

The saga of human-non-human conflicts and coexistence: envisioning a collaborative space

Group - 2

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Material things do indeed tie humans together, but at the same time materials are unruly and difficult to manage. Things fall apart. The human dependence on non-human things is productive, but it also draws humans fully into dependence on them and cares for things that are entrapping and lie in the heart of this article's discourse. It is this unstable messiness that is the core idea of entanglement. We try and manage, and categorize and order them. But these efforts are continually undermined. We can talk of and study the networks, meshworks, symmetries, and engagements between humans and things as so many have done over recent years, but this is to miss the key nodal point about human-thing relations, that they involve asymmetrical tensions and dialectical codependency.

In this article, the major non-human entities which we are going to focus upon are wildlife, ecology, water bodies, and modes of transportation.

The article delves into the various human non-human conflicts and their co-existence through relevant case studies and how it leads to a collaborative space.

Since the Palaeolithic, humans have had impacts on their environments such that the 'environment' is always already part of human culture. There is just an overall entanglement in which things have to be managed, cared for, looked after if humans are going to remain dependent on them. To bring out the importance of the role of human-wildlife conflicts we will present two case studies, the first one being on the Covid-19 pandemic and the second on Emus in Australia.

Humans and ecology are intertwined and interrelated and any changes in the ecology are bound to impact the human populace. The lessons from the past(SARS pandemic) and present(Covid-19) help us devise effective ethically and socially appropriate strategies to mitigate the threats due to the disruption of the nine planetary boundaries. If the present crisis is not taken seriously at the global level, the world has to face more difficult challenges in years to come.

Source of Covid-19

In late 2019, a novel new virus appeared in China with reports of a cluster of pneumonia cases in the large city of Wuhan. Current epidemiological theories trace the virus's first appearance to a seafood market in the city. Scientists argue that it is a zoonotic disease and the possible carrier for the same is a virus found in pangolins, while others believe that it is a bat-borne infection. The virus has spread from Wuhan, China, to every continent except Antarctica. On January 30, 2020, the World Health Organization declared the outbreak a public health emergency of international concern and it was recognized as a pandemic on March 11, 2020. The virus has been responsible for millions of infections and deaths globally. As of March 10, 2021, COVID-19 has affected 218 countries, and the total number of infected and death cases are 58,449,801 and 1,386,570 respectively.



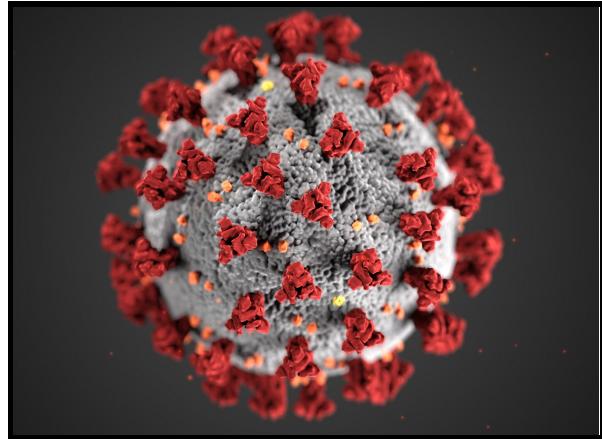
Are pathogens(non-human) the real cause of Covid-19?

Epidemics are not only a function of pathogens; they are also results of how society is structured and is functioning, how political power is exercised in the name of population health, how quantitative and qualitative data are collected and interpreted, how diseases are categorized and modelled, and how histories of diseases are narrated. Each of them has causal relations and social importance.

Globalization has led to people living closer to each other. It has created challenges and pressures to explain social phenomena from a broad global perspective. The emergence of infectious diseases is a product of human-nature(non-human) relationships, and, today, the COVID-19 pandemic is one of the most severe challenges faced in human history.

The world is highly connected and viruses can spread in a very short time. The current world has become more complex and connected in terms of population size and density, social relations, transportation infrastructure, and medical care.

Human activities are the most dominant cause of most contemporary environmental change. The biodiversity loss, climate change, ocean acidification, changes in land use, and chemical pollution have rapidly happened due to worldwide industrialization, technoscientific development, nuclear arms race, population explosion, and rapid economic growth.



The development of diverse products, including antibiotics, pesticides, and novel genetically engineered organisms alongside the movements of species to new habitats, intense harvesting, and high air temperatures resulting from greenhouse emissions, are all likely to alter evolutionary outcomes.

This human-nature conflict is hence responsible for the spread of Covid-19 and not just pathogens.

One can argue that throughout human history, the human-wildlife entanglement has mostly, if not always, resulted in the conflict between the two groups. Apart from all the animals that were domesticated around the world for the ‘mutual benefit’, that we are not including in wildlife, it is hard to find prominent instances where we were able to make peace with them. Either we have chosen to let them be, as in the case of most of the animals, or have tried to exterminate them. In the second case study, we have discussed one of these cases where the conflict was a reason to start an interspecies war.

The case of Emus in Australia

Background

Around the end of the 1920s, US stock markets crashed which led to a series of events causing an economic downturn in the country and the world in 1929. The one nation that was hit harder than most was Australia. The problem for Australia was that it relied heavily on its export industry, which in the current economic climate, no one was buying.

The Australian farmers were suffering the most in all this ordeal. In the years following World War I, the Australian government had given land to the soldiers for farming. Under a 'soldier settlement scheme', around 5,000 ex-soldiers were given plots of land, which they were to convert into working farms, primarily to cultivate wheat and sheep. By the end of 1920, the government had purchased more than 90,000 hectares of land including some marginal areas in Western Australia.

The Emu Problem

The Emu is the national bird of Australia. 6 feet tall, weighing around 40kg, it can run at 50kmph. With the cleared land and additional water supplies being made available for livestock by the Western Australian farmers, the emus found that the cultivated lands were good habitat, and they began to foray into farm territory—in particular the marginal farming land around Chandler and Walgoolan. Around 20,000 Emus were causing, already struggling farmers, millions of pounds of loss and damages.



In 1932, the farmers turned to the government for help. Having served in World War I, the soldier-settlers were aware of the effectiveness of machine guns and requested the minister of defence, Sir George Pearce for their deployment. The minister agreed with the conditions that the farmers would provide for the food, accommodation, and payment for the ammunition. Pearce also supported the deployment on the grounds that the birds would make good target practice. These decisions were influenced by the secession movement around that time. The ruling party wanted to show that it was

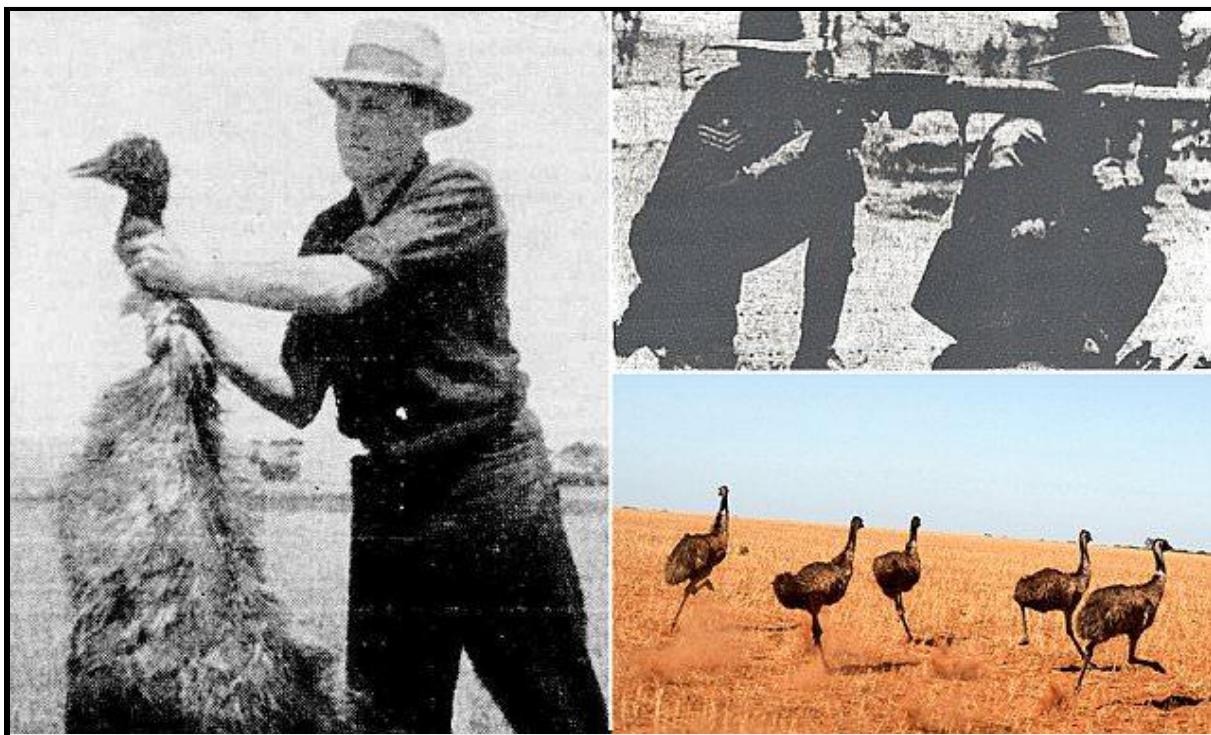
working to help the farmers of Western Australia. They also hired a cinematographer for recording propaganda videos.

The War

The first battle took place on November 2 in Campion led by Major G.P.W. Meridith. According to the reports, only ‘a number’ of Emus were killed after the first few days.

By November 8, six days after the first engagement, 2,500 rounds of ammunition had been fired. The number of birds killed is uncertain: in some accounts, it ranges from 200 to 500. Following the negative coverage of the events in the local media, Pearce withdrew the military personnel and the guns on this day.

A second campaign was mounted by Major Meredith on 13 November 1932, killing 40 emus. About a month later it was reported that 100 emus were being killed every week. Even so, Meredith did the maths and found that it took 10 bullets to bring down every one emu, which was a pretty dismal effort. He was recalled and the Great Emu War had finally come to an end.



In the midst of all this, if we go back and see what all factors were at play in starting this conflict to the aftermath of all this, we see how bad political and economic decisions of governments can vastly affect the delicate balance between humans and non-humans.

Human actions also affect non-human life. The land-use conversion to produce food, fuel, fibre, and fodder, combined with targeted hunting and harvesting, have resulted in species extinctions. In deforesting regions, warming is also exacerbated by the direct loss of vegetation cover, which results in a decrease in land-surface evaporation. The frequent occurrence of pandemics has emphasized the fact that unregulated exploitation of natural resources coupled with unsustainable food habits and consumption patterns lead to the destruction of the system that supports human life.

To bring out the harmful effects of humans on non-human life -the water bodies, we present another case study on habitat loss due to dam construction.

Environmental impacts of dam construction in India

Introduction

The building of dams that build reservoirs for storage and future delivery is one of the most effective ways to manage water supplies for human needs. Since ancient times, dams have been built to prevent flooding, supply drinking and domestic water, produce electricity, and provide irrigation.

Aside from the advantages, dams have a variety of negative environmental consequences. Dams can cause substantial harm to living beings in addition to their benefits. We can see that dams have both positive and negative connotations on human as well as non-human life. Hence, to envision a collaborative space human- non-human conflicts must be minimised.

Effect of Dams on Aquatic Life



Snow trout, catfish, and loaches may be drawn into the intakes and killed. Riverine fish that have adapted to fast currents can perish. Reduced flow rates would have a major effect on fish food organisms, and new species will enter areas with a slow current. Changes in their ecosystem are known to have a direct impact on gold and copper mahseer, resulting in stunted growth, disease, parasite infestation and increased mortality as reported in [10].

The disappearance of Historical Places

After lying under a reservoir, archaeological and historical sites, as well as unique geological and topographical sites of exceptional beauty, vanish.

The Three Gorges Dam, which began construction in 1994 and was completed in 2009 along the Yangtze River in China's Hubei Province. For the middle and lower Yangtze River, the dam provides hydroelectric electricity, shipping locks, and flood protection.

However, since the areas they had to leave behind had some of China's oldest history, the consequences of this relocation were detrimental to the populace. Since the sites



themselves have vanished under the sea, much of the above-ground archaeology is only preserved in data as mentioned in [11].

Resettlement and Relocation



Construction of dams requires displacement of the local people inhabiting the place around the dams which has led to the loss of millions of people's homes. This plight is many times ignored by the project proposers and designers as noted in [5] & [6] which also highlight that the Govt. of India does not have a figure of the number of people displaced by large dam projects. These projects displace people in

many different ways including due to colonies, canals, downstream impacts, catchment area treatment, compensatory afforestation. One estimate [7] suggests that large dams are the single largest cause of displacement in India since India got independence in 1947 which suggests that the human activity of dam construction has become a greater threat for humans than other natural calamities like Tsunami, Drought and Earthquake.

Habitat Degradation

Dammed rivers create a reservoir upstream which spills out into the surrounding environments and floods ecosystems. This flooding kills trees and other plant life which then decomposes and releases free carbon into the atmosphere. Because the river is no longer flowing freely, the water becomes stagnant and the bottom of the reservoir becomes depleted of oxygen. This lack of oxygen releases methane released from the decomposition of plant materials at the bottom of the reservoir, contributing to global climate change.

Deterioration of water quality

As a result of dam construction and holding of sediments in reservoirs, sediment feeding of downstream channel or shore beaches is prevented. Decreased load of sediments carried by the river causes scouring of the riverbed downstream. Entrapment of nutrients in the reservoir can lead to high eutrophication and subsequent excessive growth of aquatic weeds and low dissolved oxygen.



Water continues to be a crucial resource for the survival of humanity all over the world. The disparity between demand and available supplies of water, food, and energy threatens the sustainability of life in some parts of the world. Dams and reservoirs can and should coexist with the region's social and natural environment. The use of dams and reservoirs for the wise management of the world's water resources as part of each nation's social and economic development target would be the future challenge. The dam's negative

environmental effects can be reduced or removed with careful planning and design that includes public participation and feedback. If suitable mitigation measures are defined early in the dam and reservoir planning and design phase, they can be integrated quickly and efficiently into the project's design, development, and operation.

Envisioning a Collaborative Space

Not all the relations between humans and non-human entities prove to be harmful. Some of the relations work towards a more sustainable and symbiotic relationship as well. These are some instances that prove that humans and non-humans can coexist and envision a positive collaboration, and hence show a positive aspect of entanglement:

Electric Vehicles

One of such relations is the usage of renewable sources of energy (non-human entity) for fueling the electric vehicles for sustaining the daily transportation needs of humans. In the European country of Iceland, there has been a surge in the number of electric vehicles (EVs) being bought and used. There is no combustion process in EVs, this reduces greenhouse gas emissions and helps to preserve non-renewable energy sources like petrol, natural gas etc.

This development has also been supported by governments of countries and many governments including the government of India provided companies working in the development of electric vehicles with facilities and concessions.



Development of renewable sources of energy

The usage of eco-friendly sources of energy like solar energy and wind energy paves way for a healthy collaborative space for humans and non-human entities which include reducing water pollution caused by large thermal power plants which have a direct impact on aquatic life as it makes water inhabitable for aquatic animals.

Similarly, with modern research and development, there has been significant progress in reducing land occupied by these power-producing units helping to reduce forest area which needs to be cleared for the establishment of these units. One such modern development is the installation of solar units on the surface of large water bodies like oceans primarily developed by Swimsol.

Efforts to clean oceans



It is very prevalent that the waste present in the ocean directly impacts aquatic life but this waste can not be removed completely by natural forces only and hence human interference is necessary for that. With recent developments in technology, this has become possible and many practical solutions have been proposed to clean up oceans some of which include System 001 A and 001 B by the ocean

cleanup project. These machines are developed and deployed in such a way that they ensure the safety of aquatic life in the region of deployment and also ensure proper cleanup of the ocean area.

Cleaning up rivers

Apart from oceans, the aquatic biodiversity of rivers is also quite rich but there has been a significant deterioration in river aquatic biodiversity primarily due to pollution and contamination caused by the development of urban and industrial areas on banks of rivers. With increased awareness of these problems, humans are also trying to clean rivers using technology, aided with funding from the government and other agencies. In India, one such project was the “Clean Ganga” project which was launched by the government of India to clean the national river Ganga to help it regain its identity as a river with very rich and varied biodiversity.

Reducing forest fires

Forest fire is one of the major causes of forest deterioration in present times. Concerning India, frequent fires in the Himalayan region of Uttarakhand in the Indian Himalayas have been blamed for forest deterioration. Frequent fires on large scales cause air pollution, mar the quality of stream water, threaten biodiversity and spoil the aesthetics of an



area. Thus human interference in this helped to reduce the chances of forest fires and also helped in limiting the extent of fire once it starts.

Earlier there was very less development in the field of prevention of forest fires and the focus was more on limiting the extent of existing fires but now the focus is shifting towards the early prediction of forest fire and thus its prevention. There has been significant research and development in this area with products like Phos Chek Fortify which help to prevent forest fires even before they start and authorities spending large sums on forest fire mitigation.

Conclusion

Entanglement proves to be a fruitful and productive lens through which to explore a variety of contemporary issues in the social sciences and humanities. Entanglement argues that humans and things do not just relate to each other. Rather they are dependent on each other in ways that are entrapping and asymmetrical. Things are so caught up in other things and in other human-thing dependences, those daily practices are directed down specific pathways, and humans are drawn in specific directions that create further entanglements. It invites us to trace the threads that spread out from each action, entangling that action within wider socio-material realms.

If everything depends on everything else in the heterogeneous mix of humans and things, where is the boundary of study? If complex entanglements cannot be reduced to a limited set of variables, how can one study everything?

In practice, some restrictions of study to immediately relevant connections can often be justified. But exactly how to strike a balance between the full exposure of dependencies and some reductive bounding and limiting remains a challenge. All we can do is continually explore human and non-human entanglements from different perspectives, understanding new dimensions within a multi-dimensional world, opening up new links and connections.

Our conflicts with the environment spanning over several centuries and millennia must come to an end. As we descend into what can only be termed as the decimation of planet earth, we must take charge of our actions and the impact we have on the environment. Turning the blind eye to the massacre of nature has never had and never will benefit anything other than our short term capitalistic greed. We're tiny entities of this cosmoaverse designed to co-exist and that we must.

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