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War and Health: The Casualty Toll in Iraq

The Watson Institute for International Studies at Brown University

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Host: Thank you very much, on behalf of Brown University and the Watson Institute, I am happy to welcome all of you here tonight for this discussion on what I believe is a very very important topic and one that deserves our serious consideration. When George Bush, who you see up here, initiated the war in Iraq he made the argument that this was a just war. And they referenced in particular to this figure "just war" because they fought for a just cause. They were eliminating weapons of mass destruction. They probably knew at the time, and certainly all of us know by now that that was in fact a lie. There were no weapons of mass destruction. The just cause then of course turned into a democratization in Iraq and a notion of a democratic regime not only in Iraq but throughout the Middle East. And has that - that has become more and more problematic. The just cause has moved even further now. It seems to be largely at this point simply using the fact that over (unintelligible) American soldiers have died in Iraq means that we have to stay in Iraq in order to justify their death - by killing more Americans. A process which is very familiar to those of us who remember the Vietnam years, when Lyndon Johnson and Richard Nixon made virtually the same argument justifying continued American policy in Vietnam on the grounds that to cut-and-run would essentially mean that Americans had died in vain. Something that we could not admit having happened. But a just war of course, even if the cause were just, requires more than just cause, it requires, if one believes in just war and not everyone does, but - but let's take the President (unintelligible) for his word. It requires, among other things, that just means be used to pursue that war and just means traditionally have made a very clear-cut distinction between the conduct of war among soldiers and the innocent of civilians. And in particular justice is also usually defined in terms of proportionality. That is, whether or not the good that might result from the war can be justified in terms of the huge costs that are always involved in war. But among one of the most important costs of war have always been, throughout history, going really back at least to the 3rd century AD but written into international law at least since the 17th century, and the writings of jurists Hugo Grotius the principle of the civilian deaths matter - that they have to count as a cost of war. And that the benefits of the war aren't enough to justify a war and they have to somehow produce more good than the harm being done. So I think it's for that reason that this study becomes important if you put it in this context because civilian deaths do matter. They matter to us as human beings. They matter on moral grounds. They matter as part of the justification for a war. Perhaps for this reason that a recent study of scholars like myself in the United States who study international relations done earlier this year in fact found that 87 percent of my professional colleagues believe that the current war in Iraq is not just. And lest one thinks that that's because we are all pacifists I would add that some 83 percent on the other hand found the military action in Afghanistan to be justifiable. Making a very clear cut distinction between the two operations. Perhaps excessively so in some ways but nonetheless I think illustrating the extent to which much of the professional community of those of us who study international relations and war and peace questions have found the issue particularly of the civilian consequences of this war to be so serious in terms of our overall evaluation of its justifiability. So, if one accepts figures like those that the government has put forward which put forth typically fewer than 50,000 civilian casualties or what the general American public typically believes to be more like 3,000 civilian casualties, and compares those with the results of the study that our speaker tonight is going to talk about, one, I think finds just an incredible gap. A gap that has largely not been discussed in this country. It was presented I believe by CBS evening news and Katie Couric when it first came out, but since then has largely disappeared precisely because I think most of us don't really want to face the consequences that this study suggests. We

have to deal with if we are going to talk at all intelligently about the evaluation of the current war in Iraq. So I'm very, very pleased that Les Roberts has agreed to come to Brown tonight and Providence to tell us about his study and to discuss the implications of this study for US policy in Iraq. Dr. Roberts received his PhD in environmental engineering from Johns Hopkins University and after a post doctoral fellowship in epidemiology at the Center of Disease Control and Prevention, he worked as an epidemiologist for the World Health Organization in Rwanda during the civil war there. And then was the Director of Health Policy at the International Rescue Committee. He is now as an associate professor at the Columbia University program on forced migration and health. But he is, of course, in particular known for the two studies that he has done now in 2004 and again in 2006 analyzing Iraqi civilian war casualties since the US military war in Iraq commenced a little over 4 years ago. So, I am pleased to welcome Les Roberts to Brown and we will have time for discussion and questions afterwards, which I will try to moderate and I hope you all will have some important and interesting questions to address, but Les, thank you very much.

Les Roberts: Good evening friends. Thanks Terry and thanks to the twelve organizations who hosted (unintelligible). I'm not sure if I've had so many people invite me to one place at one time before. We live in funny times. We have just, until recently, a head(?) in the Senate who was a Harvard trained physician and he said, "You know, I'm not sure that we should be teaching evolution in schools". That's probably not been proven or good science but along comes bird flu, and he's worried that it might evolve to transmit from humans to humans and find a more favorable mix so they'll spend 2 billion dollars like that on it or... Pardon? Is the microphone OK?

[7:02]

Or we have a couple of people running for president who believe that embryos, even if they're taken out of the body, should be given the same status as a full fledged human life. And they haven't thought this through in a sense that in this country for example, about a million, just over a million women, choose to end pregnancy through an abortion in a clinic. But probably at least 10 million women lose pregnancy spontaneously. Among those losses, alcohol use and tobacco use are probably the two main preventable causes. So, if you believe that when a little sperm goes into an egg that that's a life that needs to be protected you've got to outlaw cigarettes because there's just no question about it. And probably, you have to keep women of reproductive age from drinking. So we have this this funny thing going on with policy and science, and if we go back just a little while - just 46 years, John Kennedy got a little bee in his bonnet about putting a man on the moon. And his science advisor said, "There's no reason to send a human to the moon in terms of science. We can send a robot. It will roll around, take some pictures, take some samples. Don't say this is for science because we won't back you up." And John F. Kennedy never, ever stated in public he was putting a man on the moon to advance science. He never did what his science advisers told him not to. A little while later Gerald Ford was President and he called the director of the EPA into this office and he said, "I know that you're about to regulate auto emissions. You're the scientist. You know what's right or wrong. I am not going to interfere with your setting these standards. I just want to know what standards you'll set before you do it so that I don't end up embarrassed." Can you imagine today George Bush calling the head of the EPA into this office and saying, "You know, whether or not you're going to control CO2 emissions - you're the scientist. You can make all those decisions. I don't care about that. I just want to know in advance." In just three decades the status of science as a guide to social policy has diminished greatly. And I think there are probably two areas in which our national standing has been profoundly put at risk as the result of the denial of science, and one is the issue of global warming and the other is the issue of civilian deaths in Iraq.

Susan Malvo: ... released a report saying 655,000 Iraqis have died since the Iraq War. That figure is 20 times the figure that you cited in December at 30,000. Do you care to amend or update your figure, and do you consider this a credible report?

President Bush: No I don't consider it a credible report. Neither does General Casey and neither do Iraqi officials. I do - I do know that a lot of innocent people have died, and it troubles me, and it grieves me. And I applaud the Iraqis for their courage in the face of violence. I - I'm, you know, amazed that this is a society which so wants to be free that they're willing to, you know, let this level of violence that they - that they tolerate, and it's now time for the Iraqi government to work hard and bring security to neighborhoods so that people can feel - can feel, you know, at peace. No question it's violent, but this report is one, they put it out before was pretty well - the methodology was pretty much discredited. But I - I you know, I talk to people like General Casey, and of course the Iraqi government put out a statement talking about the report.

Susan Malvo: 30,000 Mr. President? Do you stand by your figure? 30,000?

President Bush: You know I stand by the figure that a lot of innocent people have lost their life. 600,000 or whatever they guessed at is just - it's not credible. Thank you."

[11:30]

So, I'd like to spend a little time talking about our not so credible study. And I'm afraid that in order to do that for just 60 seconds you have to bear with me - I'm an academic and so I need to talk about statistics. If I were to go around this room and take everyone's pulse. There would be some range of pulses I would find in this room. There might be a few people sort of down at the lower end - they're already asleep. There might be some others that are, I don't know, speed addicts or sitting next someone that they think is really hot so their pulse is relatively high. But most of us would fall with a pulse rate somewhere in the high sixties. And so, if I were to go out and grab one person I could normally say, you know, I'm probably 90 percent sure that they're not going to be below 50 or above 80. Or, another way of saying it is, if I go out and I have a population like this and I grab a sample. I'm going to get some estimate of what the truth is out there in that population. And that truth is going to have a range of imprecision about it. Most things that happen in health follow - follow what is referred to as a normal distribution, which just means two things. It means that it is symmetrically shaped around the average and it means that if you reach out far enough to grab 69 percent of the population, you have to reach twice that far to grab 95 percent. That's it. It just means symmetrical, and it's got a certain evenness in how it spreads out. And as a convention in science we tend to report, we measure this problem or this effect and we are 95 percent sure that the range is between this number and this number. It's the standard way that scientists, sort of, describe the imprecision of what it is they did or what they found. In 2004, all I heard about on the news were bullets and bombs in Iraq. And at that point I worked in seven hot war zones and in everyone I had been, except Bosnia, more people died of the social disruption associated with war than died from bullets and bombs. That is, the water systems don't work, people get diarrhea, or women are afraid to go to the clinics so they give birth at home and hemorrhage so they end up bleeding to death. Those are the indirect consequences of war. Actually, are most deaths in war zones, I didn't hear any talk about that as I read the New York Times and listened to

NPR back in 2004. So I stuffed 20,000 dollars into my shoes and in my pockets. I asked someone to smuggle me into Iraq and off we went to do two things: to estimate how many people had died and how they had died, what was the cause of death. I through fate ended up meeting this amazing professor in Baghdad, the greatest person I have ever met. And he was quite a charismatic guy. So he could get a whole bunch of his former doctoral students like this guy here, Dr. Jamal, to work for us as interviewers. Almost all our interviewers, no - no - yeah, almost all our interviewers were MDs. They all spoke English perfectly. The medical classes in Baghdad are taught in English. And we had a whole bunch of strategies to encourage people to tell to us the truth about these deaths. First of all, we didn't ask about anything but deaths. We didn't ask about income or what people do with their penises, or any other of that stuff that public health people tend to be interested in. And all of these interviewers wore their white lab coats. I don't really understand why it is, but the world over, physicians feel really chuffed about themselves when they wear white lab coats. They come to noon time meetings, where they haven't been in 11 years and some of them have their lab coats on. And they wear their university photo ID, and we had a team. Every group operated the team with a male and a female. So, if a woman came to the door, a woman could interview. If a male came to the door, a male could interview. They also did some very clever things. If, for example, a child would come to the door as we're seeing here, Doctor Jamal would say: "Oh, young man could you go next door and tell the house next door that the doctor is going to come see them in about 10 minutes." That way, when the door was knocked upon at the next house and they opened it, the first face they saw was the young child from next door, and it sort of lowered the threshold in this culture where it's so unusual to knock on a stranger's door of having a stranger come to your door.

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We also had it so that I and the car would always find out where the elder was in any street so we'd go and park the car in front of the elder's house and I'd check him up, so that when they look down the street they would see that we were accepted by the most important person in the community and so on. We asked who lived here on the first of January, 2002. That is, 14 months before the invasion. And who lived here now, had anyone been born or died, or moved around. And if someone had died we asked them to describe the death and we wrote it down as a narrative. At the end of the interview when no one knew this was coming we said: "Oh, by the way can we see your death certificate." In 2006, 92 percent of the time when we asked to see a death certificate at the end of the interview they could walk back in the house and produce that piece of paper. So we are quite confident that people didn't just fabricate these deaths or make them up. In our 2004 survey we went to just under a 1000 houses, and in those houses there had been 46 deaths in the 14 months before and a 142 deaths in the 18 months after. That's more than doubling of the rate. But unfortunately in that 2004 study we found a death rate in a distribution, except there was this one neighborhood out of 33, picked randomly across the whole country - the city of Fallujah that was just so different than all the rest. In most of the country about 1 percent of the population had died above the normal death rate. In Fallujah it was more than 20 percent had died. So it statistically just didn't fit with the others. We didn't think our data was wrong, cause if you had been watching the news in 2004 you would have thought that Fallujah was probably the worst place. We just didn't statistically quite know how to put it in with the others to make a distribution that we could easily describe. So, we essentially used it as a qualifier. We said based on those other 32 neighborhoods that we picked at random across the whole country we think that about a 100,000 people died, but given what we saw in Fallujah the only place we went to in Anbar province, we said we're pretty sure that if the death toll isn't around a 100,000 it's probably far higher. Well, to the non-scientific journalist that sounds like we don't know what we're talking about. What do you mean around a 100,000 or far higher? Sounds like you don't really know. It was the right language to get through a peer reviewed medical journal with statistical reviewers. It was

the wrong language to win over someone at the New York Times. We also found in that first survey that violence was up 58-fold compared to the last year of Saddam's reign and that this was the most surprising parts; most violent deaths described in that first survey were attributed to air strikes from the Coalition. In most of the other wars where I've measured mortality I wouldn't have believed people's ability to figure out whether artillery or bombs were from one side or the other, except in this war there's only one side with air power. So there's really not much much capacity for people to have been confused or misattributing the deaths.

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The press coverage of that 2004 survey could not have been more different in Europe than in North America. In Europe it was on the front page of La Monde, The Guardian, The Times of London. There were all these in-depth articles written, for example, in The Economist about what a normal distribution means and how this is certainly far more than what anyone has been saying up till now. Three times in the week after the study came out Tony Blair was asked, "What do you think of this Lancet study saying that at least a 100,000 civilians have died in the first 18 months of occupation?" And the first time, Tony Blair said, "Well, you can't just tell from a little sample and extrapolate out to the whole country. You need to count the deaths." So of course every pollster and statistician in the country was writing letters to the editor saying, "Excuse me Mr. Blair, you know every public health law you've ever passed? That was based on sampling. And every medicine we've every approved, that was based on sampling." And so he sort of backtracked from that. The British Foreign Secretary Jack Straw wrote a five page response to The Lancet article, and the folks at The Lancet were really chuffed about this. In that they thought they had really sort of arrived in terms of social relevance if the Foreign Minister has to write a response. In the US, there was a wire-service story that was run in the New York Times on page A-8. (unintelligible) Gilbert Burnham, my colleague, and I, we were in his office, and over the course of the study I had said a bunch of things, "I was sorry to be reporting this as an American". (unintelligible) "What about the timing of this report coming out two weeks before the election?". And I said, "Well of course we'd like it to come out before the election because then at least that would force the candidates to address the issue of protecting civilians." When i just said that - when I just said "force the candidates", that sounded OK. But when you see that word "forced" in writing, it has a real activist edge to it. They also asked about the sampling method used, and I said we used GPSs and I didn't think that it - that our biases effected where we went. We used GPS units to pick the points. And finally, at the end - near the end of the interview the gal asked, "Were you opposed to the invasion of Iraq?" And I said, "This wasn't a study about the invasion of Iraq, this was a study about the occupation, and we all wanted that to go well." And then my Gil Burnham said, well, at our center this is what we do - she asked again. We didn't quite answer it. She asked a third time. When you take all those media training classes when you go to work for the government, the first thing tell you is never answer a question you don't want to answer. Well, now i understand completely why. I had resigned from my job at America's largest aid agency because they took money in advance of the war to provide humanitarian services in Iraq, and I was interviewed in the Wall Street Journal about my resignation. So if she just did a little Google about me, one of the first things that would come up was my resignation described in the Wall Street Journal. So I thought, why hide it, so I said, "This is Les speaking. Yeah, I was opposed to the war, but I don't think that effected how we did our work." Well, turns out most of my co-authors were not opposed to the invasion of Iraq, I didn't know that, we never discussed it between us, why would we? We were scientists, we discussed the toothpicks(?) and that sort of thing. When the wire service story came out, it had as wire service stories always do, sort of, the results up front, and then what we did, and how this compares with other estimates. And then they had a paragraph tagged on, and the paragraph went something to the effect of: we were opposed to the war in Iraq - to

the invasion of Iraq, we wanted this to come up before the elections to force the candidates to address the issue of civilian deaths, we don't think our biases effected where we went, and I'm really sorry to be reporting this as an American. So I said all four of those lines in a 40 minute interview, but when you put them all together without quote marks in between them, it has a real activist edge. And I think this paragraph turned a lot of editors off. The Washington Post also did an interview that called a weapons analyst at Human rights Watch that hadn't seen the study, haven't - haven't read the study, but a 100,000 sounds high to me. So they quoted him saying, "A 100,000 sounds high to me." This guy, Mark Garlasco, got to his office he talked to a couple of people, he read the study, He realized he made a terrible mistake. He never repeated it, but he because he was the first person to discredit the study he was on CNN , he was on NBC, he was on National Public Radio. None of the authors were. There are a couple of liberal entities that covered it, but almost no one - no national coverage. But most importantly, two spin articles appeared on blogs the next day.

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One written by a former Undersecretary of Defense, Anthony Cordesman, the other, Slate Magazine's defense correspondent - or Pentagon correspondent, and they both had sort of the same elements. They said, "Wow, really cool, these guys were sneaking around Iraq when it's so dangerous, that is - that's really tough. But look at the confidence interval between 8,000 and 194,000." Remember, that's not what we said. We said when we consider Fallujah we're pretty sure it's over a 100,000. They said, "this just proves we'll never know. So imprecise it - it's not adding any new information." And this message, so imprecise as to be meaningless, went through the blogosphere like lightning. A couple of people told me that their minister from the pulpit on the following Sunday told me that their (unintelligible) said that, "The Lancet study reporting a 100,000 civilian deaths in Iraq has been proved flawed and wrong." On the Monday after, so this is a day before the election, I was called by a reporter in Chicago who had just called a Right to Life group and said, "If you care about life so much, how do you feel about a 100,000 dead Iraqis?" And that person said, "Well, I heard it might only be 8,000 anyways." On the Tuesday after, so this is Election Day 2004, my neighbor listened to a conservative shock jock where I live in upstate New York and he said, "The Lancet study reporting 8,000 civilian deaths has been proven to be flawed and wrong." And the election came, and sort of the news plates got wiped clean, and it was just never discussed again. So in 2006 we were not going to make the same mistake. We're going to do the same study, the same method, same interviewers, same questionnaire, but we decided to go to more places and use everything else the same. But realize that the war has gone on twice as long, and the war has had a lot of time to move around, and the first time, probably half of all death had happened in Najaf and Anbar province. about the results this time around. We were 90 percent sure that it was at least half a million that were dead as of last July. Other findings were, as we had found the first time, as the Pentagon data on attacks indicate, that So, we had this problem that some clusters had a lot of deaths and other clusters had few deaths. By 2004, the war really was quite widespread and had moved around over time from place to place, and we thought that our problem would go away, and it did. These almost 2000 houses that we interviewed in July 2004 - July 2006 had 82 deaths before the invasion and 547 deaths after - in the 40 months after. So that's about two and a half times the rate. This time our 95 percent confidence interval ranged from shockingly high to shockingly high. So at least, I thought, there wasn't going to be any kibitzing Baghdad is actually no less - no more violent than the rest of the country. In fact, slightly less violent than the national average. Adult males were now accounting for the vast majority of deaths and most of them were shot by other Iraqis so the war has changed from air power associated with Coalition to now being mostly Iraqis shooting Iraqis with guns, and if anything, things are getting worse. As we look - just look at this green line on top which is showing the total death rate essentially from the pre-invasion period through this summer. 2006 is worse than 2005. Important for later on,

notice in blue is our survey with crude mortality from 2004. And the two studies are almost identical. They measured statistically identical baseline death rates and, over the first two years, almost identical death rates. But, of course it wouldn't be so simple if people would just accept our results. I was called up by someone who said: "I'm a pollster. I've been working in Iraq, and I have been talking with the Wall Street Journal and they would like me to write - to write something to put your numbers in perspective." I didn't quite know what that meant. Turns out it was Paul Bremer's pollster, and when he called me he wasn't a freelance reporter or working for the New York Times that I assumed. He was working for a conservative, sort of lobbying project or think tank out in California run by Paul Bremer. And his main point in criticism was, "Look at this, they only went to 47 places across the whole country." I think his quote was, "I wouldn't even sample a high school with 47 sampling units." Well, aside from the overwhelming evidence even in a big country you don't need to go to more than 30 places to have a representative sample. So, ignoring all that science I said to him, "If we look in our data at the death rate shown here on the bottom on our x-axis and on the left hand side on our y-axis we look at the number of the neighborhoods that we visited that had that specific sort of range of violent death rates." I said, "We got something close to a normal distribution and if by only going to 47 neighborhoods we have a wrong estimate, it only means that our estimate is too low.

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Because think about the logic; he's saying, "They only went to 48 spots. That means there are these rare little pockets out there that these guys missed." That we missed. Well, if there are some rare pockets out there where if we hit by chance our results be different, think about if we threw another zero in here. Our average would be unchanged. The only way to change that average experienced is to put one in there where a hundred - 50 percent of the population had died. It would be way off to the right if you look at it. So, the only way not going to enough places that could make our results wrong is if our results are too low. I explained this to him. He understood it. But it didn't matter. He needed to spin this report. It was put into the Wall Street Journal. The Wall Street Journal refused to write - to publish our response. There are a couple of physicists at Oxford. They happen to be colleagues with the folks who run a project in Oxford called Iraq Body Count that monitors deaths through the newspaper reports so I'm afraid their funding dried up after our first study and they were worried about it drying up after the second - but they came up with this problem. They said, "This Lancet study suffers from a main street bias.", and they had this little drawing in their online report. They said, "Look, here in blue, there are these neighborhoods where for the second time around they're sampling nothing." What we did was: we went around in a section of a city, counted all the main streets, picked one, counted all the side streets, picked one, counted all the houses on that street, picked one at random. They said, "By that method there are certain pockets that would get completely missed by the Lancet approach, and that car bombs are mostly going off on the main streets, and therefore that's why the results are so high, that they've over-sampled the main streets." Well, aside from the fact that car bombs only account for about 13 percent of deaths that we encountered, aside from the fact that most people are killed away from their homes, this was just completely absurd. They had this picture of Baghdad to show how crazy our method was. How can they possibly think they're not missing pockets. Well, it turns out that in, for example, Baghdad, the population was known for quite small neighborhoods(?). There's about 50 populations within Baghdad of known population size. So we were always assigning a cluster down to one fiftieth of Baghdad. And so when we had an area that was to be cluster sampled we'd zip up and down the main streets and count all the side streets, pick one off that main street, and then count all the houses on that street and pick one at random. And the logic of our sampling was, when you finished interviewing a house you stepped out the door and thought where's the next closest door. And then went to the next closest and the next and the next and the next. We would almost always end

up about 2 or 3 blocks away from where we started. So, you know, it's not likely that this main street biased is there, but I can't completely discount it. Except, as I mentioned before, sorry it's so dark, if we look at our results; so we've got death rate on our y-axis - and that's sort of four periods we broke our study into - if we look at our results of the two different surveys, the first time using GPS units to pick our point, the second time taking streets at random, we have identical results. How often is it in science that we go out to look(?) at(?) a war zone and go measure something with two different methods and come up with the same results? So, if ever we could dismiss this criticism, it's here. And yet somehow it's gotten picked up. And I think there's a couple reasons for this. And the biggest one is reporters have this need to make things controversial - to make things sound political. I know that the New York Times had to call about 10 people before they could find someone.

[35:06]

A cancer statistician in Texas who I think has never worked internationally, before they could find someone who could say that our study had problems. So, they cite someone saying that the study was right, cited someone saying the study's got problems, and they feel they've been neutral - even if they had to call 10 people to get that negative comment. And there is overwhelming evidence that the numbers reported by the President, by our Pentagon spokespeople, by the Iraqi government are absurdly low. As I mentioned when we just heard the President citing his 30,000 number, at least a reporter reminding him of it, that was from Iraq Body Count monitoring newspaper reports. You know most of the deaths we found in our surveys aren't in Iraq Body Count's database. In Basra last April we know, according from several officials, that there was approximately a killing per hour for a whole month. No matter how you look at Iraq Body Count's listings from newspapers you can't come up with more than 2 percent of that number. The United Nations mentioned as a tiny footnote in their September security report - pardon me, August security report - that in Anbar province in July there were exactly zero violent deaths reported to the - to the Iraqi government. I don't know if you remember, that was probably the most violent month in Anbar Province in the last year, we lost 4 America soldiers, a lot were injured, and the idea that no Iraqis died is just absurd. And most importantly, in Saddam's last year of reign before the invasion only about a third of all deaths went into the government's surveillance network. So you've got a system that is only one third complete to begin with. How can we possibly suspect that the Iraqi government numbers based on war tallies and hospitals would have gotten better after the invasion? And the UN numbers are just based on the Iraqi government numbers. Interestingly, I mentioned this earlier, if we break out into red the highest violence areas, brown the sort of middle violence, and yellow the least violent area. Baghdad, which is less violent, than the nation as a whole accounts for 80 percent of all deaths reported either by Iraq Body Count or the Iraqi government. In fact most deaths come from one place, the Baghdad morgue - the main morgue in Baghdad, there are several morgues in Baghdad, but the main one. So, we just looking at this, we know that vast parts of the country are essentially aren't reporting. And yet this, oh, 50,000-ish number keeps being put out. Well, think about it. If there were, even in our worst year, 23,000 deaths last year as the Ministry of Health claims, that means that it wasn't much more violent than New Orleans. And if you believe in Tulane University, if we look at the violent death rate according to Iraq Body Count in blue and New Orleans that top line, New Orleans was more violent than Iraq in 2006. If you believe President Bush, who in December, 2005 said, "Oh, I think more or less 30,000 have died", in a country with about 20 - 27 million people that means he's saying that over the first 20 months of occupation that Iraq was about as violent as Baltimore or Atlanta. You know I've been to Iraq and I've been to Atlanta, and I just don't find that credible. There are these other hints that we get. If there's only been 50,000, 60,000 deaths in the last four years, that's only a 10 percent rise over the normal death rate. There have to be about 140,000 deaths a year even if

they're the healthiest people in the world because elderly people die, there's birth defects in children, and all that other - there are car accidents. Well, here's the data from the Baghdad morgue. The first 18 months came from someone who worked in the morgue, I believe he's been killed since that time. And then from newspapers where I could call out these numbers where they were reported on various months. Before the invasion there were about 200 bodies per month coming in to the Bagdad morgue - about 15 on average from violence. The last few months there's been over 1500 bodies per month coming in, virtually all violent deaths. You know, that's not indicative of a 10 percent rise over base line as the Iraqi government is telling us is going on. So this is in the front yard of one of my neighbors in upstate New York. I don't know if you can read it, the top says, "From the fire department and the police department of New York to Saddam and his boy Osama, with care." So I guess this fellow didn't actually read the 9-11 report.

[40:28]

You know, I accept that there are certain people like this neighbor of mine who aren't really going to be influenced by my epidemiological data. They sort of know what feels right, they needed to kick some butt, and it was the right thing to do. Ah! You know, on the other end of the political spectrum, that picture was sent to me by a Republican Congressional staffer - *audience laughter* - on the other end of the political spectrum there are people who think no matter what, invading another country is wrong, I hate it, if our study had said there was one Iraqi who died it wouldn't effect them at all. You know, I accept that; that there are people unlikely to be influenced by scientific public health data. I just never realized that the press were among them. Here is some data, he's a guy at Berkley now, named Patrick Ball, he worked for the Truth and Reconciliation Committee of South Africa, the United Nations in Kosovo after the war, and he also worked for the Truth and reconciliation Committee of Guatemala, and this is showing data from Guatemala showing data from 1960 to 1995 - that's on our bottom or x-axis. And up on the side, there are two kinds of lines here. There's a solid line shown here in black and peaking in the mid 1980s at about 7,000 deaths - political deaths a year. In the dotted line are the fraction, or percent, of all of those killings reported in the press, and you'll notice that in the years of low violence, most of the killings were reported in the media. But in the years of the highest violence, not even five percent were captured in the media. Those of us who work in war zones sort of know this viscerally. For reasons I don't understand, people in the press are adverse to being killed. I don't get it, but when things are really violent, they don't want to be running around in the countryside. When things are really peaceful, they're willing to. And so it shouldn't surprise us that monitoring newspaper reports in English are only capturing the tip of the iceberg. But for the press, they're looking around, they need to write a report saying how many Iraqi civilians have died, there's this project out there, Iraq body count, that's monitoring newspaper events - so those are sort of sure known deaths - and there numbers kind of sounds like what they, the media have been seeing in reporting. So it -it just feels right to them, and it's pretty close to what the US government and Iraqi government are saying so if you cite it you're not going to be ticking anyone off. You're not going to be excluded from press conferences at the White House. And so it's just really easy to cite these low-ball numbers and many people in the press, reporters, have said to me, "Well, you know, as far as I'm concerned 60,000 or 600,000 it doesn't really matter to me because it's both just appalling and too much." And I think that's a profoundly dangerous sentiment. I'd like to think that maybe the press just isn't very good at statistics or looking at numbers from wars. If we look at Mark White's online encyclopedia of wars and disasters, here's sort of the range of death tolls that he has found for the major conflicts since the Vietnam War. These ones in red are the ones for which there was any - any epidemiological data basis for that estimate while the war was going on. That is to say, most of the time, a couple reporters are sitting around in Southern Sudan with a couple of priests, several bottles of whiskey are consumed and a number is born - it appears in a newspaper and then

other papers cite it and it just goes on and on and on. Or sometimes the victors make up a number, or each side makes up a number. so maybe it's just the press never gets any practice looking at death tolls, and that's why they haven't quite got it in this case. Except that, it's not just civilian deaths were the press has completely dropped the ball.

[45:14]

I was at a meeting at the Carnegie Institute for Peace at the end of 2004 and a weapons analyst said and a couple other Pentagon employees repeated, that at that point we had dropped about 50,000 bombs in Iraq. 28,000 during the shock-and-awe and about 22,000 more in the next 18 months. If you read the New York Times, or if you read or listened to National Public Radio you would have thought there were more roadside bombs than bombs dropped by our airplanes. That is not just wrong; that is probably wrong by a factor of 10. Also, the issue of tens of thousands of prisoners in Fallujah who had been held for months could be released like that after a couple of quick pictures turn up. Let's see, either there was no sort of discussion of justice or what does it mean if we can let 20,000 go in a couple of weeks, and we now say they weren't any threat at all. How seriously had we valued their civil liberties before that? Lots and lots of examples like that, but probably the most egregious one was when Saddam was captured - i don't know if you remember - there was a press conference and an American physician, a military physician, sort of went through his hair and pulled his gum - pulled his lip and looked at his gums in front of a room full of cameras. Clearly, to humiliate him. The Geneva Conventions are a particularly imprecise and anemic tool for constraining forces at war. I mean they use all this language like, "shall attempt to " or "shall try to", but the language in the Geneva Conventions as a result of WWII constraining the activities of medical personnel is incredibly precise. Most every physician in the country takes a Hippocratic Oath that says, "when I touch a patient or go and see a patient, my first and foremost duty is to serve that individual's well-being." So here, this person was committing a screaming - screaming violation of both the Geneva Conventions and probably the laws by which they're given a license in their home state. Was a big deal in Europe(?) and not even discussed here. It is important whether 60,000 or almost a million Iraqis have died. First of all, how can we right now have a surge to "protect the population" if we can't define their level of security to a factor of a ten. Or, it matters if, as the Iraqi government was claiming as of last summer, that about one in 80 households have lost someone or as we were saying, one in 7 families lost someone. In this culture where revenge is really important, where family is really important, knowing the level of trauma within society is essential for having a reasonable understanding of the dynamics of what's going on and how we, as outsiders, or how this war as a general event is perceived. And finally, I don't know if you remember a couple weeks ago, more than a month ago, there was a meeting in Iran essentially denying the Holocaust, and a lot of people were very appalled by this. To have Pentagon spokespeople, to have Tony Blair, and George Bush downplaying the number of dead in Iraq by a factor of 10 when the Middle Eastern media either uses our Lancet numbers or uses morgue data that probably makes it sound worse than the Lancet numbers is driving the world apart. And the whole purpose of science is sort of to create commonalities across views of what really is. And it's just obscene that by focusing on a tangible, quantifiable measure, we could be conceivably inflaming the flames of hatred through this - this schism that's developing in the world. I was listening to the radio last Thursday night, and Jamie Tarabay was on National Public Radio - Thursday morning, pardon me - and she was embedded with a - a group in Iraq. She was with the captain, and his soldiers captured three suspicious guys and they're talking over the radio. And a little while goes by, they test the hands of these young men and they find evidence that one of them has TNT on his hands, and the captain in this report on microphone says, "Well, get rockin' and rollin' and go beat him up." And then Jamie Tarabay says, "the interrogation occurred out of sight of the reporter." as if she was talking about ordering a pizza. We as a society have become embedded to a shocking degree. We as a society could

have had millions of listeners hear a captain give the order to torture and there's just no discussion of it in society. We're in a bad spot.