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RETHINKING HEALTH FOR
OUR GLOBAL ORGANISM:
THE OBESITY FAMINE, RURAL
INFECTION AND CLIMATE CHANGE

Now I am terrified at the Earth, it is that calm and patient,
It grows such sweet things out of such corruptions,
It turns harmless and stainless on its axis, with such endless successions of
diseas'd corpses,
It distills such exquisite winds out of such infused fetor,
It renews with such unwitting looks its prodigal, annual, sumptuous crops,
It gives such divine materials to men, and accepts such leavings from them at last.

from "This Compost" by Walt Whitman

Our distraught organism. In his 1856 edition of *Leaves of Grass*, Walt Whitman speaks reverently of a vibrant, serene planet capable of transforming even death and contagion into beauty and new life. Yet, after a century and a half of unrestrained consumption and pollution, the Earth no longer remains so "calm and patient." In the face of alarming international health challenges and the serious prospect of global climate change, neither should we. In an era of rapid transition, we must reassess climate change as both an escalating "cause" and unprecedented "consequence" of modern disease burdens. This is not a time for panic sirens, but for sensitive research that seeks to mitigate the impact of emerging disease patterns on the status of worldwide ecosystems and direct activism for millions of threatened people.

I believe that new research paradigms for disease–human–environment interactions are necessary to revitalize movements for social justice. As medical scientists and activists, we need to start thinking of our world literally as a living "organism" and focus on re-establishing symbiotic relationships between human populations and our distraught planet. We must appreciate that oppressive socioeconomic forces and deteriorating physical environments contribute to illness as much as any pathogen. We must see that diseases do not occur merely inside the containers of our skin; they ripple through an organic web of social and ecological relationships. It is time to stop thinking of disease in strictly biomedical terms; we must tackle sickness as a function of the complex interaction between microorganisms, social structures and ecosystems that are straining under the intense pressure of human activity. Most importantly, we must recognize that the health effects of climate change will almost certainly be experienced first in bodies of the poorest inhabitants of our planet, and embrace the urgent necessity to prioritize research for vulnerable populations. I believe that when we expand our awareness of our global organism, we begin to see that the well-being of an individual human being anywhere is fundamentally connected to the well-being of humanity everywhere.

Connecting signs. We often talk of the vicious poverty cycle whereby people get sick because they are poor and they stay poor because they are sick. When we recognize ecological connections, I believe we will see another vicious cycle – people will get sick as our climate changes, and our climate will deteriorate further if people are not healthy enough to protect it.

Rudolf Virchow, an original advocate of medicine as social justice, wrote in 1848 that, “...epidemics are like large sign-posts from which the statesman of stature can read that a disturbance has occurred in the development of his nation that not even careless politics can afford to overlook”. In an age of globalization, we need to look beyond the politics of separate nations and realize that sign-posts are popping up all over our world. To start, we need to challenge the assumption that infectious and non-communicable diseases exist independently on opposite ends of the economic spectrum. If we let ourselves think that infections like HIV, tuberculosis or malaria are only problems for poor countries, while chronic illnesses like diabetes, atherosclerosis or obesity are mainly problems of excess for the developed world, we may fail to see that new disease transitions are taking place in the 21st century that are increasingly connected through climate change. For example, we should not shy away from addressing unexplored relationships between the rise of metabolic syndrome in industrialized nations and infectious disease incidence in the developing world.

It is frequently asserted that climate change may lead to widespread famine. Yet, what if global warming itself was an indirect consequence of new types of famine? Famine is described in terms of “nutrition insecurity” – not merely a lack of calories, but the absence of micro/macronutrient balance and the cultural, economic and political structures necessary for individuals to lead nutritious lifestyles. If we assess these structures within industrialized environments, it may make sense to start thinking of obesity epidemics as a function of nutrition insecurity. While mouths may ingest more than enough calories, a nutritious lifestyle is increasingly difficult for poor people to afford throughout the developed world. Moreover, widespread obesity is a sign-post of a population-level energy imbalance that has global impact.

We are seeing less active bodies that are increasingly reliant on fossil fuels to get around, and a profusion of nutrient-poor, high-energy “junk” diets from an aggressive commercial food industry rooted in large-scale industrial agriculture. Gaia theorists, like James Lovelock, describe Earth as a living entity, and argue that “agro-business” is a major threat to the bionetworks that regulate our atmosphere. Industrialized consumption necessitates monoculture cropping, excessive irrigation, chemical fertilizers and pesticides and vast herds of livestock that degrade ecosystems and generate as much greenhouse gas as any power plant. Countless cars, sprawling cities, big business beef and addictive televisions connected to massive electrical grids not only lock people into oppressive “obesogenic” environments, but contribute to the deterioration of our biosphere.

We need research to critically dismantle the socioeconomic engines of “obesity famine” that are simultaneously driving climate conditions for conventional famine and infection in poorer countries thousands of miles away. We are already starting to appreciate their potentially devastating impact through hotter temperatures, drier seasons, rising vector habitats, disappearing farmlands and expanding deserts within the tropical latitudes of the developing world. In sub-Saharan Africa for example,

where local ecosystems have supported small-scale pastoralism and farming for generations, the health of remote populations is closely tied to the sustainability of their environments.

Last year, I spent six months in western Kenya, working with an HIV control programme called Academic Model for the Prevention and Treatment of HIV (AMPATH). My team helped coordinate testing and awareness campaigns in rural villages, schools, prisons and factories. Each day we were confronted with poignant reminders that the roots of this syndrome extend far beyond its “causative” virus. HIV spreads when breadwinners are forced to travel to distant cities to earn wages, and when women are forced to make desperate economic choices with their bodies and breastfeeding babies. It confounds antiretroviral treatment when patients lack nutrition to boost their immune systems. Sign-posts are emerging in overcrowded hospital wards, alleys filled with orphaned street children, on barren farms and in burgeoning slums.

Yet, HIV is not only killing millions of people and weakening thousands of local economies; it is forcing dire populations to accelerate dangerous changes to their stressed environments in order to squeeze out enough to survive. Infectious disease and destitution are taking a huge environmental toll in terms of deforestation, uncontrolled waste and urban concentration. In this positive feedback loop, “green” living itself is unsustainable for populations just trying to stay alive.

Expanding the cause. Many non-western cultures blur the boundaries between individual, society and the environment. Many “traditional” ethno-medical systems understand diseases as expressions of broader social and cosmic forces. Perhaps biomedical research can take a lesson here. We tend to think of disease in terms of microorganisms that attack individual bodies. Yet, diseases not only sap strength from our persons, they tremble the foundations of our communities and reverberate across the ecosystems of our planet.

What if, instead, we thought of diseases more broadly as less evolved relationships of unequal energy consumption, when organisms selfishly exploit resources even if it means weakening or killing their host systems? We may recognize that the way human populations compete for the Earth’s resources and recklessly discharge waste is remarkably similar to the way a maladaptive parasite feeds off its host. We may recognize that the inequitable distribution of health care in our societies is not merely an unfortunate economic circumstance, but the pathology of a global disease that literally weakens our world. We must challenge the Malthusian rhetoric of those who suggest that modern epidemics are a “cure” for overpopulation. Not only does this type of thinking lack humanity, it’s patently false. When populations are unhealthy, environmental damage increases exponentially.

The fact is, in both the developing and developed world, when people are sick, be they undernourished or overweight, plagued by plasmodia or plugged with plaque, they are unable to prioritize universal environmental concerns over immediate bodily needs. But today’s health research must prioritize both.

We need to combat parasitism on medical, economic and ecological scales to rejuvenate the equilibriums that poets like Whitman once celebrated. As global health activists, we must embrace the challenges of climate change as our most compelling

arguments to finally galvanize the international resolve we need to improve the quality of lives worldwide. We should not view climate change as an inevitable disaster, but an opportunity – a cause that truly unites everyone in our organism.

Charles Salmen grew up in the mountains of western Colorado in the United States of America. He studied English Literature and Arabic as an undergraduate at Duke University in Durham, North Carolina. Following graduation, Charles volunteered for six months in Eldoret, Kenya in the Community Mobilization Department for the Academic Model for the Prevention and Treatment of HIV/AIDS. As a Rhodes Scholar, he is currently pursuing a master's degree in Medical Anthropology at Oxford University. Alongside his research passions relating to infectious disease, human ecology and social justice, Charles is developing an innovative HIV counseling and testing pilot for remote island communities on Lake Victoria. Charles is interested in family medicine and will attend the University of California, San Francisco medical school in 2009.