

Bodily Memory and the Politics of Remembrance: The Aftermath of Goiânia Radiological Disaster¹

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Abstract:

Current studies on memory stress that images of the past are conveyed and sustained by multiple and conflicting experiences. In the case of radiation disaster, the process of remembering points to an intricate field of forces of secrecy, fear, responsibility, financial compensation, and health care monitoring programs. This paper focuses on the power dynamics of memory production in the aftermath of the 1987, Goiânia Radiological Disaster. I argue that survivors carry inside their bodies multiple memories that are not recorded by metric suffering. Consequently, a radiological disaster does not close when nuclear expert teams and governments declare it under control. Survivors' bodily memories tangle with the official disaster memory generating a "politics of remembrance" which must be recognized in human rights agendas as well as in health care monitoring programs.

Introduction

In 1987, in Goiânia,³ the Goiás state capital, located on the Central Brazilian plateau, an abandoned cesium-137 teletherapy unit was collected by informal sector workers. They took it home, and opened it. The result was severe environmental and population contamination.

While undertaking measures to control the radiation spread, "nuclear experts" as well as local governmental sectors tied the disaster to a mathematical physical categorization of its impact. This perspective freezes the affected population and space to those defined at the emergence of the disaster. Thus, official memory of the disaster, contained by the 1987 experience, places the idea of a disaster located in the past, brought to the present through history. However, my fieldwork experiences show that the disaster is alive for those struggling over the broader understanding of the category of victim, and for better health care service. For them, the connection between past experience and everyday remembrance is made through bodily social memory (Connerton 1996). Survivors' disaster recollections are shaped more by memories sedimented in the body than in cognitive recall. Survivors' memories are permanently sustained by individuals coping with the impact of the disaster in their everyday experience. This process of remembering stands in opposition to the concepts proposed by nuclear experts.

This essay, thus, focuses on the power dynamics of memory production in the aftermath of a radiological disaster. My argument is that official memory concentrates on an idea of decontamination which

restrains the individual's claims to a verified metric suffering (Kleinman and Kleinman 1997:14). In so doing, this definition of the disaster intensifies the survivors' suffering because they need to engage in continuous public display of their affliction in order to claim medical and monetary compensation. I argue that in the context of the radiation disaster, people and organizations involved in helping the impacted population must consider the bodily social memory as an important element in the categorization of an affected population.

Current studies on memory stress that images of the past are conveyed and sustained by multiple and conflicting experiences (Connerton 1996 [1989]; Yoneyama 1993; Lüdtke 1993; Taylor 1996; Sturken 1997). The idea of multiple memories is already supported by Halbwachs' classic work on collective memory (1976 [1925]). In fact Halbwachs claims that there are as many memories as there are groups, that memory is by nature multiple and yet specific, collective, plural and individual. Nevertheless his major concern is with the moral unity of social groups following Durkheim's tradition. In contrast to Halbwachs' approach, 1990s works on memory focus on the politics of memory, that is, on the power relationship undertaken by diverse groups over remembering and forgetting past experiences. In fact, informed by Foucault's assertion (1989:92) that if one controls people's memory one controls their dynamism and their experience, contemporary works have examined the struggle different groups undertake to counter official hegemonic representations of the past.

In the case of catastrophic events, the process of remembering points to an intricately field of forces related to responsibility, financial compensation, and health care. The production of disaster knowledge arises as a confrontation between official memory, sustained by governmental representation, and subjugated knowledges⁴ experienced by survivors' memories. Experiences of suffering inscribed and incorporated in individuals' bodies constitute bodily memories which resist official memory enclosure. Some works have emphasized that survivors' disaster memories resist the closure of the past in terms of official knowledge, as in the case of Hiroshima (Yoneyama 1993); the Vietnam War, the AIDS epidemic (Sturken 1997); and Nazism in Germany (Lüdtke 1993). The distinctive presence of survivors in distress challenges official controlled accounts of past experiences. Survivors' bodily memories set up the scenario for the power dynamics of memory production and display disasters effects beyond the limits established by the experts.

The Context of the Goiânia Disaster and the Construction of Official Memory

Official reconstitution of the disaster and legal documents situate the origin of the disaster two years earlier than the teletherapy unit was collected by scavengers. In Goiânia, around the end of 1985, the owners of a private radiotherapy institute – Instituto Goiano de Radioterapia (IGR) moved the institute to new premises taking with it a cobalt-60 teletherapy and leaving behind a cesium-137 therapy unit. According to nuclear experts, IGR's proprietors did not notify the licensing authority, the Comissão Nacional de Energia Nuclear (CNEN), Brazil's national nuclear energy commission, about the remains of this unit (IAEA 1988: 1).

As time passed, complex elements increased the gravity of this source of an abandoned radioactivity unit and revealed the precariousness and inability of local institutions to handle radioactive material. In 1987 the old building where the teletherapy unit had been left was partly demolished without any kind of surveillance. CNEN, responsible for monitoring all radioactive material in Brazilian territory, had no control over the actual condition of the teletherapy and radiography sources. Simultaneously, with the Brazilian economic crisis of the 1980s, unemployment increased and individuals depending on the informal sector augmented. One of these was the "catador de papel," an individual who used handmade metal and cardboard strollers to collect papers and scrap metals to sell to

junkyard owners, who then sold the material to recycling industries. Two of these scrap collectors entered the abandoned clinic, took a part of the teletherapy unit to their homes and opened it at a house on 57th Street, in downtown Goiânia, turning the area into a major focus of radiation. They subsequently sold the material to a scrap dealer who became fascinated with the blue glow that emanated from the unit at night.

Members of the scrap dealer's family and social network were then invited to come to his house, to see and touch the powder. Among those individuals some began to carry the physical and visible inscription of radiation on their bodies because they had, in different ways, had physical contact with the cesium-137 source. The skin burns they suffered were the result of various activities: opening the teletherapy unit, holding a radioactive piece, or putting it on their bodies. For some it looked like carnival glitter and they rubbed their bodies with it. One man drew a cross on his chest, because maybe it had a magical power. Many took portions of the cesium-137 to their homes and stored it in their kitchens and bedrooms. Some ate meals with their hands contaminated with cesium. These people continued to go to work, to school, to take collective transportation, and to carry on regular life without knowing that they were carrying radioactive material on and inside their bodies. In this way some individuals became irradiated, without knowing that they were in contact with radiation.

According to the official reconstruction of the events, the authorities discovered the disaster only 13 days after the beginning of the radiation dissemination (IAEA 1988a; IAEA 1988b; Fundação Leide das Neves Ferreira 1990a; 1990b). Particular features of the Goiânia radiological disaster made it "the worst radiation accident in the Western Hemisphere" (Roberts 1987: 238). The literature points to several elements contributing to that characterization: a) the delay between the event and its official perception and recognition; b) the fact that the major focus of the disaster area (Sector Aeroporto) was in a densely populated section of the city; c) the way that people used the cesium in their daily lives; d) the lack of an emergency plan for radiological disasters; e) the physical characteristic of the cesium used in this teletherapy⁵ and; f) the weather pattern in central Brazil in September with abundant rain, high temperatures, and winds, which contributed to the dispersion of radioactivity.

Several Brazilian and international specialists⁶ worked in the first phase under the direction of CNEN.

At that time, the radiation patients were defined by their relationship with the first identified individuals involved in the break-in of the teletherapy unit. The specialists identified 249 individuals who were considered “contaminated,” as contaminated as was the environment around them. This group was divided according to their level of contamination: some had “only” shoes and clothes contaminated by the cesium-137, while 129 persons had internal and external contamination (Fundação Leide das Neves Ferreira 1990a: 21). Remedial action focused on finding the contaminated individuals, isolating them, and undertaking the procedures involving the physical decontamination of their bodies. Individuals were isolated, secluded, and submitted to what the radiation specialists called “the decorporation of cesium” by using “Prussian Blue.” To be rescued for “social life,” those with more contaminated bodies were measured in different ways. Samples of blood, urine, and feces were obtained daily to assess the level of internal contamination. A whole body counter was constructed to determine the total levels of each individual. A detailed process of decontamination was undertaken, as described in the International Atomic Energy Agency (IAEA) report:

Contaminated clothing was removed and all (individuals) were decontaminated by taking several baths with soap and water (IAEA 1988: 42).

Skin decontamination was performed on all patients using mild soap and water, acetic acid and titanium dioxide. Decontamination was only partially successful since sweating resulted in recontamination of the skin from internally deposited cesium-137 (IAEA 1988: 43).

Decontamination of the patients’ skin and dealing with desquamation from radiation injuries and contaminated excreta posed major problems of care. Daily haematological and medical examinations, good nursing care and bioassay of blood cultures contributed to the early detection and therapy of local systemic infections (IAEA 1988: 2).

According to CNEN, the process of “decontamination was undoubtedly the most resource intensive (sic) element in the response to the disaster” (IAEA 1988: 80). By the middle of 1988, CNEN decontamination work ended and other activities were initiated, such as the monitoring of the provisory storage site and research activities. According to a CNEN director, who

was strongly engaged in the Goiânia emergency phase, the institution thus acquired a great deal of experience and developed important knowledge about the effects of Cesium-137 on the environment and on human bodies. By 1996, the Goiânia post-disaster was no longer a major research topic at CNEN. The same professional told me that they now have answers for all the issues they were concerned with. The idea of “everything is under control” and “disasters happen but the radioactivity can be controlled” is the framework of the discourses and interventions of these nuclear professionals in the aftermath of the Goiânia disaster.

Initially, the CNEN institution controlled spaces and bodies in the process of decontamination. Later, decontaminated bodies were transferred to Fundação Leide das Neves Ferreira – FUNLEIDE⁷ for health monitoring programs. These institutions, based on their expertise and experiences with the Goiânia radiological disaster, established a scientific body of knowledge related to the disaster. Professionals from these institutions produced a large number of works concerning the Goiânia disaster. They published articles, participated in various international conferences, carried out academic research for master’s and Ph.D degrees, and informed students since some professionals work also as professors in Brazilian universities. Over the years, this body of expert knowledge began to domesticate the disaster experience just as the experts had domesticated the contaminated spaces and bodies. The writing by nuclear experts became the official memory of the disaster. Thus, mathematical measurements of the disaster define mainstream knowledge. This paradigm contains individuals’ suffering to verified measures of radiation exposure and confines persons’ distress within the boundaries of proved experience with the radiation source in terms of time and distance.

Subjugated Knowledges: Survivors’ Bodily Memory

The survivor is one who remembers. ...survivors embody memory, their bodies the texts of memory, their voices its textures. They stand at the juncture of memory and history, tugging by their very presence at the boundaries of each (Sturken 1997: 254).

Radiation disaster patients carry with them the uncertainty over their own future and that of their children. Radiation exposure affects individuals’ cells and radiation-induced aberrations could result from either direct exposure or the effects of this exposure on their children and grandchildren. The need for

continuous health monitoring care has turned radiation disaster survivors into bearers of chronic illness. The impact of radiation on individuals forces them to struggle over the recognition of their claimed pains. The continuing face of death, fear of cancer, unstable health care, inadequate financial compensation, and the effect of stigma are not contained in nuclear experts' mathematical definitions or in the statement that "everything is under control." Thus, from time to time, painful narratives emerge as local media acquaint the public with the continued presence of the disaster as well as disrupting effects of hegemonic knowledge.

Because the Goiânia disaster occurred outside a nuclear plant – in an open space in a middle range city – and because its acknowledgment took at least fifteen days to be made, an accurate mapping of people, places, and professionals exposed to radiation doses is impossible. Official accounts of what happened during those fifteen days was made by collecting the narratives provided by the major actors involved in the breaking down of the teletherapy unit. The sensitivity and confusion experienced by those recollecting the event – those impacted by the event and the subsequent decontamination process – resemble alter "first moment" versions. Also, along with diverse nuclear experts teams facing the immediate disaster, a number of other professionals were present; for instance, ambulance drivers, police officers, journalists, garbage workers, and so on. As time passed, some of those professionals became aware of having been working in or living in a contaminated area. Fear of having been contaminated, and the quest for the meaning of this strange illness, began to emerge. One of these claims arose in 1997 when the Brazilian media reported that policemen had declared the Goiânia disaster as the cause of their perceived illness. Like radiation disaster patients, the policemen's narratives confront nuclear experts' memories with the memories inscribed in their bodies. Thus, in the following sections I will examine some aspects of the struggle over disaster knowledge and raise questions about the consequence for the survivors in health care monitoring programs.

"Radiation Disaster Patients:" Struggling for Legitimizing Painful Experiences

In 1988, the Goiás State Government established the above-mentioned Fundação Leide das Neves Ferreira with two major objectives that mixed assistance and scientific research: 1) to give direct and permanent assistance to officially recognized disaster victims by providing health care, pension, economic compensation, housing, and basic food; and 2) to

promote research on the effects of radioactivity. The foundation design was a response to two different political contexts: 1) a response to the pressures of the 57th Street inhabitants, where the teletherapy unit was broken; and 2) a privileged opportunity for the state of Goiás to produce "scientific knowledge," and gain national and international prestige (Fundação Leide das Neves Ferreira 1989).

To carry out its actions, the Foundation began by categorizing the individuals affected by the disaster. Thus, in addition to the 1987 nuclear experts' designation of 249 "contaminated" individuals, FUNLEIDE added another group totalling nine hundred and four people. Based on the standards adopted by the International Atomic Energy Agency (IAEA) and on the suggestion made through protocol conducted for this institution by Dr. Alexandre de Oliveira (Fundação Leide das Neves Ferreira 1988) the patients who needed to receive clinical observation were classified in four groups. The parameters used consisted of the individuals' level of radiation, professional contact with affected people, and domicile in the neighborhood affected by the disaster.

Although FUNLEIDE increased the number of "contaminated" individuals this was not followed by effective measures providing medical care. My fieldwork observations and interviews revealed that medical health care and medical follow-up were never provided to the people defined in FUNLEIDE's four groups. The only people to receive medical support were those fitting the criterion defined by nuclear experts team, that is FUNLEIDE Groups I and II.

With the passing of years, the assistance provided by FUNLEIDE has decreased as its design has been changed; the institution has cut down research in progress and limited its areas of activities. The Foundation faced a structural crisis due to internal conflicts (Neto 1994) which was exacerbated when many professionals resigned.⁸ These experts had acquired a great deal of experience with the disaster and could not easily be replaced. However, the major issue here is the way that political and economic factors interfere with the health care of the population affected by the disaster. Since its inception, the Foundation's board of directors was chosen according to strictly political party criteria. That is, each time the head of the state government changes (every four years) the newly elected governor replaces the Foundation president. Consequently, the Foundation project never advances and the board lacks experience with the disaster itself and related issues; structural friction

between administration and health care professionals grows; the Foundation limits its activities to the minimum of giving health care to a restricted number of individuals.

Governmental control over the Foundation board of directors intensifies an already difficult relationship between biomedical professionals and patients. According to some individuals I interviewed, FUNLEIDE's physicians never tell victims their real health condition because, as Goiás state government employees, they are under censure. Their official statements conform to local government definitions of disaster closure; the radiation is controlled and official victims – patients – are said to be doing well. This results in a double problem. On one hand, from the patients' perspective they cannot rely on most Foundation physicians, and their claims of illness are perceived as imaginary. On the other hand, according to an institutional biomedical viewpoint, patients' claims are not radiation-related.

The victim's perception that professionals are incapable and unreliable is reflected in the narratives I collected, as in R.B.G.'s account:

Because you know, we receive health care from people.... Personnel that... they are, you know? Government employees. So, who will be against Government opinion? They can lose their jobs, be fired. So, at the Foundation, all those in there are manipulated by government.... I am quite sure that there is a ... a cesium victim there, who got a cancer at the stomach. But the physicians said that it is not. That this person has gastritis. God saves! Poor guy! It is horrible what he has been through. He weeps all the time. He already went through a great number of surgeries. He stays at this Samaritano Hospital. And... now, when, someone came to a doctor and asked, he will say that everything is fine. So, everyone... we... I... I mean, all the victims think the same way: physicians there, at the Foundation, they are manipulated. We think if we go to another doctor, and ask to have other physical exams, we will feel more confident. Many times we look for different doctors, from outside the Foundation. Most of the victims do this.

We don't trust the doctors over there. Most of the time we go there feeling miserable. Within great pain and then they say, "No. What you are feeling is psychological!"

So, They tell us that our pain comes from our minds, "Your distress is psychological. What you claim, it is not happening for real!"

At the beginning we believed in those doctors more than now. But not now. The only one we trust today is that Doctor P.

You know, after the disaster our strength dropped. Ah! I am much more weak. Everything I do, I feel tired. I now I am getting older, and this makes a difference, but before the disaster I used to work all day without being tired. Nowadays, everybody that was involved in the disaster feels the same way. Tired all the time. And we constantly catch cold. But when we claim that we have lost strength, Foundation doctors say that this is a psychological problem.

Do you know what happens to my daughter? She started to feel very badly in her leg. She was in pain and her leg started to swell. I took her to the Foundation doctor, the one who is the head of physicians team, and he said that it was nothing, what I needed to do was to massage it and he gave me an massage ointment. So, I followed his orientation. And each time I touched my daughter's leg, she started to cry. And she cried all night. I couldn't sleep with her weeping. I returned to the Foundation and they kept saying that it would get better. That I needed to be patient. After a month, I decided to visit a doctor outside the Foundation. I didn't have money to take a bus, so I walked to the Foundation building with my daughter and asked them to take me to a hospital. I had to argue with the President, "You have to call a hospital. Doesn't matter which one. Because today, I will take my daughter to have a different exams. I will not leave here until you put me inside a hospital."

They took me to this São Marcos Hospital. Over there, after clinical examination, the doctor said, "Your daughter almost lost her leg. How could you wait for so long? She has a big infection."

She stayed almost fifteen days at the hospital. And I ask you, "Is her distress coming from my mind? Is this a psychological distress?" (R.B.G. Interview from February, 1997)

From the physician's perspective, official victims are predisposed to exaggerate their ailments, and their

illnesses are not organically related to radiation exposure:

The children under my care have the same kind of pathology as the general population, do you understand? They caught flu, had tonsil, pneumonia, they fall and broke their arms, have skin diseases, and even have been born with genetic deficiencies.... Because you know that 3 percent to 5 percent of the general population will be born with some type of genetic deficiency. And this is not related to radiation. I mean 4 percent, 5 percent of the entire population. Among the children at the health monitoring program, I do have two, three children born with genetic deficiency, do you understand?

Most of the children belonging to the victim population, if you take a look at their medical records, they have an exaggerated number of doctors office visits. The reason is not because they are sick but because it is too easy for them to come visit me. If a child has a temperature at night, the next morning the parents are here at the Foundation. This height level of medical visit could be perceived that is their parents' understanding as they have low strength. I mean, the perception is: they are constantly seeing the doctor because they have low strength. In fact, that is not true. The excessive number of visits is due to the free and easy access they have to the doctor.

It is the same for the anemia issue. When I returned from Japan, everybody here was talking about the victims having anemia. So, I decided to do a research and I defined a group control. I found in the general population the same level of anemia as I observed in the victims' population. I mean, this is a low income population, and for that reason they have anemia. This is not radiation related, do you understand? At that time, there was a victim – she gave me a hard work. She had a profound anemia. But, we discovered later on, that her illness was inherited from her father. It was not for having being exposed to the radiation. Even the NGOs got involved in this question.

Most of the children in this group don't want to pursue their studies. They go to school and make a mess. They have headaches, don't learn

to read.... If you ask for an organic test, you won't find any genetic problem. Now, they live in a disturbed world, and usually they live with troubled families which spend all day talking about distress. Do you think that they go to school to study? It is difficult. So, that is the cause of their problem. If they have difficulty to learning it is not because of the radiation acting on their brain.

So, the radiation patients feel sick, and I don't have the arguments to prove to them that they are not (Physician J.F. Interviews from February and June, 1996).

The Foundation goal of providing special health care service to individuals with singular needs has been changing. In fact, based on narratives I collected and observations I made, I perceived that public biomedical discourse delegitimizes patients claims of radiation-related distress.¹⁰ To counteract the continual delegitimization of their suffering, Foundation patients make use of the media to present their claims. In such cases, official disaster memory sustained by biomedical knowledge is confronted by the survivors public demonstration of their suffering. Survivors bodily memory, through their very presence and experience, disrupt official cognitive disaster representation that “everything is under control.”

“Cesium Policemen:” Struggling for Inclusion in the Disaster Impacted Population

In early 1997, ten years after the radiological disaster involving the Cesium-137 capsule in Goiânia, the local media published several stories of policemen who claimed that their unexplainable illnesses had a common cause – contact with radiation. The symptoms varied: brain tumor, tumor in the forearm, brain lesions, deformed children, body discolorations, psychological instability, deep emotional states, intense perspiration on the left side of the body, and sexual impotence. The narratives direct one's attention to a shared common work experience: namely, duty as guards at the Radioactive Waste Depository in the town of Abadia de Goiás¹¹ and/or guards in areas which had been defined by the CNEN as the foci of radiation.¹² Work performed at the disaster identified these people as a particular group within the military ranks. The media came to identify them as the “cesium policemen.” Their accusations made through the media and the desperation of isolated individuals provided the impetus for an organized movement involving the Associação de Cabos e Soldados da Polícia Militar do Estado de

Goiás (ACS [Corporals and Enlisted Personnel Association of the State of Goiás Military Police])¹³ who were joined by a group from the Brazilian House of Representatives. In April, 1997, there were 128 names of “cesium policemen” on a list provided by ACS.

In the construction of the causal nexus which the MPs claim as a result of their work, their illnesses and radiation, one concept reoccurs in their accounts; they were contaminated, in the sense of becoming sick, because they were not trained or equipped properly to perform their duties in areas containing radioactive elements which were harmful to their health. In the confrontation with this unknown, odorless, threatening enemy called radioactivity, the certainty that special precautions and equipment were necessary became more apparent as time passed and as the policemen interacted with the nuclear experts. The “cesium police” now have a perception of two different bodies and different body techniques¹⁴ utilized in combat against the same enemy – the radioactivity – that provokes anguish, anxiety, and assertion of unprotection, contamination, and illness.

The feelings of fear and panic from their perception of having worked in a risky radioactive site without adequate protection has transformed them, causing nightmares and nightly insomnia for many “cesium policemen.” The premonitions of an uncertain future has invaded the lives of these professionals and their families. Frustrated and anguished, they have not found any answers to the numerous questions about the deterioration of their bodies over the years. Some “cesium policemen” told me of their various attempts at suicide. Their sense of experiencing risk in the course of professional activity has been accompanied by a feeling of being cheated by their superiors and by the nuclear experts. On the one hand, they obeyed orders from their commanders whom they trusted. They were obliged by the regulations of military discipline to execute tasks that they feared. On the other hand, the nuclear experts failed to inform these non-nuclear workers facing the radiation about radiological safety. In this sense, their feeling of being cheated¹⁵ or hoodwinked turns to mistrust in the face of actions undertaken by the governmental institution CNEN and by the Military Police Command (Comando da Polícia Militar), which is in a subordinate position to the Governor of the State of Goiás.

As time passed, the “cesium policemen” began to be affected by these illnesses described as “strange.” When in pain, they were faced with poor and often

long-delayed medical treatment. In addition, the testimonies I collected point to discrimination faced against policemen who reported that they worked in the radioactive areas or worked in the Radioactive Waste Depository. Also, their illnesses did not receive the necessary attention in terms of investigation and research by the medical team at the Military Police Hospital (Hospital da Polícia Militar - HPM). Over time many from this group experienced more severe illnesses, and their salaries were insufficient to face these new physical conditions.¹⁶

This social drama acquired a public dimension in 1997. Representatives from FUNLEIDE (Leide das Neves Ferreira Foundation) and CNEN entered the controversy at the local level. On one hand, the CNEN representative affirmed during these public debates that police workers’ illnesses were not caused by radiation because their activities were military in nature and not connected to those of nuclear professionals. In the mind of the CNEN representative, the military personnel worked within the limits of the acceptable radiation dosage applied to the public and their contamination, thus, was implausible and they could not have been contaminated or exposed as a consequence of occupational activity. On the other hand, however, the president of FUNLEIDE stated that he could not provide services to these policemen because their specified patients’ population is restricted to the officially classified “victims of the disaster:”¹⁷ – the “radioacidentados” (contaminated patients).

The CNEN was worried about the repercussion of accusations and declarations regarding the police case, especially in the months preceding the inauguration of the Regional Center of Nuclear Sciences (Centro Regional de Ciências Nucleares),¹⁸ which houses the Permanent Radioactive Waste Depository (Depósito Definitivo de Rejeitos Radioativos). Thus, CNEN representatives participated in public debates by attempting to disprove any causal relationship between the MPs claimed illnesses and the radiation.

From the CNEN viewpoint, these reports concerning illnesses from radiation needed to be contained, for such news could jeopardize the so-called Goiânia Project.¹⁹ This project involves a CNEN plan which aims to secure public acceptance of the Permanent Radioactive Waste Depository in the town of Abadia, Goiás. From this perspective, a commission of five physicians²⁰ was organized. The character of independence of these doctors was highlighted by the CNEN representative during a special session of the Legislative Assembly of the State of Goiás.²¹

Nevertheless, as members of the disaster experts team they are allied with the State and perform the political role of assuring the physical and symbolic control of the disaster. Three of these doctors were from CNEN at the time of the disaster and two are employees of the Leide das Neves Ferreira Foundation, thus working for the State of Goiás Government.

This commission administered medical exams to 114 MPs during two days under very tense circumstances. The commissioned team of specialists worked during April 28 and 29, and on May 1, 1997, they signed a "Preliminary Notice" ("Nota Preliminar") which was released to the press but the documentation was never officially directed to the ACS. A definitive report has been promised for delivery to CNEN president, José Mauro Esteves, and to the General Commandant of the Military Police in Goiás, Colonel Henrique de Sousa Lima. In the preliminary notice, the specialists claimed that:

In light of detailed patient reports and careful clinical exams, the designated specialists did not detect in any of those examined:

- past complaints conforming to severe radiation diseases caused by the Goiânia Radiological Accident of 1987;
- past complaints or manifestations conforming to localized radiolesions caused by the Goiânia Radiological Accident of 1987;
- current manifestations that could be attributed to late effects of cesium -137 exposure (Valverde, N.J. de L., et. al. Nota Preliminar [Preliminary Notice] May 1, 1997a).

The manager of CNEN in Goiás, Paulo Nei Rabelo, stated that among the illnesses reported by the doctors, the most usual were migraines, arterial hypertension, muscular strain, and backaches, which were caused by the MPs' extended time on their feet. As he stated, "These are common occupational diseases, some are characteristics of military activity itself." Once again, the policemen working in a contaminated area during an emergency were not perceived from the nuclear experts point of view as being in risk because they were in charge of their "ordinary assignments" and are thus not associated with radiation.

The final evaluation of the experts' team to be presented in an official report and directed to the pertinent authorities did not happen quickly as

promised. Towards the end of June, 1997, almost two months after the release of the preliminary notice by the medical commission, the official report, according to the press, had not yet been delivered to the president of the CNEN.²² Tired of waiting for the release of the official report the policemen returned to the issue of the work/radiation/illness connection and brought their complaint to the Social and Family Security Commission²³ (Comissão de Segurança Social e Família) of the House of Representatives in Brasília. During the "Public Hearing"²⁴ the discourse of the nuclear experts overshadowed the experiences and perceptions presented by the "cesium policemen." On that occasion, the conclusions of the experts' Final Report were thus communicated²⁵ to the parliamentary members, the ACS, and the cesium MPs:

...the accusations made about certain manifestations are not associated with any sort of exposure to ionized radiation. *...the diagnostic complaints, observed in policemen are in fact related to health problems although they are not connected to radiation exposure* [emphasis in original]. As a medical doctor, I recommend that the authorities in charge grant the policemen in question and all of the military men of the organization along with their families coverage plans of education and health in a multi-professional perspective. These would include courses on primary and secondary prevention of conditions of risks such as arterial hypertension, diabetes, dislipidemia, tobacco addiction, alcoholism, mental dysfunction, stress, etc. In a similar manner, any such conditions discovered should be given immediate medical assistance as a direct priority so that the physical and mental recuperation of these individuals, who played an extremely relevant role for the security and well-being of the society, can be achieved.

The competent discourse of the nuclear specialists, based on their expertise and experiences with the Goiânia disaster, and whose competency was constantly stressed throughout the testimonies in the Special Session, dismissed the soldiers' claim of distress and weakened any kind of authority the policemen may have had with respect to their own illness. The body as a signifier of doubt and thus an expression of resistance was reinscribed into the disciplinary and hierarchical system. The nuclear experts' knowledge was reaffirmed as unquestionable and the "cesium policemen's" drama was contained.

Concluding Remarks

Social sciences work on chronic pain as is the case of those impacted by the radiation disaster, and have “repeatedly documented that pain patients feel biomedical practitioners routinely delegitimize the experience of their illness, pressing them to believe that it is not real or, at least, not as serious as they fear it to be (Hilbert 1984). Their subjective reports of distress are challenged, and dis confirmed. They feel violated by practitioners, betrayed by biomedicine” (Kleinman 1992: 170). Along with those considerations, I argue that, in the radiation disaster case, an understanding of biomedical and nuclear experts delegitimization of individuals’ suffering requires an examination of the complex power dynamics of memory production.

As in any other technological disaster, a radiation disaster requires consideration of compensation, culpability, and long-term health care monitoring programs. These measures entail controversy because of the inevitable money allocation and political decisions involved. Control over a disaster memory involving radiation/nuclear material is complicated by the Cold War heritage of secrecy and also by the physical properties of the radiation with impacts lasting until the survivors’ third generation. In fact, those affected by the disaster can transfer to their future family members the memory of the disaster as an inscription within an individual’s cell. Governmental and nuclear expertise and control over a radiation disaster’s effects are mingled with military strategy, censorship, nationalism, and ideology of progress. Thus, in the Goiânia case, the government emphasized production of knowledge over the decontamination process and the success of a victim health care program in order to veil two major questions: 1) what are structural reasons that favor this kind of disaster in Brazil, and 2) what changed in Brazilian nuclear politics regarding radiation material management and radioactive waste repository after the Goiânia disaster?

While control over the spread of radiation, its assessment, and its decontamination are imperative during the emergency phase of a disaster, they are not the only sources of necessary knowledge or action. At a disaster’s aftermath, survivors carry inside their bodies a myriad of remembrances not captured by metric measurements nor by recollections undertaken at moments of crisis, as the Goiânia radiation patients and “cesium policemen” revealed. Consequently, a radiological disaster does not close when the nuclear expert team and the government declare it under control. Survivors’ bodily memories tangle with

official disaster memory, generating instability where it was supposed to have certainty. Uncertainty over radiation’s known effects, stigma, fear, lack of job, the instability of Brazil’s currency, pension variability, precariousness of governmental services, medicine shortages, uncertainty about dose exposure assessment, and delegitimization of distress are among experiences and feelings that survivors encounter in their everyday life. Thus, while official memory addresses the arena of public politics, it simultaneously resonates for the victims with silences and with the subjugation of individual’s bodily memories.

In sum, I argue that in the context of the radiation disaster the unveiling of subjugated knowledges through an examining of the struggle over memory production is important for an agenda that advocates human rights and the monitoring of health care. Corroborated by work done with other radiation impacted populations, such as the Marshall Islanders affected by U.S. nuclear weapons testing (Barker 1997); Russian communities exposed to radiation from Mayak nuclear weapons facilities (Garb 1997); and exposure from Hiroshima bombings (Lifton 1991[1968]; Yoneyama 1993). I believe ethnographic data as well as the long-term recollection of survivors’ narratives and experiences can illuminate the social suffering that has important health implications for those surviving the disaster.

Notes

1. I am grateful to Wenner-Gren Foundation for Anthropological Research (Grant No. 5969) for funding my dissertation fieldwork project whose data support the present work. Some of the material contained in this paper has been partially published in *Biomedical Discourses and Health Care Experiences* 1997; “Soldado e Superior ao Tempo:” *Da Ordem Militar a Experiencia do Corpo como Locus de Resistencia* 1998a; *Politica da Memoria: Recompondo as Lembrancas no Caso do Desastre Radiologico de Goiania* 1998b. I would like to thank the disaster impacted population as well as workers from the Goiania Radiological Disaster Institution who shared with me their remembrances, archives, and everyday experiences; Shirley Lindenbaum, my dissertation advisor for comments, English revision, and continual intellectual support; Marco Antonio Lazzarin and William Fisher for remarks on earlier drafts of this article; and Gale Goodwin Gomez for providing reference copies.

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3. The city of Goiania has a population of about one million people. It was a planned city built during the 1930s to be the regional capital. The local economy is based on cereal and cattle.

4. Izumino's work on the Goiania disaster uses this term in order to designate the professional sectors which played special roles in the situation: the Comissao Nacional de Energia Nuclear (CNEN), the nuclear experts, and the media.

5. Contrary to the current use of Cesium-137 vitrified form that inhibits dispersion (IAEA 1988a: 88) this was an obsolete teletherapy unit that contained Cesium chloride which is highly soluble.

6. The high temperature dried out the wet ground and the high winds caused the resuspension and dispersion of the Cesium which was deposited on the rooftops of houses.

7. 700 workers participated in response to the disaster, including professionals from CNEN, personnel from the Brazilian army, NUCLEBRAS, FURNAS, the State of Goias, and from private companies (IAEA Bulletin 4, 1988: 10). In October, the Brazilian Government asked the International Atomic Energy Agency (IAEA) in Vienna for help.

8. Fundacao Leide das Neves Ferreira was created by Goias State Law 10.339 of December 9, 1987. The law affords assistance to the population officially considered affected by the disaster.

9. For instance, there were up to nine psychologists at the beginning of the Foundation's activities, and only one in early 1996.

10. In early 1990, this physician spent eleven months in Japan studying Hiroshima bomb effects on children whose parents had been exposed to radiation.

11. Garb's examination of Chelyabinsk (Russia) communities exposed to radiation from nuclear weapons facilities: "Another official at the same meeting, a physician, claimed that he had gone door-to-door in communities like Muslyumovo where people were convinced that all their ailments were due to

radiation, and that he concluded that their illnesses were caused by their low standard of living, not radiation" (Garb 1997: 320).

12. Located 20 kilometers from Goiania on BR-060 highway.

13. The CNEN classified eight foci as the principal contamination sites. In addition to these, they identified "residual contamination points in 42 residences" situated in various cities including: Goiania, Aparecida de Goiania, Anapolis, and Inhumas. One hundred kilograms of contaminated lead, derived from the so-called Junkyard III (one of the eight contamination foci) was found in the City of Goias, the old capital of Goias State (CNEN 1987).

14. The Associacao de Cabos e Soldados da Policia Militar e Bombeiro Militar do Estado de Goias was founded on February 28, 1991.

15. J'entends par ce mot (techniques du corps) les facons dont les hommes, societe par societe, d'une facon traditionnelle, savent se servir de leur corps" (Mauss 1983: 14).

16. This feeling has come through in the narratives and outbursts of crying during some of the interviews that I have conducted.

17. In order to have a notion of the average soldier's salary, let us take Soldier Carlos as an example. As a retired military man, he received the equivalent of \$300 U.S. dollars a month. He spent approximately \$38 monthly on medicine. His family consists of himself, his wife, and two children under ten years of age. The wife added to the domestic budget by working in the informal labor market selling Avon beauty supplies. Every fifteen days she earned \$28 dollars. Carlos' parents lived in a house built on the same lot as Carlos' family.

18. According to testimony of Soldier Carlos during the Special Session held at the Goiania House of Representatives on April 18, 1997, Soldier Gaspar Alves da Silva, one of the "cesium policemen," was prohibited from entering FUNLEIDE, where some years ago he worked as a guard, after he went there for treatment. This fact contradicts the objectives of FUNLEIDE, for this person is part of the group officially considered "victims of the disaster." It is important to remind the reader that da Silva is one of the few military personnel on the Official List.

19. The inauguration took place on June 5, 1997, the day internationally known as “Environmental Day.”

20. For more information on the Goiania Project, see Tranjan and Rabelo 1997.

21. The commission consisted of doctors Nelson Jose de Lima Valverde (in 1997 he was at Furnas Centrais Eletricas and Reference Coordinator of Radiation Victims at the State University of Rio de Janeiro, in 1987 he was affiliated with FURNAS); Carlos Eduardo Brandao de Mellos (in 1997 he was affiliated with the Federal University of Rio de Janeiro and in 1987 he worked at the Instituto de Radioprotecao e Dosimetria); Rosana Farina (in 1997 she was affiliated with the National Cancer Institute, in 1987 she was a voluntary helper during the emergency phase of the disaster, later being employed by CNEN); and Jose Ferreira Silva and Jose William de Oliveira, both FUNLEIDE doctors.

22. See minutes from Debate Forum entitled “Efeitos do Cesio-137 ao Meio Ambiente e a Pessoa Humana” (May 7, 1997). This session was requested by Deputy Nei Dias Percussor, Corporal in the Military Police and ex-president of the Corporals and Enlisted Personnel Association of the State of Goias Military Police and Firefighting Brigade.

23. On June 27, the newspaper O Popular announced that the report would be released in the following days but the results would only be known after the official delivery to the CNEN president.

24. The “Public Hearing” was solicited by the Representatives of the Partido Comunista do Brazil: Jandira Feghali (State of Rio de Janeiro) and Aldo Arantes (State of Goias). The following were summoned to appear and give testimony: Vasco Martins Cardoso (physician and Colonel of the Military Police of Goias. He worked during the emergency phase of the disaster making hematological evaluations of the victims); Alexandre Rodrigues de Oliveira (physician from Brazilian Nuclear Industries. He worked during the emergency phase of the disaster and made medical follow-ups of the contaminated patients from 1987-1997); Nelson Jose de Lima Valverde (physician from Furnas Centrais Electricas and the Reference Coordinator of Radiation Patients for the Rio de Janeiro State University. He worked during the emergency phase of the disaster and was part of the experts team invited by the CNEN to evaluate the policement.); Carlos Eduardo de Almeida (technician at the Cancer National Institute. He worked during the emergency phase of the disaster); Alfredo Tranjan Filho

(advisor to the president of the Brazilian National Nuclear Energy Commission. He worked during the emergency phase of the disaster and was the Coordinator of the Permanent Radioactive Waste Repository construction.); Carlos Santanna Lira and Jose Luiz Pires (sergeants in the Military Police of the State of Goias).

25. Public Hearing No. 0604/97 took place on August 21, 1997.

26. Dr. Valverde concluded his testimony with the reading of the final paragraph of the Official Report, which he insisted had been already sent to the MP Command of Goias via the Brazilian National Nuclear Energy Commission. Neither the Brasilia representatives nor the ACS were aware of this.

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