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An Investigation of the Consciousness of People Attending Memorial Services for Laboratory Animals

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1. Introduction

We give a formal report on the practice of providing memorial services for laboratory animals. The performance of such a ritual for animals is a event unique to Japan due to its scale and history.

A survey was conducted among researchers at 120 institutions. A total of 83 (69.1%) valid responses were obtained from the participating institutions, and 79 of the institutions reported that they had held memorial services for experimental animals. Of the services, 95% consisted of the reading of one word by Buddhist priests and were costly and time-consuming for participants^{1, 2}. They are usually held as formal events at research institutions using laboratory animals. However, awareness of memorial services was common among participants at institutes as these are considered to be a sign of respect for the lives of to the animals sacrificed at the institution.

We designed a questionnaire for participants to answer "yes" or "no" concerning their motivation for providing the services and about the form such services took.

Participants in the memorial service mentioned the significance of the event and the results were discussed.

2. Methods

We distributed a second questionnaire to 343 registrants using laboratory animals in the National Institute for Radiological Science, Tokyo (Natl. Inst. Rad. Sci.) inquiring as to the educational level and training experience the registrants had working with animals. Respondents were asked about their: 1) age, gender, experience handling laboratory animals; 2) occupation (researcher, technician, clerical employee); 3) level of and reasons for participation or non-participation in experimental animal memorial service; 4) the form of the experimental animal memorial service (right or wrong and refinement); 5) whether they thought an experimental animal memorial

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service is an event unique to Japan; 6) if so, the reason why; and 7) whether they thought experimental animals memorial services should be continued. The names of the registrants and institutions have been kept confidential. Thought the sample was distributed randomly, the Natl. Inst. Rad. Sci. itself is known to have hosted presentations and published articles in the society's journal concerning the ethics of animal experimentation.

3. Results

3.1 The age, gender and animal handling

Of the 343 registrants who received the questionnaire, 338 returned the form (98.5% collection rate). The questionnaire classified respondents of this questionnaire by age, gender, and experience with animal handling (Table 1). A majority (53.7%) of participants were in their 30s and 40s, with the rest mostly in their 50s and 60s (30.7%). A small number were in their 20s (13.7%), with only a handful in their 70s (1.6%).

The number of male respondents was over twice that of female respondents (69.2% to 30.7%, respectively). With respect to experience handling animals, about 1.5 times more respondents had handled animals as had not handled animals before (60.8% to 39.1%, respectively).

3.2 The job category

handling of respondents.

Table 2 shows a breakdown of the job titles of the respondents. The largest category consisted of researchers (36.3% of respondents). Other participants included, in order of frequency, facilities maintenance personnel (21.7%), study adjuncts (19.7%), breeding engineers (6.5%), and equipment maintenance personnel (1%).

3.3 Memorial service for animals used in experiments, non-participation and it's reason

The percentage of respondents who had participated in animal memorial services according to attendance, job category, age, gender, and experience handling animals are indicated in Table 3. Those in their 30s and 40s registered the highest percentage (30.1% and 23.6%, respectively), followed in decreasing percentage order by those in their 50s (17%), 20s and 60s (13.7% each), and 70s (1.6%). There were approximately 1.5 as many women participants as there were male participants. With respect to experience

	Decade	Respondents (Ratio (%))		Total (Ratio %)
Generation	20	42 (13.7)	Researcher	105 (36.3)
	30	92 (30.1)	(staff, term of office system staff)	
	40	72 (23.6)		
	50	52 (17)	Study adjunct	57 (19.7)
	60	42 (13.7)	(part-time service staff)	
	70	5 (1.6)	Breeding engineer	
	Total	305	(contract staff, dispatch staff)	19 (6.5)
Gender	male	218 (69.2)	Irradiation equipment	101341
	female	97 (30.7)	maintenance personnel	
	Total	315		
Experience handling animals	Some	193 (60.8)	Laboratory animal facilities maintenance personnel	63 (21.7)
	None	124 (39.1)		
	Total	317	Other	35 (12.1)

Table 1. The generation, gender, count of the animal Table 2. Breakdown of the type of job of the question*naire respondents*

Respondents differ according to generation, gender, and level of animal handling experience

289

Total

handling animals, approximately 1.5 times as many (60%) had handled animals before as had not done so (39.1%).

3.4 About the form of the experimental service for animals used in experiments (i.e. rightness or wrongness of holding and improvements in such rituals)

Respondents (n=45) answered questions asking their opinion of the ethics of holding such services and possible points of improvement for the present memorial services held at the Natl. Inst. Rad. Sci. The present practice was acceptable for 36 people (80%).

3.5 Do you think the memorial services for animals used in experiments are an custom unique to Japan?

Table 4 shows the results of questions 5, 6, and 7. For question 5, 55.6% of respondents did not an swer this question, and only 14.5% of total respondents said they agreed with the question, while 32.7% of those providing an answer agreed with the question.

On question 6, respondents stated the reasons for their answer to question 5 were derived from: a spiritual concept peculiar to the Japanese, with the influence of Buddhism and Confucianism (religious views), or mere customary practice.

The total number of respondents answering questions 6 and 7 in a positive manner were 53 (account-

Table 3. Ratios of laboratory animal memorial service
participants according to the generation, sex, experience
animal handlings, and type of job.

Table 4. Respondent answers to questions 5, 6, and 7.

participants acco animal handlings		the generation, sex, e be of job.	Question 5: Are laboratory animal memorial services a custom unique to Japan?				
Generation	Age	Ratio of respondents	%		No. of persons	%	
	20	22/42	52.3	Yes	49	32.7 [§]	
	30	47/92	51	No	101	67.3 [§]	
	40	49/72	68	No answer	188	55.6 [‡]	
	50	33/52	63.4	Question 6: W	Vhy do you participate		
	60	19/42	45.2	in mem	orial services*?		
	70	2/5	12.1	comfort one's spirit	23		
	Total	172/305	56.3	appreciation	13		
Gender	M-1-	100/018	(0.2	consolation	18		
	Male	109/218	69.2	no answer	284		
	Female Total	72/97 181/315	30.7 57.4	reason for attendance	duty, express condolences, natu- ral action, boss's direction, con- sideration for others		
Experience han- dling animals	Some	140/193	72.5		unscientific, engaged in an ex- periment, other duties, not knowing about it, not doing ani- mal experiments		
	None	33/124	26.6				
	Total	173/317	54.5	non-attendance			
<i>Type of job</i> Researcher		75/101	74.2	Question 7: Do you think that NIRS should continue to provide laboratory animal memorial services?			
Rescurence		/ 5/ 101	, 1.2	Yes	45	84.9 [§]	
Study adjunct		42/57	73.6	No	2	$0.04^{\$}$	
Breeding engineer		17/19	89.4	other (both fine)	6	11.3 [§]	
				no answer	285	84.3^{\pm}	
Irridation equipment maintenance personnel		4/10	9.5		Japanese practice, no reason to stop	annual event,	
Animal facility laboratory maintenance personnel		6/63	62.8	reasons against	unscientific		
Total 166/285			58.2	* sometimes multiple answers were provided by the same re- spondent. [§] percent of respondents answering. [‡] percent of total respondents.			

ing for multiple answers), and 45 (excluding "other"), respectively. Reasons for attendance included a sense of duty, to express condolences, as a natural action. Reasons against attendance included that it was unscientific, or that they were occupied with experiments or other duties.

Answers to question 7 show that the overwhelming majority of those providing an answer felt that this type of memorial service ought to be continued (neglecting those providing no answer), with reasons including that it was Japanese practice, an annual event, and that there was no reason to stop. Conversely, those not believing so stated that it was unscientific as a reason for it not to continue.

4. Discussion and Conclusions

We conducted a formal survey of 120 institutions in Japan regarding memorial services for laboratory animals. These included facilities for laboratory animals that are members of the Japanese Association of Laboratory Animal Facilities of National University Corporations; public and private universities; organizations dealing in pharmaceutical, chemical, food, livestock feed and pet food: and commercial breeders of laboratory animals who are members of the Shizuoka Experimental Animal Research Association, Kansai Laboratory Animal Research Association and Okayama Association for Laboratory Animal Science.

The following topics were included in the questionnaire:

- The existence of a memorial service and a monument for laboratory animals.
- The religious formalities used in the memorial service for laboratory animals.
- The reasons for conducting the memorial service for laboratory animals.

We received 83 valid responses from the participating institutions (69.1%). The following answers were obtained:

- Memorial categorized into religious (45.7%), non-religious (44.5%), and unspecified (9.6%).
- About the same number of memorial services held as did not hold religious implications. Buddhistic rites were preferred to the shinto rites by twofold, albeit the reasons for this preference are unknown.
- The most frequent answers were for "application purposes," "comforting the departed spirit," and "providing consolation"

The memorial service performed by Natl. Inst. Rad. Sci. is organized every year in September during animal protection week. The order of events in the ceremony is as follows:

- **1.** An opening address for the ritual.
- 2. Silent prayer by all members for the deceased and sacrificed animals.
- 3. A prayer for the appeasement of the departed spirit by the president.
- 4. A laying of flowers on an altar.
- 5. A closing address.

Every year, approximately 150-200 persons participate in this memorial service; the service lasts approximately 30 minutes. Table 4 shows that participation of persons who have experience touching animals every day is high (60~70%). Dr. Yoda reported that the researchers and students doing experiment on animals were questioned as follows: "Is there a sense of guilt and resistance in an animal experiments?" Approximately 70% responded "Yes." "How do you deal with this feeling?" Approximately 40% answered that the they felt comfortable with the feeling after attending a memorial service.

Our questions were not completely the same as those used by Dr. Yoda et al.³; however, there was one identical answer that involved participants and a particular sentiment.

Scientists using animals for research gave appeasing the spirits as a motive for participation in a memorial service (Tables 4 and 5). while those not conducting experiments, such as an equipment or fa-

cility maintenance personnel, were less likely to attend such services.

Dr. Yoda concluded that "a laboratory memorial service is a complex ritual in which religious ideas such as the Buddhist tenet against killing, the principle of mercy, the Confucian belief in ancestor worship, and the Shinto call to pacify and comfort the spirits are combined and intricately intertwined with instinctive human reverence toward living beings (owing to guilt for touching and killing animals)."

This act reflects a person's view on the life and death of animals.

Of the 63 people who actually responded to the question, 45 (71.4%) said that such services should be continued; nonetheless, overall, an overwhelming majority of those receiving the questionnaire did not provide an answer to the question (Table 4).

Judging from Dr. Yoda's definition of these memorial services, the results may reflect the honest feelings of the respondents.

With regard to the memorial service of Natl. Inst. Rad. Sci., that memorial service is a public event and is held with the participation of chief director, during office hours, and using public funds.

According to one proposal, the memorial service should be:

- an event in which you can participate of your own free will;
- an event not to be regarded as a religious event (but, one may think of it is as a religious ceremony at the personal level);
- a form of education and training concerning the welfare of animals on which experiments are conducted;
- an annual opportunity for thinking about experimental animals and experiments.

It is our suggestion that information concerning the custom of memorial services should be disseminated to scientists in other countries (e.g. in Europe and America) to make them aware of the ethical perspective of Japanese scientists using animals for experiments, although there are differences in culture and religious beliefs.

Our country's original animal ethic states that he animals should be treated with full respect and rights, and by offering a ceremonial for their sacrifice one provides a model of this even after death. Can this concept not become a basis under which future memorial services are performed?

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