The Ecological Ethical Implications of Latour's Gaia Theory

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Latour combines "the anthropocene" and "the Gaia Hypothesis" and comes up with his Gaia Theory: On the one hand, Latour believes that humans will be an important force in regulating the earth system; on the other hand, Latour puts forward his own "relational ethics", arguing that all laws or rules that Gaia follows should be realized through the interaction of actors, and "the parliament of things" can unify the domain of necessity and the domain of freedom and turn the opposition between fact and value into the difference between "taking into account" and "arranging in rank order". His position of "relational ethics" alleviates the opposition between social construction orientation and naturalism orientation in ecological ethics. The mechanisms and principles proposed by "the parliament of things" are of great value in ecological ethics, but they are faced with problems, such as the effectiveness of representatives and whether the parliament can achieve substantial outcomes. The idea of "community of shared future for mankind", as a Chinese plan for ecological governance, can provide new ideas for solving the above problems of "the parliament of things".

Keywords: Gaia 2.0, critical zone, actor-network theory, philosophy of organism

Introduction

"Gaia Hypothesis" is a scientific hypothesis put forward by British scientist James Lovelock in the 1970s and further developed in cooperation with American scientist Lynn Margulis (Lovelock, 2017). They believe that the Gaia System (named after the "earth goddess" in Western mythology) is a dynamic system of all living things and their environment that automatically regulates the earth's own climate and natural state. The concept of the anthropocene was coined in 2000 by Nobel prize-winning chemists Paul Crutzen and Eugene F. Stormer to replace the previous Holocene, which had less global impact and a relatively stable climate. They believe that in the anthropocene, human forces themselves can strongly influence the entire earth system (Preston & Wang, 2008). French philosopher Latour, in the concept of "human" and "Gaia Hypothesis" based on the proposed new Gaia Theory, put forward that: On the one hand, human is a kind of can change the cover of the earth system "technical strength", and has the ability to take the initiative to improve the earth system; on the other hand, do not think on the control of the global environmental ethics inherent ethics, human also advocates a kind of "ethical relationship" between the only through the relationship ethics "of parliament" mechanism to reach a consensus through consultation (Block & Jensen, 2011, p. 92). Can Latour's theory of Gaia effectively solve global ecological problems? Where is the rationality boundary of relationship ethics? Is the representation of "parliament of things" effective and can it be effectively implemented? All these problems deserve further discussion.

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Humans Will Become Gaia's "Self-Awareness"

Latour and Timothy M. Lenton, a professor at the University of Exeter in the United Kingdom, have proposed a new version of the Gaia Hypothesis, called Gaia 2.0, in the journal science. Gaia 2.0 argues that in the context of the anthropocene, it is reasonable to use human technological power to effectively regulate the Gaia earth system, and that this adjustment is "conscious self-regulation—from individual actions to global geoengineering projects—either occurring or imminent" (Lenton & Latour, 2018, pp. 1066-1068). This has transformed the earth system into Gaia 2.0 with a "sense of self" that comes from conscious human regulation. For humans to act as the "ego" of Gaia, it is necessary to study the new characteristics of Gaia in the anthropocene. In contrast to Lovelock's original Gaia Hypothesis, "Gaia 2.0" holds to two of Lovelock's core ideas:

(1) The agency of living organisms. Latour and Leighton emphasize that living things are involved in the formation of the entire earth environment, and that using very little energy flow can profoundly affect the energy balance of the earth and climate. Maintaining biodiversity will help Gaia develop a powerful self-regulating function.

(2) Heterogeneity (Latour & Lenton, 2019). Lovelock sees Gaia not as a unity, but as a system of living and inanimate parts. Latour also believes that Gaia is actually a heterogeneous network of different types of actors.

However, Gaia 2.0 has new implications for Lovelock's Gaia Hypothesis:

(1) Autotrophy. This means that nutrients are recycled in Gaia and the loop is closed, allowing for sustainable use of resources. Gaia is almost a closed system, with little material exchange between the earth and outer space and a great deal of internal circulation;

(2) Heterarchy. Some of the self-regulating mechanisms of the earth's climate involve physical, chemical, and biological factors. Gaia is regulated by completely different mechanisms at different spatial and temporal scales. Natural selection can only explain environmental regulation on small spatial and temporal scales.

(3) Network. Lovelock, in the original Gaia version, proposed the important role of microorganisms, especially the feedback chain between marine plankton, atmospheric condensation nuclei, and climate. Gaia 2.0 emphasizes that Gaia is made up of adaptive networks of microbes that form the basis of the global biogeochemical cycle (Lee, 1994).

Latour's Relationship Ethics

In the ethical path of ecological governance, there is still a debate between the orientation of social construction and the orientation of naturalism. The former holds that ethics is socially constructed and should be extended beyond human beings. Some ethicists have extended free individuals with rights to creatures other than humans, such as Peter Singer, an American ethicist who represented the animal liberation movement. The latter certainly has an inherent quality. Keekok Lee, a professor at the University of Manchester in the United Kingdom, affirms that the right of creatures in nature to survive or reproduce is guaranteed by its very nature, not because society decides to assign moral value to them. Both of these approaches have pushed the expansion of ethics into the natural realm and challenged the firm position of strong anthropocentrism. But they all share a common dilemma: One is that the dichotomy between nature and society has not been completely broken. The British philosopher Noel Castre criticized these two approaches for reinforcing natural/social differences only

by unconsciously emphasizing natural characteristics (Watkin, 2016). The other is that both approaches try to find a foundation for the ethics of "non-human" actors. However, social constructivism points out that the concept of "nature" is not a constructed concept, and ecological ethics cannot be rooted in the inherent nature of certain creatures.

Based on this situation, Latour tried to transcend these two positions and thus proposed the concept of "relationship ethics" in ecological ethics. In Latour's view, there is no clear line between human and "non-human" actors. The heterogeneity of Gaia lies in the fact that it is not a pure natural body or a single entity built with certain types of actors as the center, but a hybrid network composed of human and "non-human" actors. The age of enlightenment opened up a hierarchy between society and nature, which meant that "non-human" actors, such as plants and animals were supposed to be distinct from humans, and thus had long been ignored in ethical discussions in Western societies. Borrowing from French philosopher Michel Thiel's concept of quasi-objects, Latour goes on to show that what he calls stable natural/social, scientific/political polarization is actually the result of quasi-object movements, and where seemingly distinct poles are a continuous chain or hybrid network of actors. Furthermore, the properties of the actor are not fixed. In the hybrid network composed of human and "non-human" actors, the attributes of the actors will change with the changes of the relationship network. Sarah Whatmore, a professor at Oxford University, and Lorraine Thorne, a British academic, have used the theory of actor networks to compare elephant habitats (Whatmore & Thorne, 2000). Elephants that live in two different habitats, a zoo and a sanctuary, exhibit different behaviors because the two habitats have different spatial environments and different levels of interaction with humans, so elephants do not have certain fixed nature or characteristics. Finally, the ethical relations in the network are formed by mutual adaptation and exploration. Gaia 2.0 does not adhere to the "anthropocentrism" and does not tend to "non-human centralism", advocating a relation of "decentralization" ethics, namely the rights of the actors should be given specific contact in the network view, but the relationship is not affirmatory, needs to adapt to each other and thorough exploration, and can achieve a well-ordered state. In Kenya, for example, people, elephants, cows, crops, and safari tourists coexist (Latour, 2004).

The Parliament of Things

Latour's relationship ethics means that general ethical principles must be analyzed in combination with specific network situations, so the concept of "environmental justice" needs to be introduced, that is, "the fair equivalence of rights and obligations promised by various groups, regions, ethnic groups and nation-states when dealing with environmental protection issues in human society" (Wang, 2003, p. 27). As any group member changes in relation composition and situation, its attribute cannot be fixed once and for all, so the future ethical debate will focus on the changeable attribute of the actor for discussion. Relative to focus on the earth system knowledge "embedded" economic activity, and then set the rules in order to achieve sustainable development goals, Latour thinks, more importantly, we must be neglected for a long time "nonhuman" actors into the "ecological politics" or "ecological representative"; specific solutions are to make "non-human" actors into the ecological representative "seat", to form a "parliament", by discussing negotiation mechanism form a common abide by rules or laws, and to implement "autonomy". The concept of human under the influence of modernity is put forward based on the concept of binary opposition between man and nature, without considering the initiative of all actors; the representativeness of "non-human" actors is lacking. People on earth must consider the activism of all actors in Gaia and bring "non-human" actors into the climate regime (Latour,

2017, p. 229). "The parliament of things" can solve this problem of lack of representativeness, thus ending the long-term polarization and realizing the unification of the free field and the inevitable field.

In the book *Facing Gaia*, Latour further discusses the importance of humans establishing "parliaments of things" (see Figure 1). Latour believed that the old representative system was divided into "courts of fact" and "courts of nature", which had the functions of perplexity, consultation, hierarchy, and institution. But the old representative system was binary: Perplexity and institution were part of the facts, whereas consultation and hierarchy were part of the values; confusion and institution have traditionally been associated with science, while consultation and hierarchy have been associated with politics, and these two parts have been characterized as separate facts and values. This separation leads to two problems: first, the failure to correctly identify the "non-human" actors, making them unable to "voice" for a long time; the other is that human beings cannot construct an order in which "non-human" actors coexist for a long time. Taking the prions, infectious particles as an example, they are suspected of damaging the brains of cattle and causing mad cow disease (bovine spongiform encephalopathy [BSE]). In the old division of labor, scientists used to solve puzzles (What is the real source of infection?); politicians try to find and consult the parties involved (Who is part of the problem and who will be part of the solution?); ethicists conduct relevant moral discussions and establish hierarchies (Can we accept animals being force-fed?); economists develop mechanisms (What is the best breeding and slaughtering program?) (Latour, 2017, p. 111). The seemingly perfect solution has obvious flaws in practice: First, it fails to properly "identify" non-human actors. For example, it was difficult for scientists to identify viruses from a positivist perspective in the first place, because according to the positivist scientific demarcation, scientists have traditionally believed that congenital species barriers in humans and animals make it impossible for diseases to co-occur. But the reality is that the virus is a kind of unconventional in particular cattle breeding net protein, the virus changed features in the network, or in Latour's words, "non-human" actors in the network translation are the scientist result through scientific empirical knowledge that is impossible to separate; the scientists also cannot speak on behalf of "prions". In Latour's view, the network of actors that led to BSE is a combination of non-human actors (prions, cows, laboratory instruments, etc.) and human actors (cattle farmers, government officials, experts, etc.). So, identifying a "non-human" actor actually has a dual attribute: It is not only a process of understanding the scientific evidence of the "non-human" actor, but also a process of understanding the negotiation of all human actors—facts and values cannot be separated. This requires that the rights of "confusion" and "negotiation" must be unified. Second, there is no rational order for co-existing with "non-human" actors. Even if the virus was identified, ethicists would not be able to rank it separately and send it to economists for final processing, because ethical considerations and proposed solutions are the same process that involves public consultation. In France, for example, 8,000 people die in vehicle-related traffic accidents every year, but in actual negotiations, it is not the ethicists who rank them separately, but the result of extensive discussion: People consider the number of deaths less important than the benefits of keeping traffic moving, and exclude this agenda from parliamentary discussion (Latour, 2004, p. 124). Thus, the making of a new order is also a unity of discussion of facts and assessment of values, which requires the unification of hierarchy and mechanism.
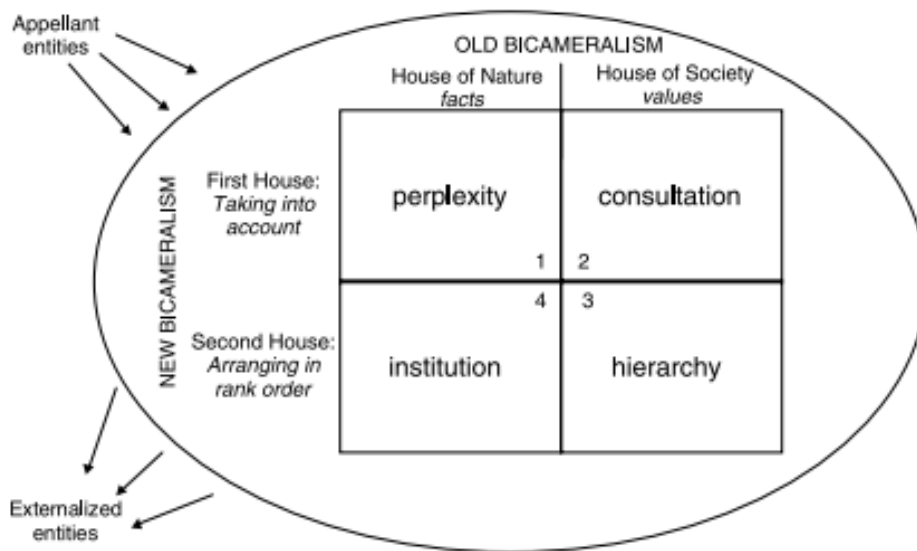
Figure 1. The four collective tasks in Latour's new parliament of things (Latour, 2004, p. 115).

Based on the above investigation, in the new ecological system of representative, Latour reorders these four functions that belong to "confusion" of the world, and to value consultation is scheduled to the house of lords of the world; the world belongs to the world system and to the same value of level has been arranged to the House of Commons; that of fact and value is into "taking into account" and "arranging in rank order" (Latour, 2004, pp. 114-115). The right of "taking into account" makes it no longer the prerogative of scientists to identify and represent "non-human" actors, but to identify and "voice" all people in the network; the right of "arranging in rank order" also makes ethical considerations and the establishment of a new order and a public issue, which is no longer monopolized by economists and ethicists.

Latour's proposition of "the parliament of things" is of great enlightening significance and reference value for solving practical problems in the field of ecological ethics. The "parliament of things" advocates the mechanism of dialogue and consultation, which helps to build a harmonious relationship between human and non-human actors. In the relationship network between human and "non-human" actors, each actor has its own vitality and vitality. If one part or one actor appears unconventional rapid growth, it is bound to absorb the energy and resources of other parts or actors excessively, and destroy the balance within the relationship network. Therefore, it is necessary to emphasize the principle of fairness among the actors, emphasize that all parts or actors in the network enjoy equal rights, and form a resultant order. If only people's vitality and vitality, ignoring the vitality and vitality of other actors, will lead to the disorder and even collapse of the whole system, the function of the dialogue and consultation mechanism is to provide all actors with reasonable access to development opportunities and enable the whole network of actors to operate in a reasonable and orderly way.

Comments

Although the idea of "the parliament of things" is conducive to promoting the progress in the ideological and practical fields of ecological governance, the doubts on "the parliament of things" never stop.

The first is the validity of representation. The core principle of "the parliament of things" is that people "speak" on behalf of "non-human" actors, but theoretically "the parliament of things" represents many people. In the case of global ozone management, there are numerous representatives in this network: chemical

entrepreneurs and workers, meteorologists, national spokesmen, aerosol consumers, oncologists representing skin cancer patients, marine biologists... But the outcome of the parliamentary discussion depends directly on the composition of the parliamentary actors, so the scope of the representatives deserves to be discussed in depth, but Latour is clearly not prepared for this. On the other hand, there is no effective mechanism to exclude unqualified representatives. Latour, Manning, and Massumi (2008) argued that a good scientist can speak on behalf of "non-human" actors because "responsibility essentially corresponds to appeal" (p. 9). "Scientists are perfectly capable of getting a chicken to express its wishes in order to know whether it would prefer a one-centimeter wire or a three-centimeter wire because the chicken would die or lose its feathers", he said (Whiteside, 2002, p. 197). The French scholar Christopher Watkin argued that the mechanism was a progressive but not a perfect solution, and that if chickens thought the agent was doing a bad job, it was clear that the chicken would not drive the agent out.

The other is whether the "parliament of things" can produce substantial results. Latour advocates allowing different actors to express their views and reach consensus in arguments and negotiations. The problem is that consultation may not necessarily lead to agreement, but may lead to conflict or even irreconcilable contradictions. Domestic scholar Xia Yonghong also believes that Latour's "ecological representative system" is facing this dilemma. American scholar Kerry H. Whiteside proposed that the "parliament of things" must have a decision-making rule to solve this difficulty, but this rule should not be equivalent to the "confusion" mechanism proposed by Latour, and should establish a stable parliament that can count votes in a certain way.

For these question, Latour has made some response; he told the Canadian cultural theorist Erin Manning and philosophy of Canada Brian Massumiin in an interview, and insisted that if there are any difficulties, "parliament" is not what to represent the interests of the problem, but to solve the problem of our lack of typical model. Latour acknowledges that the "parliament of things" is a programmatic rather than a very detailed programme, with its central focus on addressing the representation of "non-human" actors and too few other issues (Latour et al., 2008).

The concept of "a community of shared future for mankind" proposed by the Chinese government can provide new ideas for solving this problem and embody China's wisdom in global ecological governance.

In addressing the issue of representative effectiveness, the vision of a community of shared future for mankind calls for the common participation and extensive cooperation of all countries in the process of solving global problems. With the norms, treaties, and agreements of international organizations as the basis and the goal of widely recognized ecological governance, this can clearly express the responsibilities of ecological governance that all countries should undertake, form a certain degree of international consensus, and effectively solve the problem that the "parliament of things" cannot function because of its weak representation.

The vision of a community with a shared future for mankind is committed to building a new type of international relations to solve common problems. The reason why the current international ecological governance is faced with many difficulties is that the old "zero-sum game" rules between countries are in effect. "Only when the world develops can countries develop; only when countries develop can the world develop" (Xi, 2018, p. 192). China currently advocates the "One Belt and One Road" construction, which is to promote win-win cooperation among its neighbors and Asia-Pacific countries and better deal with ecological governance on the basis of solving deep-seated development problems. This is a sustainable development model.

The vision of a community with a shared future for mankind adheres to the concept of "environmental justice" to implement consultative governance. To be specific, we should adhere to the principles of common but differentiated responsibilities, equity, and respective capabilities. While developing countries are fulfilling their ecological governance obligations, developed countries are also required to provide financial and technical support to developing countries' capacity to cope with climate change.

The core of the "parliament of things" lies in consultation and dialogue, and the specific way to implement it is to let different representatives work together to formulate a plan. But the common discussion needs to follow the fair and reasonable request, and reflects the environmental justice (Xi, 2018, p. 192). Otherwise, such discussions are meaningless and there can be no global consensus.

In general, the concept of "human destiny community" as China of the global ecological management plan, active uses international mechanisms of existing representative framework, wins power and the right to development for the vast number of developing countries, with a win-win pattern instead of "zero-sum game", promoting "environmental justice", and helps to solve typical problems in the ecological environment governance and consensus problem, especially the developing countries around the world received widespread support. In the process of perfecting and developing this concept, it is necessary to fully absorb the ideological resources in the theoretical research and practice of ecological ethics. From such a perspective, Latour's proposition of "the parliament of things", especially the dialogue and consultation mechanism and the democracy of scientific knowledge, is still of great value, so it is necessary to further study and fully reveal its ecological ethical implications.

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