

# The Development of Modern Design Methods through an Actor-Network Theory (ANT) Analysis of the Pre-modern Social Customs of Japan

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## Abstract

We analyze life in urban district on the outskirts of Tokyo by ANT. This research is used to identify social and technological elements that are regarded as essential in the modern day and to develop methods that will link to a practical approach. Our presentation describes these methods in detail. We believe that it may be possible to identify particularly important elements in design methods that respond to the complications of the modern day in early modern wisdom and customs, which until now have been overlooked. Today, as the foundations of social norms and traditions that have previously been regarded as self-evident are swaying and the risk society is advancing, these new design methods can be used to respond to an array of issues with a high degree of complication, such as the deterioration of the mental environment and environmental problems without any discernible solution. Since the modern era began, design has solved social problems through the development of objects and systems. However, in terms of the problems stated above, it can also be pointed out that design is both unable to suggest basic solutions and, in addition, forms a part of the social structures that cause these problems. Approaches that follow laws of causality tied to modern methodology cannot be applied to complicated problems where the relationship between cause and effect is unclear. The use of new design methods makes it possible to decipher complicated relationships and apply pre-modern systems to modern life.

*Keywords: Methods & Tools, Fundamental Research, Design theory*

## 1. Introduction

We believe it is possible to find elements of pre-modern customs and wisdom that offer important design methods appropriate to complex modern times, but that have been overlooked as outdated. In pre-modern customs and traditional practices, one can find structures for handling risk as a whole community, methods for community maintenance, and ways of connecting individuals, society, and tradition.

Under the conditions of modernity, in which foundational structures that have long been taken for granted, such as social norms and traditions, now shake and tremble, this way of thinking is an appropriate approach to the highly complex problems afflicting modern society, such as the devastation of the mental environment, and environmental problems that go on without solution. Since modernity took hold, design has played a social role by discovering social problems and developing goods and systems to address them. However, regarding the problems of modernity, not only has design failed to present fundamental solutions, it is also part of the social structures

that cause such problems. Is this not because design is itself bound by the law of causality, and thus to modern methodologies? Approaches conforming to the law of causality cannot cope with the set of complex problems in which relationships between cause and effect are unclear. Therefore, new design methodologies are necessary.

In this paper, we use Actor-Network Theory (ANT) to analyze a case study in the municipal suburbs outside Tokyo. By doing so, we show how it is possible to understand complex relationships and apply pre-modern systems to modern life. The purpose of this research is to use that juxtaposition to develop a method that leads to a more concrete approach to finding the social and technical elements necessary for the present age.

## **2. The situation of modern design and the necessity of reconsidering design methodologies**

Risk Society (Beck, 1992) is a society in which the risk reaches a dimension that puts life at risk on a global scale, and risk becomes increasingly influential to the development of society and the living environment. The dangers of the Nuclear and Chemical Age are diverse, and include the collapse of the food chain, global environmental destruction, the possibility of global financial collapse, and other human-made risks that threaten society itself. Beck and Anthony Giddens (1994) use the term Reflexive Modernization to describe the present condition of modernity, which is entering a stage in which the self loses aim and purpose as it modernizes. The mechanism of self-harm in Risk Society is a distinguishing characteristic of Reflexive Modernization.

However, design developed in hand with the industrialization of the 20th century, and has been focused on solving the “problems” of inconvenience and discomfort. Design has succeeded in solving social problems by creating new products and services. While there is a certain significance in this form of “problem-solving” structure, it also has its limits. The design methodology that succeeded was one that, in the process of modernizing subjects such as nature and tradition, understood epidemics, famine, natural disasters, and so on, as “problems” and improved society by solving those problems. However, contemporary problems with heightened levels of uncertainty have more complicated backgrounds, making it difficult to read and understand the causal relationships pertaining to these problems using scientific rationality alone.

On the other hand, if we look back on life in the pre-modern era, we find embedded ways of coping well with epidemics, disasters, and other of the inevitable dangers of life. Among the customs and traditional events in each region, one can find mechanisms for dealing with risk as a whole community, methods of maintaining communities, and ways to connect individuals with society and tradition. Furthermore, it becomes apparent that Nature and Society were not always divided in two. Thus we search for clues for coping with the seemingly insoluble problems of modernity by drawing on the social scientific theory of ANT, which tries to elucidate modern phenomena by reconsidering them as networks of things and people.

### 3. On the Possibility of Incorporating ANT into Design Methodology

Beginning in the 1980s, ANT spread widely as a theory for analyzing the formative processes of science and technology from a social scientific perspective. In ANT, not only human beings but also artifacts such as machinery, legal institutions, and organizations, as well as non-human entities in the natural environment are analyzed as having real agency. Actors' actions and cognition, interactions between actors, and the sum total of network effects are all described chronologically within their social context. It is good at criticizing the subject of analysis by seeing its network not as a fixed thing, but as an organic thing that changes with the negotiations and interactions among actors.

Although research incorporating ANT into the field of design is still relatively sparse, two broad trends can be distinguished. One is a group of research that attempts to incorporate ANT into the design research process. These studies, by treating subjects and situations both as actors for analysis, attempt to establish ANT as a method to achieve some insight that could not otherwise be had with traditional research methods. The other is a group of studies centered primarily in Scandinavian countries that incorporate ANT into the process of co-creation design. These two trends both draw heavily on the theoretical insights of STS and innovation studies. However, previous studies in these areas of design have limited their use of ANT to mere invocation of a name. Research that incorporates the “non-modern” critical viewpoint proposed by Latour to escape from modern values is not being done. Latour pointed out that in addition to the process of “translation,” there is a process of “purification” specific to modernity. He identified the source of the crisis of modernity in the existence of what he calls “hybrids,” gaps in the process of “purification” which separates human from objects and conceals the original state of the network (Latour 1993, pp. 10-11). Thus in reconsidering the dualism of society and nature, he suggests that it is important not to abandon modernity as a whole, but to prepare a balance sheet that inherits the best parts of modern and pre-modern times (Ibid. p.135).

### 4. Case Studies of Pre-modern Customs using ANT

#### 4-1. The Situation of Contemporary Tokyo Suburbia and the “Oinu-sama” Faith

The object we analyze using ANT in this case is a community of indigenous beliefs affectionately referred to as “Oinu-sama.” This particular faith has its origins in a community in a municipal suburban area on the west side of Tokyo that focused on the *gofu*, or protective amulet (a token inscribed with the name or likeness of gods, the *gofu* is worn on the body or attached to walls to implore gods for protection from disasters).

“Oinu-sama” is, an honorific expression of a god in the form of a wolf. These are the contemporary remains of mountain worshipping creeds that revered the now-extinct Japanese wolf. In western Tokyo, it was practiced in the rural areas around the basin of the Tama River, which flows through the area, and centered on Musashi Mitake Shrine, located at the head of the river. The wolf that once lived in the mountains of Chichibu was revered as a god that protects agricultural crops from boars and so on. By receiving a wolf amulet from this shrine, it is said that the god's protection can be obtained, and from this a “*kō*” (a mutual help organization run by people with the same faith) was organized in various places. It was believed that by displaying the amulet in front of the door, one could obtain protection from theft and fire.

“Oinu-sama” is primarily practiced in the suburbs of Tokyo, which are bedroom towns developed to receive the workforce that concentrated in the city during the rapid economic growth of the 1960s. In the past, farmland and miscellaneous forest spread widely and the village had a small population, but now there are rows of elegant homes and commercial establishments packed with the latest, fashionable products at the station. In the process of development, pre-modern customs and blood relations gradually declined as new residents from all over Japan flowed into the area. In the course of urbanization, local events and rituals came to be seen as burdensome and were not continued. As a consequence, the living environment handed down from the Edo period completely changed in just a single generation. The “Oinu-sama” faith shared a similar fate; today it is a custom that is not commonly known. Depopulation due to aging and the outflow of population as people return to central Tokyo has become a big problem, especially since the 2000s. Under such circumstances, even though the numbers have decreased, “Oinu-sama” continues to be a living tradition. In the survey process, in addition to a literature survey (Ogura, 2011) on mountain faiths, we interviewed Sakata Seiichi, who inherited his local farm as well as the practice of the “Oinu-sama” faith. Sakata responded to the interview by explaining that he descends from a 400 year-old lineage of farmers that stretch back to the Edo era. He is remarkable in that, as a central figure in the town of Kurogane, Kanagawa prefecture, he still practices “Oinu-sama” today. (Figure1, 2)



Figure1: The amulets on the door of Sakata’s house



Figure2: The design of the amulet

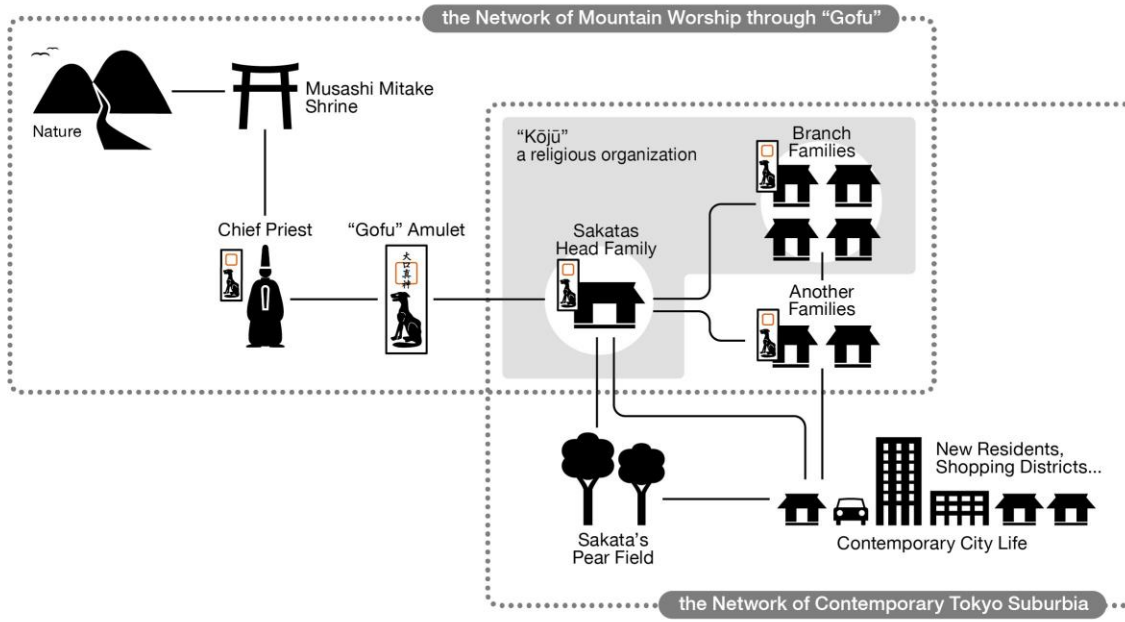
#### 4-2. ANT Analysis of “Oinu-sama” Faith

Based on the interview, we will explain the actor-network of “Oinu-sama,” focusing on the situations in which amulets circulate (Figure3). Amulets are printed by the chief priest of Mitake Shrine. The natural system symbolized by the wolf is engraved on the amulets, and amulets become agents for conveying faith. In winter, the priest descends the mountain and delivers amulets to people in the valley below. The recipient households belong to the “kōjū,” a religious organization rooted in the land. The “kōjū” is a very important unit as an actor that facilitates mutual aid during important ceremonial occasions, such as marriages and funerals. The chief priest performs a ritual prayer and offers a wooden amulet in front of each family's “kamidana” (a sacred shelf for keeping amulets, located in a permanent place in each house). This is the medium through which the god makes its entrance. Each household then donates as much as 300 yen (about 3 dollars) to the priest and buys as many amulets to hang outdoors as they will need. At this point, the amulet is an exchange good. For the recipients who hang the amulets on the door of their house, the signs give a sense of security by displaying the characters for “crime prevention” around the household. For Japanese farmers, the river and the mountain that is its water source are important actors that produce crops. It was thus natural for farmers to feel their presence in close proximity through amulets. Heads of households not only display amulets, they also deliver amulets to those closely related to the house, such as relatives. Even if those who receive the amulets do not understand the meaning symbolized by the amulets, they are nevertheless passively incorporated into the patriarchal

system centered on the Sakata family. In addition, in the past, there was also a “kōjū” that visited Musashi Mitake Shrine from a faraway place once a year. In that case travel expenses and votive donation were collected from each participant. Funds collected at this time were pooled, and it was possible for members of the “kō” to borrow some of that money. Thus, while “kōjū” was an organization based on natural beliefs, it also functioned as a bank, insurance, and mutual aid society. Then during the New Year’s festivities the amulets that have been hung throughout the year are burned in a rite conducted by the entire town. After that, the household purchases a new amulet from the visiting priest and the circle of the amulet network is closed.

From a modern perspective, an “amulet” is simply a magical charm, generally thought to have little or no relevance to or effect on our urban lives. However, through our ANT analysis we have shown how this amulet is a powerful actor that organizes and stabilizes a diversity of elements, such as information exchange between watershed farmlands, mutual aid between regions, connections between family and relatives, and the natural world with life in the municipal suburbs of Tokyo. Amulets are very functional things that negotiate various roles in a wide variety of contexts. Our consideration of amulets in the Tama River basin around Mt. Ontake reveals an alternative form community, one completely different from society in and around central Tokyo. Here we can see how Seiichi Sakata is living a double life: existing in both modern suburban society, and the network created through amulets.

On the other hand, while the network woven by the amulet is stable, it also proved to be a small network, stagnating from a lack of opportunities for new residents to enter (even if they express interest). Important ceremonial occasions like weddings and the rebuilding of houses, which were intimate parts of everyday life and opportunities to mobilize the network, have since been outsourced to external companies, eliminating the need for each resident to help out. The practices of amulets and the “kōjū” are on the steady path to decline. Likewise, for those newly migrating to the suburbs, there is no opportunity to become connected with the “gofu” amulet actors. Even though there is a critical awareness of the problems facing community, we also found that people are being cut off from opportunities to participate in forms of community like the amulet network.



### The Transition of the Role of "Gofu" Amulet

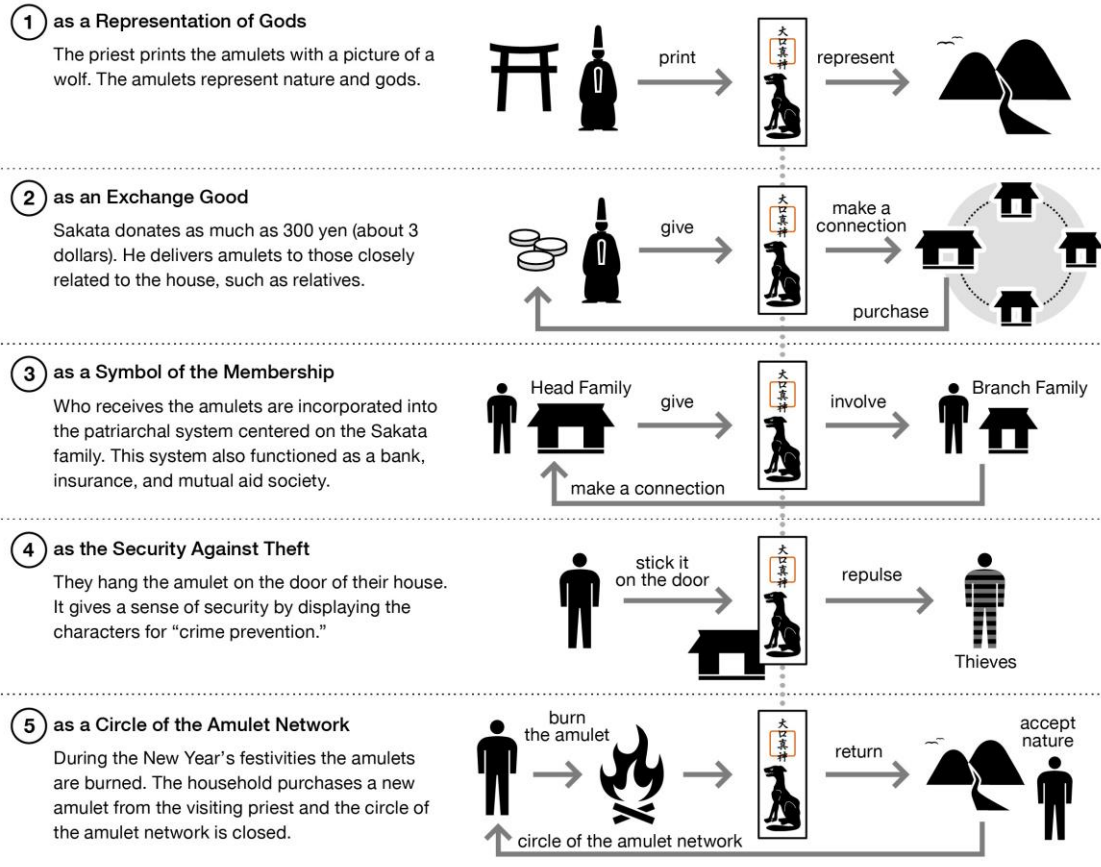


Figure3: The actor-network of "Oinu-sama"

## 5. A Viewpoint Informed by our Analysis and New Design Methods

The above case study, in which we applied ANT analysis to design research, made it possible for us to understand what actors are involved in our complex urban life, how we are engaged in pre-modern customs, and to visualize and grasp what kind of meaning objects have in our lives. This design research method offers us a clue to the beginning of the kind of design appropriate to a complex modern age, with its unclear causal relationships, and suggests how it might be pursued effectively.

Drawing from the above research analysis as an example, we suggest that in order to best cope with contemporary problems, such as the isolation and spiritual devastation so common to suburban life, designers need to reconsider the importance of junction nodes like the "gofu" amulets, and pay close attention to their behavior as actors whose role changes in every interaction depending on its relationship within the amulet network. In other words, instead of adopting a design method that targets a specific problem directly and trying to solve the

problem by focusing only on the causal relationships directly connected to it, it is important to grasp the state of the entire actor network under consideration and stabilize the unstable network of actors that constitutes the problem group. By paying attention to the key actors in the network and working out the details, it becomes necessary to propose possible forms and configurations the network could take in the future.

Modern designers have to deal with clusters of complex problems. For that very reason, it is necessary to grasp the situation as the complex network it is, and moreover, to acquire a method to cope with it as a complex network. As we also saw in this case, actors who often play important roles as social junctions may well be seen as merely pre-modern customs and objects that are no longer necessary from the perspective of 20th century values. What we really want to emphasize here is the thing designers must pay attention to: like the “wolf amulets” it is “Real as Nature, narrated as Discourse, collective as Society, existential as Being (Latour 1993, p. 90)”; it is the action of the thing-as-actor; that is, the behavior itself.

Introduction of ANT analysis into design research leads to performing the activity of design from a worldview other than the “hybrid” state in which humans and goods are separate; that is, one other than the view Latour points to as the source of the modern crisis. To overcome the limitations of the “problem-solving”-type design methodology that modern designers so often take for granted, designers should draw on effective ANT analyses in their design research, treat humans and objects equally, and approach the act of design from a non-modern viewpoint. These are the preconditions for design, having fallen into a state of dysfunction, to put complicated social problems front and center, and once again play its social role.

## **6. Conclusion**

Modern design has failed to find fundamental solutions to the various problems afflicting an increasingly reflexive and uncertain Risk Society, such as global environmental destruction, collapse of local communities, and so on. If modern design is to effectively address these problems, it is imperative that we reconsider the modern methods that design has relied on thus far. It was with an awareness of such problems that we, in this paper, incorporated ANT into design research and adopted the critical viewpoint of non-modernity as proposed by Latour to discuss the development of a new design methodology to replace the “problem-solving”-type methodologies and the simple model of causality that modern design is based on.

By analyzing the pre-modern “Oinu” faith in the suburbs of Tokyo using the analytical methods of ANT, which treats humans and objects equally and interprets the networks organized by them, we shed light on the presence of important actors, like “gofu” amulets, whose behavior shows us the importance of connecting people with nature, tradition, and community. This research methodology, which focuses on the existence of actors who can stabilize the network, is an effective method for approaching the networks of complex problems. With this method, it is possible to ascertain a role for contemporary designers as important actors who not only understand dynamic and complicated relationships but also participate in them. At the same time, the adoption of such a design method, one that attends to actors broadly understood to include humans and objects, also suggests the importance of departing from the human-centered design methodologies that currently define modernity.

## Reference

- Beck, Ulrich (1992) Risk Society. NY: SAGE Publications
- Beck, Ulrich and Giddens, Anthony, eds. (1994) Reflexive Modernization: Politics, Tradition and Aesthetics in the Modern Social Order. MA: Polity Press
- Latour, Bruno (1993) We Have Never Been Modern (C. Porter, Trans.). US: Harvard University Press
- Ogura, Mieko (2011) A Charm of Sacred Wolf (*Ookami no Gofu*). Japan: Shinchosha Publishing

## Author Biography

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Tomohide Mizuuchi is an associate professor at the Design division, Department of the Arts, Nagoya University of the Arts. He holds a MA in Design Futures from Goldsmiths College and a Bachelor's degree in Science of Design from Musashino Art University in Japan. A specialist in the areas of Design theory, Design education and metadesign, he teaches design education from a comprehensive perspective including lifestyle design. Tomohide Mizuuchi has been driving various social design projects and research. He is also the Convener of a Foundation Design Program at Nagoya University of the Arts; a member of the Society of Science of Design, Japan.

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### Ryuichi Nambu

Born in 1979. After graduating from ICU (International Christian University, Japan), obtained an MA at Goldsmiths College at the University of London. After returning to Japan, worked at Hiromura Design Office. As a graphic designer, works on a wide range of projects that include branding and signage design. After starting the independent design office in 2009, obtained an MA from the Graduate School of Interdisciplinary Information Studies, University of Tokyo. While there, took part in practical programs on media literacy as a designer. Launched ACTANT Inc., service design firm in Tokyo in 2013 and assumed role as its president. Member of the Japan Graphic Designers Association (JAGDA). Currently engaged in design that spans various touchpoints and is rooted in media studies and anthropology.