

A Problematization of Pigs and Pork: A History of Modernity to Invent and Deodorize Odor

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Abstract

In this article I will attempt to demonstrate how pig odor has been invented and deodorized through an analysis of the change in human-pig relations in Okinawa. I will also discuss the phases of accelerating odorophobia in modern society. First, I will criticize the tendency of social scientists to disregard the bodily senses, and then introduce recent studies of the senses in anthropology, sociology and history. In contrast to western mind/body dualism, I regard the senses as bodily modes of knowing and as pivots of experience. Furthermore, I believe it is necessary to consider the senses as social and cultural constructs. In Okinawa, pigs were the most important domestic animal and, until the arrival of industrialization in the post-war period, people used to keep several pigs in their place of residence. In the transition process, pigs were moved to secluded areas, far away from human residential areas. As a result, pig odor, which had been embedded in everyday life, became disembedded, thereby transforming pig odor into an offensive smell which had to be excluded. It is in this way that pig odor has been invented.

Keywords: pigs, smell, offensive odor, deodorization, modernity, Okinawa

要旨

本稿の目的は、ブタの悪臭が「発見」され、消臭される歴史を明らかにすることにある。その際、沖縄におけるヒトとブタの関係の変化を分析する。まずはじめに、身体・感覚を軽視してきた社会科学を批判し、近年の感覚研究を紹介する。本論では西洋の「精神／身体」の二元論を排し、感覚を「知るため」の身体様式や経験の基盤とみなすことにする。また、感覚を社会・文化的に構築

されるものとみなす必要性を主張する。沖縄では、ブタは最も重要な家畜である。沖縄の人びとは、戦後期に産業化が進むまで、自らの屋敷地でブタを飼育してきた。しかし産業化のプロセスのなかで、ブタは人間の居住地から遠く離れた地域で飼育されるようになった。その結果、ブタのにおいは日常生活から切り離され、悪臭へと変貌していったのである。こうしてブタの悪臭は「発見」されたのである。現在、悪臭に対する嫌悪は至るところに浸透している。したがって本論の目的は、生きたブタと肉製品の双方を消臭する実践を取り上げ、悪臭に対する嫌悪が加速していく諸相を明らかにすることにある。

キーワード：ブタ、におい、悪臭、消臭、モダニティ、沖縄

1. Introduction

In this article I will attempt to examine the history and subsequent problematization of pig odor. I will trace the change in human-pig relations and will analyze the construction of the concept of odor and the transition of its meaning in contemporary Okinawa. I will point out the features of Okinawan sensory attitudes toward pigs and pork products in modern and postmodern times.

At the end of 2009 and continuing into 2010, spills of bad smell from a pig farm in a suburban area of mainland Okinawa instigated protest movements by local residents¹. Complaints against pig stench have been going on for more than thirty years and for the past seven years have also involved collective activities such as petitions. People dislike pigs.

But people in Okinawa have a long history of sharing their residential areas with pigs, a practice that was continued until fairly recently, up until the reversion to Japanese administration in 1972. Pigs did not merely live in close proximity to humans but were also invested with the full significance and role of Okinawan everyday life. Despite this, why has this relationship between people and pigs grown worse? Why do people now consider their pigs annoying?

Generally, pigs are regarded as a source of offensive odor². Neighbors make an issue of the odor emanating from pigs or pig farms. However, protests against pig farms, and thus the abhorrence of pigs, cannot be understood on the premise that pigs are a source

of emission of offensive odor. The most important point is not to ask whether pigs really do smell badly but to put proliferating notions of pig odor on hold, because attitudes and permissible tolerance towards smells are not universal truths but vary greatly in a particular socio-historical process.

The historian Alain Corbin insists that one's attention to, tolerance and intolerance of, meanings and evaluation code of what one perceives change historically (Corbin 1986, 1993). He traced the history of smell in France from the eighteenth to the nineteenth centuries and examined the transmutation of discourse about smell and environmental arrangements. He found the origin of the elimination of odor, i.e. the birth of new sensibilities towards an inclination to fragrance and a disinclination to foul odor (Corbin 1986).

Corbin demonstrated that perception was a social and cultural product. As he stated, what is recognized or not, as well as its meaning and the emotional impact of what was perceived, were configured socio-culturally. He taught us that pig malodor is not an unchanging fact. Disgust for swine and its smell in itself has a deep history. Thus we need to situate the problem of pig odor in a particular socio-cultural context.

Social scientists have been interested in the socio-cultural aspects of olfaction as well as the senses since the 1980s. This movement rose from a criticism of Western epistemology: one can separate thought from feeling and action (Stoller 1989: 4), or in other words Cartesian mind/body dualism. Especially in anthropology, this premise has been disproved by comparative studies undertaken in non-western societies. For instance, Constance Classen insists that "different cultures present strikingly different ways of 'making sense' of the world" (Classen 1993: 1). Other anthropologists give a vivid description of how to use the bodily modes of knowing and emphasize the importance of non-visual senses such as taste, smell and so on in non-western societies (Stoller 1989, Geurts 2002).

In all, it has caused an increasing number of scholars to question the western sensual bias of so called ocularcentrism. On the basis of this critique, the sociologist Jim Drobnick, who specializes in the culture of smell, proposed the term olfactocentrism which attaches great importance to smell so as to dismiss the predominance of vision (Drobnick 2006). In this field of recent studies, the diversity of historical and contemporary practices of scent and odor has become apparent (Classen et al. 1994, Low 2009), depicting a close connection between olfaction and moral order, social

demarcation and boundaries (Classen 1993, Low 2009). The accepted theory is that olfaction, as well as the senses, are not just physiologically oriented but also socially and culturally constructed.

In this article, I will argue through an integrated historical and socio-cultural approach, that the problematization of pigs has emerged in relation to changes in the behavior and attitudes of Okinawan people. I will argue in fact that the reverse of the commonly perceived cause-effect relationship exists, i.e. distantiation; rather than a response to a problem it has in fact been the genesis of the problem. I will further examine how the pig odor problem is managed in both the farm and the marketplace. The notion of problem is itself an invention.

Concerning historical methodology, official documents and oral histories collected through informal interviews and conversations were used. An ethnographic approach is also presented which centers on participant observation of a pig farm and a pork marketplace in mainland Okinawa. My research was based on fieldwork in a pig farm situated in the northern area of mainland Okinawa and in a marketplace located in an urban sector³. Fieldwork was carried out over a period of six months between 2007 and 2009.

2. Pig farming industrialization in postwar Okinawa

This section outlines the history of pig farming in post-war industrialization. The relationship between Okinawan people and pigs has changed greatly over the process of Okinawa's recovery and development.

After the war, the US Military Government proposed an economic recovery policy in order to regain prewar levels (Ryukyu Seifu Bunkyo-kyoku 1988b). The policy aimed at a return to "prewar conditions" over the following decade. In the case of pig production, the policy implemented measures to build small-sized barns in the front yard of each household and to rebuild basic slaughtering facilities (Ryukyu Seifu 1955, Ryukyu Seifu Bunkyo-kyoku 1988a).

From the mid-1950s, US policy regarding Okinawa focused on further development under the recognition of achieving prewar levels (Ryukyu Seifu 1960). In the agriculture and fishery sectors, production efficiency and product quality were to be

upgraded, especially in pig production where it faced the challenge of increasing the number of pigs (Okinawaken Nōrin Suisan Gyōsei Shi Henshū Inkai 1986: 51-55).

From the middle of the 1960s, Ryukyu Kaihatsu Kinyūkōsha started making loans to livestock farmers for the purpose of stabilizing pig/pork production (Ryukyu Kaihatsu Kinyūkōsha 1972). To attain this purpose, it was presumed that farmers needed to shift from small-scale, family-run farms to large-scale piggeries with group feeding facilities. For this, it spent a large amount of money on improving pig farm facilities and group feeding equipment.

As a result, after 1964, the number of pigs per household increased by degrees. Table 1 shows the transition from domestic rearing to industrial-scale production. The result was the end of traditional subsistence farming to the beginning of a new, mass-production system of pig husbandry. The change resulted in the need for only a few experts to raise a large herd of pigs while all other people could become consumers in a commercialized context. That is, the specialization and professionalization of pig production was established and the pork industry was born.

Table1. Increase in pig population per household

Year	1960	65	70	75	80	85	90	95	2000
Head	2.7	4.5	9.9	26	65	147	296	485	618

Source: Adapted from Okinawaken Nōrin Suisan bu Chikusan ka 2003.

From then on, pig farmers took up full-time pig production and stopped running secondary jobs such as growing sweet potato crops for pig feed. This accelerated modern pig production based on the division of labor. Previously when farmers kept pigs they could use their waste for compost and in turn the harvest was fed to the pigs. This interdependency between pig husbandry and crop farming, however, was to dissolve.

Furthermore, the spread of chemical fertilizer use rapidly reduced the value of pig excrement as compost material. This dismantlement of the recycling-oriented composting system made the large amounts of pig waste useless. Furthermore, in the sequence of accelerating specialization and group feeding of pigs, bulky mounds of waste were concentrated in one place even more. The massive amounts and concentrations of pig excrement, as I will refer to in further detail in the following section, by creating an image of unsanitary odor, were to become recognized as a social problem.

As outlined above, the form of pig husbandry changed in the course of recovery and development. While increasing the scale of management and urging for industrialization, the problem of pig excrement arose. In the following section I will analyze the influence of specialization and group feeding on human-pig relations, and then, I will focus on the beginnings of odor discourses in parallel with the reorganization of the relationship between people and pigs.

3. Problematization of pigs

This section will examine the change in human-pig relations in the course of group feeding and specialization through an analysis of the rearrangement of the environment in which they are embedded.

3-1. Process of pig distantiatio

In Okinawa, until the beginning of the postwar period, most people fed a few pigs at home. People lived in close proximity to pigs. But their relationship would undergo a radical change in the promotion of group feeding, as I mentioned elsewhere (Higa 2011). Group farming prevailed in the 1960s.

After reversion of Okinawa to Japanese administration, the pig population per household began to increase gradually from the mid 1960s and grew tremendously from approximately 1972 onwards (Table 1 above). This transition included complete changes to both the form of farming management and the relation between people and pigs. An important change was in the feeding place as group feeding became established. People moved pigs out of their homes because the number of pigs exceeded the capacity of a home pigpen.

A pig farmer in his fifties, who experienced the shift to large-scale group farming, kept, in the 1950s, two hogs in his front yard. When the number of pigs exceeded seven, he moved them to a pigsty built near the house. Another sixty year-old man who had retired from pig breeding, said most households had a pigpen set up in the house that could contain one or two sows, or at the most ten pigs. The man in his fifties mentioned above also described how he used to feed the increasing number of pigs on

the side of crop fields in his village. As the number of pigs multiplied, he decided to build a larger pigsty anew on the fringe of the village.

At the beginning of pig husbandry away the house, a typical pigsty was situated just a stone's throw away from human residence, but afterwards, the distance between people and pigs grew even further.

According to Tōyama, piggeries called *yōton danchi*, which means pig farming apartment in the literal sense, were built in 1973 (Tōyama 1979). These piggeries, incorporating group feeding facilities, kept the pigs in secluded rural areas. Over three years, Okinawa Prefecture built thirty five such piggeries housing twenty thousand pigs.

In considering these narratives and an average nuclear of their houses and lots, it suggests that by 1971 pigs were raised off the lot when they exceeded ten in number. It is certain that people and pigs lived separately by the time group-feeding piggeries were built in 1973 at the latest. Moreover in the 1990s, some villages stipulated that newly-built piggeries must be more than a hundred meters distant from human housing. Slowly but surely, pigs were estranged from people and have never been allowed back again.

Thus, putting together the change in farming place and the increase in pig population per household reveals that pigs were separated physically. That is, large-scale group feeding led to the distantiation of pigs. It is not only a matter of physical distance, but of the human-pig relation concerning life as a whole as well. It involves the division of labor and the fragmentation of human-pig relations.

In the process of specialization, a few professionals slaughter pigs, but the majority of people are nothing more than consumers of pork meat products. Many people stopped keeping pigs for their compost. As a result, pigs lost an active role and their significance in everyday life. This means that pigs became disembedded from subsistence, residence and belief. They became invisible. Furthermore, pig waste lost its utility and with a lack of efficient disposal systems led to an unprecedented amount of excrement.

3-2. Invention of odor

After the reversion of Okinawa in 1972, pollution laws began to be passed; at around the same time the distantiation of pigs was already well under way. Odor regulations had only just begun, demonstrating that odor had never been a social problem before. In the initial stages of odor regulation, odor did not address concrete targets, showing that pigs had not yet been stigmatized as a source of odor emission.

However, with the elaboration of regulations, odor began to be identified with specific targets and it was about this time that pigs became identified with vermin reeking of the stench of excrement. From this last point, we can comprehend that malodor caused by pigs is not derived from their inherent nature. It is evident that pig malodor was fabricated by the execution and revision of the Offensive Odor Control Act and the subsequent prefectural ordinance.

Now it cannot be over-emphasized that pigs were not distantiated from people by reason of their smell. The reason rather was the industrialization of pig-farming. In the process, group feeding systems were introduced and the large numbers of pigs grew beyond the capacity of home pigpens. However, this separation created the conditions for the transmutation of pig smell into foul odor. When pigs began to be raised outside residential areas, in other words when they began to be farmed in places removed from human habitation, the smell turned into an unusual smell. By which time too, people had already a reduced intimacy with pigs and the usefulness of pig waste had also been lost; the smell of pigs could not remain merely unusual and nonjudgmental. Later, this process allowed for pig odor to be labeled negatively. Such physical distantiation laid the foundation for the spread of discourse on pig odor (Higa 2011).

While the concept of odor was being constructed, its referent was changed and elaborated in more detail. According to the Offensive Odor Control Act and the prefectural ordinance, vague, ambiguous odors were transformed into a specific tangible form. Odor was categorized according to each emission source and subdivided into minimum units of odorous substance. During the transition of definition of odor, the coping strategy evolved from simple enclosure to almost complete removal of malodorous substances and germs.

The Livestock Division in Okinawa prefecture began to make serious efforts to tackle malodor problems. It concentrated its attention on pig excreta and developed a plan

both to utilize and dispose of it. The aim was to get rid of the stench and to effectively prevent excreta from turning malodorous. In this way foul odor was linked to pig excreta and, odor-abatement measures took on the aspect of excreta measures.

Pig odor was invented through a number of stages from the separation of people and pigs onwards. Finally, pig excreta became increasingly impermissible and intolerable. As a result, severe measures against foul smells on various levels were taken. Not only industrial producers but individual pig farmers and piggery managers were obliged to cope with the evil smells attributed to pig excreta.

4. Double deodorization

This section will focus on countermeasures taken against odor in a pig farm and a pork marketplace in Okinawa (Table 2). First of all, I will give an example of the deodorization measures undertaken in a pig farm situated in the northern part of mainland Okinawa. Next, I will examine the case of the large intestine which is deodorized and cleaned at a marketplace located in the urban area of mainland Okinawa. The large intestine is processed after slaughter and primary processes.

Table 2. Double deodorization

	Odor Emission Source		Ways of Deodorization	
Pig Farm	pig excrement	mixture of excrement on the floor	improved piggery and pig bed	absorption of odor, separation of dung and urine
		composting excrement		spraying of effective microorganism
Pork Marketplace	pig excrement	excreta inside the body, the large intestine	fed with deodorant water and food	
		the large intestine, especially inner side	<i>abura</i> (a film of fat) peeled off	

4-1. At the pig farm

Since the enforcement of the Offensive Odor Control Act, the Okinawa Prefectural Ordinance of Odor Control and relevant legal provisions, smell emissions have been strictly controlled by law. In terms of odor pollution from livestock, a pig farmer with more than a hundred head of pigs is regulated by law. Such farmers face increasingly unfavorable business conditions. Moreover, the ways of disposing of and utilizing domestic animal waste have been bound under new legislation passed in 2004. As a result, not merely odor but the source of emission itself has been made the object of eradication.

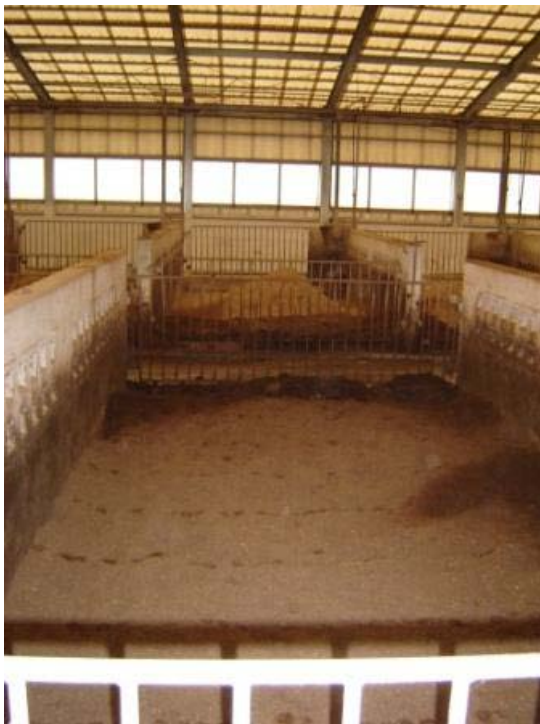
The pig farm where I carried out my fieldwork was most concerned about the treatment of pig dung and urine. Table 2 above shows how three types of deodorization processes are carried out at this farm. They all demonstrate a similar focus on excrement. It seems that pig excrement is targeted for deodorization by several means. Details will be given below.

To begin with, in cleaning pig beds, the excrement is not rinsed off with water. This is to avoid an increase in the amount of dirty water. As the scale of pig feeding grows, so does the discharge of excrement. In order to circumvent serious increases water washing was switched to absorption methods.

The floor of each pig bed is sloped and woodchips and shavings spread over it. Waterworks and a feeder are installed on the upper side (Picture 1). The pig bed is designed to make good use of pig behavior which tends to separate the eating place from the excreting place (Picture 2). Whenever pigs move around, dung with woodchips and shavings is kicked and pushed out to the lower side and liquid urine is absorbed in the dry woodchips (Picture 3).



Picture 1. Waterworks and feeder in the pig bed



Picture 2. Pig bed separating eating place from excreting place



Picture 3. Hogs on woodchips and shavings in a pig bed

This type of pig bed does not need to be washed out, so preventing an increase in dirty water. Moreover, absorption by wood shavings without water cleaning is such an effective method that it can also ease the smell of dung and urine and reduce its emission. In another respect, it facilitates compost-making. Furthermore, the excrement is sprayed with an effective microorganism for the purpose of deodorization. The hogs are fed with deodorant water and food as well.

In addition to these measures against odor, a new style of closed piggery which prevents odor from escaping outside and which ventilates the interior by means of air fans (Pictures 4 and 5) has been adopted.



Picture 4. The interior of a closed piggy with ventilator



Picture 5. The exterior of a closed piggy

In this way, the farm makes use of various deodorization practices. New-type piggies enable a decrease in effluent. They also ease the stench of excreta. Next, I will examine deodorization practices after slaughtering.

4-2. At the marketplace

This section will show that products originating from pigs, so to speak, and slaughtered pigs are also problematized because of the smell of dung. I will take the case of measures taken by sellers to eliminate the imprint of pig dung at the pork marketplace. I will also demonstrate that this removal practice is indispensable to win the custom of elderly customers.

In Okinawa, not only the large intestine and other tripe, but pork meat in general is a main ingredient in both ceremonial and daily meals (see Picture 6). Especially during the lunar New Year period, people like to share meals of the large and small intestine with their kin. This custom is perpetuated in the home by what is called *wā-kurushi*, or pig killing ritual. Most men over seventy are experienced in slaughtering pigs. Equally, women of the same generation are skilled in dressing tripe.



**Picture 6. The large intestine dish called *Nakami-Jiru*
(the pot is about 25 cm in diameter)**

Nowadays, customers with such experience go to the pork marketplace to buy tripe and cut meats. Older women particularly are accustomed to choosing good quality products. To be specific, they pay special attention to the scent of the large intestine and sniff it in order to inspect for defects. This means that, for them, the smell of the large intestine is related to pig dung. For this reason sellers tend to process the smell carefully.

It is most important to peel the films of fat, called *abura*, off one by one. This work is most effective in the elimination of bad smell. The product is so tough that it takes about two hours for a skillful seller to peel off ten kilograms. After peeling it is boiled

with ginger which is said to help eliminate any evil smell. These two steps deodorize and clean the product (Picture 7).



**Picture 7. The large intestine after deodorization
(container size: L45 cm, W30 cm, D20 cm)**

When customers buy the product, they always take into consideration the smell and sniff it carefully. They are inclined to select better quality products where the odorous *abura* is removed completely. Customers over seventy are able to discern the better products. Thus the most valuable intestine is the most odorless one.

By dressing and cleaning carefully, sellers can make buyers forget the link between the large intestine before their eyes and the excrement of live pigs. That is to say, sellers hide or cut the association between the smell of dung and of the large intestine in order to boost sales.

4-3. Analysis of deodorization practices

As mentioned in this section, the odor of excrement is problematized and should be deodorized as much as possible in both the pig farm and the marketplace because it gives off a foul odor. It is not the pigs in themselves, nor the large intestine in itself, but the excreta that is the object of deodorization.

Invented odor, as stated in the previous section, is kept deodorized in everyday practice on two levels. I call this practice ‘double deodorization’ (Table 2). Without it, people are set to oppose the smell of pig farms or their products. That is, odor has not merely been *invented* but also reinforced by daily deodorization.

5. Conclusion

As stated in the first section of this article, it is significant to study the socio-cultural aspects of smell and olfaction in the field of social science. They are not given facts but constructed in a particular social and cultural context. It is not just the evaluation of sensual information but the senses themselves as well have specific historical depth and are changed through historical processes.

The pig odor examined in this paper was invented in the course of post-war industrialization. As the form of pig domestication gradually changed, the relationship between people and pigs was also transformed. People stopped living side-by-side with pigs and professional farmers started raising large numbers of pigs in remote uninhabited areas. The distance between people and pigs grew further apart. Slowly but surely, pigs became estranged from people.

It is a matter not only of physical distantness, but of the human-pig relation concerning life as a whole as well. It involves the division of labor and fragmentation of human-pig relations. As a result, pigs have come to lose an active role and significance in everyday life which means that swine have been separated in subsistence, residence and belief. Moreover, pig waste lost its utility and unprecedented amounts of excrement arose from a lack of disposal systems.

At the very moment that odor regulation was enforced, odor was set to be a social problem. With the elaboration of regulations, pigs became stigmatized as a source of odor emission. This accelerated the distantiation of pigs as far away as possible from people.

However, pigs were distantiated from people not by reason of their smell. It cannot be over emphasized that pig smell became problematized after pigs were made remote from people. From this point, it is clear that the odor caused by pigs was not derived from their inherent nature, but rather that it had been invented. Afterwards, however, the physical separation of people from pigs enabled the acceptance of the prevailing discourse of pig odor.

When pigs began to be distantiated from people and their everyday lives, the smell emanating from excrement was disembedded from the everyday world and made unusual. Coupled with the fact that people had lost their intimacy with the meanings

and the utilities of pigs, the unusual smell could not remain merely neutral and nonjudgmental. A series of complex processes created a new propensity for the spread of pig odor discourses. Consequently, pigs and their smell were labeled negatively.

Pig odor was invented through a number of steps following the separation of people and pigs. Finally, the excreta became more than ever impermissible and intolerable. As a result, countermeasures were taken against foul smells at various levels. Not only industrial producers but individual pig farmers and piggery managers were obliged to deal with the foul stink attributed to pig excrement.

People on pig farms as well as in the marketplace developed certain effective methods of deodorization. Both the bulky dung of live pigs and the large intestines of pork meat are processed to eliminate bad smell. It can be argued that dung is problematic for neighbors of pig farms and for consumers of food products. However, in this manner, invented pig malodor was reinforced through a process of double deodorization. This gave rise to a growing intolerance toward odors and a ceaseless quest for odorlessness.

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¹ Okinawa Times (2009.11.3, 2010.1.28), and Ryukyu Shinpo (2010.1.30).

² See DeLind (1998), Stull and Broadway (2004).

³ In detail, there are eleven employees on the pig farm about eight hundred head of pigs per month are produced for market. I also carried out fieldwork at three family-operated pork butchers.

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