accomplishments” of the scientific community occurred at the expense of communities of color. European hospitals and researchers were already in the practice of dissecting bodies from suicides and criminal cases[6], but King’s College and other colonial institutions went a step further by integrating the dissection of slave bodies into their medical practice. Wilder writes “Located on Broadway at Duane street,

the NY hospital - where the King's College Medical faculty rented dissection laboratories - had an ample source of cadavers at its southeast corner: the 'Negroes burial ground'. The faculty and students harvested colored corpses for years, dragging cadavers across Broadway to the dissecting table." [7] NY governor Dewitt Clinton placed a bounty on grave robbers but colleges still had access to corpses, as they would send body snatchers upstate during the winter season [8]. Colleges began a competitive market for corpses.

The inequality inherent in the practice of body robbing for medical examination is evidenced in *Ebony and Ivy* through Wilder's explanation of riots that occurred at the College of Physicians and Surgeons on April 13th, 1788. The series of events leading to the riot outside the NY hospital are still ambiguous, but Wilder postulates that one student recklessly swung an arm of a cadaver outside of the medical campus, inciting anger and eventually a violent response from the surrounding community. During the unrest, David Hosack was struck and knocked unconscious. His presence at the event implies that he was either directly or indirectly involved with grave robbing. The study of anatomy obtained by the dissection of bodies was critical to establishing the superiority of medicine based on scientific knowledge disseminated at colleges and circulated through professional journals. Wilder writes, "anatomy transformed surgery into an art, and dissection became the foundation of medical instruction and research in Europe" [9] as well as the new United States. The status assigned to anatomy and the opinions of those who practiced it made it difficult for poor New Yorkers to question their methodology and findings. Nonetheless through the Doctor's Riot, poor black and white New Yorkers clearly challenged medical practitioners' ethics in stealing bodies for dissection.

In her affirmative biography of Hosack, Johnson brings up the issue of grave robbing in the medical field, writing "Unsurprisingly, Hosack left no record about whether he participated in these excursions, but he was growing ever more committed to the

scientific principles that moved Bayley to lower his knife toward a waiting corpse"[10]. Bayley was the author of a major contemporary work on epidemiology, heightening the importance that Hosack studied under someone notable in the medical field. Moreover, she notes that Hosack and other Columbia affiliates were contemporary to the Hunter Brothers who opened a private medical school in Pennsylvania where each student got a corpse, embedding dissection into medical education[11]. It follows suit that Hosack's medical advancements, which my paper argues highlight early instances of environmental racism, were made using the stolen bodies of former slaves[12]. This paper will analyze the contents of Hosack's medical writings, the context in which they were written and the underlying theme of climate's connection to disease and the impact on the realm of disease vulnerability.

## Hosack medical papers

David Hosack's work had a profound influence in shaping western medical canon. I will focus on his influence in studying the transmission of disease in 18th and 19th C. New York City. Hosack did significant medical research on the transmission and prevention of various illnesses, including but not limited to Typhus, Yellow Fever, and Croup. Following Hosack's research and writing about yellow fever, he surmised that the disease was transmissible via humans, which was later proven to not be the case. In *Observations on the Means of Improving the Medical Police*, he describes yellow fever to be, "the disease of the northern man suddenly removed to the tropics." [13] Hosack was creating a direct link between tropical areas, disease, and the vulnerability to this disease of 'northern' and presumably white patients. I am curious to discover more about Hosack's understanding of illness, vulnerability and race. Hosack's medical prestige was not accomplished without a certain level of indoctrination into medical journals and other scholarly works.

Benjamin Rush, a Philadelphia medic, also wrote extensively about possible linkages between the epidemics, trade with the tropics and the migration of white and black families out of San Dominque following the revolution there. While in 1773, Rush published a pamphlet on the evils of slavery, he clearly did not think that work applied to his medical papers[14]. This leads into the possibility that while Rush might have been publicly against the institution of slavery, in his personal life and medical work he still actively contributed to the system's success and the oppression of black people for generations to come. We know that Hosack and Rush had a close working relationship from when Hosack went to work under Rush in Philadelphia. While Hosack's writing on Cholera contradicted Rush's beliefs, it seems as though they were both what John Duffy calls "firm believers in the importation doctrine" in his book *History of Public Health*[15]. Duffy adds about Hosack, "but as, an intelligent individual, he also recognized that environmental conditions were at least as important in the spread of disease as the introduction of the infection itself." However, in Hosack's case this acknowledgement of the environmental conditions comes with the destructive binary of "the north" and "the tropics". The concept of the "tropics" is key to American thought regarding disease vulnerability at the time. Hosack's medical papers argued that susceptibility to a disease was lessened via exposure, thus implying that people from the tropics were less vulnerable. Black communities were tied to the tropics based on the darker melanin associated with these regions closer to the equator. Additionally, the first slaves in the Atlantic Slave Trade were brought there, thus the geographic link between the beginnings of this institution and the Caribbean. This writing suggests that Blacks were ideally suited to enslavement because they could withstand conditions that Whites could not. There are several implications of this line of thinking. First, enslaved persons working in these tropical areas were uniquely suited to work on plantations. In *Ebony and Ivy*, Wilder dissects the direct connections between the wealth of New York's elite and these very sugar plantations. From our perspective, this idea can be negated by demonstrating the disproportionately high mortality rates of Caribbean enslaved persons, enslaved people were certainly not suited for the violence of the institution. Secondly, and more applicable to this paper, this finding implies that people of African

descent are intrinsically less vulnerable to yellow fever, making them both appropriate caregivers and policy enforcers during the epidemic, but also enabling them to live in areas where rates of infection are known to be higher. Enslaved people were not suited for slavery, but less vulnerable to diseases common to areas with sugar plantations.

One must consider that Hosack was writing some of his papers in the early 19th century, during the gradual emancipation of New York, but this letter was written in the 1830s. Although slavery formally ended in New York in 1827, it was booming in the US as a whole—and in particular moving from the upper South to the lower South (i.e. into an environment where diseases like Malaria and Yellow Fever would be more prevalent). Thus, one can conclude that academic and medical writing coming out of New York would in effect help justify enslavement in the South, thereby implicating Hosack and his contemporaries in efforts to establish a biological basis for the ideology of racial inequality. Additionally, as Professor Karl Jacoby has suggested, the idea of the tropics is a way of connecting race and place. We can read Hosack's extended argument that the tropics are responsible for disease as a not so subtle suggestion that certain people belong or do not belong to a place or location. This sentiment implies that Blacks are literally and figuratively "out of place" in a temperate environment such as seen in New York and the greater New England area.

In A Letter on Contagious Fevers written in 1808 to Dr. Colin Chisholm, a New York doctor most famously known for his essay on the malignant pestilential fever introduced into the West Indian Islands from Boullam, Hosack sought to distinguish infection and contagion, two verbs that he believed to have been convoluted in meaning. He wrote,

"the abuse of the terms contagion and infection, and the neglect or writers in not annexing to them a precise definition of the matter in which they severally employ them, have, I believe, been the source of our medical warfare relative to the contagiousness of Yellow Fever, and some other diseases e.g. the greater number of medical writers

enumerate in the list of contagious diseases, all those which are in any way communicable from one person to another, whether by contact, fomites, atmosphere &c. without designating the circumstances attending these several modes of communication”[16].

In clarifying the definitions, Hosack hoped to better treat conditions that were transmitted in a unique fashion. In this paper, Hosack was quick to attribute diseases such as Yellow Fever, Cholera and Typhus to proximity to filthiness. He argues that in clean spaces these diseases were not transmitted. In this argument, Hosack created a dichotomy of clean and dirty that implied a clear, negative and unforgiving representation of dirty spaces. I believe this is the first instance in which Hosack’s class shaped his understanding of cleanliness and its accessibility in the city. Hosack’s argument that disease vulnerability depends on “the condition of atmosphere” can be interpreted in a contemporary sense as both racist and classist[17]. However, in an effort to understand his writing in the context of the time of publication, we must consider the medical sphere and the danger of disease during this period.

## Disease in New York City in the Early 19th Century

There were many misconceptions about disease in New York at the time of Hosack’s tenure, as exhibited by his writings about the confusion regarding differences between contagious and infectious disease. We know that the infrastructure of NY at this time allowed for quick and swift passage of disease, particularly in areas that were dense and built upon marshy areas. However, there were many theories about how disease was transmitted, as mentioned earlier in this paper. Following writing in The New York Academy of Medicine[18] we can contextualize Hosack’s writing within the Yellow fever epidemics of 1795-8, 1803, 1805, 1819, 1822.



From the writings of Catherine McNear in her book "Taming Manhattan" and her article, "The "Swinish Multitude": Controversies over Hogs in Antebellum New York City" one can glean an understanding of the influence of environmental factors on class and race structures. Her writing about the hog riot of 1825 highlights and reveals class tensions and arguments over ways to mitigate, clean and use public spaces, as well as how different neighborhoods experience entirely different environmental landscapes. In addition to a judgement about the various conditions of neighborhoods, there existed an equation of poor people with their ideal conditions, often comparing them to hogs or other animals[19]. However, there were both structural and societal systems that made poorer neighborhoods appear to be less maintained. McNear writes about the irregular and disproportionate garbage collection, "Hogs and garbage, after all, went hand in hand"[20]. The presence of pigs was often causation of lower property values, particularly in the area surrounding Central Park[21]. While hogs were beneficial to communities as possible food sources, they also were a natural way to maintain garbage levels. In her argument, McNear fails to bring up that these constructions were associated directly with socio economic class and race. She does however, allude to the predominantly immigrant and black communities who populated these neighborhoods, such as 5 Points, Brooklyn. In her book Taming Manhattan, McNear writes "Cholera once again found a favorable setting in the marshy areas, such as Five Points, where bad drainage combined with dense housing. It is no coincidence that the poorest New Yorkers lived in these unattractive environments"[22]. There is a clear relationship being built predominantly around disease that is classist, which is in turn oppressive towards immigrant and black communities. McNear's book also outlines the NY landscape of this era through the lens of street cleaning, which highlights the general idea that cleanliness was more accessible to wealthy neighborhoods, thus further protecting them from disease. McNear, on the other hand, does not fail to generate the concern for public health that was generated surrounding these neighborhoods. She writes,

“The nineteenth-century medical community generally believed that the offensive smell of the animals, their exhalations, and their environs aided epidemics. After each outbreak of yellow fever and cholera, complaints about hogs increased in number in both newspaper articles and letters to the government. New Yorkers even blamed mundane aches and illnesses on the hogs. It was not uncommon for those suffering from headaches and nausea to accuse their neighbors’ fondness for swine.[23]”

We must connect McNeur’s in depth summation of the general impact of New York built environment on disease vulnerability to Hosack’s argument and studies.

## Vulnerability to disease based on living & environmental conditions

David Hosack had a clear understanding of the ability of environmental conditions to affect health outcomes for patients. However, instead of using this advanced understanding of environmental health and risk factors to improve public health , it can be argued that Hosack leveraged his work to further develop inequality in New York, predominantly through creating a city layout that favored the health of upper class citizens. In David Hosack’s Observations on Croup or Hives he spoke clearly about certain class implications on disease transmission, often chastising the poor for their inability to protect themselves from disease or prevent unsanitary living quarters[24]. He claimed that disease vulnerability could be assessed based on a variety of factors, one's neighborhood, living conditions and proximity to the sea or possible maritime profession. Through outlining these conditions without explaining firstly the health ramifications for low income communities or secondly highlighting that housing policy in

New York at the time allowed and contributed to this pattern, proves the perpetuation of classist ideas behind Hosack's medical contributions.

However, during this period of disease passage in the late 18th and early 19th century, wealthy new Yorkers began to move away from the lower Manhattan waterfront neighborhoods, thus leaving the seaside neighborhoods empty for lower income housing. While there was no official housing policy or ordinances in the city at this time, wealthier households could afford to pay for new houses in new neighborhoods, such as Greenwich Village which was situated on higher ground; poor households had no choice but to move into subdivided houses along the waterfront or in poorly drained vicinity of the Collect (Five Points) or Lispenard Meadows. Outbreaks of Yellow Fever occurred in New York in 1791, 1795, 1798, 1805 and 1819. In Figure 1, it is clear that Yellow Fever's 1798 outbreak targeted Peck Slip, a low ground seaside area. According to Gretchen Condran's article "Changing Patterns of Epidemic Disease in New York City," more than 800 people died in that outbreak of Yellow Fever[25]. In the *Observations on the Means of Improving the Medical Police*, Hosack noted that yellow fever symptoms and spread were exacerbated by poor atmospheric conditions[26]. He wrote, "The propagation of the poison of yellow fever in such foul condition of atmosphere, was especially exemplified in this city, in and indeed, I may add, in every visitation the yellow fever, the disease has ever been coextensive with the foul atmosphere in which it has been introduced; while other parts of the city, equally if not more foul, have been proverbially healthy; in other words, they wanted the spark to kindle the flame."



Figure 1. Source: [https://www.baruch.cuny.edu/nycdata/disasters/yellow\\_fever.html](https://www.baruch.cuny.edu/nycdata/disasters/yellow_fever.html)

In the *Observations on the Laws Governing the Communication of Contagious Diseases, and the Means of Arresting their Progress*, Hosack returns to the concept of an “impure atmosphere” as a causation of disease[27]. He expands on this definition of disease in his letter “Observations on Contagion” and goes on to outline three types of disease distinguished by the mode of transmission. The first set is “communicated exclusively by contact” and includes Syphilis and Leprosy. The second group is “communicable both by contact and by the atmosphere” and includes Small-pox, influenza, and Scarlet Fever. Hosack highlights that this section of contagious diseases are communicable in every season. The third division, the focal point of my paper, “are only communicable through the medium of an impure atmosphere” and include Yellow Fever, Typhus and Dysentery. In further describing these impure areas and the surrounding impure atmosphere, Hosack posited that “low marshy countries”, areas in which “the air being rendered thus impure by the decomposition of animal and

vegetable substances,” or crowded areas such as “camps, jails, [and] hospitals” were much more vulnerable to disease. This sentiment serves as proof of Hosack’s complicity in environmental racism and classism in terms of the shaping of the New York landscape in that he theorized an inherent association between disease and cleanliness that blamed the poor for disproportionate vulnerability to disease.

Hosack’s lack of attention to the economic means required for what he postulated to be a healthy lifestyle is exemplified in his explanation of a pure atmosphere. His explanations of what constitutes safe living conditions were often condescending and chastising to the poor. In *Observations on the Laws Governing the Communication of Contagious Diseases, and the Means of Arresting their Progress* he writes of the impact on the poor of historic passage of disease, “Those who had come in the from the country had no houses, but dwelled all the summer season in booths, where there was scarcely room to breathe” and “such a confused collection of animals of every kind suffocated the citizens by the unusual stench, while the country people crowded together in narrow apartments suffered no less from the heat”[28]. Not only do these descriptions of impure atmospheres not acknowledge the economic conditions which might cause or contribute to these conditions, Hosack offered few solutions to alleviate the symptoms, as there is no cure for having a small apartment other than overcoming barriers of poverty. He acknowledged that these diseases were “most fatal to the poor”[29]. In describing the conditions predisposed to dysentery, Hosack echoed other doctors’ comments that “in general it appears that dysentery became contagious purely through nastiness and the crowding of many people together in a small space”[30]. Hosack also confirms Dr. Donal Munro’s jaded list of possible causations of dysentery, including close provisions and noxious airs, excrement not covered, dead animals, moist vapours, putrescent vaporus of marchy or wet grounds, corrupted animal or vegetable substances. Both Hosack and his contemporaries concurred that these possible irritations could cause and transmit disease, but did not acknowledge what we

glean from McNeurs's writing that these factors were disproportionately felt by the urban poor.

Regarding Typhus Fever, Hosack distributed similarly unattainable advice for certain social classes when he writes, "hence we may conclude that in well aired and clean apartments the air is seldom so fully impregnated with the poison as to acquire an infectious quality"[31]. The concept that persons who could not afford to maintain a spacious and clean living space were irrevocably susceptible to disease is inherently classist, and continues in Hosack's writings about yellow fever. Yellow Fever, first discovered in New York in 1791 around Peck Slip, of which the living conditions are described by Dr. Jonas Addoms on his dissertation on the subject as, "Thickly inhabited, its houses generally small, and badly ventilated' many of the inhabitants were in indigent circumstances, which is a frequent cause of the want of cleanliness" (24). In a similarly unforgiving manner Addoms writes, "whole families, in such houses, have sunk into one silent distinguishing grave", essentially sentencing to death entire communities of people based on their housing conditions, most of which are out of an individual's control. Hosack indicated that the neighborhoods where Yellow Fever was first introduced were "unusually crowded" due to high levels of immigration in the years prior. Paired with Hosack's assumption that the disease is from the West Indies via his writing that the "that the pestilential fever that has appeared in our sea-ports,"[32] paints a portrait of disregard for the needs of immigrant communities. A Letter from Dr. Hosack on Yellow Fever describes Yellow fever as "the disease of the northern man suddenly removed to the tropics."[33] Hosack was creating a direct link between tropical areas, disease, and the lack of vulnerability to this disease of 'northern' and presumably white patients. Hosack appeared to oppose an increasingly dense population because of its ability to quickly transmit disease, implying that he was against immigration and especially of free slaves moving to New York[34]. While investigating these disparities in detail is beyond the scope of this project, it is possible that a more detailed analysis of census information from 1790 to 1810 could provide additional documentation of the

racial and ethnic demographic of these neighborhoods and enable a better understanding of the ethnic composition of persons living in the areas worst impacted by Yellow Fever.

Hosack famously and publicly disagreed with Dr. Chisholm regarding disease vulnerability among different racial and social communities. The two exchanged letters that were later published in medical journals. Chisholm argued that environmental factors weaken the body, and people who had previously been exposed to a disease or factor were more likely to fall sick. Hosack, citing prison communities, argued that exposure increases immunity, and people were less likely to get sick if they had been previously exposed. "Newcomers," Hosack wrote, are "accustomed to a pure air."<sup>[35]</sup> Hosack stated that people from Europe were less likely to get sick with tropical diseases. In his closing argument Hosack outlines his four findings to support his hypothesis:

"1st an impure atmosphere is indispensably necessary to multiply and extent the specific poison constituting plague, dysentery, typhus and yellow fever. 2nd That the impurities of the atmosphere do not produce their effects, in the manner suggested by Dr. Chisholm, by increasing the susceptibility of the system to be acted upon by the peculiar virus of those diseases. 3rd That, instead of predisposing the body to be thus acted upon, the reverse is the fact; that the predisposition of those who are most exposed to such impure air is less, while those who reside in the pure air of the country are most liable to be infected when exposed to the contagion. 4thly That the impurities of the atmosphere are fermentable materials, to be called into action by the specific ferment of those diseases, aided by heat, moisture and a calm state of the atmosphere, and that as far as such atmosphere extends, and the circumstances favourable to such fermentative or assimilating process continue, so far those diseases become epidemic, but no further. My object is to show that when such virus is introduced into a certain

state of atmosphere, the disease is readily contracted, but that beyond that atmosphere it is rarely infectious”[36]

Further, he did not completely dismiss the ideas of his predecessors, who were still using the antiquated medical methodology of humors, when he writes, “I however, wish it to be understood, that I do not exclude the influence of bodily predisposition, the passions of the mind, and many other circumstances, in aiding the propagation of pestilential diseases”[37].

Hosack clearly outlined mechanisms one can implement to avoid the disease, which will be expanded in the following section on medical policing. In *Observations on the Laws Governing the Communication of Contagious Diseases, and the Means of Arresting their Progress* he writes, “but the same diseases I alleged, in a pure air, in large and well ventilated apartments, when the dress of the patient is frequently changed, all excrementitious discharges constantly removed and attention paid to cleanliness in general, are not usually contagious and are very rarely communicated from one person to another”[38]. His inference that people needed to live in a spacious area, with medical assistance, in order to be healthy in an urban space like New York, might ring true of conditions in the city at the time. However his status as a medical professional publishing these sentiments was detrimental to any sort of public health efforts directed towards low income neighborhoods, as he built a construct that cleanliness was a choice, as opposed to a privilege.

## Medical policing

In this paper, Hosack again referred to Yellow Fever as the “fever of the tropics” and suggested that outbreaks only occurred when trade was active with the West Indies (29). We must read his following recommendations to the City of New York



and other metropolitan areas as mechanisms by the city founders and medical institutions to limit immigration from tropical areas, as well as to claim dominion and superiority over persons from this area. In a Letter on Contagious Fevers to DC Chisholm, he wrote, "It will also lead to a system of police regulations, which will best insure us against the ravages of Yellow Fever when introduced, at the same point that it will teach us carefully to guard against the introduction of it from abroad." [39] which he justified based on the high presence of disease on seaports. In his writing "Observations on the Means of Improving the Medical Police", Hosack speculates ways in which New York avoided outbreaks of infectious disease. He answers his own questions with a compliment to himself and his idea of an ideal medical policy, "Seeing too, that the city of NY has experienced, during the past season, a degree of heat almost unprecedented; that we have participated in the same constitution of atmosphere that has so extensively affected this continent- I ask to what cause are we indebted for the happy exemption of this city from the same ills with which our southern and eastern states have been afflicted? I answer, to our excellent system of quarantine laws, and the faithful execution of them by an able and vigilant health officer" [40].

We must assume that Hosack was using the tools at his disposal to disproportionately advocate to control the actions of immigrants and the black community, which becomes apparent in his descriptions of the intentions and powers of these 'medical police'. In his writing *Observations on the Means of Improving the Medical Police*, David Hosack outlined various methods to police and control populations to limit disease transmission. He introduces this article with a tinge of false modesty, stating "This new arrangement and the modified or conditional contagiousness of fever as flowing from it. I hope it will not be deemed vanity to observe, have been received with approbation by many distinguished practical physicians in Europe as well as this country" [41]. This self-congratulatory attitude might also indicate increased political power on Hosack's behalf. Hosack began to introduce what these preparations may look like in *Observations on*

the Laws Governing the Communication of Contagious Diseases, and the Means of Arresting their Progress when he writes,

“For this purpose our magistrates and guardians of the public health can not be too attentive in their police regulations to have all noxious materials removed from our streets and dwellings; and, at the same time that they are ornamenting our cities by the erection of magnificent buildings, and the introduction of other important improvements, they should also avail themselves of every opportunity which may present of widening our streets, and reserving squares and other pieces of ground to be ever kept vacant, as among the most effectual means of preserving the health of our citizens, and guarding against propagation of contagious diseases”[42]

The concept Hosack introduced of vacating the streets in order to protect from disease completely ignored businesses or services that might operate outdoors, such as the informal hog economy introduced by McNeur. Additionally, efforts to widen the streets might disrupt sidewalk transportation or informal street markets. Widening streets also entailed removing adjacent houses and could be construed as an early form of slum removal. While Hosack himself did not believe that “effluvia arising from the decomposition of animal or vegetable matter” caused any sort of disease[43], it is clear that his plans to diminish disease would nonetheless reduce the presence of hogs on the streets, disrupt informal barter economies, and disproportionately control people of color. While widening streets might increase air circulation and give additional value to property, it is clear that less affluent sectors of society would suffer from this development[44]. The long-term trajectory of programs introduced by Hosack would be to push these less privileged and disproportionately minority and immigrant families out of Manhattan into what would become Brooklyn and the Bronx, otherwise known as the land that was “formerly swamps and morasses”[45], which his earlier writings inferred were more susceptible to the spread of contagious diseases.

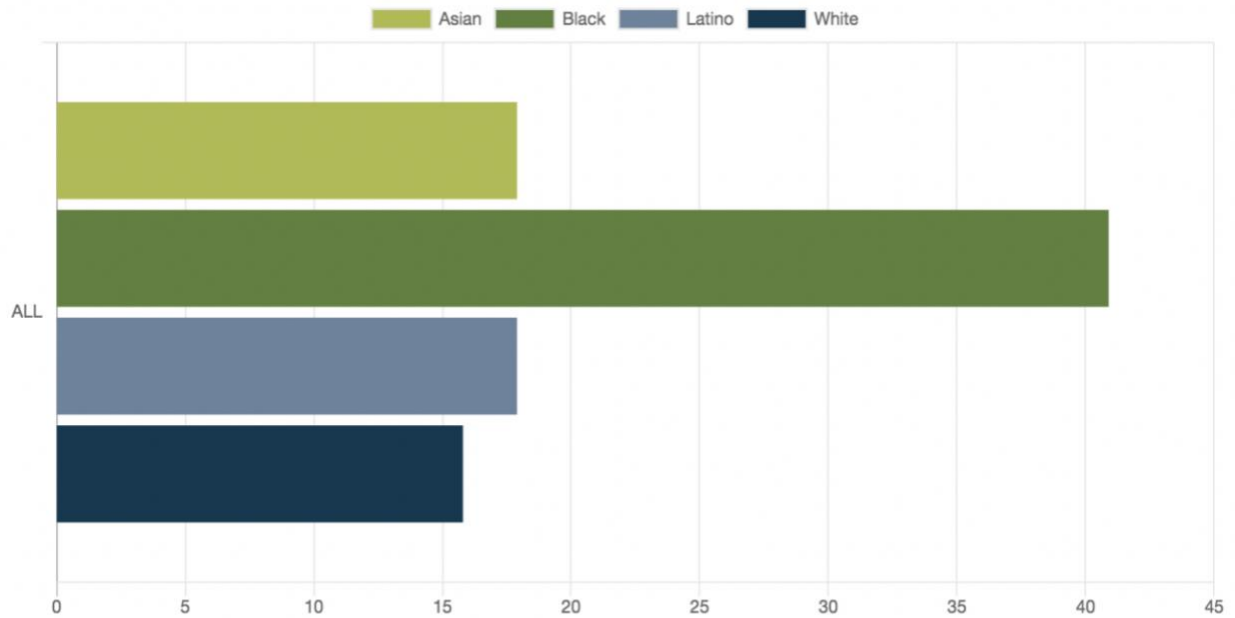
Hosack also suggested the introduction of fever wards and hospitals in attempts to localize disease once it has entered the city. He claimed, “whereas in the close, dirty and small rooms of the poor, the whole family will generally catch the fever”[46] if people were removed from their families and isolated in medical wards, one could help to cure the disease while also isolating the spread. Hosack also posited that water sources had become contaminated and a source of disease, he wrote that “constant percolation from those deposits of filth into the wells of the city, must be the result.— This accounts for the impurity of the water drunk by the inhabitants of New-York”[47]. He suggested a pure water source, which would undoubtedly prioritize homes with more modern plumbing tools[48]. Altogether, his improvements “will employ many hands, diminish mendacity, and prevent crimes, and the numerous evils arising from poverty and idleness”; such labor intensive and expensive programs decreased the likelihood that they would service the entire New York community instead of an elite portion[49]. It is worth noting that laboring New Yorkers supported such public works programs precisely because they provided jobs. However, the point still stands that in the short run these regulations primarily benefited wealthier households.

## Parallels with COVID-19

It feels fitting in the wake of COVID-19 to relate these ideas of disease vulnerability disproportionately impacting certain communities in the realm of quarantine. In efforts to curb yellow fever transmission from ships from tropical locations, there was a 30 day required quarantine on port instituted under a new Commission of Health of which Dr. Bayley was a part, who was a close advisor to Hosack[50]. The juxtaposition between Covid-19 today and the discourse about the transmission of infectious disease used by Hosack and his contemporaries is a powerful reminder of the ability of medical knowledge to mitigate the social conditions and power relations that have historically established access to health as a privilege. Additional parallels we can draw between the diseases of the early 19th century and the current coronavirus epidemic include the

influence of policing on certain populations and the resulting disproportionate infection rates of these populations. Using data compiled from 38 states by the APM research lab, “The latest available COVID-19 mortality rate for Black Americans is 2.3 times higher than the rate for Asians and Latinos, and 2.6 times higher than the rate for Whites.”[51] This disproportionality is demonstrated graphically in Figure 1. It is important to note that the early medical and societal infra-structures put in place New York in the period following emancipation continue to disproportionately and negatively impact black and brown communities via factors including living conditions, inadequate healthcare access and vulnerability as a result of environmental exposure or preexisting health conditions. Figure 2, created by twitter user Danielle Coke (@ohhappydani) highlights the conditions that make Black America more vulnerable to diseases such as COVID-19[52].

**COVID-19 DEATHS PER 100,000 PEOPLE OF EACH GROUP, REPORTED THROUGH MAY 7, 2020**



*\* Includes data from Washington, D.C., and the 38 states of Alabama, Alaska, Arizona, Arkansas, California, Colorado, Connecticut, Delaware, Florida, Georgia, Idaho, Illinois, Indiana, Kansas, Kentucky, Louisiana, Maryland, Massachusetts, Michigan, Minnesota, Mississippi, Missouri, New Hampshire, New Jersey, New York, North Carolina, Ohio, Oklahoma, Oregon, Pennsylvania, Rhode Island, South Carolina, Tennessee, Texas, Vermont, Virginia, Washington and Wisconsin. In Florida, Mississippi, Missouri and South Carolina, Asians appear in their "Other" category. In Arizona, Delaware, Idaho, Michigan, Oklahoma and Wisconsin Asians and Pacific Islanders are reported jointly (shown here as Asian). In both instances, denominators have been adjusted for those states. Rates could not be calculated for Indigenous, Native Hawaiian or other Pacific Islander, and other races due to inconsistent data reporting across states. See the table on this page for additional information.*

Figure 1: A visualization of COVID deaths reported from data in 38 states, organized by race. Source: <https://www.apmresearchlab.org/covid/deaths-by-race>



Figure 2: A visual representation of the impacts of the Coronavirus on Black Americans, created by twitter user Danielle Coke @ohhappydani.

<https://twitter.com/ohhappydani/status/1250576889636364289>

In Figure 4, one can see that current COVID-19 cases in New York are mapped out based on data about COVID-19 coronavirus testing data by zip code released by the New York City Department of Health[53]. There is a concentration of cases in Upper

Manhattan, Southern Brooklyn and Staten Island. A preliminary comparison to Figure 5, which visualizes changing racial compositions in New York from 2000-2010 shows that there is perhaps a loose linkage between areas with growing black and brown populations and occurrences of COVID-19[54].

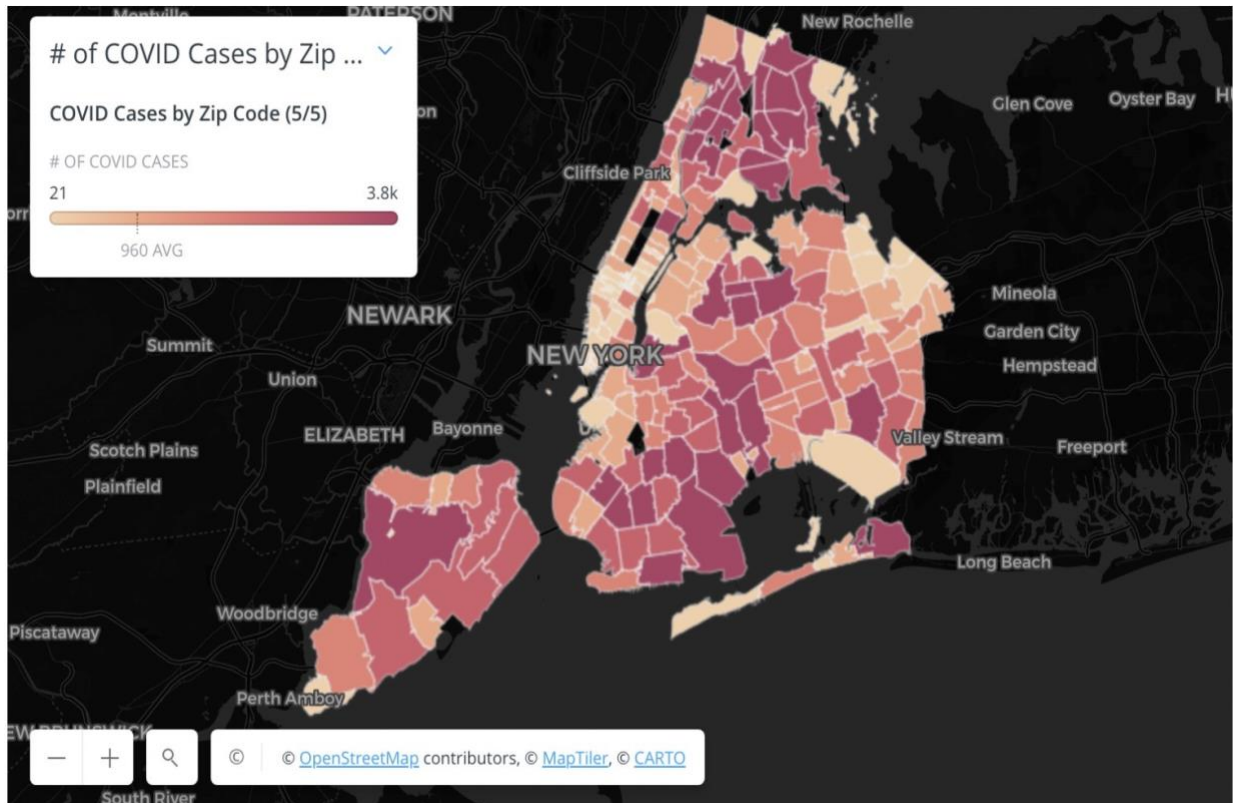


Figure 4: Representation of COVID-19 cases by zip code, source: <https://untappedcities.com/2020/05/06/interactive-map-the-coronavirus-cases-in-nyc-by-zip-code/>

Figure B: Racial and Ethnic Concentration

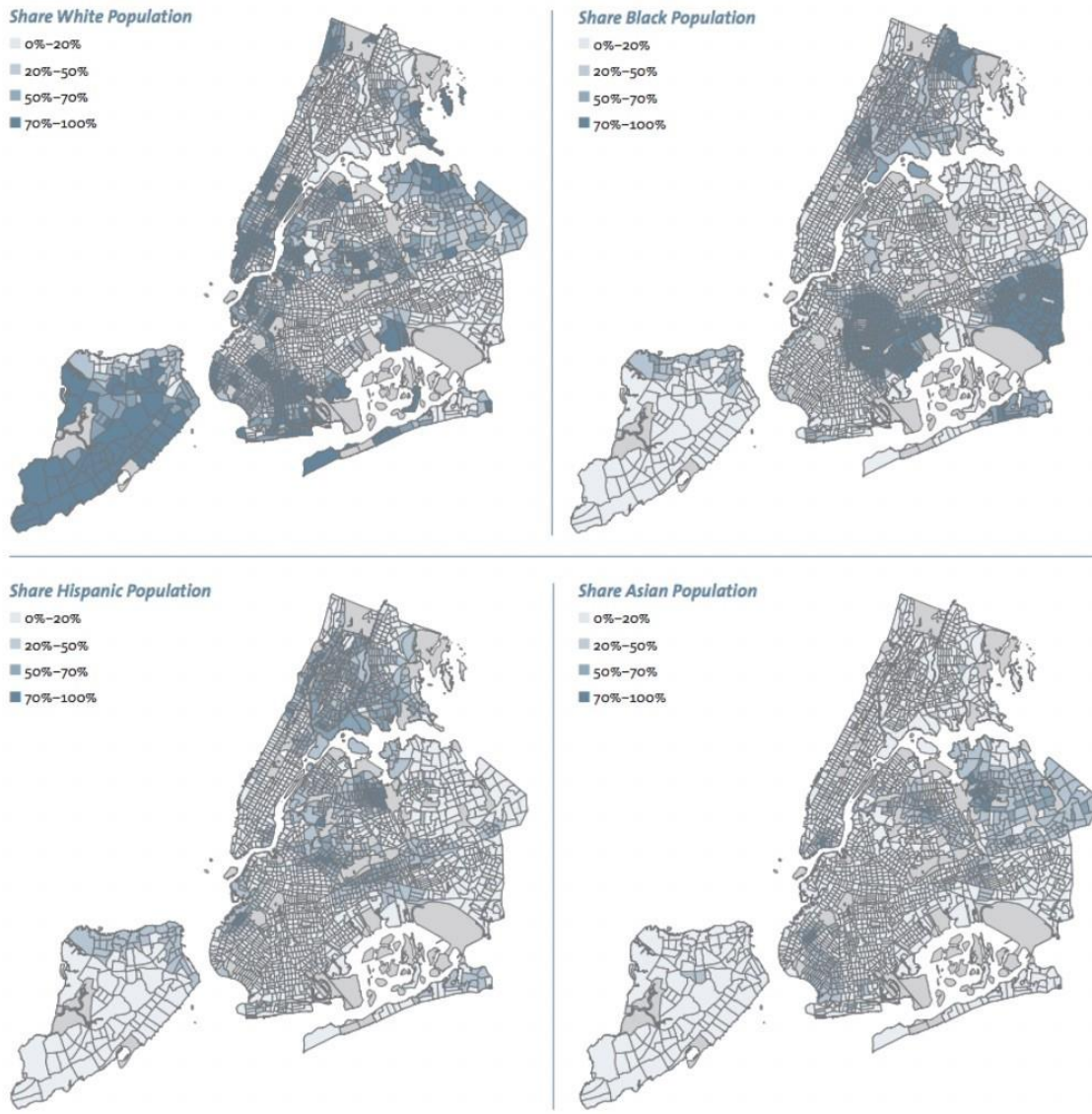


Figure 5: Changing racial composition in New York from 2000-2010, source: [https://furmancenter.org/files/sotc/The\\_Changing\\_Racial\\_and\\_Ethnic\\_Makeup\\_of\\_New\\_York\\_City\\_Neighborhoods\\_11.pdf](https://furmancenter.org/files/sotc/The_Changing_Racial_and_Ethnic_Makeup_of_New_York_City_Neighborhoods_11.pdf)



While it is unclear if there is a direct correlation between disease occurrence and race in Figures 4 and 5, there is surely a relation in medical policing and race in the current health crisis. The New York Times published an article in May 2020 titled, “Scrutiny of Social-Distance Policing as 35 of 40 Arrested Are Black” that highlights the treatment of individuals who are defying the rules of quarantine in different neighborhoods[55]. The article Who Lives? Who Dies: How Covid-19 has revealed the deadly realities of a racially polarized America by Linda Villarosa indicates that certain comorbidities prevalent in black communities such as cardiovascular disease, hypertension, obesity, diabetes and chronic lung disease have “weaponized the coronavirus to catastrophic effect in black America”[56]. A CDC study conducted in April demonstrated that these diseases are more deadly in black Americans and occur at a younger age. Our current medical system nor political structure do not account for the comorbidities that put black people at higher risk based on “living in communities with adequate education and healthcare services, outdoor space, clean air and water, public transportation and affordable food”[57]. This is a phenomenon deemed “weathering” by Dr. Arline Geronimus, a professor at the University of Michigan School of Public Health, is “the accumulated effects of environmental inequality compounded by the physiological ramifications of an atmosphere of bias and discrimination, which have been documented to lead to higher rates of poor health outcomes for black Americans.” Not only is the health system not providing for these individuals or communities, the government has been inadequate in their response, slow to release racial health data on Covid-19, and has placed blame on black communities, implying their behavior informs their health disparities. At a White House press briefing Surgeon General Jerome Adams asked communities of color to “step up,” “avoid alcohol, tobacco and drugs” in the name of their “granddaddy”, “big mama” and “pop-pop”. Not only does this sentiment enlist racial stereotypes and slurs, it also implies that by following the rules and regulations, black people can avoid their pre-sentenced higher rates of Coronavirus and other infectious diseases.

## Conclusion

As we enter a world with a changing climate and more impending health and economic crises, we must acknowledge and combat a medical canon that allows professionals to place blame upon vulnerable populations, ignore their cries for advocacy and results in what the article deems “excess deaths” in black America. In the era of Hosack medicine in New England we saw a construction of medicine that blamed poor communities for the conditions under which they lived that made them more susceptible to disease. A more progressive understanding allows a viewpoint that certain populations are more susceptible to disease based on preexisting health conditions because of where they live. We must acknowledge that these structural inequalities are out of one individuals or community’s control. We must realize that black health and black pain has been systematically excluded from the medical canon since its initiation and fight to reinforce trust and equity in our failing health system.

## Endnotes

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