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**Interviewer: Grace Agnew, Georgia Tech Library**

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- Q:** What do you think is more likely? Do you think it is more likely that we would be attacked by a chemical weapon or a biological weapon?
- A:** At this point in time I don't know if you can say it's more likely one or the other. I think it's going to depend more on whoever comes up with the most efficient delivery system. That seems to be the problem right now is how are they going to actually deploy that agent, whether it's biological or chemical.
- Q:** Are the delivery systems similar, or are they approximately the same for either agent?
- A:** There are some similarities. If you're trying to put it out in an aerosol type of form then it needs its own aerosol generator in both biological weapons and chemical weapons. They use the same sort of aerosol type of generation system.
- Q:** Can you literally, I mean, we know that you can literally just break a vial or impregnate a cloth or whatever. That's the sort of thing that was done in the Tokyo attack using sarin. But that wasn't a very efficient delivery system compared to the damage they could have done. Someone said, talking about terrorism in the 21st century, one expert said that he foresees that for the long term terrorists are going to stick with what they know, which is the gun and the bomb. Do you think that's true?
- A:** Right now I think that's the tried and true way that they've gone about doing things, and again, until they have a means of almost guaranteeing a success they're probably going to stick with what they know is effective.
- Q:** Technologically, how far away are we from widespread knowledge, Internet-shared knowledge of the means to deliver these weapons? What's the barrier right now? Is it knowledge? Is it the money it takes? Is it the fact that to create a delivery system is to use objects that are traceable and to call attention to yourself and ...make it possible for you to be caught? What's the primary barrier?
- A:** To some degree it's a little bit of all of those, all of the above. There are a lot of different things that they sort of fall into. The biological weapons and some of the chemical weapons can be made very cheaply. They don't need a whole lot of overhead setting them up, and many of the biological weapons have been reportedly made in bathtubs. As long as you have the access to the proper chemicals and nutrients and some of the kinds of lab equipment that you need, it's really not a big deal to make a batch of these things. Again, it's coming down almost to how they can disseminate it against the prospective parties, the delivery system.
- Q:** You know, no one's eager to die. Do you think part of the issue might be that, particularly with a biological, you know, you're talking about something in such a microscopic amount that you have no way of knowing if you've infected yourself?

- A:** That certainly a problem [that] went through people's minds. To some people, it may not make a difference — the apocalyptic type groups or the types that believe that, "If I die in the process I'm a martyr and I'm going to heaven." They probably aren't too concerned about what the dangers to themselves are in the process. But we hope to think that that type of mentality is in the minority, and it would be the overriding types that are making the decisions...
- Q:** Do you think there are overriding types? I mean, one of the things I've been reading about, about terrorists in the 21st century, is that there are fewer and fewer really structured groups with a clear leader such as a Yasser Arafat calling the shots, and instead it tends to be people that are loosely grouped around a similar agenda and groups that take advantage of the fact that other groups with a similar agenda are more prone to violence, etc. You see that, for example, in the abortion movement.
- A:** Yeah, that's true to a large degree, but on the other hand we still have the knowledge that states are supporting terrorism. Right now, the big name in suspected terrorism is Osama bin Laden. He is said to be the mastermind of a big terrorist enterprise that's going on worldwide right now and targeted primarily against western [cultures] and the United States. So we can have the little splinter groups like the abortion types or we can have it financed by an individual, as in bin Laden, and then we still have state sponsored terrorists.
- Q:** Do you think bin Laden is actually controlling all those different little groups or is he simply making use of them because they have a similar agenda? Do you get the feeling he's really calling the shots, or that...?
- A:** I think he's the money man.
- Q:** You do.
- A:** He's the bag man, he's financing them and to a large extent as long as they meet his overall objectives, "Have at it, guys, and see what you can come up with."
- Q:** So there isn't really the tight control over incidents, which in a way makes it a lot more scary. It's not like the early days of the IRA, for example, when everything was carefully planned. It's more now groups, or leaders even, taking advantage of splinter groups and similar groups, bankrolling them, etc. for a similar agenda.
- A:** Correct.
- Q:** There's no question that most of the research — and the reason we're all really scared of biological weapons right now, is because of the tremendous amount of research that the Russians have done since 1969 to '70 when we repudiated our own biological weapons program. I understand Biopreperat had about 25 different large scale labs and they certainly did work with smallpox, which is a species threatening disease. They did work not just with weaponizing it, but also with bioengineering it, and we have no reason to believe that all those stockpiles have been destroyed right now. And they've also worked with chemical weapons and of course with nuclear. So Russia... Here's Russia in a state of instability, they've got stockpiles of extremely dangerous species-threatening weapons, and they've got — I've heard many estimates, but possibly as many as 25,000, more than that even — experts, disaffected experts who are having trouble feeding their families. Of course, Nunn-Lugar, one of the main purposes of Nunn-Lugar was to provide money to the Soviet Union, but the bulk of that has gone to nuclear and there hasn't been as much money

spent on experts in biochemical weaponry that are in the Soviet Union. How big a problem is that?

**A:** It's a significant problem, and largely... You mentioned most of the money has gone toward the nuclear effort, and I think that as much as anything has to do with plain old-fashioned ignorance. The U.S. public as well as the public officials really haven't perceived the chemical or biological terrorism aspect to be truly what it is. It's still partly a fixture of the Cold War mentality in the United States and the nuclear possibility of war. It's certainly no a question that is a problem, and as recently as this week there have been briefings on Capitol Hill where they've been shown a suitcase with nuclear devices that were thought to have been stockpiled here in the U.S. by Soviet agents. So certainly that was a concern that we worry about. It's just now starting to ramp up into the mainstream public awareness as far as the chemical and biological agents.

**Q:** Now, the UN sponsored a tour of I think it was one or two Biopreperat facilities, and it was in '92 or '93, and the people that were part of that inspection tour came back very frightened, and this was also after a high level defection — and I'm blanking now on the fellow's name, but you have this book with him —

**A:** Ken Alibek.

**Q:** Right. It was partly prompted by his defection that they went over and they saw what was clearly, you know, smallpox research and bioengineering, and the Russians of course were saying, "It's defensive," but it was clearly in quantities too great for defensive. So we've known for almost six years now. Why are our heads in the sand? Is it just too frightening to contemplate? Is our technological awareness not there? Why aren't we really worried about this right now?

**A:** Well, I think that the technical knowledge is there to be able to develop the capabilities to become a part of where they were, so we certainly have those capabilities. There may even be some people that argue out there that we have done that, beyond where we're going to go with this, that when you have the Director, one of the highest level ranking people in Biopreparat saying that we developed these type of agents and they were targeted as offensive weapons, somebody ought to sit up and take notice of that.

**Q:** What can we do? I mean, can we...given the fact that they have very sophisticated labs over there, could we... You know, one thought I had was could we encourage, with tax breaks, etc., pharmaceutical companies to employ those labs? We have tremendous needs for breakthroughs in cancer, for, you know, breakthroughs in AIDS, for breakthroughs in other illnesses. Would it be dangerous? Would it be possible to employ their laboratories for our end?

**A:** Anything's possible, but I think that that's more of a policy decision than anything. That's going to have to be made at the top levels of government. I think playing against that you're going to still have that basic fundamental mistrust of Russians. They've been the enemy for so long that now all of a sudden we're supposed to turn around and pat them on the back and say, "Hey, brother, you're my friend now and how much money do you want.?"

**Q:** Well, it may not help their case that whenever they don't like something we do, they remind us that they have all these nuclear weapons. I mean, they don't help their case by doing that, and they've certainly done that with Kosovo and with other incidents. There's

also the worry, I guess, if they were to work on AIDS research that they could weaponize AIDS, which would be a very scary prospect. And also their pharmaceutical companies want to make [money], and it's hard to say that you'll ever be able to do that in an unstable environment. You don't know that your company might be taken out from under you. So should we just give them money or should we bring these scientists over here? Or can we just afford to leave them there?

**A:** I don't think we'd want to just be getting into the habit of continuing to throw money at the problem, as we've seen fairly clearly now that tens of billions of dollars have been given to the Russian Republic for programs such as this with the nuclear program and everything else, it's disappeared into the proverbial black holes. Where has it gone? And now Yeltsin has gone and the United States is starting to demand an account, I guess. What happened to all the money that we gave you? It apparently hasn't gone into supporting the science programs, the scientists, disarming the weapons, so on and so forth. It has apparently gone into people's back pockets and so on.

**Q:** Well, that is a problem, that graft and corruption and the Mafia mobsters are very well established in Russia. Do you think there's an answer? I mean, can we afford to let those stockpiles sit there?

*(Break in tape.)*

**Q:** Well, that's another possibility. I mean, and Senator Nunn recommended this. In fact, the University of Georgia has done this. They hired a high level Russian scientist — Dr. Khripunov from the nuclear weapons program, and he is a political scientist now at the University of Georgia. He has actually been interviewed for this CD-ROM. What about hiring these biochemical scientists and bringing them over here to do high level research on AIDS, on cancer, etc.? Simply, you know, buying them out of Russia.

**A:** And that's an option. Again, the question is going to be, "Where is the money going to come from? What program is going to have to be diverted from?" These days when we're cutting budgets right and left, it's going to be a matter of whose budget is going to have to be cut to fund this type of research. I agree with you in principle, it would be a great idea, but again, where are the bucks coming from?

**Q:** What's interesting to me is people could say the alternative was let's just do really, really good surveillance, but most of what Biopreperat was up to was a total surprise to us when we went over in the early '90s, so, you know, when we were at the height of the Cold War our surveillance wasn't cutting it, so is there a chance it could cut it now?

**A:** There is, if largely you know what you're looking for. We can develop monitoring systems fairly easily relatively speaking to look for a smallpox release — if it's just smallpox. But if it has been hybridized or genetically engineered and combined up with some other biological agent, then the detection devices aren't going to see and so what good is it? Apparently, Biopreperat is very good at genetically engineering these things. So until we have the proverbial Star Trek tricorner that can reach out and touch everything, I don't know if these mass detection systems are going to work.

**Q:** Okay. Let's move on to the next question. If we were attacked by biological weapons consisting of a highly infectious disease, probably the best we could do for a major outbreak of smallpox would be to literally cordon off an area, quarantine an area, and then start inoculating outside that area. Essentially what we would be saying is that we

acknowledge we are going to lose lives, and we acknowledge that we are going to have to really trample on the rights of those citizens because they've lost their freedom of movement, freedom of assembly, they've lost their basic rights to life, liberty, and the pursuit of happiness. But doing that would save untold lives and prevent the spread of smallpox across the country. Can we face up to that? Do you think our first responders are ready to make a choice like that? Do we have policy in place?

**A:** I think that attitude is gaining acceptance within the first responder community. Firefighters, for instance, I think — in the major cities, at least — who have been training and trying to deal with these type of problems are moving away from the traditional concept that is ingrained into the fire community of, "We will accept no losses. If we are missing somebody, we're going to find them. We're going in after them, regardless of what it takes." I think we're seeing people starting to back off of that now and realize that in the event of a biological attack, or especially a chemical attack, we're going to take losses up front. Our first entry companies basically are going to be written off. We know we're going to lose them. We're going to try and deal with them by decontamination and therapy afterwards if they're capable of accepting that, but the tenet is now is to start realizing that we are going to take losses like this now with the first responders. The quarantines of geographical areas, I think there's, again, acceptance growing of the general concept within public officials, within the fire service, within the emergency management community. It's going to be largely a question, though, how manageable is it? Again, one of the basic concepts of your biological agents is it's going to take days, maybe even up to a week or even longer, before anybody starts manifesting any symptoms. So if we have a release of something, people are going to be long gone, scattered literally to the wind, not necessarily where the attack took place, and what good is a quarantine going to do then? Some of the people, yes, will still be around. Largely many of the people will be gone and in a position to spread it in different geographical areas. Now, if it was an attack against a very localized population in a very small area like the cult attack out there in Oregon back in the mid-'80s where they put salmonella on salad bars — that was a very localized attack — that maybe in that type of a case a quarantine would, in fact, work.

**Q:** What's that going to do the American psyche? I mean, we are the country, you know, that will pull in 50 different fire companies to rescue a little girl out of a well. I mean, we have always put the life of the individual above the state except in times of war, and even then we've been picky about our wars. We've always emphasized the individual, and certainly some of our scarier possible terrorist groups are those that believe that the government is too intrusive already and that the rights of the individual are not taking the precedence they ought to. Are people looking at the cultural implications of any response that we make if the response has to be fairly draconian, if we have to accept loss of life?

**A:** I think they are at the policy levels beginning to give command to the operational level, to the first responder people that have to make a decision *right now* as to how things are going to be run. I think a sort of cultural shift in attitudes is sort of taking place with explosives. Israel had to learn to live with car bombs and suitcase bombs. It seems like now it's almost gotten to the point where anytime somebody sees a knapsack or a briefcase sitting out where you wouldn't expect to see one, to clear the area and call the bomb squad

and they take care of it right now. That's standard day-to-day operations in Israel. I hope we won't have to get to the point of being that paranoid, fearful in the United States.

**Q:** Okay. There has been a rash of hoaxes, you know, bringing up the suitcase that might have nothing in it. We've had a rash of hoaxes lately, particularly with anthrax and envelopes or vials with a note that says, "This contains anthrax," and of course anthrax is invisible and anthrax has received a lot of publicity with the inoculations of soldiers, etc., with the knowledge that Iraq has it weaponized, where, you know, we panic, and it gets a lot of news. But I've noticed that lately it isn't front page like the B'nai B'rith was a few years ago. Now it's like page 7, it's a little paragraph, and I think there are two concerns. One concern, obviously, is that the first responders are being pulled away. They're supposed to respond to real emergencies and if they are responding to an anthrax [hoax], they're not responding to a real emergency... The other issue is we're getting jaded, and someone may take advantage of that to slip in some real anthrax and people will say, "Ho hum," and dump it in the trash. What's going on and what we can we do about it?

**A:** That is a big concern, that we are worried about at the first responder level. Back when these really started to come up, the intent was to treat it as a real Hazmat emergency, and so we had full-blown Hazmat team responses with the encapsulated suits, full decon. The Hazmat teams took a lot of flak over that. People weren't too happy about being stripped and washed naked in the streets. They did the best they could for modesty, but in some cases it wasn't enough. And as this went on, people began to wonder, "Well, why are going through this, if one of these turns out to be a hoax, why are we going through all this, jumping into [hazmat] suits and spending all this amount of time and money on hoaxes?" And so as much as anything else...being better educated now, in the case of anthrax it's not going to necessarily, say, jump off my clothes and go straight into your respiratory tract. It's not going to whisk necessarily off my hair and jump right on over into your breathing cells. So it's not necessarily the bugaboo that we thought it was as far as being contagious, so education has played a great deal into it now so partly some of your SOPs with fire department Hazmat teams are moving away from full-blown traditional Hazmat response to, "Let's get the people aside, talk to them, and try and find out exactly what has gone on, and then see what we can do from there," as far as gathering information and taking samples and of course going through the standard protocols for that, and if it does turn out to be anthrax and we've kept control of it, then we can deal with it from there. All the hoaxes so far only had a little device in there that sprayed in the face and it had a little note there, "You've just been exposed to anthrax." Well, especially those, where they have the note that it was "an exposure to anthrax," — thank you. You've done the best service to me that you could actually have done, because if in fact it turned out to be anthrax, by alerting me to the fact up front we can get the treatment started on antibiotics and save the potential victims from that point on.

**Q:** So it sounds like we're actually developing a better strategy because of hoaxes rather than just being complacent. Good.

**A:** To a large extent, we are integrating and learning from the experiences, but I share the concern that one of these days somebody is going to slip the real thing into it and we are potentially going to have to become jaded like we alluded to and we're not going to be

thinking quite as clearly about it and treat it as just another ho-hum, we know it's a hoax going into it, and — *boom* — this is the real thing now and we just caught it.

**Q:** One of the big problems with a biochemical weapons attack, particularly biological, is that there is such a wide spectrum of possible first responders. I mean, your first responder could be the school nurse, your child's school nurse, it could be your HMO, it could be your hospital, it could be a fireman, a policeman, it could be your neighbor who has had some medical training, it could be your mother who's dosing you with aspirin. How on earth can we ever get a handle on responding to biological attack when there are just too many first responders?

**A:** This one, again, is going to be partially an educational process here. We are going to have to do something along the lines of just a massive public health education campaign within the emergency medical community as well as the primary medical community, secondary as well, where you get into school nurses or a mom, treatment at home. It's going to be difficult to implement because of the uncommon expense that it's going to take to divert these people away from their primary jobs, the continuing education that they need to get anyway for just the routine, run of the mill, everyday type of medical emergencies that we're dealing with here. Now we're going to throw something else on top of them that conceivably could pull them away for a great period of time. So we're going to need to figure out some way to offer incentives, I think, along with it. Any type of an educational program that's put together for this maybe couple it with increased numbers of CMEs so they have an incentive to go after these type of educational programs.

**Q:** What's a CME?

**A:** Continuing Medical Education.

**Q:** And I guess it's possible, too, there could be financial incentives for hospitals and clinics and all that if they got an emergency, you know, Hazmat Response Certification or something.

**A:** That to some degree already exists with the Joint Commission. Any hospital, if they want to legitimately operate, has got to be certified by the Joint Commission. There are requirements by the Commission now for decon capabilities...

**Q:** Now, is that only in urban hospitals, or is that in any hospital?

**A:** It's nationwide, but it's going to be largely specific to how the hospital perceives the threat. If they make the decision that for whatever reason, they don't have the resources, have the time, people, money, whatever it might be, to go through the effort to set up a decontamination unit then there are ways that they can bypass that requirement. Here in Atlanta right now we have only, in this huge metro area here, we have three hospitals that are properly equipped to handle a chemical decontamination.

**Q:** A lot of U.S. efforts to prepare responses to biochemical weapons attacks have been focused on the larger cities, yet when we look at some of the outbreaks of terrorism — what we call domestic terrorism, such as Columbine — they tend to happen in small towns. I mean, small towns are not immune, so why are we doing this? Just so we can get a handle on what the [120] largest cities are ?

**A:** That is to some degree there is politics involved in it, certainly. We want to address where the masses are. I think a lot of things are factored into it, but working and starting with the big cities to start with gives us a handle as to hitting big groups of people first.

- Q:** There's also the issue that they do have...some small cities have nothing but volunteers. I mean, they do have a structure to work with, big cities.
- A:** Right. It's organized by departments, they'll have search and rescue teams, established emergency management units. Here in Georgia, we have...on all those areas we're very well served with the [professional] fire departments — and that's not to say we don't have very good volunteer fire departments as well. But we're very well staffed on that, and we have very well staffed police and emergency management offices. We have a GMAG [Georgia Mutual Aid Group] network scattered around the state, and the network is there arguably to funnel into it these major areas and then, I think, to start working on down... towards the small areas.
- Q:** Oh — so we have in place in Georgia the ability to pull these trained responders, sort of almost like a National Guard concept, to outbreaks in small areas. We have that mechanism.
- A:** It is a beginning of a mechanism. It hasn't been tested on a full scale yet, but in the fire service we have control for mutual aid for GMAG which takes the traditions of mutual aid within the fire department, the fire service, to a much larger level here, and there are partners scattered across the state. Most of them are in the metro area, but we have several down in the Savannah-Brunswick area, several on up I-75 towards the Tennessee border. So we're working to... And there are also a couple along I-85 near the South Carolina border, as well. So we're working to be able to get fire departments included in GMAG throughout the entire state, and GMAG is setting up regions of the organization that are based on the Georgia Emergency Management Agency regions around the state and being able to pull fire service and the emergency management communities together and start working together on that.
- Q:** That's terrific.
- A:** Certainly one of the things they are looking at are these particular weapons of mass destruction issues.
- Q:** What about the concept of training the trainer? Is that being employed in the training and the exercises being done with these large cities?
- A:** Yeah. That's one of the main functions of what the federal government has tried to do with [Nunn-Lugar] and led to training in the 120 cities. In essence, that what it is, the train the trainer. We have a certain few folks coming in from any given department, they go through the training programs, and the expectation is they take that knowledge back and should be able to start training people within their individual departments.
- Q:** What about when those individual departments will then train, the possibility [that] they adopt smaller communities in their state and they're responsible for training those communities within their state so that it trickles down within a state as well? Is that conceivable or is that just too unreal?
- A:** It's conceivable, but, again, it's going to come down to economics. It's very expensive to do this type of training, not only in the equipment that it's going to take, [but] time and resources as far as personnel in a direct sense.
- Q:** One of the things that President Clinton has expressed an interest in was stockpiling vaccines against some of the know weaponized viruses. Given the fact that a lot of those viruses have been bioengineered, that we were talking about diseases that have never had



outbreaks in the U.S., we have no real way to test those viruses. We can test them on primates, but it's not the same thing as viruses that we've actually tested against some humans just by the nature of the beast, such as smallpox. Is there any point to... It would be a lot of money — is there any point to actually stockpiling vaccines? Also, of course, vaccines are slow acting. You know, once the disease is already caught hold, for a lot of vaccines it's too late.

- A:** Agreed, a very expensive proposition. The question is, is it something that we can afford not to do, and I think there are very compelling arguments on both sides. Part of the issue against the stockpiling of vaccines is the same basic problem with the detection of these biological agents. If it's a specific agent that has been unadulterated, it's a pure and simple smallpox, then yes, it may make sense to stockpile vaccines and go through a vaccination program on that. But to counter that, what if it's not plain old simple smallpox anymore? What if it is, then, one of the weaponized versions that's been hybridized with Ebola or something else? The vaccine is not going to work for that one.
- Q:** Of course, it's interesting about smallpox. I mean, the smallpox vaccine is actually cow pox, so the poxes seem to create antigens that... are responsive to a wide range of antibodies, so maybe smallpox won't be as big a problem as some weaponized diseases.
- A:** It's possible, but again it comes with the hybrids. Maybe smallpox compounded with something else changes the properties and it doesn't act like just plain old smallpox anymore, [but] that's far above my field of [expertise] or whatever.
- Q:** In 1980 the world was really thrilled to announce the end of smallpox. I mean, this seemed to be one of the great triumphs of humankind that we have been able to conquer a humans only disease, that we've worked together. The U.S. spearheaded this effort; it was a tremendous worldwide effort. Really, it should have been one of the moral triumphs of our species. And now of course we are aware that smallpox does not just exist in two locations, a lab in Moscow and the CDC, but that Moscow has shared it, that there may be as many as four countries with weaponized smallpox. So the question is, the World Health Authority apparently is still wanting to pretend that smallpox is eradicated, and June of '99 was rather a tense time in the U.S. when it looked like we would be required, or we were being asked to destroy our smallpox sample at the CDC. That deadline has now been extended to 2002. If nothing changes, if we have no...and there's no way to document, I would imagine, that smallpox truly has been eradicated — what should we do if the World Health Authority insists on destroying it in 2002? Do we obey or not?
- A:** Well, they have no jurisdiction or authority to come in to CDC and actually outright take a hands on [approach] and destroy it; it's a largely voluntary organization. I think there are a lot of things that are playing into that. If we had irrefutable evidence that it was us, the Russians, and nobody else — which we already know that isn't the case; at least two others have that weapon,...then we may make a compelling argument to destroy it. But as long as we know that it's floating around out there in a potentially rogue state, rogue scientists, I am of the opinion that we need to maintain a stockpile for research purposes and for potential vaccination purposes. I mean, you have other factions that argue against eradication now with the extinction of it from an ethics point of view — where do we get off saying, as a species, we are entitled to intentionally cause the extinction of another

species. I don't buy into that argument at all — this is people first here — and by maintaining a stockpile it's also in a sense maintaining a people first point of view.

- Q:** Do you think... It's fairly recent that we stopped our smallpox vaccines. I think right now we could easily stream it back into the required vaccinations to go to school program that we've got. Should we go ahead and do that now?
- A:** Personally, I think it would be worthwhile doing that, especially, again, since maybe the threat is definitely much more real now than it has been in the past. In the overall big picture as far as adding it to the existing school immunizations, in the overall picture it's probably a relatively small process to gear up the smallpox vaccinations again.
- Q:** Let me ask you a question that's not in this list. You've been very involved with first responders and with preparing for response to a biochemical incident. Let's take two possible scenarios — sarin or anthrax, either one released in a shopping mall. If that were to happen, are we ready? Can we respond? Where are we right now?
- A:** Right now I think we'd be much more ready, everything else considered, to deal with the sarin attack because it is much more along the lines of traditional hazmat. It's a chemical and it's something that is a little bit more tangible than something that's floating around out there that we know it can threaten you but we can't see it yet. Chemical compounds are invisible as well, but there at least are means to detect sarin. There aren't great ones right now outside of the military but we're developing new sensor technology in the response community. Basically, sarin is nothing but an \_\_\_\_\_ by organophosphate pesticide, and we deal with the decontamination and help mitigate against pesticides on a daily basis. From a traditional hazmat point of view, we have fairly good means of dealing with those. So, again, everything else considered, I would much rather deal with a sarin attack because largely we have protocols in place that can deal with that. Biologicals, I mean that's an altogether new game. Again, as much as anything, when it happens we're not going to start seeing any symptoms for days to a week or more after and people are going to have dispersed, they're going to be gone off to wherever they're from, whether it was the local area around the shopping mall, or if it was something like what's going on in Atlanta this weekend gearing for the Superbowl — people are coming in from all over the country, potentially all over the world, and we've lost absolute control over it.
- Q:** So today, January 2000, the likelihood is, in a biological attack, if a biological attack were to happen in January 2000 in any city in the U.S., the great likelihood is that those that were immediately infected, if it were a fatal illness, would die. And we would learn lessons from that and we might be able to treat the secondary infections and the tertiary, but the primary infections would die.
- A:** I think there's a large possibility of that, yeah. And it's mainly because we don't have a specific tracking mechanism in place; we don't have the appropriate epidemiological surveys in place that are looking for these specific types of agents. We have very good public health services that are very good at looking for the traditional run-of-the-mill flu epidemics or the common cold, for other types of illnesses, but not necessarily so for biological weapons.
- Q:** Now, anthrax is treatable by antibiotics. Do we have enough antibiotics for a large outbreak in a mall or at the Superbowl in our local hospitals? I mean, do we even stockpile enough if we were to recognize it?

- A:** In big metro areas we could probably come up with enough to deal with a single outbreak. It has to be...because we are very specific to the individual areas. But I think everything else considered, making a blanket statement, yes, for a single outbreak at a mall where you may have several people...several hundred people in a mall, yes, we probably do have enough antibiotics that we could get our hands on for one single event. If it's the kind of event you have several places across the country or at a bigger type of an event, then we may be stressing the resources.
- Q:** Isn't it a fact, too, that the reality is that with no history, no reason to believe that it has really happened, unless someone writes in the sky over the Superbowl, "I've just sprayed anthrax," the reality is that it will be the second attack that we respond to, not the first. We simply won't know enough; we simply won't expect it; we simply won't believe it. So those lives are going to be lost. That's the reality of the day.
- A:** Yeah. Right. We're going to take a big hit on the first one, and that's unfortunately why [for] so many things happening in our country we don't [prepare], for whatever reason, and it again ultimately comes down to money. You've got to spend money on prevention efforts, so [if] we don't believe it's a problem until it actually happens, we get caught with our pants down, we take a big hit on the first one, then we move into reactionary mode and hopefully get more involved from there.
- Q:** Now, you use the word "hopeful" with reactionary, but one of the things America tends to do, probably because we've been complacent and we've been protected for so long, we have a tendency to overreact. What likelihood is it that a serious significant attack that might take out several hundred to several thousand lives might lead to really draconian measures such as the 1996 anti-terrorism prevention act, and we're going to start really trampling on civil liberties and so forth. What consequences would that [bring]? Do you think that's likely to happen and do you think the consequences would be very great for society? Or would we just learn to live with it like Israel and other countries?
- A:** I think the potential is there, but when it comes down to actual survival as a society, I think that common sense will prevail and we will, in fact, learn to live with it, just like, as you said, Israelis have and the Bosnians and everybody else who has. But I think in one way or another we're going to have a rough time of it at the outset, but as a society we'll pull together and we'll come through it. I believe in ourselves.