

Article, Student Perspective

Themed Issue: Radiation Effects and Events

# The Value of Interviews in Representing the Long-Term Effects of Radiation in Kazakhstan

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## **Abstract:**

Semipalatinsk, Kazakhstan was once the Soviet Union's carefully concealed testing site for nuclear weapons, unbeknownst even to nearby residents. In 1989, information about radioactive contamination became public knowledge, causing outcry. As a result, Semipalatinsk and its surrounding areas have high rates of structural and systemic health issues from nuclear testing, which were exacerbated by the dissolution of the Soviet Union. The long-term effects of this testing continue to burden the Kazakhstan healthcare system and its people today. In 1995, the American International Health Alliance (AIHA) formed the Houston-Semipalatinsk Partnership (HSP) to support better outcomes through systemic changes in affected regions following their independence from the former USSR. This paper, "The Value of Interviews in Representing the Long-Term Effects of Radiation in Kazakhstan," discusses the subset of a collection of interviews about radiation effects and events involving hospital and healthcare administrators from the Texas Medical Center (TMC) Library and Kazakhstan who participated in the HSP. These interviews demonstrate how first-person sources highlight the voice and experience of the individual, conserve nonverbal information, and serve as a dynamic and engaging method to share history with the public. This work draws from interviews that the author and other Rice undergraduates conducted. These interviews are available online through Rice University's Woodson Research Center and the TMC Library for the public to learn about these efforts in depth.

**Keywords:** oral history, individual experience, interview, radiation, medical humanities

## **Introduction**

In the fall of 2022, if anyone asked me about radiation, the only events that would come to mind were World War II and Chernobyl. The more I share the research I do, the more I realize how unfamiliar my peers, professors, and the public are about the impact of nuclear weapons worldwide. Little did we know, the history of nuclear weapons, plants, and radiation is pervasive and impacts a larger number of people than is discussed in mainstream media and history. When I first began working with Dr. Armin Weinberg, I did most of my preliminary research surrounding Chernobyl since I was familiar with the name, but I knew little of the actual disaster itself. After meeting with him, I read the several papers, documents, and videos he sent to inform me of the radiation events in Kazakhstan, the Houston-Semipalatinsk Partnership (HSP), which

included how 1.5 million people were directly affected by the testing done by the Soviet Union, and notably, how little about this event was known to the public at large.<sup>1</sup> Dr. Weinberg played an instrumental role in the HSP, and his interview project seeks to highlight the work of the American International Health Alliance (AIHA) and HSP in their collaboration with the Kazakh healthcare system to improve healthcare outcomes in regions affected by radiation. Through the interview medium, interviewers use storytelling, visual and audio cues, and curated questions to capture the personal experiences of those who participated in the partnership to supplement official reports and papers with first-person narratives of the events.

The interview format incorporates Kazakh traditions as a nomadic people to record Kazakh histories. Oral histories were an important part of nomadic life in the Great Steppe of Asia, often accompanied by music and performance.<sup>2</sup> While providing a solution to the burden of traveling hundreds of miles with books, oral narratives also influenced the way knowledge was passed between generations, emphasizing that “the education was not systemic, it was from the heart.”<sup>3</sup> These interviews are an invaluable form of original sources that serve to convey information exactly as the speaker intended, allowing for a more holistic view of the events represented in formal papers.

### **The Intersection of Transparency and Health**

The nuclear testing conducted in Kazakhstan illustrates one of the clearest examples of the necessity of sharing information and stories. In 1945, after the United States dropped two atomic bombs on Hiroshima and Nagasaki, killing hundreds of people, Stalin initiated the development of a Soviet nuclear weapons program to compete with the United States.<sup>4</sup> These events began the era of the nuclear arms race in the twentieth-century century. An area just northeast of the city of Semipalatinsk (later renamed Semey), Kazakhstan, known as The Polygon, was selected as ground zero for the tests. From 1949 to 1989, over 456 nuclear tests were conducted in that area, including the testing of the thermonuclear bomb that was over twenty-five times more powerful than the bomb in Hiroshima.<sup>5</sup>

However, despite the significance of the events, local people were not informed about the testing, media was restricted, and doctors were not allowed to diagnose radiation poisoning. Reports stated the region was an earthquake testing site, convincing the population that there was nothing of concern.<sup>6</sup> Little did they know, the impacts of these events would stay with them forever. In 1989, information about these atrocities were leaked to the public.<sup>7</sup> While Kazakhstan was learning the source of its mental and physical suffering from radiation testing, the country also struggled to cope with the broken infrastructure left behind from their independence in 1991.<sup>8</sup> Due to the

lack of transparency and communication, the decline in population well-being and physical health from initially unknown sources occurred across such a large scale that it created a uniquely fearsome environment.

These tragic stories serve to highlight the importance of knowledge sharing and storytelling to the well-being of communities, especially in a time when information was severely restricted. Kazakhstan is also one of the few isolated regions of long-term radiation exposure, so the lack of research and knowledge as well as the lack of understanding of the exposure's effects has had broad, negative implications for its people and future generations.<sup>9</sup> The AIHA formed the HSP in an effort to address these problems in the Kazakh healthcare system, including building a cancer registry, transforming nursing education and training, improving public health education, directing cancer screenings and chemotherapy, and working with directors in healthcare management, finance, and decision-making.

With the present endeavor to find new forms of energy, as well as budding interest in the use of nuclear energy, we must consider the lives at stake when accidents happen. From disasters, oversights, malicious intentions, and numerous other unfortunate events, populations all over the world have been affected in irrevocable ways. Often, these devastating events are news stories of interest for short periods of time, if they ever make it there at all. Sometimes other events overshadowed these atrocities, directing public outrage elsewhere and leaving those affected unable to find a semblance of solace or form of recompense. Although much of this knowledge is new to me, as a student interested in public health, I feel strongly about sharing the stories of both the people subjected to preventable disasters and those who take it upon themselves to help others overcome such devastation. For the sake of all people, we must fully understand the efforts needed to create a working system for people who have survived through such atrocities. This is only one reason that we must document the HSP and other efforts taken to promote health and wellness for the Kazakhs in Semipalatinsk.

### **The Value of Oral Histories**

In the spirit of international collaboration, the HSP brought together healthcare administrators, executives, scientists, advocates, government officials, and local people to showcase the benefits of working together to solve community problems. These rich interactions are not always captured in formal writing, but through a verbal medium, elaboration is natural. The participant becomes a storyteller, adding details, giving context, and backtracking, providing more information to the viewer. Additionally, an interviewer may ask further questions to encourage the participant to share more on

topics of interest. Interviews with HSP members allow us to preserve the rich involvement and experiences of members in the HSP. Perhaps even more engaging are the ways in which storytelling and visual and audio clues give depth and nuance to each individual's experience.

Randy Wright, the hospital administrator for the Methodist Hospital during the time of HSP's efforts, exemplifies how storytelling through the interview format provides a more comprehensive detailing of problems and problem solving at the international level. In a case study written by Wright, published in this issue, he shares experiences, observations, and recommendations from his visit to Semey, Kazakhstan. The document includes a formal reflection of his time as a hospital administrator in a region that was struggling financially, specifically with healthcare, due to the burdens imposed from the nuclear testing and the dissolution of the Soviet Union. He discusses the characteristics of the program, as the paper focuses on the collaborative effort between several nations.<sup>10</sup>

However, in his video interview, Wright takes a different role. Rather than speaking as a healthcare administrator, he shares his personal experiences and elaborates on the events from a personal lens while avoiding politics. He shares deeper observations of the area that he only touches on in the paper. For example, in his case report, he discusses how the Kazakhs relied on the United States to help fund newer equipment and used Texas standards to update their health infrastructures over the previous Soviet standards.<sup>11</sup> Yet, in the interview, he elaborates on the struggles of that task, explaining how the power grid in Kazakhstan is different from that of the United States, so instruments could not simply be brought from the United States to the region. Language barriers also affected instruction manuals and requirements to preserve the equipment. In the paper, he mentions concerns of abuse of money and corruption, but in the interview, he adds detail, explaining the degree to which power dynamics were present between different staff; the remnants of Soviet era culture were pervasive in the structures and infrastructures of medicine. He also expresses concerns about the short-term nature of HSP's intervention. Several different additional commentaries are made through the interview format that the restrictions involved in publishing and formatting in written work may not have been able to share. Through examples like this one, the importance of the interview format's ability to share personal perspectives becomes clear.

Another way the interview medium provides invaluable insights is through voice inflections and facial expressions. A clear example of this can be seen through Dr. Theresa Hayes's Interview when she speaks of her time visiting ground zero for the nuclear testing in Kazakhstan.<sup>12</sup> After a previous exclamation, her face becomes more

serious and illustrates the mood associated with ground zero. She speaks at a slower pace and appears to inadvertently emphasize the words “ground zero” verbally, allowing for the weight of those words to set in. She expresses that it was “eerie” and emphasizes the soberness of the situation, adding that the guides had a Geiger counter to detect radiation levels. While her words complement that unsettling feeling, her face and eyes evoked a hint of curiosity and openness. At the same time, she swivels in her chair, bringing a hint of nervousness to her anecdote. All these cues help the person watching the interview create a more cohesive picture of how she remembers the event. These different emotional signals allow the viewer to relate to Dr. Hayes because the topic is serious and daunting, her body language allows the viewer to vicariously experience what she describes.

In her interview, Sara Rozin demonstrates a different use of cues, focusing on repetition, deliberate pauses, and the interviewer’s reaction to shape her narrative. In one instance, Rozin uses all three cues to emphasize her own surprise at the lack of an internationally accepted cancer registry in Kazakhstan. After noticing “delete” next to several names on the registry, she asks why they were deleting records. She recalls the manager stating, “If it’s too many deaths ... deaths! ... per month, we delete the names.”<sup>13</sup> Rozin emphasizes the word “deaths” to signify to the audience her own disbelief, but also brings to their attention the negligence towards later generations who have suffered from cancer and hints at the implications of this decision. Her pause allows the gravity of this to sink in, and her repetition brings the meaning of the word “deaths” to the forefront of attention. At the end of the sentence, she looks directly at the interviewer and waits, who after a pause realizes it is their cue to react, accentuating the implications she wants the viewer to reach in their own understanding. Through the use of repetition, pauses, and interviewer response, Rozin shares her own reactions as she navigates her time in Kazakhstan.

### **The Interviewer’s Experience**

Under the guidance of Dr. Weinberg and Dr. Melissa Bailar, Associate Director of Medical Humanities at Rice University, undergraduate students have contacted various participants of the HSP and conducted a six-step interviewing process. The interviews analyzed in the previous section were conducted by other student researchers. I have added to the archive myself, though talking to previous students and analyzing their interviews have allowed me to create my own interview process.

First, Dr. Weinberg connects the student with a participant and provides background information on the participant’s role. After researching contextual information, the student sets a meeting to discuss what the participant would like to

address within the interview. This stage is crucial in personalizing the interview and allowing the participant to have control over what they want the interview to convey to broader audiences. Next, the student drafts questions and sends them for edits to Dr. Weinberg and the participant to finalize them. While some of these questions are about the experiences themselves targeted at sharing stories, others require the participant to be more contemplative about their experience as a whole. This allows the participant to synthesize their initial perspective and later reflection of their participation in the HSP. Additionally, students have participants sign a consent and release form before the interview. Then, the student conducts the interviews and later edits them to cut out unnecessary moments and generate captions. Finally, these are posted online through both Rice University's Woodson Research Center and the Texas Medical Center (TMC) Library for general viewing.<sup>14</sup> This process and analysis have influenced how I watch interviews, cultivating a greater appreciation and understanding for those recording oral histories. Every edit and reaction seen by the audience is an intentional decision made to provide additional information about the topic, aimed at fostering a deeper understanding among viewers.

## **Conclusion**

Reviewing the effects of the use of radiation in the twentieth-century century is essential in two ways. First, it brings to light histories that were a result of nuclear testing and were not widely shared, despite their importance in creating a precedent for the use of nuclear energy. With nuclear energy prerogatives in the United States and abroad, we must keep this history at the forefront of our attention as we delve deeper into reinstating its use near communities, especially decisions that may have a greater impact on individuals of certain races and socioeconomic status. Second, it contextualizes the resulting fears and life experiences of individuals globally. Although the use of academic papers and official reports is essential in recording these historical events, the use of oral histories completes the picture, utilizing first-person stories to create a more accurate depiction of the events and preserve the realities individuals faced. Lastly, the implementation of the HSP in addressing the use of radiation in Kazakhstan has positively impacted partners in the United States and Kazakhstan, serving as a prime example of the invaluable benefits of international cooperation. The Radiation Effects and Events Archive at Rice University's Woodson Research Center and the TMC Library is a resource dedicated to recording and remembering the implications of nuclear energy as we push forward in a new era of its use.<sup>15</sup> Additionally, the people involved in such projects, from healthcare administrators, hospital executives, scientists, advocates, to government leaders are wonderful examples of how these partnerships and programs have interdisciplinary dialogues that have direct impacts on individuals, further demonstrating the benefit of working

together to solve these problems. Globally, numerous other regions have faced the treacheries of nuclear testing, and Kazakhstan is just one example of the long-lasting effects of radiation at the individual, community, and global scale. To learn more about radiation events around the world, please refer to The Radiation Effects and Events Archive.

### Notes

<sup>1</sup> For more information on the HSP, see Rishi V. Shridharan, Larry Laufman, Sara Rozin, and Armin D. Weinberg, “The Houston-Semipalatinsk Healthcare Partnership: A Lesson in Science Diplomacy,” and Randy Wright, “Experiences, Observations, and Recommendations Related to Visits to the Semey Region of Kazakhstan from the Perspective of a Hospital Administrator,” published in this volume of *DAHSHA*.

<sup>2</sup> *Kén Dala*, episode 5, “Oral Tradition in Nomadic Culture,” Jibek Joly TV, aired January 27, 2020, <https://jityv.kz/en/oral-tradition-in-nomadic-culture>.

<sup>3</sup> Ibid.

<sup>4</sup> “The Atomic Bombing of Hiroshima and Nagasaki, August 1945,” National Archives and Records Administration, last modified June 7, 2021, <https://www.archives.gov/news/topics/hiroshima-nagasaki-75>.

<sup>5</sup> Wudan Yan, “The Nuclear Sins of the Soviet Union Live on in Kazakhstan,” News Feature, *Nature* 568 (April 4, 2019): 22-4, 23, <https://www.nature.com/articles/d41586-019-01034-8>.

<sup>6</sup> Togzhan Kassenova, “How Kazakhstan Fought Back against Soviet Nuclear Tests,” Carnegie Endowment for International Peace, February 14, 2022, <https://carnegieendowment.org/2022/02/14/how-kazakhstan-fought-back-against-soviet-nuclear-tests-pub-86404>.

<sup>7</sup> Ibid.

<sup>8</sup> See Shridharan, Laufman, Rozin, and Weinberg.

<sup>9</sup> For more information on the state of Kazakhstan’s widespread diaspora, see Rozin, “Sarah Rozin Video Interview,” interviewed by Sachi Khemka, *An Initial Overview of Radiation*, Rice Fondren Library: Rice Research Repository, November 19, 2020, <https://hdl.handle.net/1911/109658>.

<sup>10</sup> See Wright, “Experiences, Observations, and Recommendations Related to Visits to the Semey Region of Kazakhstan.”

<sup>11</sup> Wright, “Randy Wright Video Interview,” interviewed by Khemka, *An Initial Overview of Radiation*, Rice Fondren Library: Rice Research Repository, November 9, 2020, <https://hdl.handle.net/1911/109656>.

<sup>12</sup> Teresa Hayes, “Teresa Hayes Video Interview,” interviewed by Khemka, *An Initial Overview of Radiation*, Rice Fondren Library: Rice Research Repository, November 3, 2020, <https://hdl.handle.net/1911/109654>.

<sup>13</sup> Rozin, “Sarah Rozin Video Interview.”

<sup>14</sup> See “An Initial Overview of Radiation Effects,” Rice Fondren Library: Rice Research Repository, <https://hdl.handle.net/1911/109652>; “Radiation Effects & Events. An Initial Overview of Radiation Effects. Project by Sachi Khemka, Student, Medical Humanities, Rice University, 2020,” Texas Medical Center Library, <https://archives.library.tmc.edu/gi222781356>.

<sup>15</sup> See “An Initial Overview of Radiation Effects,” Rice Fondren Library: Rice Research Repository, <https://hdl.handle.net/1911/109652>; “Radiation Effects & Events. An Initial Overview of Radiation Effects. Project by Sachi Khemka, Student, Medical Humanities, Rice University, 2020,” Texas Medical Center Library, <https://archives.library.tmc.edu/gi222781356>.

### **Author Bio**

Annika Nambiar is a master’s student studying epidemiology at University of Texas Health Sciences Center’s School of Public Health. She is a recent graduate with a bachelor’s degree in Biosciences from Rice University where her diverse interests led her to engage in the medical humanities and cancer biology research, and work as an emergency medical technician. Inspired by her research experiences in the medical humanities, Annika pursued public health. Most recently, she is involved in a project with the Rice360 Institute of Global Health, analyzing biomedical workshop capacity in health facilities in Sub-Saharan Africa.

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### **Conflicts of Interest Statement**

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