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Wednesday, March 12, 2008

Workshop – No Longer on the Fringe: The Wildland Urban Interface as History

Tape #2

Mark Tebeau – Cleveland State University. *Double Exposure: the Urban Fire Experience and the French.*]

MT – Well, it's my job today to talk about urban fire. And Steve invited me kindly to talk about this problem from the inside out. Although, I have to tell you, the order you put me in the program is difficult. Those are two very good, difficult acts to follow. But I think it's also pleasant, because you'll see some of the same themes that both Jack and Patty talked about, emerge, from the urban into the wildland, as I go forward. So, I'm also going to talk, not just about the inside out, but from the past forward, and give a historical look at the 'urban' in the 'wildland/urban interface.'

Now, I titled ... actually, in a conversation with Steve, titled the talk *Double Exposure*, and the subtitle doesn't really matter; it's a historical convention that I follow. But 'exposure' is an important concept in a sort of different set of ways. The first of them is it's ... the wildland/urban interface is itself about exposure, suddenly the wild and the urban seem to be reconnecting in a way that's tragic, or destructive. 'Exposure' is also a common term that urbanists used ... folks fighting urban fire used ... early in the 20<sup>th</sup> century and in the 19<sup>th</sup> century, to describe fires that communicate from structure to structure. And, at the same time, it also has a kind of double entranda notion, which it connotes the idea of some experience, right? That that 'exposure' is something about a physical experience. As late as the 1930s, 15% of all urban blazes were caused by exposure, which is a really large number, and they're including conflagration in that. But by 1930, large scale conflagrations had all but disappeared.

I can't say the word it just doesn't work, the WUI ['wooie' ? question in voice] ... it just ... doesn't work for me ... the WUI though is precisely about exposure. And as much as 50% of Americans, according to census figures, are at risk at the wildland / urban interface. So that it ... and this problem ... that number has merged dramatically in the last 25 years. So there is a, you know, a human dimension to this problem, not just a physical side of it. Firefighters, fire insurers, and engineers ... I won't speak as much about engineers today,

but mostly about firefighters and insurers ... identify fire experience, their actual contact with blazes, as critical in their battle.

They were relatively successful. By ... and I'm going to show some number in a second ... by the early 20<sup>th</sup> century conflagration had but disappeared from cities. And there are some conditionals to that, but that's mostly happening. So what I want to argue, though, is that what happened after the '20s – the 1920s and '30s, was a new pattern had developed – something that we call suburban development, which we heard both Jack and Patty speak about in different ways. And I think the wildland/urban interface, as a term and a concept, is a misnomer.

What's happening is this kind of intermix fire, to borrow Steve's term, is actually happening in a suburban interface. And if we ignore, if we sort of just skip over the suburbs, and only talk about the urban, we misrepresent, and we misdiagnose the problem, in some ways.

But I also suggest to you that, in the process of suburbanization, the urban, and the successful parts of the urban fire battle, were lost. And so, to me, this kind of suburban space, this [indecipherable] space, is the most dominate settlement space in the United States these days. And it rests somewhere between the city and the wild.

So in this, if, in fact, I'm correct, what have we lost – historically. What's that urban story that gone missing from this dialogue?

Well, firefighters I'm going to tell you about, they physically apprehend fire in cities. Their techniques and cultures shift in direct relationship to the fires environments they face. and here you see (whoops I'm [indecipherable] I see now that ... I'm using notes on my computer) that's what I just spoke about .... So, firefighters physically apprehend fire. their techniques and culture shift in relation to the fire environment. Insurers are about economic control of fire. Effective risk analysis depends quite literally on a record of fire losses – of this experience with fire.

Fire insurance companies ... Aetna Fire Insurance Company, in the 1830s said ... a bragg – “We have a huge record of fire loss. Our customers are burned more often than anyone else. [General chuckles] We've survived. But that's exactly why you should buy our insurance, because we know how to do this business, because we've had a lot of loss.”

There is a social historical aspect to this. In the 19<sup>th</sup> century, fire was part of everyday life in ways that are unimaginable today. Open flames were part of the domestic and productive life. And fire as a cultural phenomena, which Patty alluded to, as a symbol of disorder, was powerful expression in everyday life. When something burned, it set about this process of urban disorder, and was part of this process of disorder. And people saw it as such.

There's a much less mature legal and political landscape. In our spirited conversation at dinner last night, we talked about the proliferation of organization in contemporary society. In the 19<sup>th</sup> century, as this fire problem emerges in the cities, there is none of that. It is really an open field.

As conflagration diminished, in part because of efforts on a variety of fronts, but it is possibly ... I think it's arguable that it diminished, most notably, because the very structure of the landscape changed. The detached structures, single use zoning, those sorts of things, may have had bigger impact on reducing conflagration and controlling the fire problem, than any other particular intervention.

So, as historians do, I'm going to put us ... give us a quick overview in time, just so we're all on the same page.

In the early 1800s, fire emerged as the major challenge to cities, as they, themselves, emerged from the wilderness. This period from ... here you see St. Louis burning in 1849 ... this period from about 1840, a little earlier in some cities, through the 1890s, and into 1904 ... was when Baltimore burned, which is generally considered the last, great, sweeping, urban fire ... that's this period where conflagration – urban conflagration as Jack said, and I would describe Oakland burning in the '90s as a suburban conflagration – that's the moment of urban conflagration.

Beginning in the 1880s, though, what began to happen is the new building materials altered cityscapes. The danger changed in both intensifying and localize.

What do I mean by that?

Well, skyscrapers ... and I'm going to talk about them more in a second ... as a skyscraper goes up, it acts ... there is as much risk in that skyscraper, in that 10 story building, or eight story building, as there had been in a block of two-story, attached buildings. It's just that it's more intensely put together, and more focused in the landscape. But when that skyscraper burns, they don't call it conflagration. They call it a single-structure fire. So the definitions change as well.

But the danger itself is going to change, and that's really important. And humans become more at risk during this period, because they congregate in ever larger spaces. Spaces that are, in fact, often very dangerous, such as theaters and schools. And those fires will be controlled in a variety of ways, some of which I'll talk about. But then, after the War, we get the baby boom and automobile culture – the road runs through it – well, emanates from the city out.

And that auto culture is transformative of the city, 'cause people leave, and move into the suburbs. They move out into the wild. In the 1960s, you really see this suburban development begin to reorganize the landscapes across the country. So this kind of ... and

then, by the '90s, you get ex-urbia. But, already in the '50s, you see the warning signs. Malibu, right? It burns.

Last night, at dinner, I learned about a whole bunch of other fires, that occur steadily in the '50s and '60s, as people move into the fringe.

The other thing I think that's important is that this notion of the urban is itself somewhat exceptional. Here's just a quick demographic view of the urban population. 1920 is the point in time when more Americans live in the cities than live outside them. By 1970, a plurality of Americans are already living in the suburbs. And, now, today, more than half of all Americans live in the suburbs.

The point is that, this battle to contain ... the reason I'm showing you this slide is that this battle to contain urban fire is located in a particular moment in time. And it is a moment in time that has long since passed. Cities, the way they were constructed in the early 20<sup>th</sup> century, are a thing of the past. We may eventually move back to the city, but it'll be a very different kind of development, I would venture to guess. So the kind of struggle that I'm talking about is fairly exceptional I think.

So now, I want to go deeper into this story. And I'm going to broadly periodize it starting in 1800. The story ... the first steps in this process are ... it's a process of the narrowing of civic responsibility. Fire insurance had been available from European companies earlier than the 1800. And then, in the 1770s, you get some mutual companies. And the idea is, a bunch of neighbors band together, and they create a risk pool. And if one of their properties burns, that risk pool will protect them economically.

In 1796, the Insurance company of North America is formed ... is the first 'stock' meaning 'for profit' fire insurance company in the United States. That's a particular moment.

It begins to change how people think about risk. They stop thinking about it communally, and begin to think about it as something that can be bought and sold. It's a process of turning fire risk into a commodity.

At the same time, bucket brigades are replaced by early volunteer fire companies, who argued, very specifically, that they're more efficient than a bucket brigade. Why in the world would you want to have a whole town staffing a bucket brigade, when you could have a thousand volunteer firefighters, protecting the whole town? Isn't it a better thing to do? Isn't it more efficient?

So this battle for efficiency in battling ... in confronting fire, begins. And it's a process that'll continue over time. Patty alluded to it. Even now, it's this kind of individuation of responsibility. It's absolutely critical to how we think about fire today. And that really begins in the cities in the 1800s.

In 1850, this individuation continued, with the emergence of two forms of expert labor, in really powerful ways. But the fire insurance industry begins to mature. I'll talk about that in a moment. But more importantly, volunteer firefighters begin to make arguments ... and I reverse the normal notion that some paid firefighters replaced volunteers. It's actually volunteers who argue ... are often the forefront of arguing for paid fire departments. They begin to conceive of themselves as kind of a ... as professionals.

And so firefighters, as specialized laborers, come into being. You see the image of the bucket brigade, and you see a path. it's ... the bucket brigade is replaced by hose company; is replaced by the volunteer engine company; is replaced by the steam engine company; ultimately to the pompier corps, which emerges to same lives of people trapped in those high buildings in the 1880s. And you can see they look like mountain climbers of the era. They're using wild climbing techniques, to confront fire, in a built landscape, that's changing.

Firefighters move from merely being able to throw water over the top of the fire, to going inside to the building, and beginning to fight fire from the inside out. They begin to think of themselves in terms of this battle on the inside, and in terms of saving lives. And this ... you can see this most evidently perhaps, in the evolution of the way firefighters painted themselves and drew themselves heroically. On the left, you see Thomas Targee, the hero of ... these are all ... three of these images are from St. Louis and the third one's from *Harpers*. The one on the left is Thomas Targee. He's a hero of the St. Louis fire in 1849 because he took a keg of dynamite into a building to blow it up, to stop the fire. You know, this is the tactic. He blows himself up in the process. He's lionized in this picture. But what you see, very clearly in the image, is Targee leading the effort, telling people what to do. You don't see Targee saving lives. You see him directing action from outside the fire.

Then the next hero is one of the climbers we just saw. **Phelim O'Tool\*** who invented this climbing corps in St. Louis, this first pompier corps. And **O'Tool** himself, gets stuck on an upper level building that collapses, and they find him dead in the rubble. He isn't saving a life either. He's merely fighting fire inside a building. A built environment that's increasingly unstable.

And then, about the 1880s, especially in New York, but it happened elsewhere, this notion of the fireman saving ... climbing the ladder ... and the pompier corps is pre-ladder ... right? The notion that ... there aren't ladders tall enough to get to these buildings. Firefighters are very concerned in the 1880s, 'how do we climb the building? We don't have ladders tall enough to get up to the ... we have to scale them from the outside.' The ladder truck is invented; firefighters begin to use tools to get inside the structure. And they begin to save people's lives. They see then ... this then, as a rationale for their occupation. This is what makes them worthy of high pay. I mean, it's a very, kind of, instrumental argument ... worthy of high pay; worthy of your respect. Because they're out there saving lives.

The other reason, which I'll talk about in a second, is the fire insurance companies have absolutely, and very publically, abrogated any responsibility for fire safety. Their phrase is "we don't care if the city burns, as long as we can assess them, and pass it on to the public – works for us. We'll still make our profit out of the conflagration." So firefighters are responding to this vision – this economic vision, and casting themselves as heroes. And it's an image that becomes really, deeply embedded in the American psyche.

You see this image in St. Louis. They put up a statue. You can find that very same image in almost every city. You also find a variant on the Targee image in statues from the earlier period of volunteers, carrying the horn, which symbolizes civic authority, they wore on their shoulders.

So we come back ... firefighters then are creating this heroic image in relationship to fire insurers, who are using statistics, maps, and markets, to control the problem of fire. They're arguing that safety can be burnt into the landscape.

Now, we're going to focus mostly on these maps. Fire insurance maps emerge from the 1850s. There is some earlier fire insurance mapping in the 1840s. But it really emerges as a business in the 1850s. And it's entirely time for the [indecipherable]. Insurers would use the maps to write policy numbers on. It puts risk in a spatial context. It puts their actuarial tables in a spatial context.

And by the way, fire insurance companies ... the notion that an actuarial table is any kind of meaningful representation of risk, is absolutely ridiculous. Even today. They simply don't have a large enough experience. And companies typically don't share data. Very different people compared to life insurance. A life table is exceptionally accurate for population. You know, when, you know, the typical life [indecipherable]. Fire table – the experience ... the landscape is far more complicated. And it's harder for insurance companies to assess exactly what will burn. And in the 19<sup>th</sup> century, they really struggled with this. So one of the things they do is locate risk station. And the fire insurance map becomes a way of standardizing the industry. It begins to embody the kinds of risks that emerge as primary in their portfolios of loss. And it begins to become a kind of [indecipherable palimpsest?] that they ... on which they write the various ... and you can't see it in this image, but they'll write the various things that mitigate fire risk. And building codes are being developed simultaneously by engineers. But in ... you can al... you can see their outlines in these insurance maps.

There's a curious thing about the economic aspects of fire risk – it individuates danger for the individual. So you become responsible for protecting yourself economically, which is very, kind of, capitalist notion. But in fact, their function is to collectivize the risk. And so your goal is to have a company that can collectivize a large amount of risk, and develop a portfolio that's stable. One of the ways they do it is through re-insurance. And they'll then sell their, you know, some of their risk off to re-insurance companies. And the important

thing about re-insurance is, and this is why Jack spoke for re-insurance companies, the individual insurer, the re-insurer, actually protects the individual insurance company from making bad decisions. Right? The real risk is now being carried by someone else. And so, it's, in some ways, a disincentive for them to build safely. Because it doesn't matter. They're backed up. They can pass the economic consequences on, quite successfully.

So, what fire insurers and firefighters are experimenting with in the 19<sup>th</sup> century, gets codified into the 20<sup>th</sup> century. And there's this vast standardization of the business of fire insurance. There's also a shift, a sea change, in what fire insurers do. They begin to seek to prevent fire, which I'll talk more about in a second. At the same time, firefighters ....

### Tape #3

And I have the ... one of the things I looked at in my book was ... I had the entire personnel files of the St. Louis and Philadelphia fire departments. And what you see is in the first three to five years, firefighter's career ... firefighters have exceptionally long careers for the period. And they either wash out in that first two to five, two / three / four/ five years, or they stay in the job for 40 years. Or at least until they die. And so there's this ... there ... it's a culture that develops around this, specifically around saving lives, and really pushing themselves to a particular kind of limit.

A couple of important points I want to make before moving to the next slide. One of the other things ... so fire underwriters help create ...they create a model building code, which they go out and they give to every city and town in the country. And they don't expect the big cities, necessarily, to implement them immediately. But what they expect is all the small towns to. So they saw this as strategy – not for a five or ten year stretch, but a 50 year stretch. As the landscape gets built up, all the next wave of buildings will be built using these building codes.

And that's exactly what happens. Small towns adopt them – almost wholesale. Sensible building codes. I mean, there's nothing radical there.

The other thing is ... the other thing they do ... there are two other important points. They create, out of the burning of the White City at the end of the Chicago World's Fair, they create the Underwriters Laboratory. The Underwriters Laboratory tests electrical devices to make sure they're safe from fire. It's a voluntary, industry standard, that has become so widely administered by the teens ... by, probably, as early as 1905 or 1908, but by the teens, nearly every electrical device being manufactured for use in the United States has been certified by UL.

In a society that oriented around consumption, the fact that electrical devices and other ... and anything that might catch fire, is being tested as safe before it gets to the consumer, is transformative. But it's also entirely hidden from view. Look on some electrical appliance. Almost everything you see will have the UL label, including, probably, this little mouse. The point being, it becomes pervasive. National fire protection ...uh, National Fire Prevention Day, fire insurers are creating it, although they put the heroic firefighter as its administrator.

And meanwhile, engineers and architects have created a fire proof landscape. And I can talk more about that if you're interested. It's pretty important. So the story is, by the 1940s, the fire threat in cities has become mostly invisible. Appliances no longer have open flames. Most products are tested safe. People are now leaving cities from attached dwellings to ... from attached dwellings to detached dwellings. The suburb is seen as the safe haven from the city, from the dangers of the city. One of those dangers, it turns out, is fire, which becomes evident in the 1960s, as we talk ... as you have urban riots in the cities – cities burn. And the notion of the suburb as a safe space, protected from fire and the problems of the city, and the city as an unsafe place that burns, is really etched into the popular imagination.

The danger becomes almost fully individuated. By that I mean that it's your responsibility to buy insurance. In fact, you don't get a home mortgage now, unless you have an insurance policy. That happened in the teens. So that it's your ... it's entirely up to you to save yourself.

Meanwhile, as people are moving into the suburbs, a greater and greater population becomes exposed to the WUI. And I pulled these numbers from the US census. They estimate that 140 million people are living the WUI zones in 2000, which is about half of all Americans, but about 2/3rds of everybody who lives in the city and the countryside.

Fire insurance industry in the 1950s disengaged from the problem of fire. and they did it the simple way. They discovered that they couldn't ... that there was no market in fire insurance anymore. Why don't we bundle a bunch of different risks together – liability, flood – and just treat it as a single homeowner's policy. They began doing it by the '50s. By the '70s, that's a typical homeowner's policy. So nobody necessarily knows they have fire insurance.

They abandoned mapping altogether. Because we've got the problem of fire licked, especially in the suburbs, they stopped mapping. Fire ... Sanborn Agency ceases to exist in the '50s. The industry as a whole becomes less exposed to fire loss.

And also, the landscape changes. New kinds of danger emerge. Automobile culture – associated with the roads. You insure your car. You know more about your car insurance policy than your homeowner's fire policy, I would venture to say.



Also, fire fighting in the suburbs begins to look differently than it does in the cities. In cities, most firefighters are professionals. The system is multiply redundant, in a bunch of different ways. But those ... that system of fire protection doesn't go to the suburbs. Most suburban firefighters become volunteers. They receive formal training, but they receive relatively little practice. And by that I mean, they don't actually fight a whole lot of fires. In fact, if you look at a list of all fire calls, this is in the United States, only seven percent of urban and suburban fire calls have anything ... and actually all fire calls, including rural fire calls ... have anything to do with fires; 60% are for medical aid. It's about helping people – not about fighting fires. That's a huge change. And that, only about 32% of all fires in the United States are structural fires; 51% are outdoors, or other. And 17% are vehicles. So the problem of fire changed dramatically with suburbanization.

So what kinds of lessons might we draw from this story. Well, it's clear that suburban firefighters draw on the same cultural legacy of urban firefighters. But it's mostly in new environments that are empty of fire. So the question is, you know, how do you bring that urban fire experience to wildland fires, when you have suburban firefighters doing the firefighting of fires at the intermix? It's an interesting problem.

Cities are still organized around a catastrophe model. There, you know, you still have redundant protection in cities. Suburbs don't have that same kind of protection. Insurers are significantly less exposed. They've disengaged. How do you reengage them? I'm not sure one can. I think Jack said it very nicely – they have no economic interest in this particular problem. They have economic interest in a host of other catastrophic problems. But fire, as a problem, doesn't seem, especially fire at the wildland/urban interface, doesn't seem to be one.

I think the WUI is a bit a misnomer, because it obscures this fire ... this forgotten fire environment, which is the suburbs. and I actually think, if people moved back to the cities, eventually because of urban ... you know, this trying to diminish the carbon footprint of cities, trying to be more cost effective ... you'll begin to get cities that look a lot more like suburbs, than you will cities that look like they did in 1900.

But I do think ... I noticed there are a few things out there – *Fire Wise* is something that looks a lot like the building codes of the early 20<sup>th</sup> century. Insurers are actually mapping again. I was at a conference in Toronto with Steve recently, and we heard from an insurance agency that they're now going back and starting to re-map suburban fire risk at ... especially at the wildland/urban fire interface. And it's good to hear the International Association of Fire Chiefs finally held its first meeting about the wildland/urban interface just a few weeks ago.

And I think this last image that I'm going to show you really captures this. Steve gave this to me, and I think it really captures this kind of disconnect between the urban experience

and the wildland experience. Here you have a suburban firefighter presumably is that the context of a wildfire or is that just a suburban fire

SP? – No, it was ... it's a WUI fire.

MT – It's a WUI fire and he [indecipherable] he leaves the fire carrying his virtual victim. Right? Replicating the 19<sup>th</sup> century story. Right? It's almost as if he doesn't quite know ... it's complex ... it's almost as if doesn't quite know what the problem is. Right? So, I'll close with that notion of these cultures colliding [indecipherable].

SP? – Thank you

Applause

Well let's have some questions

One of the big legacies of urban fire in the 60s and the 70s was the red zoning of uninsurable neighborhoods what do you see for suburban and interface?

MT – I don't ... I mean, I think ... the money had left the city in the '60s. I think that's why you saw what ... see the ... those properties become uninsurable. And, at dinner last night we were talking, and it strikes me that what's happening in the '60s is the landscape ... it's sort of what happens in a fire – it's being ... culled almost, of neighborhoods, of structures, that are no longer viable, of trees that no longer have overgrowth, and other things. And, in fact, you see in most cities the fires are most prevalent in neighborhoods that were abandoned. So, I just ... I think the fire insurance industry just says we're not going to do it, because they're definitely going to burn, or be torn down, and it's worthless property. I don't think that's ... people are prepared yet, to do that in the suburbs. Although, that New York Times article that was mentioned ... or the Atlantic article that was mentioned earlier suggest that what we might get are these huge slums on the urban fringes, in 15 / 20

years, when nobody's living in those houses. That there are neighborhoods now where ... they're entirely built up. But 60% of the property's in foreclosure. So, you know that may be the next wave. I'm not sure.

Mark you ... there was an interesting cultural focus in the '50s, of volunteer fire departments in the ... like Baltimore County in the '50s was the area that we lived in ... was suburbanizing. But we lived in a community that was isolated from Baltimore County by about 8 miles of, you know, pastoral landscape. And the volunteer fire departments held carnivals for fundraising. They had fire hall dances every Saturday night. They had, you know, just these bizarre kinds of things to bring money in. And everybody would kind of focus on the volunteer fire department as a cultural center of a county where there were no town centers. Kind of an interesting phenomena.

MT – You see that a lot in Ohio. You see, I lived in an older town that is now part of the suburbs. But we had the only aid department for 50 miles ... well, you know, well not 50 ... probably 20 miles in any direction, and they provide mutual aid to all the volunteer departments, that do the exact same thing. And that's exactly the way it was in the 19<sup>th</sup> century too, when this problem first emerged. It's ... the volunteer fire departments stood as really a center of community. Their claim, when they narrowed the civic responsibility from the bucket brigade to the volunteer company, is that we will be a community-based institution, following a set of very transparent, democratic, principles. We are part of the community, not separate from the community. And they make a big deal about that. and the modern volunteer department is very much in that spirit. And, until fairly recently though, you know, volunteer fire departments would not go through significant training. Now they go through, you know, very good, detailed training – except they don't practice in the field at it. Occasionally, they'll burn down a house or something to practice, and it makes the local news. But it's a curious thing. And 72% of all firefighters are [volunteers?] so that's something ... I have the numbers, I just don't have them off the top of my head. That's a huge number of firefighters. Yeah?

Very interesting questions. Listening to the last few questions, I think it's very interesting, in terms of regions of the country, I come from New England, and a lot of what's being discussed has happened before, and seems to be happening again. And so you have [indecipherable] wildland / urban interface. And that question actually just reminds me of the fact that when I was growing up it sounded exactly the same. Is there a real distinction in terms of policy between regions of the country? Because these issues that are raised don't seem to have ... in New England, especially Massachusetts or Rhode Island, there

isn't this wildland/urban interface at least [indecipherable]. And many of these issues that are raised the whole area is described as urban / suburban. I thought ... I'd like to [indecipherable] about how you define a suburb....

MT – The census does it.

Right. Well, actually it doesn't – exactly.

MT – Right.

You know, there are multiple definitions of a suburb even [indecipherable]. So, it seems to me that this is a really interesting ... and it may be addressed later today. But these issues, at least from a policy context, don't have a place in the [indecipherable] in New England.

MT – Well, and I think ...

And I think the exact same process ....

MT – You have ... you think it's something on the order of 80% of the entire problem's in the West are in California, right?

Well, I'll mention that I don't think we have the numbers, but, I mean, I think, if you look at it, the problem is California, in terms of damages. And that would probably be 80 to 90% of the losses are in one state, one part of one state.

Right. The pictures that you're showing, those type of fires, occasionally do happen, you know, even in the northeast, [indecipherable] they're very small. But the type of fires that are happening in say Massachusetts, or where I'm from, Rhode Island, you know, the language is quite different. Obviously the scale is much smaller. But it's the same sort of problem with these brand new McMansions that are in danger of going up in fire. so it

seems to be a very interesting problem that isn't just restricted to one [indecipherable] country, but the language is different.

MT – I absolutely agree. And the other the way the problem is for, at least from an economic perspective, water is a bigger problem in suburban, you know, to suburban homeowners now, in lots of places, than fire is. Because the environment's been so dramatically altered that now water is everywhere, and the way runoff works.

Yeah, a quantification of WUI, in terms of demographics, would be fire over [indecipherable]. The highest census concentration is in New England. [indecipherable] is part of the ingredient, which is why you don't hear it [indecipherable]

How do you explain that wildland firefighters share that cultural, you know, be heroes – even though they're not supposed to enter structures. And they don't haul out people and save lives. And in some cases, I think there is a shift: that firefighters are probably not heroes, but the victims irresponsible homeowners.

MT – Well, that's an interesting ... I think that would make for a very interesting study, because it's obviously ... at some level this cultural – the psychotic firefighter is in the popular imagination, just as wildland firefighter emerges. So they're clearly picking up on it. But you're absolutely right. It's not about saving lives. It's a very different thing. And I think the two fire cultures really draw that distinction quite sharply. But it doesn't diminish or stop either from being heroic. But that heroic image drives people to ... drives firefighters to do things that are patently unsafe. And I think it's ... what's interesting is that in the popular mind, these guys are always heroic. But I would suggest that some of the things they do are so irrational – and so rash – that that's what's causing ... that's what ... they're endangering themselves.

[indecipherable] heroic image is extremely irritating to wildland firefighters. We know [indecipherable]

There's also as ... looking back ... I mean, you look at Storm King or Twin Towers. That fire companies ... firefighting culture on both sides of that divide, are much more

heterogeneous than I think your describing. And part of that heterogeneity is internally making some choices, giving fire companies more choices to say, 'we're not going to go there', you know, 'we don't have enough information about the weather to go there' or 'we don't have the command structure to support a high-rise attack like the Twin Towers.' And that dialogue butts up against the [indecipherable] thinking in terms of [indecipherable] you know.

MT – I would only add to that ... Jack actually suggested, there's, you know, this boundary between, you know, the going into the house .... Right? We don't do structures. And it's partly what you all just suggested – it's a cultural boundary as well as a physical boundary. Right? And I think it's striking. And what I pointed out in that last slide, there might be some hybridization of techniques. I mean, it would be a very difficult thing to do ... is bring these two cultures together, even though they share that kind of similar heroic conception of self. It's also a very gendered.

We're going to have to take a break. But I'm going to intervene with one observation, which is to say that, this afternoon at NIPSE, we will be stopping by the firefighter memorial. [It] would be an interesting occasion to discuss this. One of the issues is: how do you memorialize dead wildland firefighters? [On] the urban side it is pretty clear iconography. What do we do with wildlands? I mean, there is a sense in which we're becoming a government sponsored extreme sport. How is this any different from somebody white-watering down a river in Borneo? [Chuckles in room] And what does society owe that person, or how do you remember them? And so, it's a great topic. I think we'll have a chance later. Let's break for 15 .....

\* – In reading excerpts of the book, I thought that Christian Hoell was the one who started the pompie corps in St. Louis and died in the collapse of a warehouse during a fire. Just for my own information, what was Christian Hoell's role in the development of the pompie corps, and is the pompie corps the group of the firefighters that dressed in climbing gear? Please let me know if you can – I am interested. cariraven@hotmail.com