

Heritage of the Atomic-Bomb Experience: What needs to be conveyed? ¹

Noriyuki KAWANO

Institute for Peace Science, Hiroshima University

Luli van der DOES

Institute for Peace Science, Hiroshima University

JSPS, International Research Fellow and IPSHU Visiting Researcher

Abstract

Since the Atomic-bombings of Hiroshima and Nagasaki, the A-Bomb Survivors (*hibakusha*) have struggled through a myriad of trials and tribulations beyond our imagination. Overcoming their anger and animosity, they have chosen to shoulder the responsibility of advocating for a nuclear-free world, germinating a worldwide movement in the pursuit of universal peace. Their population, however, is fast declining, and the urgency of preserving and passing on the *hibakushas'* Atomic-bomb Experience has been keenly felt in recent decades. Yet no holistic discussion has taken place as to what we can inherit and what we should pass on to future generations as the Atomic-bomb Experience. This empirical study first examines the annual Peace Declarations from 1947 to 2017 to determine when the local government of Hiroshima began to raise this issue. Second, using a large database of nationwide *hibakusha* surveys, their authentic discourse is extensively analyzed to determine what comprises the A-bomb damage that forms the backbone of the A-bomb Experience. Based on the outcome of quantitative and qualitative analysis, four points are discussed: which aspects of the heritage of the *hibakushas'* first-hand experience we should grasp,

1 This paper was produced, with significant revisions including a newly-introduced set of original interdisciplinary analysis, based on two presentations at an international symposium and a report. They are: (i) Kawano, N. "Challenges of memory inheritance: What can be inherited? What will we pass on?", presented at the 1st International Symposium 2017 of the Institute of Peace Science, Hiroshima University, August 2, 2017, Higashi-Senda Campus, Hiroshima, Japan; (ii) Kawano, N. "What is the Atomic-Bomb Experience? What is Hiroshima? –From the viewpoint of Peace Tourism–", presented at the Research Faculty of Media and Communication, Hokkaido University Center for Media and Tourism Studies International Symposium "The Potential of Peace Tourism Study" at the Graduate School of International Media, Communication, and Tourism Studies, Hokkaido University, Sapporo, Hokkaido, Japan, December 11 2017; and (iii) Kawano, N. and van der Does, L. (2017) Research Report submitted in Japanese to the Hiroshima Prefecture and the City of Hiroshima as part of the "Hiroshima Reconstruction and Peacebuilding Research Project" (Hiroshima Prefecture and The City of Hiroshima).

what we must convey to the next generation, what we must do *now* to ensure the inheritance and, lastly, drawing on examples from the ongoing initiatives of the Hiroshima's local government and universities, the possibility of passing on the A-bomb experience.

1. Introduction

The Japanese have a word for the preserving and passing on of historical experience to future generations in the form of a short noun, *keishō*. In recent years, the importance of this concept has been felt more acutely than ever before as the number of survivors of the Atomic-bombings continues to decrease and first-hand memory of the events fades away with them. All of those concerned advocate taking action to counter the situation. So far, however, no discussions have taken place to pinpoint what exactly can and should be passed on as the heritage of memory and what may be inherited by the future generations. This is partly because the injuries and suffering caused by the Atomic-bombings are too devastatingly complex for us to fathom,² but it is also due to the misconception that the Atomic-bomb experience is summed up by the hellish scenes which unfolded under the mushroom cloud on that day and that day alone.³ It is absolutely certain, of course, that the horror of that day, of the sixth and ninth of

August 1945, is the backbone of the memory of the Atomic-bombings. The tragedy did not, however, end with that day. Instead, it has continued to attack the survivors through late-onset health effects which originated in their exposure to A-bomb radiation, as well as psychological effects and injuries, which include anxiety about their deteriorating health due to the A-bomb after-effects. Therefore, the injuries caused by the Atomic-bombings must be considered from multiple aspects. This multitude of injuries affects every aspect of human life, such as the health, social-economic, and psychological facets of daily living, as evidenced by a number of studies relating to the Atomic-bomb after-effects. The question then arises: Which of these multiple facets of the A-bomb experience should be conveyed to the next generation who have no such experience themselves, and how can they pass on that experience to future generations? What about the A-Bomb Survivors' ardent wish for universal peace and their tireless efforts in advocating for a nuclear-free world? The will of

² Henceforth, the expression "injuries and suffering caused by Atomic-bombings" is used. However, considering that one aspect of such damage comprises the latent radiation injuries it would be more accurate to use the expression "the injuries and suffering caused by the Atomic-bombing and by the exposure to its radiation".

³ The survivors refer to the personal experience of the

Atomic bombing(s) euphemistically as "that day". This is in part a psychological distancing of the referent, which is the carnage too dreadful for anyone to mention. It is also a codified way of discussing the experience that is shared among the survivors and with those who try to understand the unfathomable pain caused by the Atomic bombings.

these survivors, coupled with the Atomic Bomb Survivors Support Law, has underpinned their inexhaustible efforts over seven decades. How can we pass on this heritage? Which part of the A-bomb experience can be conveyed, and which parts cannot, and for what reasons? Uninheritable memories will sadly be lost with the passage of time, but even so, is there any way to salvage the precious knowledge and experience of this human legacy? What must we do for the *keishō* of the Atomic-bomb experience? Now is the time that we should face these questions squarely, and that is the starting point and the backbone of this paper.

We begin with examining when *keishō* of the A-bomb experience in public administration first became important and explore the survivors' views on the issues of *keishō*. Second, we will review the substance of the Atomic-bomb injuries at the core of the Atomic-bomb experience. Finally, based on these discussions, we will consider what facets of the first-hand experience of the Atomic-bomb effects should be relayed to the next generation and what heritage of memory they will receive from the survivors. Additionally, we will discuss what we, the second-generation cohort, can do to support this transition. In doing so, we will refer to a selection of ongoing projects under the theme of *keishō* carried out by local government and universities to exemplify the possibility of relaying the Atomic-bomb experience. We hasten to add that all such examples used below

are from Hiroshima due to the scope of this paper.

2. Emergence of the importance of *keishō* in public discourse

Behind the urgency of *keishō* is the fast-declining population of Atomic-Bomb Survivors (henceforth, *hibakusha*). The total number of *hibakusha* was at least 372,264 at the end of March 1981, but this has declined ever since. By end of March 2017, the surviving population was only 164,621. Their average age was 81.41 years. Hence, we have attempted to determine when the municipality of Hiroshima began to recognize and publicly discuss the significance of *keishō* of the A-bomb experience. Our data for this study were the texts of the Hiroshima Peace Declarations from their inception in 1947 up to 2017.⁴ The word *keishō* was used in ten peace declarations out of a total of seventy. Below is a set of excerpts of the ten usage examples.⁵ A short section of text is extracted to give a brief context to each case. The name of the mayor of Hiroshima who read the declaration is given next to the year. (English equivalents of “*keishō*” is underlined by authors) .

⁴ There was no Peace Declaration for 1950 due to the start of the Korean War.

⁵ Texts of the Hiroshima Peace Declarations are available

on the website of the City of Hiroshima.

<<http://www.city.hiroshima.lg.jp/www/contents/1110537278566/>> (accessed on January 26, 2018).

Examples of the use of *keishō* in Hiroshima

Peace Declarations:

1971 Setsuo Yamada

“...Furthermore, in order that the meaning of war and peace may be handed down infallibly to the coming generations, education for peace should be promoted with vigour and cogency throughout the world. This should be the absolute way to avoid the recurrence of the tragedy of Hiroshima...”

1972 Setsuo Yamada

“...In order to inherit this peaceful and livable earth on to the coming generation, we should reflect and realize that mankind partakes the same destiny existing on one earth, and by surpassing all ideological differences and binding intellectual and spiritual ties, we should create a new world order in which man neither has to kill nor be killed...”

1973 Setsuo Yamada

“...Dedicated and sincere education for peace is the true source of world harmony. “The heart of Hiroshima” is passed on as a living legacy to the coming generations...”

1976 Takeshi Araki

“...the Mayor of Hiroshima will accompany the Mayor of Nagasaki to the United Nations to give testimony as living witnesses to the grim realities of the atomic bomb experience. They will propose before all the nations of the world that all the people of the world are potential survivors...”

1983 Takeshi Araki

“...As a part of the World Disarmament Campaign adopted at the Second Special Session on Disarmament, the United Nations will dispatch the first special delegation on disarmament to Hiroshima this autumn and a permanent exhibit on atomic bomb destruction is planned at the U.N. Headquarters. The United Nations has thus started to make new efforts towards educating world opinion, particularly future generations in perpetuity on the reality of disaster of the atomic bomb...”

1987 Takeshi Araki

“...It is increasingly important that future generations be told about the horrors of nuclear war. It is thus most..”

1988 Takeshi Araki

“...Today, Hiroshima is host to the '88 International Youth Peace Symposium in Hiroshima enabling young people from sister cities worldwide to sit down and talk with the people of Hiroshima to ensure that the Hiroshima experience is not forgotten...”

2000 Tadatoshi Akiba

“...We are determined, nevertheless, to overcome all obstacles and attain our goal in the twenty-first century. For this purpose also, it is imperative that we reinterpret the hibakusha experience in a broader context, find ever more effective ways to express its significance, and carry on the legacy as a universal human heritage...”

2005 Tadatoshi Akiba

“...It is also a time of inheritance, of awakening, and of commitment, in which we inherit the commitment of the hibakusha to the abolition of nuclear weapons and realization of genuine world peace, awaken to our individual responsibilities, and recommit ourselves to take action...”

2005 Tadatoshi Akiba

“...we hereby declare the 369 days from today until August 9, 2006, a ‘Year of Inheritance, Awakening and Commitment.’ During this Year, the Mayors for Peace, working with nations, NGOs and the vast majority of the world's people, will launch a great diversity of campaigns for nuclear weapons abolition in numerous cities throughout the world...”

The first mayor of Hiroshima to emphasize the importance of passing on the Atomic-bomb experience was Takeshi Araki in 1976. Earlier examples of using *keishō* were found in the declaration by Setsuo Yamada as in “in order that the meaning of war and peace may be handed down infallibly to the coming generations...”, and “to inherit this peaceful and livable earth on to the coming generation...” However, neither of these specifically refer to the *keishō* of the Atomic-bomb experience. Mayor Araki continued on the trend and introduced the word, *keishō*, to stress the

⁶ In 1993, 94, 95 and 1996, the expression “orally transmit (*katari-tsugu*)” is used, instead of *keishō*. e.g., “...we have to reinforce the oral transmission of the Atomic-bomb and war experience to the younger generations through our history”

importance of collaborative participation in relaying the A-bomb experience, mentioning it in 1983, 1987 and 1988. Judging from the above, *keishō* entered into the discourse of the local government of Hiroshima sometime in the 1980s. Another mayor, Takashi Hiraoka, used a paraphrase, *katari-tsugu* (*lit.* ‘tell-and-relay’ / ‘orally transmit’), in exhorting the necessity to tell and pass on the tragedy and desolation of the war and Atomic-bombings.⁶ Thus, the use of *keishō* began in the 1980s and has continued to the present. Indeed, to manifest the concept in concrete actions, in 1983 the city of Hiroshima teamed up with the city of Nagasaki to establish a permanent exhibition at the United Nations New York headquarters, displaying artefacts and photographs of the Atomic-bombings of the two cities. Following on from this, in 1995, to mark the fiftieth anniversary of the Atomic-bombings, Hiroshima city implemented a project to “collect the artefacts and testimonies of the Atomic-bombing, systematically organize and make them accessible to the public, with the aim of passing on (i.e. *keishō*) Hiroshima’s experience of the Atomic-bombing to future generations both nationwide and abroad (authors’ translation).” Today, the city of Hiroshima is responsible for a wide variety of activities. To name but a few, it manages the Hiroshima Peace Memorial Museum, provides opportunities for students on school trips to hear the testimonies of *hibakusha*, arranges

(1993). In contrast, in the 1982 declaration of peace, the city mayor Araki points to the need to pass on the spirit of peace orally using the word *keishō*.

courses for volunteer narrators of the Atomic-bomb experience, supports efforts to preserve A-bombed buildings and trees, organizes exhibitions about the Atomic-bombings, leases or provides materials for peace education and disseminates knowledge about the Atomic-bombings.⁷

3. Challenges of relaying the Atomic-bomb experience

Although there are a variety of *keishō* projects, conveying and passing on the original Atomic-bomb experience continues to be challenging in many ways. The most difficult

factor is that the second generation, the one who is to receive the heritage, has no way of going through the same experience as the first generation. The actual experience of the horrors and atrocities of the Atomic-bombing is simply unfathomable to the second or third generations. Some parts of the experience will inevitably be lost, but how we handle the loss is crucial in the process of *keishō*. The question arises as to how the *hibakusha* themselves view the passing on of their experiences. This question was put to *hibakusha* in the *Asahi Shimbun* surveys in 2005 and 2015. The actual questions were: “Do you think the Atomic-bomb experience has been duly conveyed to the next generation?” and “Do you think the Atomic-

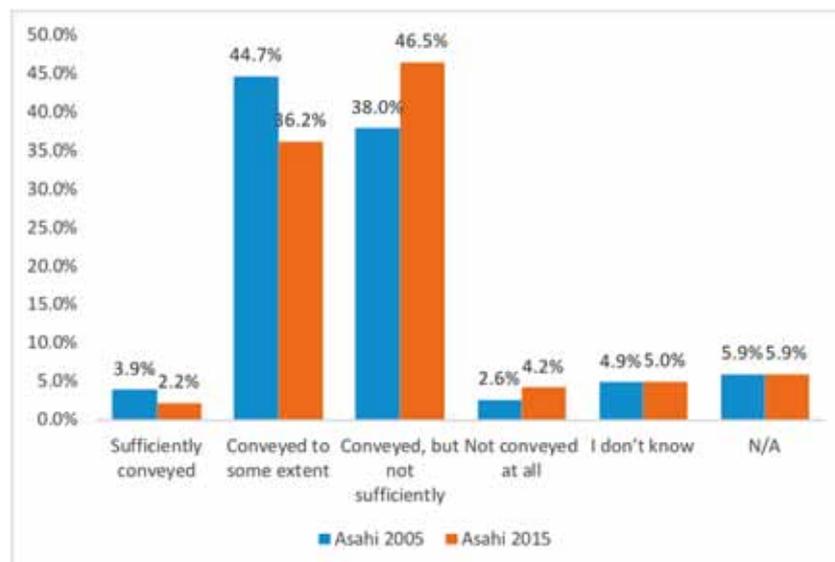


Figure 1 Responses to the questions in Asahi 2005 and 2015

⁷ Please refer to the Hiroshima City website for further details. Most of these enterprises have been entrusted to and implemented by the Hiroshima Peace Culture Foundation. <http://www.city.hiroshima.lg.jp/www/contents/>

1110598417580/index.html (accessed on February 2, 2018). The Peace Promotion Division, International Peace Promotion Department, Citizens Affairs Bureau, the City of Hiroshima, is in charge of the enterprises.

bomb experience is duly transmitted to future generations?”⁸ Responses are summarised in Figure 1. Roughly half the respondents of the 2005 survey replied that their Atomic-bomb experience was being properly passed on, but the balance was reversed in the 2015 survey, where more than half the respondents replied that their experience has not been passed on properly.

As shown in Table 1, the respondents chose one answer from the following five options: “sufficiently conveyed”; “conveyed to some extent”; “conveyed, but not sufficiently”; “not conveyed at all”; and “I don’t know”. The first four responses were largely grouped in two types: “sufficiently conveyed” and “conveyed to some extent” as positive answers on one hand, and “conveyed, but not sufficiently” and “not conveyed at all” as negative answers on the other. The positive and negative responses in the 2005 Asahi Shimbun survey were compared to those of the 2015 survey.

	Asahi 2005		Asahi 2015	
	Answers	% total	Answers	% total
Positive	6,414	48.6%	2,214	38.4%
Negative	5,364	40.6%	2,919	50.7%
Don't know	642	4.9%	290	5.0%
N/A	784	5.9%	339	5.9%
Total	13,204	100.0%	5,762	100.0%

Table 1. Responses of the Asahi shimbun 2005 and 2015

The proportion of respondents who said, “I don't know” and those who did not answer (N/A) were roughly the same in the two surveys. A clear shift, however, was observed in the balance of proportions between positive and negative answers, with the negatives taking over the positives in 2015. A 4x2 contingency table analysis has shown a statistically significant difference between the two surveys ($\chi^2=183.644$, $p<0.0001$). The above results show that the majority of *hibakusha* consider that the Atomic-bomb experience is not conveyed well to the next generation. They may also reflect their views that efforts to pass on their experience to future generations are not making as much progress as they had expected.

Meanwhile, a joint survey by IPSHU and *Yomiuri Shimbun* implemented in 2010 and 2015 also asked *hibakusha* similar questions to the ones described above.⁹ They were: “do you think the Atomic-bomb experience will be passed on (to the next generation)” in 2010, and “has the Atomic-bomb experience been sufficiently inherited (by the next generation)” in 2015. The results of the 2010 and 2015 IPSHU-*Yomiuri* joint surveys are shown in Table 2. While 60.8% responded positively to the question in 2010, only 12.5% did so in 2015, with 51.3% negative and 30.7% uncertain.¹⁰ The results show that *hibakusha* consider the

⁸ The 2005 survey was jointly conducted by *Asahi Shimbun*, Hiroshima University and Nagasaki University. The number of respondents was 13,204. Detailed results were published in the *Asahi Shimbun* morning edition of July 17, 2005. The number of respondents to the 2015 survey was 5,762. Detailed results were published in the *Asahi Shimbun* morning edition of August 2, 2015. The authors have extensively analyzed and published the 2005 survey

data: <http://seeds.office.hiroshima-u.ac.jp/profile/ja.46e7692a7122dc23520e17560c007669.html>.

⁹ Total of 1,943 respondents. the results were published in the morning edition of July 29, 2015.

¹⁰ Jointly implemented with the Institute for Peace Science, Hiroshima University. Total respondents were 1,015. Detailed results were published in the morning edition of July 10, 2010.

keishō of their A-bomb experience remains, in reality, insufficient. The proportion of positive responses fell dramatically from 60.8% to 12.5%. Inversely, the proportion of negative responses surged from 9.3% to 51.3%. The difference between the two joint surveys was confirmed again by the 4 x 2 contingency table analysis with a χ^2 of 866.871, statistically significant at $p < 0.0001$.

	Yomiuri 2010		Yomiuri 2015	
	Answers	% total	Answers	% total
Positive	617	60.8%	243	12.5%
Negative	94	9.3%	997	51.3%
Don't know	240	23.6%	597	30.7%
N/A	64	6.3%	106	5.5%
Total	1015	100.0%	1943	100.0%

Table 2. Responses of the Yomiuri shimbun 2010 and 2015 surveys

The pattern of change in the proportional balance between the positive and negative responses in the older and newer surveys is similar to the above-described results of the *Asahi Shimbun's* surveys. It must be noted that, although the proportion of “I don't know” remained around 5% in both *Asahi Shimbun* surveys, it exceeds 20% in both IPSHU-Yomiuri joint surveys. Moreover, in the case of the joint survey the proportion of “I don't know” increased from 23.6% in 2010 to 30.7% in 2015, which is a 30% increase, or a 7.1 percentage point increase. A growing sense of uncertainty of the future of *keishō* was observed. This may come from a sense of resignation among the *hibakusha* that their first-hand experience of the A-bombings can never be conveyed and passed on sufficiently. In addition, complex

emotions may be involved. For the *hibakusha* it is too painful to remember their experience, or simply, they do not want to remember it. Some would also say that they do not think people will understand it. For example, the 2015 *Asahi Shimbun* survey addressed respondents who have never told their A-bomb experience to anyone, asking why they had not relayed their experience. To this, circa 20% replied that “my memory of the experience is obscure”, 21% said “it's too painful to remember”, 19% said they “don't think people will understand my experience”, 29% “had no opportunity to talk about it”, and 14% “did not want to be exposed to prejudice or discrimination”. To another question in the *Yomiuri Shimbun* survey of the same year, “Why have you never told your experience to your children?”, 55% said “because they have never asked”, 39% said that it is “too painful to remember”, 38% said “because they live far away and have little chance to talk about it”, and 37% replied that they “do not think they will understand it”. Clearly, these results indicate that, for the *hibakusha*, the Atomic-bomb experience is, on the one hand, too painful and abominable to recall and, on the other, something too difficult for non-*hibakusha* to understand. Their A-bomb experience remains beyond description and it was hell on earth, as frequently expressed in their testimonies. This makes talking about it and relaying it to other people particularly difficult. The above evidence shows how serious the damage caused by the Atomic-bombings is and how heavy the burden of such a memory is

to carry. Thus, although these *hibakusha* feel they have to pass on their experience, a complex mixture of emotions prevents them from taking action. So, they remain reluctant and silent. Nevertheless, many *hibakusha* continue to exert their best efforts to communicate their experience. According to data which may be somewhat out-of-date, 21 organizations are conducting activities to disseminate the hibakushas' testimonies. They have presented 51,635 testimonies during the period from 1987 to 2011.¹¹ Also, Ubuki (1999: 390) recorded 3,542 publications containing 37,793 memoirs of the Atomic-bombing. Hence, it can be said that the Atomic-bomb experience has been steadily communicated and passed on.

In the meantime, many *hibakusha* desire a nuclear free world, a doctrine held by many *hibakusha*-supporting organizations. Also, not only do they advocate a nuclear free world, but also, they keep disseminating such a message to the world. Why should they do so? Perhaps the reason is to do with the conviction of many *hibakusha*. They believe that a nuclear weapon has not been used against humanity for a third time, because the world has seen the atrocities of the nuclear experience at Hiroshima and Nagasaki. Indeed, the 2010 *Asahi Shimbun* survey asks: "Do you think there is a relation between the fact that no nuclear weapon has ever been used against humanity since Hiroshima and Nagasaki and the fact that the

Atomic-bomb experience of Hiroshima and Nagasaki has been disseminated worldwide?"¹² 66% of the respondents said they "think so". In the same survey, when asked if a "continuous dissemination of their experience may be a force that prevents the use of nuclear weapons?", 76% replied that they "think so", too. These results reflect the views of many of the *hibakusha*. They believe that their existence itself as well as their conveying of the Atomic-bomb experience contributes to preventing the use of nuclear arms.¹³

The wording of the *Asahi Shimbun* survey questions link the concepts of *keishō* and the non-use of nuclear weapons, which could bias the respondents, prompting them to link the two concepts in their answers. Alternatively, the *hibakusha* may do so spontaneously without any external influence. To clarify this particular point, we need to examine the pattern of the respondents' use of words in a naturally-produced text. So, we used the 2010 IPSHU-*Yomiuri* joint survey, which has no such potentially leading questions to bias the answers, and quantitatively analyzed the responses to a section of open-ended questions. In this case, the methodology selected was a co-occurrence network analysis, which extracts words characterizing the contents of a group of texts and calculates the strength of links between these words. The quantitative results are represented visually as a network plot. The

¹¹ Report by the Hiroshima Peace Culture Foundation, according to which the cumulative number of participants was 5,772,121. However, the actual number of witnessing *hibakusha* were 228, reflecting the fact that a limited number of *hibakusha* are filling the role of narrators

(*kataribe* or "storytellers"). The 21 organizations also includes the Hiroshima Peace Culture Foundation.

¹² Total respondents were 1,006. Detailed results were published in the morning edition of July 29, 2010.

¹³ See details in the paper by Kawamoto et al., 2016.

calculations and production of the network plot were performed using the software KH Coder (Hoshino, et al. 2016). Links between words are shown as a line (technically called an ‘edge’), the thicker the line, the stronger the link between the words. The size of the circle around a word shows the degrees of frequency of the appearance of the word in texts. Meanwhile, the level of relevance, or “centrality”, of the words in the text are expressed by the depth of color: the darker the circle, the more relevant the word. As shown in Figure 2, there are strong links between the concepts of “telling/narrating (語る)” about the “experience (体験)” of the “Atomic-bomb radiation exposure (被爆)”. Similarly, “world

(世界)” and “peace (平和)” as well as “nuclear weapon (核兵器)” and “abolishing (廃絶)” were strongly linked to each other. These words also formed a large subgroup with the “Atomic-bomb radiation exposure (被爆)” and “Atomic-bomb (原爆)” as the central elements. Also, “Atomic-bomb (原爆)”, “abolishing (廃絶)” and “Japan (日本)” form the core of this subgroup. With regards to the frequency of word usage, the “Atomic-bomb (原爆)”, “Atomic-bomb radiation exposure (被爆)”, and “think (思う)” are the set of words occurring most frequently in the *hibakusha*’s responses. In summary, our analysis revealed that spontaneously our *hibakusha* text contains links between words that instantiates the following discourse:

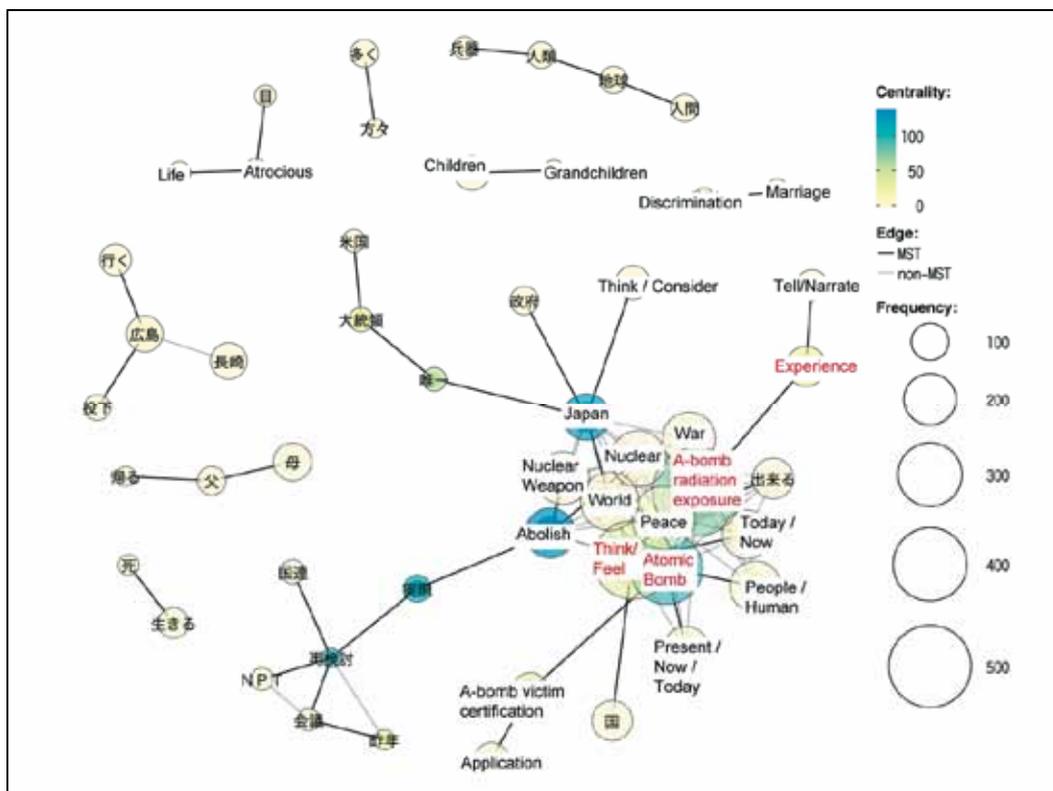


Figure 2. Co-occurrence network drawn on the responses to the 2010 joint survey.

keishō of the Atomic-bomb experience to future generations leads to the abolition of nuclear weapons. A similar pattern is observed in the *Yomiuri Shimbun* surveys of 2013 and 2015.

4. What to pass on

What should we, of the next generation, who have never experienced the Atomic-bombings, inherit from the *hibakusha* and what can we pass on in the future? To answer this question, let us first discuss what the core items are in the heritage of the Atomic-bomb experience that must be passed on. In this paper we will focus on the three main components of the experience. They are: what happened “that day” (referring to the horror of the hell on earth, the direct experience of the suffering caused by the bombings of August 6th and 9th, 1945 that has never, in all these years, left the survivors’ minds); what has happened since then (referring to the life thereafter, living with health and other injuries caused by exposure to the Atomic-bombings); and the feelings and wishes of *hibakusha*.¹⁴ Here again, we attempted to identify what the *hibakusha* would communicate by analyzing their responses to the open-ended questions of the 2010 IPSHU-*Yomiuri* joint survey.

Besides what we have already examined in the last section, the co-occurrence network drawn for the texts of *hibakusha* responses

revealed that what they “think/feel” about “the Atomic-Bombing” “today” and “now” is closely linked with “peace” and “abolition of nuclear weapons”. At the same time, a group of words (connected by “edges”) relating to the “telling/narrating” of their “experience” of “the exposure to the Atomic-bombing” is closely linked with “human/humankind”, “world” and “peace”. Moreover, the word “Atomic-bomb (as a weapon)” is closely linked with the “application” for “Atomic-bomb victim certification”. Concerning the “experience”, concepts of “marriage” and “discrimination”, as well as “children” and “grandchildren”, were also observed in the semantic network of the texts written by *hibakusha*. These words comprise the writings of the *hibakusha* about their lives after the Atomic bombings, and we were able to observe a certain pattern of co-occurring words in their responses to open-ended questions in the survey. The co-occurring words comprise three main concepts, which are: “narrating the A-bomb experience”, their views “now”, and about “peace”. This pattern is clearly and consistently observed in the responses for 2010, 2013, and 2015 IPSHU-*Yomiuri* joint surveys, as can be seen in the results of co-occurrence analyses for 2013 (Figure 3) and 2015 (Figure 4).

¹⁴ Hamatani (2005) discusses the problem by referring to the physical and psychological suffering endured by the *hibakusha* on “that day” and in the “thereafter” as the three

categories of suffering (categories of factors), which are: “emotional injuries (lit. wound to heart)”, “physical injuries (lit. wound to body)”, and “anxiety”.

Indeed, these three topic areas (the Atomic-bombing experience, the experience up to today, and peace for humankind) are exactly what the *hibakusha* wish to pass on. Table 3, below, shows this in the results of the responses to one of the questions in the 2015 *Asahi* Survey. It asked: “What do you wish to tell and pass on to the next generation?”. Their answers are summarized in Table 3. 56.3% of the respondents mentioned the “horror of what immediately followed from the bombing”, which means that they are willing to tell of the

hellish scenes of “that day”. 47.6% mention the “atrocities of radiation injuries that have persisted for decades”, meaning they are willing to explain the burden of the diseases they have borne since then. Thirdly, 54.5% replied with the “preciousness of peace”, which conveys their wish for world peace without any nuclear weapons. Thus, these top three topics, or concepts, represent *what* Atomic-bomb experiences the *hibakusha* themselves are willing to communicate.

Answers (multiple answers allowed)	%	The three topics
The horror of what immediately followed from the bombing	56.3%	“That day”
The atrocity of radiation injuries persisting for decades	47.6%	“The thereafter/since then”
The preciousness of peace	54.5%	“Thoughts/feelings/wishes”
The importance of helping each other	16.0%	N/A*
The importance of being healthy	32.3%	N/A
Not to leave politics and militaries out of control	29.0%	N/A
Never give up	9.3%	N/A

Table 3. Results from the 2015 Asahi Shimbun Questionnaire: What the *hibakusha* themselves are willing to pass on to the future generations. *(N/A: not applicable)

Let us next examine how the *hibakusha* describe each of these three concepts.

(i) “That day”

The core element of the *hibakusha* Atomic-bomb experience and its memory consists of the horror that followed from the bombing. *Hibakusha* repeatedly use expressions such as “hell”, “hell on earth”, or “beyond description” in recalling “that day”.

They mention nightmares and how they remember a horror “beyond description”. In a survey conducted in 1985 by the Japan Confederation of A- and H-Bomb Sufferers Organizations (*Hidankyō*), a total of 8,268 respondents were asked to describe “that day” to which, 1,381 respondents (16.7%) used the word “hell (地獄)” at least once about it. Below is an extract from the results of a concordance analysis whereby the usage of the word “hell

(地獄)” was examined. Japanese texts were translated by the authors.

“...thrust into the situation, which was hell. At the foot of Hijiyama mountain...” (M)

“...atrocious, tragic, such an inferno, hell, should never happen again...” (M)

“...tears have dried up. Everywhere the eye can see is the hell of the inferno. People became wandering ghosts...” (M)

“...as much. In one word, it was a hell. Eyes were not quite open...” (M)

“...they are all dead. It was a hell. When I came out of the shelter...” (M)

“...people dying, all is hell on earth. I really do not want to recall it...” (F)

“...died. It was truly a living hell. Around the Dome...” (M)

“...piles of debris. Hiroshima city center turned into a hell of an inferno within seconds. Radiation...”

“...real circumstances, I witnessed the living hell. Drafted to China incident...” (M)

“...turned into scenes of living hell. Such action...” (M)

“...I was unable to do it. I could never forget the living hell I saw...” (F)

“...then, after a few minutes, I saw the hell of the inferno and slipped into a stupor...” (M)

“...inside the headquarters’ triumphal memorial hall was nothing but hell. Agonizing without medicine...”

“...crying, shouting, and wandering, they were a picture of hell...”(M)

“...it was just like the picture of a hellish inferno that I had seen in a picture book. Hairs flying...”

“...and death, death, death. Ah. The scenes of hell. We the soldiers were powerless...”

“...because all around me was hell, that I was alive was...” (M)

“...cannot be. I had the impression that I witnessed the real hell...” (F)

In fact, the word “hell” (*jigoku*) in Japanese can be written in different ways, either with *kanji* (地獄), or in *katakana* (ジゴク), or *hiragana* (じごく/ぢごく), and with a combination of *kanji* and *hiragana/katakana* (地ごく). The incidence of each type is shown in Table 4. More than 20% of the hibakusha’s spontaneously-produced testimonials contained the word ‘hell’ at least once.

What was burned into the memories of the *hibakusha* on “that day”, from the moment they were “exposed to the atomic bomb radiation (被爆)” until “now (今)”, was summarized as “hell” on earth.

(ii) “Thereafter/Since Then”

Atomic-bombs radically differ from conventional weapons in that they cause delayed radiation injuries, also called Atomic-bomb diseases. The onset of delayed radiation injuries occurs decades after initial radiation exposure and remission from acute radiation syndrome. Long-term or repeated exposure to low-level radiation may also exert their effects after many years. Of the numerous diseases for which radiation exposure from the Atomic-bomb is known to increase the incidence of are, among others: leukemia; cancers of the thyroid, breast, lung, stomach, colon and rectum; multiple myeloma; cataracts; chromosomal abnormalities; somatic (cell) mutations; mental retardation by fetal exposure (A-bomb microcephaly).¹⁵ Epidemiological studies disclosed the increments by which the risk of disease increases many years ago. For example, exposure to a 1Gy dose of radiation, which corresponds to exposure to the Hiroshima Atomic-bomb at a distance of ca. 1.3km, gives an estimated relative risk of death by leukemia

of 4.92, approximately five times that of a non-exposed individual. Risks of other solid malignant tumors also increase, reaching 1 to 2 points higher than normal.¹⁶ Recent studies have also drawn attention to the increased prevalence of myelodysplastic syndrome, also referred to as preleukemia, among *hibakusha*. Research work on the mechanism of onset is underway.¹⁷ The most prominent characteristic of *hibakusha* is not just the delayed radiation effects: the *hibakusha* are constantly living with the anxiety of developing the symptoms.

Their anxiety about their health should be regarded as a continuous injury from the Atomic-bomb, and this condition is also an ongoing effect which continues throughout the period “since that day (*sono go*)” of the Atomic-bombings, demonstrating how severe the damage caused by the Atomic-bomb is. The results of the 1985 *Hidankyo* survey revealed that 71% of the respondents have concerns about health, life, children and grandchildren (Ito, 1988: 61-62). The 2005 *Asahi Shimbun* survey showed that 48% of the respondents (4,856) were “always anxious” and 46% (4,638) are “sometimes anxious”, revealing that over 90% of the *hibakusha* had concerns about their health (Kawano, 2010a: 26). Many older people who are not a *hibakusha* could also be anxious

¹⁵ Onset of leukemia peaks at 6 to 7 years after exposure. The duration is of 10 years for thyroid cancer, 20 years for breast and lung cancers, 30 years for stomach cancer, colorectal cancer and myeloma. After these periods, the incidence of onset slowly decreases. Please refer to related reports, e.g., those by the Hiroshima International Council for the Radiation-exposed.

¹⁶ See “The Effect of the Atomic Bomb Radiation on the Human Body”, pp24-28, Hiroshima International Council

for the Radiation-exposed, 1998.

(<http://www.hicare.jp/en/press/4e3416c78ab4a5960264fab26fae1981>) (last accessed 2 December 2017).

¹⁷ Prof. Hironori Harada's team at the Laboratory of Oncology, School of Life Sciences, Tokyo University of Pharmacy and Life Sciences is one of the most prominent. For further details of their research findings and on the molecular onset mechanism of MDS, see the referenced paper, Hironori Harada and Yuka Harada (2015).

about their health, but they are at least free from the worry of developing Atomic-bomb related radiation diseases. Actually, 55% (3,193) of those who responded to the 2015 *Asahi Shimbun* survey said: “whenever I feel sick I wonder if it is due to the radiation exposure”. In addition to the anxiety about their own health, many *hibakusha* are also concerned for the health of their children and grandchildren. The 2005 *Asahi Shimbun* survey asked if they “felt anxious about childbirth or about their children or grandchildren's health”, to which 58% said they have had such anxieties. The more recent 2015 *Asahi Shimbun* survey also asked a similar question, to which 47% responded that they feel anxiety. Similarly, the 2015 survey asked: “do you have concerns about the effect of your exposure to radiation on your children or grandchildren?”, to which 56% responded “Yes”. These survey results suggest that, in addition to anxiety about their own health, the *hibakusha* are also anxious about the health of their children and grandchildren because of their own past exposure to the Atomic radiation. The psychological effects of Atomic-bomb radiation exposure are a characteristic trait of the *hibakusha* Atomic-bomb experience “thereafter” the bombing.

Examples of the psychological burden of Atomic-bomb and radiation exposure are numerous. The *hibakusha* have nightmares about their Atomic-bomb experience and suddenly remember the bomb in the midst of many daily activities as well. The 2005 *Asahi Shimbun* survey asked if they “have

nightmares about their Atomic-bomb experience”, to which 9.5% responded “often” and 45% “sometimes”. This means 55% of the respondents are re-living their Atomic-bomb experience in their dreams. Also, 76% of the respondents answered they “often” or “sometimes” remember the bombing during a daily activity. A similar question was also asked in the 2015 IPSHU-*Yomiuri Shimbun* joint survey. The results were consistent: 74% of the respondents answered “often” or “sometimes”. Also, respondents to the 2005 *Asahi Shimbun* survey mentioned that some events or objects in daily life can trigger the memory of “that day”. These include: flash lights (the Atomic-bomb flash), festival crowds (crowd of victims fleeing to the suburbs, walking along the rails of the tramway), the aftermath of the 2004 Indian Ocean tsunami (searching for a mother in the ruins for many days), cucumber slices (victims used them on the burns), grilled dried squid (the smell of cremating corpses). To the 2015 *Yomiuri Shimbun* survey's question on when they remember the Atomic-bomb experience, 62% of the respondents selected the response option: “when watching newscasts on conflicts abroad or news about nuclear bombs”, 22% “When I see a strong light or flash”, and 16% “in dreams”.

The damage caused by the Atomic-bomb “thereafter” the bombings themselves is not limited to the above-described psychological injuries. It extends to social damage, including prejudices and discrimination against *hibakusha*. The 2005 *Asahi Shimbun* survey asks about prejudice and discrimination,

whereby 20% (2,674) of respondents said that they have experienced some form of prejudice/discrimination because they were Atomic-bomb victims. Among them, 1,966 (74%) of respondents mentioned prejudice/discrimination in marriage. In the 2015 *Yomiuri Shimbun* survey, 28% of the respondents had experienced prejudice and/or discrimination in the past, while 4.5% said such prejudice/discrimination persists today. Hence, Atomic-bomb damage “since then/thereafter” the bombings is not limited to delayed radiation injuries, or Atomic-bomb disease, but comprises psychological burdens such as anxiety about health due to exposure to radiation, and also social damage because of their Atomic-bomb victim status.

(iii) The hibakushas’ will and views

After the decade-long silence from “that day”, which is now called “the ten years of void”, *hibakusha* began to advocate a nuclear-free world, internalizing it as their own hearts’ desire as time passed by.¹⁸ Since then they have never ceased in their efforts to disseminate the non-nuclear message both domestically and internationally. What drives their inexhaustible commitment over the past sixty years is, in fact, their deep desire for peace, rooted in their own harrowing

experience of the Atomic-bombings, as manifested in slogans such as “No More *Hiroshima*”, “No More *Nagasaki*”, and “No More *Hibakusha*”. The *hibakusha* campaigns are driven by two principles: the “Atomic-Bomb Survivors’ Support Law” and the “abolition of nuclear weapons”. To realize the latter, they have participated in vigorous international campaigns, collected signatures to directly petition the National Diet of Japan, argued their case, and attended a variety of other campaigns.¹⁹ These facts were vividly evidenced in the 6,782 responses to the 2005 *Asahi* Survey’s open-ended questions (i.e. *hibakusha* testimonials). Their unique discourse is instantiated by a collection of frequently-occurring words, such as: “world”, “peace”, “nuclear weapon”, and “nuclear”. The *hibakusha* collective view is apparent: “world peace” is attained by the “total abolition of nuclear (weapons)”. This is the essence of what they wish for and this is their message to the world.²⁰ Indeed, during the process of recovery from the Atomic-bombings, the *hibakusha* have been advocating “world peace through the abolition of nuclear weapons”. Their message is crystalized in the discourse of “world of peace, free of nuclear weapons” that they have spearheaded since “that day”. The extracts from *hibakusha* responses to an open-ended

¹⁸ Sunao Tsuboi, Co-chair of *Nippon Hidankyo* and Chairman of the *Hiroshima Hidankyo* made a statement about the “ten years of void (*aka* blank decade)” : “the aid provided by the administration to the Atomic-bomb survivors during that decade (1945 to 55) was nothing but a drop in the ocean. They could not even help their family and relatives, nor did they have any organizations to turn to, to seek advice. It was a period when they could only do what

they could to live one day at a time” (excerpt from the foreword to “The Blank Decade: The distress of the Hibakushas”, Hidankyo, 2009)

¹⁹ See *Hidankyo’s* website for further details: <http://www.ne.jp/asahi/hidankyo/nihon/> (accessed on January 26, 2018).

²⁰ See the two papers by Kawano (2010a and 2010b) for details.

question in the “*Asahi* Survey to Mark the Sixtieth Year since the Atomic-Bombings” below exemplify this point with the frequent usage of “nuclear weapon”, “nuclear” and “world peace” linking to each other.

“...I deeply feel for them. I wish everyone in the world would abolish nuclear (weapons), stop the wars, and see each other as the same human beings...”

“...considering their anxiety, the use of nuclear weapons to take away precious lives should never be allowed ...”

“...pray that will be abolished soon. The next nuclear war, if it happened, would eradicate humankind from the earth. The next generation...”

“...are simply absolute evil. We as humankind want to shout for total nuclear abolition...”

“...never again to war. I pray that nuclear weapons will be eliminated from every nation in the world so that every person can live peacefully...”

Furthermore, the following extracts in the same survey exemplify the frequent usage of “world-peace”.

“...I have never forgotten it. I have nothing but tried to live for world-peace and for building a welfare state of Japan...”

“...for what purpose? “Eliminate wars, nuclear and conventional weapons, for the well-being of all humankind. For world-peace...”

“...I pray that world-peace will be built up through campaigns to abolish all nuclear weapons on this globe...”

“...I desire it. I pray from the bottom of my heart for the abolition of nuclear weapons and for world-peace. From this A-bombed hometown...”

“...will do. I wrote the above praying that world-peace will be achieved in the near future...”

Of course, *hibakusha* writings also betray their deep anger, bitterness and resentment against the atrocity of dropping the nuclear weapons on civilians. Frustration and anger are directed against the fact that no party has taken responsibility for dropping the Atomic-bombs, nor has any party ever apologized. Some *hibakusha* cannot shake off a sense of hatred against a US policy that has so far refused to apologize but has tried to justify the atrocity of the bombings. Some want to pursue efforts to clarify where the responsibility lies for the Atomic-bombings with both the US and Japan

(Kawamoto & Kawano 2015).²¹ In short, *hibakusha* have long-experienced a complex web of emotions. They have lived with personal anger and resentment against the bombings and frustration with the superpower's shirking of responsibility, but over time, *hibakusha* have also gone beyond the hatred to find a universal purpose by advocating "world peace" and a "world without nuclear weapons". All the above amalgamation of thoughts, wishes, and emotions constitute the true view of the *hibakusha*, and that is what we should strive to understand and to take on the responsibility of passing it on to future generations.

5. Recommendations

We, the second generation, are without the *hibakushas'* first-hand experience of the Atomic-bombings. Naturally, our understanding of the first-generation survivors' experience may be limited. No matter how realistically the survivors explain their A-bomb experience to us, and no matter how vividly they express the sensations of that hellish day, we will never be able to fully digest their stories, to become like them. Nothing, and no one, can replace them and their first-hand memories. All we can do is imagine, as best as we can, what it might have been like for them by trying to follow the *hibakushas'* testimonials and memoirs with the help of photographs, visual recordings, and

other objects associated with "that day". Given that, the single most important task in the quest of *keishō* should be a continued effort to understand the survivors' experience. We strive to understand what happened on "that day" and how the *hibakushas'* lives have unfolded "since then". We should not be afraid to explore how they felt on "that day", or what they have been thinking "since then" and what their views are now. What we aim for is a holistic understanding of the personal experience of the A-bombing.

To facilitate understanding, two types of participants, individual citizens and organizations, will need to collaborate. This concept is represented in the following diagram (Figure 6), which visually depicts the three interacting participants in a *keishō* project and their mutually dependent roles within it.

The first-generation participants are the *hibakusha* themselves. They narrate their experiences of: the Atomic-bombings; various health issues due to exposure to atomic radiation; as well as related psychological damage. The *hibakusha* also relate their thoughts and share their views. These are recorded and are to be passed on. Organizations then vigorously collect, record and preserve these *hibakusha* testimonials, memoirs and artefacts. These are then arranged in a tagged database, making it accessible to the general public and future generations.

²¹ To give just one example, 446 out of the 1,943 (23%) respondents said they still feel hatred, while 1,050 (54%) said that they had felt hatred in the past, but not anymore. In addition, although the survey took place before Obama's

visit, 43% of the respondents of the 2015 *Asahi Shimbun* survey said the US president should "visit Hiroshima and Nagasaki and apologize".

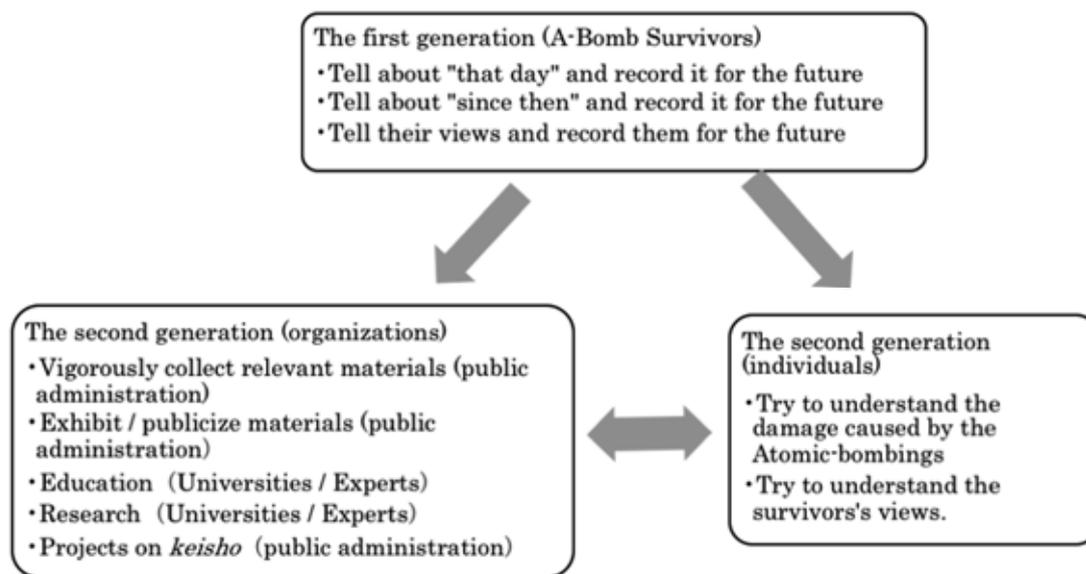


Figure 6 Parties in the *keishō* efforts of the Atomic-bomb experience

As mentioned earlier, the city of Hiroshima and the Hiroshima Peace Culture Foundation, are engaged in a variety of projects for the *keishō* of the Atomic-bomb experience.²² One such example is the “A-bomb Experience Legacy Successor program”, which was set up to preserve the survivors’ first-hand accounts of the A-bomb experience and to train a cohort of storytellers who can succeed them to pass down their authentic Atomic-bomb experiences.²³ The program was launched in 2012 with 137 applicants in the first year.²⁴ Having completed a minimum of three-years training, 88 graduates of the program are currently working as successors to the aging *hibakusha* storytellers. To assist the program, in 2017 the

city of Hiroshima set aside a special budget to provide regular lectures by these trained storytellers.²⁵ This has proved successful both in nurturing the successors to the legacy of the Atomic-bomb experience and in widening the base of public support for this initiative.

Another important initiative by the city of Hiroshima, for many decades carried out by the Hiroshima Peace Memorial Museum, is the collection and preservation of A-bomb artefacts, testimonials and portraits of the victims. The Museum’s main purposes include: exhibiting and publicizing the facts of the Atomic-bombing and the damage thereof; lectures and testimonials given by the survivors; lectures by the specially trained storytellers of the A-bomb

²² This organization is a “public Interest Incorporated Association” (*kōeki shadan hōjin*), which is a general incorporated association authorized under the Japanese law to operate the business for public interest purposes.

²³ *Hibaku-taiken Denshō-sha Yōsei-Jigyō* (被爆体験伝承者養成事業).

²⁴ The respondents comprised of 15 *hibakusha* (including 2 fetal exposures), 50 second-generation, 4 third-generation, and 68 “others”.

²⁵ The initial budget for the fiscal year 2017 was 3,591,000 yen. Opening days and times can be found on the museum's website: http://hpmmuseum.jp/modules/info/index.php?action=PageView&page_id=148 (accessed on January 26, 2018).

experience; and Hiroshima Peace Volunteers' activities. Meanwhile, the Hiroshima National Hall for the Atomic-Bomb Victims has been painstakingly collecting the records, notes, memoirs and testimonials of personal Atomic-bomb experiences as well as portraits of the victims. The Hall has created a large database of the victims' memoirs and they continue to do so as more names are found. As of 31 March 2017 the Hall has collected 135,747 memoirs and 21,629 portraits with individual names. These collections are exhibited at the Hall and are accessible to the public. Turning again to the Hiroshima Peace Memorial Museum, its wide-ranging activities also include: providing resources for peace education by assisting students on school trips to listen to the volunteer *hibakushas'* testimonies; supporting guided groups; Hiroshima Peace Volunteers' activities; creating visual recordings of *hibakusha* testimonials (in collaboration with the Hiroshima National Hall for the Atomic-Bomb Victims); or building a database on peace and making it publicly accessible. The above is far from an exhaustive list of the Museum's extensive activities, and each one is significant in the efforts to keep the memory of the A-bomb experience alive.

Shifting the focus from organizations to individual members of the public, it is important to consider the reasons why such

great numbers of people access these services. According to a report from the Hiroshima Peace Cultural Foundation, the Hiroshima Peace Memorial Museum saw a record number of visitors in 2016, totaling 1.74 million. In the same year, the number of visitors to the Hiroshima National Hall for the Atomic-Bomb Victims was over 341,000. These figures, however, should be considered in context. In the same year the total number of tourists to the city of Hiroshima was 12.611 million, a 5.1% increase from the previous year,²⁶ while visitors to Miyajima totaled 4.3 million.²⁷ In this light, the number of visitors to the Museum and the Hall do not seem to be that large. Tourists could visit the Dome, walk round the Hiroshima Peace Memorial Park, then visit the Hiroshima Peace Memorial Museum to learn about the background and then go on to the Hiroshima National Hall for the Atomic-Bomb victims to put names and faces to the otherwise anonymous mass victims and, finally, visit a variety of monuments scattered across the Park. Suggesting such a route for visitors may be helpful and it could become a new approach towards "peace tourism" in Hiroshima, possibly facilitating our efforts to pass on the legacy of the survivors' experiences.²⁸ In addition, researchers have also contributed significantly to the increasing awareness of the bombing and its after effects.

²⁶ Source: Economic Affairs and Tourism Bureau, the City of Hiroshima: <http://www.city.hiroshima.lg.jp/www/contents/1496238527600/files/kankokyaku.pdf> (accessed on January 26, 2018)

²⁷ Source: Hatsukaichi City: <https://www.city.hatsukaichi.hiroshima.jp/uploaded/attachment/20634.pdf> (accessed on January 26, 2018).

²⁸ The authors discussed the visiting of the Hiroshima Peace Memorial Park area (including the Atomic Bomb Dome and the Peace Memorial Museum) to feel and learn about peace as "Peace Tourism", and argued its potential during the afore-mentioned international symposium held at Hokkaido University. A publication on the contents is underway.

They have vigorously investigated the late-onset health effects of the Atomic-bombing damage in the fields of medical chemistry. Thus, the risk of developing an illnesses as a result of radiation exposure has been steadily revealed. As for the elucidation of Atomic-bomb diseases, extensive medical research has been carried out and the risk of their onset due to radiation exposure has become clearer over the years. Significant progress has been made regarding the molecular biological mechanisms of Atomic-bomb radiation-induced carcinogenesis. The effects of the Atomic-bombings on aspects of the psychological and socioeconomic lives of the *hibakusha*, as well as their views, have also been extensively studied. An example of this is a series of studies based on large-scale surveys conducted by the authors in collaboration with news companies as mentioned above.

We believe it is important to share the knowledge of these research outcomes with a wider audience. Hence, they are disseminated not only in formal educational settings, but also at open public lectures. Hiroshima University, where the authors are based, set up a Peace Studies Course in 2011 as a compulsory subject for all students. Each year circa 2,500 new entrants take this course. 29 modules were offered for the course in 2017, of which 20 (about 70% of the modules under Peace Studies) include at least one lecture on the topics of “Facts about the Atomic-Bombings”, the “Atomic-Bomb Radiation Exposure”, or “Nuclear Weapons”. Some of the classes invite a *hibakusha* to give a lecture on their

experience. Crucially, peace education with the theme of the Atomic-Bombing is being provided for students in elementary, junior-high and high schools within the city and prefecture of Hiroshima. Likewise, learning about the damage caused by the Atomic-bombings in a specialized academic environment is beneficial for students at the tertiary educational level. This is because the students can first learn about the facts of the Atomic-bombings in class and, with that knowledge, they can then experience the first-hand testimonials by *hibakusha* themselves. Then the students may go on to read, examine and learn autonomously from the memoirs and relevant materials by the *hibakusha*. Alternatively, the students may listen to the testimonials first and, driven by personal interest, they may start to explore the effects of the Atomic-bombings academically. Either way, such a holistic learning approach will certainly enhance their learning and deepen their understanding of the legacy of the A-bomb experience. Although it may seem self-evident, it would seem important to reiterate that this constant, step-by-step, educational building of personal ties with the legacy would guarantee the *keishō* of the Atomic-Bomb experience.

The local government and the university must each fulfil its role in the collaboration to provide individuals with a space to deepen their understanding of the *hibakusha* experience. Thus, the Hiroshima Peace Cultural Foundation and Hiroshima University drew up a comprehensive partnership agreement. As a part of the

agreement Hiroshima University will, in the future, hold a series of public lectures. We believe that public understanding of the effects of the Atomic-bombing will be deepened by a combination of learning opportunities and resources. That is to say, seeing the exhibits of A-bombed items – the silent witnesses of the Atomic-bombings – and gaining evidenced knowledge from the outputs of research into the Atomic-bombings and the subsequent damage. As mentioned at the opening of this paper, a great number of *hibakusha* believe that their experiences have not been duly passed on. In addition to the experience of “that day”, of the Atomic explosion over their heads, *hibakusha* have had to live with and grapple with the long-lasting, late-onset, health effects of radiation exposure and the subsequent anxiety about their health, which was exacerbated by the social and economic damage and injustice done to them. Clearly, the A-bomb damage is complex and, therefore, the *hibakusha* have become resigned to accept the public’s gap of understanding in grasping their experience. We must grasp the whole picture of the complex and ongoing A-bomb damages by exploiting all academic means, investigating and clarifying it vigorously. We should digest our research outcome to offer the knowledge to the citizens, collaborating with the public administration. These are the tasks for the university which we consider as our mission.

Lastly, we would like to emphasize that recognizing and appreciating the desire of the *hibakusha* for a non-nuclear world is integral to the effort of *keishō*. That the *hibakusha* feel

their A-bomb experiences have not been passed on is actually linked to the fact that their peace movement for a nuclear-free world, which has driven them since the end of the “10 years of void”, has not yet come to fruition. As we have argued (Kawamoto, et al. 2016), more than half of *hibakusha* are sceptical about realizing a nuclear-free world. For the *hibakusha*, the fact that nuclear weapons continue to exist means that their experiences have not been sufficiently communicated to the world. Given the *hibakushas*’ advanced age, the day is nearing when Hiroshima can no longer turn to them for the advocacy for a non-nuclear world. Before it is too late, we should discuss a blueprint for the future of Hiroshima and its role in advocating for world-peace. How do we continue to strive for the realisation of a nuclear-free world? Are we prepared to take on an even larger role as the mecca of peace? Asking ourselves these questions keeps the survivors’ legacy alive and, thus, it is an integral part of the *keishō* efforts of the A-bomb experience.

Acknowledgements

This research was supported by JSPS KAKENHI Grant Numbers: 15H03137 and 17F17014.

Bibliography

- Hamatani, M. 濱谷正晴 (2005), 『原爆体験』, 岩波書店
- Harada Hironori and Harada Yuka (2015), “Recent advances in myelodysplastic syndromes: Molecular pathogenesis and its

- implications for targeted therapies”, *Cancer Sci.* 106, pp.329–336.
- Hiroshima International Council for Health Care of the Radiation-exposed 放射線被曝者医療国際協力推進協議会編 (1992), 『原爆放射線の人体影響』, 文光道
- Hiroshima Prefectural Branch of the Hidankyo 広島県原爆被害者団体協議会編 (2009), 『「空白の十年」被曝者の苦悩』, 広島県原爆被害者団体協議会
- Hoshino, T., Shojima, K., Higuchi, K., and Tomida, E. (2016) Text Data Analysis for Educational Psychology. *The Annual Report of Educational Psychology in Japan* 55:0, pp 313-321.
- Ito, T. 伊東壮 (1988), 『原爆被曝者の半世紀』, 岩波ブックレット No.166, 岩波書店
- Kawano, N. 川野徳幸 (2010a), 原爆被曝被害の概要, そして原爆被曝者の思い, 日本平和学会編『平和研究』35号, pp.19-38, 早稲田大学出版部
- Kawano, N. 川野徳幸 (2010b), 原爆被曝者は何を伝えたいのか - 原爆被曝者の体験記・メッセージの計量解析を通して -, 『長崎医学会雑誌』85巻特集号, pp.208-213
- Kawamoto, H. and Kawano, No. 川本寛之・川野徳幸 (2015), 原爆被曝者の「思い」についての一考察—憎しみと責任論の視点から—, 『広島平和科学』37, pp.57-68
- Kawamoto, H., van der Does, L., and Kawano N. 川本寛之・Luli van der DOES・川野徳幸 (2016), 原爆被曝者は核兵器廃絶の可能性についてどう考えているのか, 『広島平和科学』38, pp.57-82
- Shigematsu, I., Ito, C., Kawada, N., Akiyama, M., and Sasaki, H. (eds.) “Effects of A-Bomb Radiation on the Human Body” translated by Harrison, B. (1995). Harwood Academic Publishers. Bunkodo Co., Ltd., pp.26-39.
- Ubuki, A. 宇吹暁 (1999), 『原爆手記掲載図書・雑誌総目録 1945-1995』, 日外アソシエーツ