



## Section 4. Political science

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### VACCINE APARTHEID AS A STRUCTURAL INJUSTICE: THE SOCIAL CONNECTION MODEL OF RESPONSIBILITY PERSPECTIVE

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#### Abstract

Within the branches of global justice theory, there are two dominant perspectives: nationalism, which limits the scope of justice principles within constitutional communities, and cosmopolitanism, which extends justice to encompass the universal human rights of people worldwide. However, the COVID-19 vaccine apartheid, caused by the refusal of major multinational corporations like Moderna to grant patent exemption to underdeveloped regions, cannot be adequately addressed within the frameworks of either nationalism or cosmopolitanism. Nevertheless, Iris Young's theory of structural injustice offers a more nuanced understanding of this issue. Specifically, utilizing the Social Connection Model of Responsibility can provide a more comprehensive solution to structural injustice problems like vaccine apartheid. In practice, the resolution path for vaccine apartheid validates the effectiveness of the Social Connection Model as a series of actions taken by civil society organizations, which ultimately led to the approval of the COVID-19 vaccine patent waiver proposal. By examining the effectiveness of the Social Connection Model in addressing patent apartheid issues, this paper highlights the trend of modern societal subsystem differentiation, and the potential for employing the social connection model to address global structural injustices.

**Keywords:** *Structural Injustice; Vaccine Apartheid; Social Connection Model; Global Justice; Societal Subsystem*

The article analyzes the global vaccine apartheid, which exhibits characteristics of "structural injustice", triggered by multinational pharmaceutical companies like Moderna refusing to share vaccine patents with developing countries. Due to the diverse agents involved and the blurred lines

of responsibility, a conventional moral-legal responsibility model is inadequate in addressing structural injustice issues, necessitating a new model for responsibility allocation. To elaborate, it should employ a social connection model of responsibility to analyze the social relationships and po-

sitions of the actors, leading to a more reasonable attribution of responsibility and solutions for vaccine apartheid. The article unfolds as follows: The first section introduces the incident of vaccine patent apartheid and explains why it constitutes a form of structural injustice. The second section discusses the shortcomings of nationalist and cosmopolitan perspectives on global justice in addressing the vaccine apartheid and introduces the social connection model of responsibility to analyze the issue. The third section demonstrates how the vaccine apartheid has been resolved in practice and how this resolution aligns with the solution path of the social connection model of responsibility. The final section explores the potential of the social connection model as an approach to addressing various forms of structural injustice.

### **Vaccine Apartheid caused by Multinational Pharmaceutical Corporation**

#### ***Emergence of the Problem***

On March 30, 2023, the President of Kenya announced at a regional trade summit organized by the US Chamber of Commerce that the American biopharmaceutical company Moderna is set to invest \$500 million in Kenya to establish an mRNA vaccine factory. This factory will address the vaccine demands for acute respiratory infections, HIV/AIDS, Ebola, and other diseases across the African continent (Agence Ecofin, 2023). The President mentioned that once the project is completed, it will be the only one of its kind on the African continent. However, the reason behind Moderna's sudden decision is not solely due to what they claim as "trust in the investment environment in Africa". Why didn't they first establish production facilities in Canada, Australia, and the UK as part of their "Improving Global Health Initiative?" Why did they not have the willingness and funding to set up vaccine factories in the past, only to suddenly have ample funds this year? The true reason lies in the international criticism faced by multinational pharmaceutical companies like Moderna for refusing to grant vaccine patent waivers to underdeveloped countries, which resulted in significant public pressure.

The source of funding for the new vaccine factory can be easily inferred, primarily stemming from the lucrative profits of the vaccine patents that are being steadfastly adhered to. Having gained a near-monopoly market advantage by being among the first to produce COVID-19 vaccines and with massive demand from governments and private entities worldwide, Moderna's total revenue in 2021 (\$18 billion) was 23 times that of 2020 (\$803 million) (Moderna, 2021). Furthermore, their profit margin reached a staggering 70%, surpassing the profit margin of basic pharmaceuticals and rivalling that of luxury goods, and this trend continued in 2022, with revenue consistently exceeding \$18 billion annually (Nick Dearden, 2011).

However, in 2020, Moderna rejected a vaccine patent exemption proposal jointly submitted to the WTO, led by countries like South Africa and India (Canadian Centre for Policy Alternatives (2022; WTO (2020.10.02)). While Moderna issued a statement in 2020 expressing their willingness not to enforce COVID-19 vaccine-related patents on any company attempting to develop COVID-19 vaccines during the pandemic (Moderna (2020.10.16)), they, in practice, not only joined forces with governments of developed countries and other pharmaceutical companies to resist the approval of the aforementioned patent-sharing proposal but also extensively applied for mRNA patents in South Africa to ensure that their patents could be enforced abroad (Nick Dearden (2011)). The debates and delays among governments and companies within the WTO regarding the patent waiver proposal indirectly resulted in a large number of people in underdeveloped regions being unable to access vaccines or even causing fatalities. Amidst the criticism of multinational pharmaceutical companies, lobbying organizations representing vaccine development corporations and some developed countries have also raised their advocacy for the patent system. They argue that the patent system plays a crucial role in combating the COVID-19 pandemic (encouraging rapid vaccine production, incentivizing private organizations to address global public health crises, promoting collaboration between global private organizations and government agencies), ensuring future medical innovation, and prompting econom-

ic recovery. They argue that allowing vaccine waivers would violate patent law, and once this exception is made, future incentives for medical research would be significantly reduced. Both positions have received substantial support, resulting in the patent waiver proposal remaining unimplemented.

This is a typical example of global healthcare resource allocation inequality. According to Gunther Teubner's perspective, the root of this unequal allocation of global healthcare resources lies in the incompatible action logics of both sides, one being the standard for upholding universal right to life in the field of public health, and the other being the standard for upholding patent law in the economic sphere, among which, the action logic in the economic sphere encroaches upon individuals' basic rights (Gunther Teubner (2006). To be more specific, multinational corporations, as vital subsystems in the economic sphere, take actions based on their self-interest, eroding individuals' capacity to ensure their physical and mental health. However, when viewed from the perspective of general moral responsibility, one side demands responsibilities that go beyond general moral requirements and even violate existing laws in the name of universal human rights, while the other side is the normal commercial activities that align with both societal moral requirements and legal requirements. Therefore, the logic of the economic sphere, relative to the criticism it receives, is more in line with current legal and moral requirements. Consequently, although we may intuitively view multinational pharmaceutical companies not sharing vaccine patents while making substantial profits as unjust, it is challenging to articulate this phenomenon within the framework of existing responsibility discourse. Iris Young aptly categorizes this form of injustice as structural injustice.

### ***Essence of the Problem: Structural Injustice***

Young introduced the concept of structural injustice in "Responsibility for Justice". The core meaning of structural injustice can be traced back to Karl Marx's discourse on "a societal material power stemming from the division of labor that is beyond individuals' control", (Marx/Engels (1845) but Marx did not refine or elaborate on this con-

cept, meanwhile, Young's elaboration on this concept does not rely on Marx's theoretical framework. Her main aim is to respond to the surge of justice theory construction triggered by John Rawls' discussions on the "basic structure of society". However, unlike Rawls' idea of constructing a comprehensive and normative theory of justice, Young's approach focuses more on interpreting her theory of justice through the lens of injustice, like domination and oppression.

Young argues that there is a form of injustice distinct from the moral wrongdoing of individual actors or the coercion caused by state's policy. In this form of injustice, it is difficult to identify clear individual or collective agents of responsibility due to the lack of cognitive knowledge and conscious autonomy as circumstances for determining responsible subjects. The consequences of structural injustice stem from a social process formed by the legitimate and self-interested actions of numerous actors. She concludes that structural injustice exists when "social processes put large groups of persons under systematic threat of domination or deprivation of the means to develop and exercise their capacities, at the same time that these processes enable others to dominate or to have a wide range of opportunities for developing and exercising capacities available to them" (Young I. M., 2010).

According to the elaboration in "Responsibility for Justice", we can outline several constitutive conditions of structural injustice" (Young I. M., 2010).

1) The actions of the actors comply with legal, customary norms, and daily habits.

2) Multiple actors are involved, and the process of actions accumulates over time.

3) The outcome of the actions results in one group of people having power over another, granting the former group greater opportunities for self-development or self-determination while suppressing the latter group's capacity for self-development or self-determination.

4) The actors do not have a subjective intention to bring about unjust outcomes, and the results cannot be causality traced back to specific actors.

One of the typical cases mentioned by Young is the sweatshops established by Western multinational corporations in un-

derdeveloped regions during the 1960s and 1970s. Nowadays, the vaccine apartheid caused by multinational pharmaceutical companies also satisfied her definition of structural injustice, as outlined in the above four conditions. Whether in the development of COVID-19 vaccines or other cutting-edge medical products, large pharmaceutical companies are willing to invest substantial amounts of capital, resources, and time in the early stages because they know that the final products will be protected by patent laws. During the period of patent protection, they can sell their research achievements at high prices to recoup their initial investments and accumulate funds for further research. Due to the legitimate status of patent laws and the pivotal role that patent laws have played in drug development, large pharmaceutical companies refusing to share the patent technology of COVID-19 vaccines aligns with established customs and norms (Condition 1).

At the same time, the actions to uphold the patent system are not solely driven by the will of Moderna, but also involve other major pharmaceutical companies engaged in developing COVID-19 vaccines, including Pfizer. These large pharmaceutical companies are unwilling to share their patents to assist underdeveloped regions, which prevents Moderna from independently implementing its pledge to share patents made at the end of 2020 (Moderna, 2020.10.16). Following the submission of a patent waiver proposal to the WTO by countries in Africa and South Asia, certain developed countries led by the European Union adopted a stance of neither opposing nor supporting the proposal, causing delays in its approval. This hesitation is driven by concerns that the patent waiver might result in losses to their interests and disrupt the existing legal order. Additionally, lobbying organizations such as the Biotechnology Innovation Organization (BIO) representing large U.S. pharmaceutical companies have openly opposed patent waiver proposals and petitioned the Biden administration to criticize and sanction countries and organizations that violate drug patents. Therefore, it can be observed that from the initial proposal for patent waivers in 2020 to the prolonged resistance leading to the approval of the proposal in 2022, the actions of diverse agents

have exacerbated the unjust consequences of pharmaceutical companies delaying patent waivers (Condition 2).

In the context of scarce vaccine resources, multinational pharmaceutical companies prioritize selling vaccines to buyers who can pay higher prices. Due to the weak purchasing power of less-developed countries and regions, they fail to secure an adequate supply of vaccines. In this seemingly normal market behavior, people in underdeveloped regions are deprived of their ability to access the limited global vaccine resources. Vaccines and medical resources disproportionately flow to a small portion of the world's population and countries, resulting in smaller losses for wealthy nations and individuals during the pandemic, while the life security and future economic prospects of poorer countries and individuals suffer irreversible damage. This enhances the power and prospects of multinational corporations while suppressing the ability of poorer individuals to develop themselves (Condition 3).

Yet, the actions of multinational pharmaceutical companies are driven by the objective of maximizing profits within the usual drug development and sales process to sustain their ongoing operations. They do not possess a subjective intent to cause suffering to people in underdeveloped regions, nor do they consider their legitimate market activities as the primary cause of severe hardships in these regions (Condition 4). Based on the above arguments, we can conclude that the refusal of multinational pharmaceutical companies to grant patent waivers constitutes a phenomenon of structural injustice.

#### ***Further Elaboration: Structural Transaction Model***

To further explain why the market transactions of multinational pharmaceutical companies constitute a form of structural injustice, we will analyze their market behavior by comparing a simplified transaction model with a structural transaction model. The subjective actions of multinational pharmaceutical companies involve selling their products based on patent laws and market prices. In conditions of high demand and limited supply, they tend to prioritize transactions with countries or individuals who have greater purchasing power. In the sim-

plified market model, buyers and sellers are independent agents who engage in transactions based on supply and demand dynamics. In contrast, in the structural market model, buyers and sellers do not exist in isolation but are interdependent. Therefore, in the structural transaction model, assessing transactions solely based on supply and demand dynamics is inadequate.

To elaborate, consider a simplified free-market model with only one seller: A, facing two potential buyers: B-rich and B-poor, who are interested in purchasing vaccines. According to market principles, the seller can choose to sell the product only to B-rich, who offers a higher price, while refusing to sell to B-poor, who offers a lower price. Such market transaction behavior aligns with the laws of supply and demand and does not violate any legal or ethical regulations; hence, it can be considered reasonable. Nevertheless, the real market model is not as straightforward as described above; it is a complex, structured process shaped by numerous actors. In this context, Moderna's vaccine production process is not solely an investment and research endeavor undertaken by the seller alone.

Firstly, in the early stages of vaccine development in 2020, Moderna obtained a research and development contract from the U.S. government that included compulsory licensing provisions. This means that through the invocation of the Section 1498, the government allowed Moderna to use certain patented technologies from other pharmaceutical companies during the vaccine development process under patent exemptions. In essence, Moderna used this regulation, enacted under emergency circumstances, to utilize some patents without paying fees to other companies during the vaccine's development. In May 2022, two American pharmaceutical companies filed a lawsuit against Moderna for using their patented technologies without compensation during the development of the COVID-19 vaccine. Moderna argued that the COVID-19 pandemic was a suitable situation as described in Section 1498, which allows businesses, in emergency situations, to be compelled by the government to share patented inventions, and that the two plaintiffs could only seek compensation from taxpayers

(Moderna, 2022.05.06). This lawsuit has not yet reached a clear resolution. However, as reported, even if the court agrees to compensate the two companies for their patent losses, it would ultimately be taxpayers' money used to protect the interests of these companies that do not accept patent exemptions.

Furthermore, the funding and research resources for Moderna's development of the COVID-19 vaccine involve government funds, including taxpayer support, and government research institutions. In the early stages of production, federal funding injected \$2.48 billion into the company, and the government had long signed substantial pre-orders with the company. Additionally, the company continued to receive support from various government agencies and official agencies. Moreover, its research process was not self-contained but involved collaboration with multiple official research institutions. Moderna's Phase III clinical trial was also funded by the government and conducted at government-designated facilities. Since its market activities are significantly influenced by government actions, its actions should inevitably be considered as a form of production that involves public opinion and public interest, and its vaccine product should even be treated as a public good.

Moreover, while the vaccines developed by Moderna may be classified as a public good for national use due to the reasons mentioned earlier, can they also be categorized as a global public good within the realm of global health? Based on perspectives ranging from Rosa Luxemburg's theory of global capital accumulation to Wallerstein and David Harvey's world-system theory, it becomes evident that market actions following global capitalization are not isolated but form a differentiated system created by economically central countries depriving economically peripheral countries. In the production of COVID-19 vaccines, we can observe phenomena in line with the world-system theory. Research on global migration issues has found that many highly skilled doctors trained either domestically or through international collaboration in African countries (including Ethiopia, Kenya, Malawi, Nigeria, South Africa, Uganda, Tanzania, Zambia, and Zimbabwe) face the issue of

High-Skill Labor Migration (HSLM) (David Owen, 2021). This results in African nations investing resources in training highly skilled medical professionals but still experiencing a severe shortage of healthcare talents. David Owen points out that refugee protection is a non-exclusive and non-competitive global public good, whereas the migrated labor that constitutes it has competitive or exclusive characteristics. Low-skilled labor is an exclusive and non-competitive club good, while high-skilled labor is an exclusive and competitive private good. In other words, high-skilled labor possessing medical expertise becomes a global private good, leading to competition and appropriation among various countries. Whether the solution to this issue should follow Mills' principle of prohibiting the recruitment of labor that harms the basic rights of the home country (Mills, E., et al., 2011) or adopt David's proposal of forming alliances between underdeveloped countries and finding neutral mediation organizations to safeguard collective interests (David Owen, 2021), we can see that developed countries are, in fact, benefiting from medical talents and resources from peripheral nations and regions. Although this appropriation is non-coercive and compliant with legal and moral standards, from the perspective of structural power disparities, it constitutes a constitutive factor in structural injustice.

Finally, due to multinational pharmaceutical companies selling vaccines at prices thirteen times higher than the cost, this process of creating an imbalance in the power dynamics between buyers and sellers remains a part of the formation process of structural injustice. The emergence of disparities in social power dynamics is often overlooked in the assessment of isolated events. Nozick's thought experiment about basketball star Wilt Chamberlain becoming a millionaire by each voluntarily paying him 25 cents from millions of spectators was countered by Cohen. Nozick argued that each payment had the nature of a just transfer, and thus, the resulting wealth distribution was just (Nozick, R., 1974). However, Cohen pointed out that Nozick overlooked a fact: this cumulative wealth would transform into significant power, placing Chamberlain in a unique position of power in a society that was originally more equal,

and this power would limit the ability of others and their descendants to access resources (Cohen, G.A., 1995). Similarly, in the case of multinational pharmaceutical companies selectively selling vaccines to more powerful buyers, the massive profit income has granted these companies thousands of times more resources and power than before. In this process, the powerful gain access to medical aid and acquire more resources for their own development, while the weak face death and form a greater disadvantage in future development. Thus, the actions of seller A suppress the development of B-poor, leading to a social hierarchy where A and B-rich are positioned above B-poor. Although this process is not driven by individual intent but by societal roles, the cumulative power relations within it are unjust.

#### **Resolution Pathways: Nationalism, Cosmopolitanism, and the Social Connection Model**

##### ***Mainstream Perspectives: Nationalism and Cosmopolitanism***

How should the issue of vaccine apartheid, an injustice that transcends borders, be addressed? To whom does the responsibility for resolving this issue belong? There are two mainstream analytical approaches to global justice issues: one is the nationalist perspective of global justice, which defines justice within the boundaries of a common community, and the other is the cosmopolitan perspective of global justice, which aims to achieve equal justice claims among individuals worldwide.

On the one side, representatives of nationalist justice perspectives include John Rawls, David Miller etc. Rawls' theory implies a form of thin moral cosmopolitanism, according to "The Law of Peoples", he acknowledges the necessity to aid other nations burdened by severe problems, to help them restore their institutional capacity to maintain the basic human rights order. However, Rawls opposes extending the standards of justice from one nation to other societies with reasonable plural identities. David Miller, Thomas Nagel, Andrew Mason, and others argue from different angles the uniqueness of specific communities and why they are the only units capable of generating binding principles of justice.

On the other side, cosmopolitan justice perspectives can be further divided into various approaches. Ethical cosmopolitanism, represented by Peter Singer, attempts to argue for a utilitarian view of happiness that everyone deserves. Contractarian cosmopolitanism, represented by Charles Beitz, Thomas Pogge, and Henry Shue, seeks to construct normative arguments for global equality of opportunity within the context of global inequality. Representative figures of human rights-oriented cosmopolitanism include those like Shue, who emphasizes the rights to survival and security; Nussbaum, who emphasizes human capabilities and development rights; and Thomas Pogge, who advocates for the construction of a global framework for distributive justice.

While Rawls and Pogge belong to different camps of global justice theory, they both advocate for a distinction between individual interactions and institutional structures. Rawls, as the first scholar to explicitly make “the basic structure of society” the primary focus of the theory of justice, profoundly influenced the direction of contemporary political philosophy discussions. However, his understanding of the basic structure of society is relatively narrow, containing merely the basic social institution and excluding individual daily habits and choices from the scope of societal structures. This is because he intentionally differentiates between the moral analysis of individual interactions and the analysis at the institutional level (Rawls, 1993). Rawls believes that the theory of justice should not interfere with the processes in which individuals and groups act purely in their self-interest. Instead, it should design and implement a set of just basic rules and institutions for individual actions. Principles of justice, especially the difference principle, apply only to major public principles and policies that regulate social and economic inequalities because they initially place people in unequal social positions, leading to different expected ranges of life prospects. However, once the institutions have been adjusted to comply with the principles of justice, individual choices made within them are not subject to the intervention of justice principles. For example, how parents demand from their children within families, regulations

related to different genders in religions, and how individual employers establish salary rules do not need to adhere to the “difference principle”, which prioritizes the interests of the least advantaged.

Young, deeply influenced by Rawls and Pogge’s distinction between interactional and institutional aspects, believes that maintaining this distinction is necessary (Young I. M., 2006). However, she opposes the exclusion of individuals or diverse actors from the institutional process. She believes that while institutional processes create forces beyond individual control, the resolution of their problem can only be achieved through collective action involving diverse actors. Therefore, she opposes Pogge’s reliance solely on large institutional reforms by entities like national governments, the United Nations, and the WTO to address global justice issues. She believes that multiple agents play important roles in collective action, particularly the power of civil society organizations.

#### ***The Limitations of Mainstream Perspectives: Inadequate Responses to the Vaccine Apartheid***

In Young’s view, neither nationalism nor cosmopolitanism, the two opposing stances on global justice, can adequately address the issue of attributing responsibility for structural injustice (Young I. M., 2006). This point can be illustrated by analyzing the issue of patent apartheid concerning COVID-19 vaccines. Firstly, within the framework of nationalist justice, which constrains justice within the scope of a nation’s constitution, the transnational corporation Moderna is not under a perfect duty for international assistance; instead, it falls under an imperfect duty of benevolence when it comes to international aid. Regarding patent law, the act of vaccine patent exemption is in violation of existing laws. Even lobbyist for transnational pharmaceutical companies had no need to invoke the role of the patent system in fighting the pandemic, promoting medical innovation, or aiding economic recovery, but can simply assert that their actions are legal and compliant with the constitutional order, at least in legal terms should not face any punishment.

Nonetheless, this does not imply that transnational pharmaceutical companies

do not bear structural responsibility for the healthcare situation in less developed regions. According to Young's criticism of nationalism, she maintains that social connections between individuals precede any contingent institutions and systems, such as national governments. Hence, placing the constitutional standards of a single community above social connections to assess the legitimacy of social issues is a misplacement of priorities. Young also acknowledges that people within the same community have stronger claims to justice, but this arises from deeper social connections rather than national identity or shared constitutions. "The reason to presume stronger claims of justice among those in the same region or country, however, is neither national identification, common constitution, nor geography per se, but rather the scope and density of social and economic ties" (Young I. M., 2000). The legitimacy of transnational principles of justice should be affirmed, and according to the definition of structural injustice, transnational pharmaceutical companies are substantively involved in processes that lead to unjust outcomes, benefiting from harm to others; thus, they should be significant actors in bearing structural responsibility.

Next, the perspective of cosmopolitan utilitarianism claiming global human rights, argues from the standpoint of basic necessity that every individual in the world should have equal access to the right to health. It condemns the unequal global distribution of vaccines and the profit-driven behavior of multinational pharmaceutical companies, concluding that these companies should be morally or ethically obligated to relinquish some of their interests. A more constructive cosmopolitan view is found in Thomas Pogge's institutionalism. He believes that the massive profits of multinational pharmaceutical companies and the issue of unequal global medicine distribution stem from the inefficiencies of the global trade system (Thomas Pogge, & Krishen Mehta, 2022). Pogge suggests a thorough transformation of the existing, highly unethical, and wasteful patent system and global trade framework. This reform aims at significantly improve the situation for the impoverished while also benefiting the wealthy to some extent. Con-

sequently, this proposal for institutional reform could secure support from both the impoverished and the affluent.

In response to the general utilitarian cosmopolitan position, Young argues that it has a position of individualism in principle. She criticizes the moral individualism inherent in condemning multinational pharmaceutical companies for upholding patent rights and advocating the right of every individual to equal access to vaccine resources. Her criticism does not mean that Young lacks a belief in universal equality; rather, she relies more on a cosmopolitanism to critique or advance theories (Young, I. M., 2000). However, this merely reflects Young using cosmopolitanism as her theoretical tool, rather than indicating that she adopts it as her theoretical stance. Young believes that criticizing global justice issues based on universal human rights leads to an individualistic perspective that overlooks social relationships. For example, the core issue with the vaccine apartheid caused by multinational pharmaceutical companies does not lie in whether they violate laws, ethics, or market norms, but rather in the structural processes of society and the societal roles that require them to make such choices. Perhaps deep down, Young also holds a belief in universal human rights, but making it her theoretical stance would lead to the contradiction between general moral responsibility and structural injustice, neglecting the social system structures that truly need reform. Furthermore, even cosmopolitan positions aimed at institutional reform are questioned by Young. This raises the second issue with cosmopolitan positions, namely that cosmopolitan universal principles overlook power relations between the strong and the weak in the real world, potentially leading to arbitrary interference in the interests of the unprivileged by external powers, such as strong nations interfering in weak nation's policies. Young acknowledges a non-dominating intervention right based on social connection responsibility but opposes arbitrary interference that may result from cosmopolitan institutionalism (Young, I. M., 2000). For example, the global modifications proposed by Pogge regarding patent protection, international trade, and incentives for researchers would inevitably require weak



countries to participate in global patent exemption matters concerning global public affairs. However, the reality is that many developing countries' innovative industries are in a fragile developmental stage, struggling to develop due to the inadequacy of the patent law system and the dominance of developed countries' innovative industries. If they are also required to join the system reform, they may lose the conditions for the rise of indigenous technological industries altogether. Young believes that it is impossible to achieve permanent structural change through institutional change like Pogge is doing because the rules and practices of institutions often align with power rather than unprivileged. Moreover, it is impossible to let states or international organizations act as arbitrators of both sides' interests because their policies and projects often reflect the outcomes of these struggles rather than balancing or arbitrating these differences (Young I. M., 2010).

Surely, a more reasonable or differentiated plan for global institutional reform is still open for discussion and should be promoted. However, one missing link in cosmopolitan institutionalism is how to initiate such a process. Pogge believes this is a question of institutional reforms that the UN, WTO, or governments should carry out, but where should the driving force for reforming these international organizations and national governments come from?

### ***Alternative: The Social Connection Model of Responsibility***

The reason why the nationalist and cosmopolitan approaches fail to effectively identify the responsible parties for structural injustices is that they still adhere to general legal or moral responsibilities, which is called "liability model" by Young. However, for structural consequences that arise through collective human actions without clearly defined responsible agents, a different approach is needed. Young argues that it is necessary to introduce a "social connection model" to dissect the mechanisms behind the formation of structural processes and, in turn, address the challenge of identifying responsible agents in cases of structural injustice.

Before analyzing the social connection model, let's begin by contrasting it with the liability model. Questioning and punishing

individual wrongdoings represent the direction of attribution of general legal-moral responsibility to date. The application of the liability model typically requires meeting four conditions:

- 1) Clear identification of the actor(s).
- 2) A valid causal connection between the actor(s) and unjust outcomes.
- 3) The actor(s) possess subjective intentions for the outcomes.
- 4) The actor(s) have sufficient knowledge of the context of their actions and consequences.

However, the liability model is not applicable when it comes to determining structural responsibility. The liability model continues to be relevant in many cases where institutions blatantly violate human rights. For example, if a sweatshop company prioritizes profits over the health of its employees or if its leaders engage in harassment and intimidation of workers, local or international laws are used to impose penalties. But when we attempt to use the "liability model" to identify the responsible parties in cases of structural injustice, problems arise. This was the case when Young assessed the issue of sweatshops, and it is also the case in the context of vaccine patent apartheid. As outlined before, the actors contributing to the issue of vaccine patent apartheid include various agents such as multinational pharmaceutical companies and their executives, pharmaceutical patent lobby agencies, and relevant national governments, among others (Condition 1). However, there is no direct causal link between the actions of these agents and the infections and deaths in underdeveloped regions (Condition 2). The actions of these corporations and institutions comply with existing laws and market norms, and the actors involved do not have a subjective intention to harm the health and economic development capacity of people in underdeveloped regions (Condition 3). Furthermore, they do not have a comprehensive understanding of the specific circumstances causing harm (Condition 4). Therefore, major pharmaceutical companies have not committed any legal or moral wrongdoing. It becomes evident that the liability model is inadequate for effectively addressing cases of transnational structural injustice.

How should we understand the structural responsibility of multinational pharmaceutical companies' action that comply with legal regulations, do not have a subjective intention to harm people in underdeveloped regions, and do not directly cause a health crisis in these regions? Since structural injustice arises from a structural process rather than a identifiable agent, its unjust consequences seem to possess an uncontrollable force beyond human activities, and people are left powerless in the face of the collective actions' harmful outcomes. Young argues that this represents a form of Reification logic that blinds human thinking, and a novel analytical approach should be adopted to determine responsibility in cases of structural injustice. According to Young, the liability model, due to its backward and blaming nature, cannot address many issues related to structural responsibility. Therefore, she introduces a forward-looking and non-blaming social connection model to complement the shortcomings of the liability model. The social connection model possesses five characteristics that can compensate for the deficiencies of the liability model (Young, I. M., 2010):

- 1) Not isolating;
- 2) Judging background conditions;
- 3) More forward looking than backward looking;
- 4) Shared responsibility;
- 5) Discharged only through collective action.

Firstly, the social connection model does not isolate the blame to specific individuals or a few responsible parties. Liability models aim to pinpoint individuals who are responsible among a multitude of actors and differentiate them from those who are not responsible. However, what truly drives the formation of structural events is the participation of many individuals within dispersed groups. If harm results from the involvement of thousands of people, finding a few guilty parties cannot serve as a reason to absolve others who have contributed to the outcome. Therefore, the social connection model no longer attempts to identify responsible parties with clear agent, subjective intent, and causality. Young claims that in cases of structural injustice, we may identify some explicit legal and moral responsibility events that fall within the scope of the

liability model. Beyond these culpable individuals, others involved in the process that leads to unjust consequences, even if their actions align with institutional rules and social norms, should also be held accountable under the social connection model.

Secondly, the social connection model emphasizes an examination of background conditions. In the liability model, we typically treat the social background structure as a standard that, while not perfect, is fundamentally normative. Any act of wrongdoing represents a deviation from this normative baseline. When we accuse a wrongdoer of wrongdoing and demand correction or compensation, it's because we believe they have deviated from the right path and need to be restored to the normal societal track. When describing a process that leads to unjust outcomes, it is seen as something that has deviated from the normal social process, a split or separate event. Through punishment, compensation, and remediation, our social structure appears to regain integrity relative to the normative baseline.

The focus within the social connection model shifts to questioning the rationality of background structures and understanding the connection between actors and the structural background. Unlike the liability model that treats background conditions as normal and standard, structural injustice indicates that there are problems to varying degrees within the background conditions. We must identify what morally unacceptable structures have formed within these background conditions. Moreover, the role played by individuals should also be considered in examining background conditions. Most of the time, individuals contribute to the maintenance of established background structures by adhering to the community's institutions, rules, customs, or their own behavioral habits. Individuals rarely consciously reflect on their actions and background circumstances; instead, they focus on specific goals in front of them and their interpersonal relationships.

Thirdly, the social connection model places stronger emphasis on addressing structural issues with potential future impacts. The temporal focus differs between the liability model and the social connection model. The liability model primarily looks backward,

while the social connection model predominantly looks forward. This is because they are designed to address different kinds of responsibilities. The liability model deals with injustices that have reached their conclusion, such as completed robberies or pollutant that have already leaked. In contrast, the social connection model addresses injustices that are ongoing and have not yet reached their conclusion, like ongoing global sweatshops or environmental pollution affecting future generations. However, both the liability model and the social connection model encompass both forward and backward dimensions, as they involve reflections on the past and prevention for the future. To some extent, both the liability model and the social connection model have a temporal continuity. The liability model's punishment or compensation for past wrongdoings also serves a forward purpose. On the one hand, it can act as a deterrent for future similar actions by the perpetrators. On the other hand, it highlights weaknesses in the existing institutional systems that either allow or encourage such misconduct, providing leverage for further institutional reforms. Young argues that once we move to the latter stage, we might shift away from the liability model and enter the domain of the social connection model. In this sense, the initial step of the social connection model involves examining the historical and systemic formation of past injustices. The social connection model is concerned with an ongoing process that extends from the past into the future. If this process isn't halted, harm will continue to occur. This form of responsibility is forward-looking rather than backward. Because when investigating a continuous process, it becomes challenging to establish causal relationships between specific actors' actions and the structural consequences. It's also difficult to determine the proportion of involvement of these actors in the result. Placing too much emphasis on identifying and deflecting action responsibility can reduce the time available for collaborative efforts to change the structural impact on the future.

Fourthly, the responsibility within the social connection model is fundamentally shared by all involved individuals. Young distinguishes between collective responsi-

bility and shared responsibility. Collective responsibility involves taking responsibility in a group format, even though individual members may not have decisively participated in any action process. For example, a corporation might assume collective responsibility as an independent entity. Shared responsibility, on the other hand, is individual responsibility, but the consequences are generated by a group of people. Each individual in the group has made some contribution to the consequences or potential consequences. However, no single person can independently cause these consequences, and it's impossible to identify the individual contributions within the overall process. Stopping the actions of certain individuals within the group does not halt the entire process. Therefore, the solution to such a problem inherently requires sharing and cooperation. The nature of shared responsibility clearly reveals that what Young seeks to create is essentially a theory of individual responsibility. It's about how individuals influence collective actions and how they can remedy injustice by joining new collective actions. Directly blame, punishment, or compensation requirements can trigger negative emotions of evasion or shifting responsibility on the part of the actors, thus reducing their enthusiasm for participating in addressing structural issues. Convincing them to take their political responsibility in a non-blaming environment is a more favorable way to promote cooperation. The accusatory action in public discourse often leads to defensive and unproductive responsibility-shifting behavior. Our legal and moral accusations require the defendant to provide a "burden of proof" to prove their innocence after being accused. However, in cases of structural injustice, the consequences of defense and argumentation are often negative. This is because, firstly, defense and argumentation focus too much on the past rather than what we can change now. Secondly, they divert attention and create mistrust, hindering the sense of trust necessary for cooperation. Finally, they lead individuals to shift blame onto others because structural responsibility is so easy to shift. In a form of injustice that involves everyone, this responsibility cannot be pinned on one individual. This leads us to become passive in our proac-

tive efforts to address the problem, but wait for someone to be singled out for punishment or correction. However, even if someone admit guilt and haven't shifted it to others, their focus will be on their past actions, state of mind, and character rather than the structures that need reform. Excessive self-reflection and introspection divert energy from the objective discussion of structural operations and change. Since the structural process is continuing, it is more important to call on the individuals who constitute this process to cooperate in changing the existing structures to prevent actors from leaving after being condemned or fleeing after punishment.

Fifthly, the social connection model emphasizes that structural injustice can only be discharged through collective action. Due to the shared nature of responsibility, forward-looking responsibility can only be fulfilled through collective actions undertaken with others. Thousands of individuals contribute to the process that produces unjust outcomes through their actions within specific institutional backgrounds; thus our forward responsibility primarily involves changing institutions and processes. Yet, no one can change structures solely by reflecting on their own behavior. For instance, it is unrealistic for some consumers in developed countries to protest against large pharmaceutical companies' refutation of patent sharing by refusing to take their COVID-19 vaccines. This would only increase the health risks for the protesters and would not influence the companies' decisions, as they still have legal grounds and a steady consumer base. The transformation of structural processes can only be accomplished through collective interventions by people in different social positions. Protests by the oppressed or third parties should be directed at specific powerful agents, with the ultimate goal of compelling them to take action, thereby creating an integral collective action process.

In this context, the social connection model of responsibility responds to the positions of both sides in the debate over vaccine patent waivers. It differs from nationalist or cosmopolitan approaches and asserts that the responsibility of actors lies in participating in the collective action process that leads to unjust consequences. Therefore, all indi-

viduals involved in the action process should join collective efforts to address the issue.

### **The Social Connection Model of Responsibility Addressing the Vaccine Apartheid**

#### ***The Task Allocation and Action Plans of the Social Connection Model of Responsibility***

Young argues that structural injustice can only be resolved through collective action involving numerous responsible agents. This collective action is not the action of a unified group but rather a process composed of individuals with varying degrees of involvement and different action tasks. Young believes that the magnitude of responsibility for addressing structural injustice should be determined based on the influence individuals possess due to their social status. The parameters determining the weight of responsibility should directly reflect the social roles of actors in their interpersonal relationships with others. When facing issues of structural injustice, those who have more power, resources, and capabilities should bear greater responsibility because their contributions to changing the structure will be more substantial. The weighting of participatory responsibility is determined by five parameters:

- 1) Connection (Young, I.M., 2004);
- 2) Power;
- 3) Privilege;
- 4) Interest;
- 5) Collective Ability (Young, I.M., 2010).

Firstly, social connection can help actors determine the priority of fulfilling their responsibilities and make some of the identifiable long-distance responsibilities more concrete. Actors can first examine the institutions they are directly involved in or track their everyday locations, such as workplaces, cities of residence, or affiliations with churches or organizations. By examining the individuals who might be affected by these institutions and locations, even if they are distant strangers or unfamiliar groups, this process of analyzing one's actions from local to global helps remove the anonymity or mystery in the connection between actors and the structural consequences. Upon discovering that the institutions they are involved in or the services they use have caused harm to other distant

groups, structural injustices that they should be involved in remedying are identified.

Secondly, shared responsibility and collective action do not imply that everyone has an equal level of responsibility. “The power to influence the processes that produce unjust outcomes is an important factor distinguishing degrees of responsibility” (Young, I. M., 2006). In general, the more power one has, the greater their responsibility. This is because resolving structural issues involves changing institutional backgrounds, cultural norms, and even making some integral revolutions, which require certain resources and capabilities that ordinary individuals do not possess. Individuals or institutions with higher social power in the structural process, such as governments, corporations, managers, etc., have greater power to allocate resources, adjust institutions, or influence outcomes. The actions of these powerful agents often play a decisive role in determining whether structural changes can be successful. For example, in the vaccine apartheid issue, key decision-makers in multinational pharmaceutical companies, political lobbying groups of big pharmaceutical companies, government decision-makers in the companies’ home countries, the World Trade Organization, the World Health Organization, and others are all actors with more resources and capabilities to change the status quo.

Thirdly, there are groups in society who, despite having relatively less power, possess certain privileges compared to the victims. Like nations and populations that have easy access to COVID-19 medical resources. “Persons who benefit relatively from structural inequalities have special moral responsibilities to contribute to organized efforts to correct them, not because they are to blame for them, but because they have more resources and are able to adapt to changed circumstances without suffering serious deprivation” (Young, I. M., (2004). For instance, the citizens of developed countries who protest and boycott pharmaceutical companies that refuse to exempt patents can do so without suffering significant health or economic consequences. In contrast, impoverished individuals or people in less developed countries, struggling to secure their basic needs, bear a lesser burden of protest due to their limited capability.

Fourthly, individuals with an interest in rectifying structural injustices should bear responsibility. Due to the inherently public nature of structural responsibility, even victims should take on responsibilities. Often, victims have also contributed to unjust structural processes. For instance, people in underdeveloped regions may silently endure the unjust distribution of vaccines, even tolerating domestic monopolistic powers acquiring vaccine resources at higher prices without considering the well-being of the underprivileged. This submission serves as the foundation for the perpetuation of unjust structures. Moreover, a more pragmatic reason lies in the fact that victims often suffer the most severe consequences in structural processes, making it essential to safeguard their interests during the correction of structural injustices. Generally victims possess the deepest understanding of their own interests and demands. The absence of victims in collective actions can significantly diminish the effectiveness of such efforts. Well-intentioned outsiders may inadvertently harm them, or the direction of change may prove incorrect due to the absence of opinion from the victims. For instance, in efforts to eliminate barriers to vaccine access, actions that exclude communication with victims can lead to negative outcomes akin to a paternalistic aid approach. This might result in obtaining permission for vaccine patent technology without establishing corresponding production plans in underdeveloped countries or lacking a sufficient number of healthcare professionals to implement vaccine production; or just get the exemption permission instead of the concrete know-how. It is therefore necessary for victims to join in the public expression of their demands in collective action to ameliorate structural injustice.

Fifthly, agents with greater collective capacity should bear the responsibility for rectifying structural injustices. As previously mentioned, structural injustices can only be resolved through collective action. However, existing organizations have predefined roles and modes of operation. Initiating new collective actions requires the recoordination of individuals and groups to enter into a new organizational relationship, which can be a challenging task. In such cases, collec-

tive actions can benefit from the inclusion of existing organizations and their leaders, i.e., entities with stronger collective capabilities. They can leverage their existing resources to advance structural reform. For instance, labor unions, religious organizations, shareholder groups—all of which occupy positions in society that enable them to mobilize other members of their organizations effectively. For example, in the case of dismantling vaccine segregation, the World Trade Organization, the World Health Organization, and regional health organizations are all entities with greater mobilization capabilities.

Notably, Young emphasizes the need for the oppressed to bear responsibility in addressing structural issues. She believes that those in positions of power often require pressure from the powerless to instigate change. “The former must usually be pressured to take steps aimed at changing the effects of their actions, and the political responsibility of the latter often can mount to little else than organizing to criticize and pressure more powerful actors” (Young, I. M., 2010). In fact, the oppressed “perhaps should take the lead in organizing and proposing remedies for injustice because their interests, it might be argued, are most acutely at stake” (Young, I. M., 2010). What is even more crucial is that “political actors should not assume that powerful agents will promote justice of their own accord” (Young, I. M., 2010) because the actions of those in power primarily serve to maintain their own privilege.

Young even suggests borrowing the power of third parties and guiding them into becoming allies of the disadvantaged to change public opinion (Young, I. M., 2010). She claims that the positioning of third parties is crucial in this political contest. While there may be opposing interest groups within structural processes, it is rare for every participant in these structures to belong exclusively to the powerful or the disadvantaged. Third parties, having fewer vested interests in maintaining or changing the structure, are potential allies important to both sides. Silent third parties align with the powerful, whereas openly judgmental third parties align with the powerless. On one hand, when third parties are distant from the centers of power process, they may not be aware of injustice and may comply

with rules and practices that help perpetuate injustice or maintain the status quo. On the other hand, when third parties are interested in the impact of daily processes on the lives of marginalized groups, especially when the powerless communicate with them, they sometimes initiate public discussions about what is right, rather than simply engaging in power and interest combat.

In summary, Young’s proposed path to addressing structural injustice primarily involves the following process: starting from the expression of powerless at the grassroots level, leveraging the influence of third parties to generate public pressure, and stimulating powerful actors to take actions with significant impacts on the social structure.

### ***Realistic Pathways to Addressing Vaccine Apartheid***

The resolution of the vaccine apartheid is a prime example of structural connection model of responsibility, which is a systemic and bottom-up collective action. This action process has notably supplemented the driving forces lacking in the institutionalist cosmopolitanism’s call for institutional reform. In the resolution of the vaccine patent exemption event, the People’s Vaccine organization played a pivotal role. The People’s Vaccine organization originated from an open letter signed by over 140 individuals and organizations, including economists, health scholars, current and former world leaders, international organizations, and more, in response to the news that the French pharmaceutical company Sanofi would prioritize the United States for any new COVID-19 vaccine. They deemed it unjust for pharmaceutical companies to decide who lives and who dies in such a crisis by charging exorbitant prices. They called for governments worldwide to work together to prevent corporations from profiting from the pandemic and urged the sharing of COVID-19 vaccine technology to address global public health and humanitarian crises. Subsequently, over 100 official and private organizations, including the International AIDS Society, African Alliance, Amnesty International, Global Justice Now, and others, formed The People’s Vaccine alliance. With the support of numerous experts and political figures beyond the original open letter, they called for global participation in actions

against the vaccine patent monopoly by major pharmaceutical companies.

They established organizations and websites, through which they called on the public to participate using the following methods: Firstly, by providing academic research, news reports, and promotional videos, the organizations openly exposed the injustice of large multinational corporations refusing patent waivers and revealing the asymmetry between the public funding they received and the massive private profits they occupied. Secondly, the organizations declared their demands for addressing this issue. In one respect, they demanded pharmaceutical companies to share vaccine production technology and to contribute their technology to the World Health Organization's COVID-19 Technology Access Pool (C-TAP). In another respect, they require governments worldwide to temporarily suspend patent laws related to COVID-19 vaccines, treatments, and testing technologies at the World Trade Organization during the pandemic. This would help break the monopoly of large pharmaceutical companies and ensure vaccine supplies worldwide. Finally, the website provided five ways for the public to participate in protests and advocacy activities, making it easier for participants to voice their support for this movement on social media. According to official website statistics, nearly 1.4 billion internet users engaged in the aforementioned protest methods they offered. Supporters from developed countries also held rallies in front of EU offices during EU meetings, demanding vaccine patent waivers. Some protesters even carried mock coffin with the words "Pharma Greed Kills" on it to commemorate the deceased and protest vaccine patent apartheid on the streets of London.

After more than a year of organization and activities, influenced by public pressure, in May 2022, the Biden administration shared eleven new COVID technology research findings from the National Institutes of Health. They placed certain COVID vaccine technologies (the stable spike protein technology) held by the U.S. government into the World Health Organization's technology access pool. In the same month, Pfizer signed an agreement, stating that, through joint efforts with governments, businesses, and civil

society, Pfizer would provide all COVID drugs used in the U.S. and EU to 1.2 billion people in low-income countries at non-profit prices. In the following month, the World Trade Organization also approved the proposal to waive COVID vaccine patents globally. However, the sharing of COVID medical technology still faces some challenges. The head of Knowledge Ecology International, an advocacy group campaigning for access to medicine, points out that merely opening vaccine patents is not enough because replicating vaccines is difficult, requiring further sharing of detailed technical methods and even close collaboration with original company technicians. Currently, there are many more vaccines available on the market than when the vaccine waiver proposal was first made. The current focus of low-income countries is mainly on the lack of diagnostic equipment and therapeutic drugs, such as Pfizer's Paxlovid. Moreover, generic drugs are easier and faster to produce compared to generic vaccines, but their patents have not yet been waived. The People's Vaccine organization continues to publish research reports and public appeals to further demand the sharing of therapeutics and diagnostic systems to address the risks of Long COVID.

Based on the experience of joint action organizations like The People's Vaccine, utilizing the internet and new media technologies to create a platform for the powerless to voice their concerns, mobilizing the powerless and numerous third parties to join in the resistance against the consequences of structural injustice, and ultimately urging governments, international institutions, and multinational corporations to take actions to change the status quo, the social connection responsibility model has been greatly validated in addressing global justice issues. As Young says, "Our working through state institutions is often an effective means of such collective action to change structural processes, but states are not the only tools of effective collective action (we also have civil society organizations)" (Young, I.M., 2006). Young's mistrust of national governments and her emphasis on civil society organizations precisely reflect her recognition of the increasing strengthening of social subsystem differentiation in modern

society. Among substantial studies, whether Betts' proposal for a bottom-up global migration governance system (Betts, A. (ed.) 2011), David Vogel's observation of the rise of civil regulation in labor and human rights, animal protection, environmental standards, and the enhancement of corporate social responsibility in transnational trade management (David Vogel, 2009), or Kenneth W. Abbott and Duncan Snidal's suggestion of a new trend in transnational governance that involves collaborative actions among businesses, governments, and non-governmental organizations to promulgate regulatory standard-setting or voluntary norms (Kenneth, W. Abbott & Duncan Snidal, 2009), experiences in global issue governance in various subfields all demonstrate the necessity of social subsystem autonomy. Therefore, the power of civil society organizations and the transparency and standardization of their actions are crucial in addressing structural injustice.

### Conclusion

The resolution path of the vaccine apartheid followed a route starting from protests

by the powerless and, with the support of third-party forces, exerting pressure on the powerful to drive comprehensive and transformative actions, which accorded with and thus validated the effectiveness of the social connection model of responsibility in addressing global structural injustice. Notably, the social subsystems' collective action proposed by the social connection model played a crucial role in resolving vaccine apartheid as it broke participants' ignorance, prompted the protest process, and triggered the reform action of larger subsystems like multinational corporations. Thereby, the subsystems' effect was throughout the whole process of collective action and determined the resolution degree of structural injustice. Since the social connection model claims multi-agent collective action on a systemic process, it can be applied to address all forms of structural injustice that can merely be tackled systematically. From this perspective, further resolution of structural injustices depends on creating an environment conducive to the formation and regulation of civil society organizations, which requires further exploration.

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