SEAoNY Honorary Member
25 September 2018

I want to thank Sarah Steele and the board of SEAoNY for this honor. It is a distinct pleasure for me.
And the occasion gives me an excuse to reflect for a short while on 40 years of practice both here and in San Francisco.

I went to graduate school at UC Berkeley and when I graduated in 1978 one of my teachers, Boris Bresler, introduced me to Nick Forrell and Eric Elsesser, for whom I worked for 3 years. They in turn encouraged me to volunteer at the Structural Association of Northern California (SEAoNC) for their on-going revisions to the seismic code, known then as the “Blue Book”. This experience transformed my attitude about structural engineering – which was at first ambivalent – and introduced me to a wonderful collection of engineers, researchers and public servants dedicated to improving earthquake engineering. It was a real and very vital community with a clear social purpose.

Through SEAoNC I formed a circle of colleagues and friends, mostly older, that I maintained for a long time. I even mobilized them a few years later to persuade SEAoC, the statewide group, to hold a referendum of the SEAoC members seeking the organization’s public support of the 1982 Nuclear Freeze Initiative. It was an exciting time.

That year I moved back to NY to work for Paul Weidlinger’s office and through his partner Mario Salvadori started teaching in 1983. I was fortunate also to meet other young engineers, including Nat Oppenheimer, who became close colleagues and friends. I felt that here too I could find the community and purpose I had been introduced to in San Francisco, and I approached Les Robertson (who had once worked in California) about the idea of forming SEAoNY.

He was not optimistic and I realized quickly that he and his peers, including my boss Paul Weidlinger, were not inclined to the idea in part because there really was no immediate cause, no clear natural hazard to address. That generation saw competition more than cooperation.

So when in 1984 Matthys Levy, Weidlinger’s partner, handed me a letter from the NY Associate of Consulting Engineers (NYACE) asking his opinion about a new national seismic zone map which had placed NY in a moderate zone along with Boston, I seized the occasion and wrote a response arguing that it was in fact a real concern. The one other NY engineer to make this point was Les Robertson. So we ended up forming a small committee including Klaus Jacob and others from Lamont Doherty and began the steady, glacial process that led to Local Law 17 in 1995 – signed by Rudy Giuliani – that established the NYC Seismic Code.

It’s a good story with many twists and turn and has been well recorded by Robert Olshansky of the University of Illinois in a publication on the EERI (Earthquake Engineering Research Institute) web site. Along the way of this 11 year trek to the code adoption I met my contemporaries from other offices and formed a good rapport with the old guard – Irwin Cantor, Jacob Grossman, Ed Messina and Richard Tomasetti. Most of them were as you can imagine skeptical of the idea of a NY Seismic Code but with patience, and some good breaks on the political side, it worked out.

The next step was to bring the younger principals – Tom Scarangello, Aine Brazil, Ramon Gilsanz, Steve De Simone, Ed DePaolo, Ahmed Rahimian and others – together to form a SEAoNY. I organized a series of breakfast meetings at the aptly named Players Club and in due course we agreed on the bylaws and inaugurated the association. Aine Brazil was the first president which I think did set a clear pattern of equity for the organization.
As you well know this organization fully emerged as a force in NY City in the aftermath of 9-11. The same group that had started SEAoNY gathered the following day, in Aine Brazil’s office, and then quickly convinced the city to accept our help at Ground Zero starting that same week. On my first day on site, I also realized that the city was having trouble figuring out how to assess the damage to buildings in the surrounding “restricted zone” and set out to organize a more systematic assessment. The work we did is summarized in a book that we later published with FEMA support and that I think is available in most offices and libraries around town. Our inspections closely followed the techniques that had been developed by the Applied Technology Council in California for the rapid assessment of post-earthquake damage.

By then I had also started my own practice. I had left Weidlinger in 1987 to open the NY office of Ove Arup & Partners and then, when I was offered a full time teaching job at Princeton, left Arup in 1997 to open my office – right next door to Ground Zero.
Of course teaching offered me another way, first at Columbia and then Princeton, to contribute to the engineering community in NY. Together with MoMA, SEAoNY and Princeton I organized the Candela Lectures series, later published by MoMA, which highlighted the creative contribution of engineers from Jorg Schlaich to Les Robertson. A few years after 9-11 I also co-curated the MoMA exhibition “Tall Buildings” which featured many NY engineers from the younger generation. Our exhibition *Rising Currents* at MoMA brought architects and engineers together to promote climate adaptation and 2 years ago I organized a symposium at MoMA where engineers from around the world came together to reflect on the lineages and histories of structural engineering in Japan. All these efforts have been aimed at strengthening the culture of structural engineering in NY and elsewhere.

After 9-11 I came to think, working on the site, that there were many fundamental and difficult problems of urban planning and civil engineering that were neglected or mismanaged for which engineers could offer fresh ways to frame strategies. In the months after 9-11 we had all worked in a collective effort where the deliberative process of analysis and debate, reasoned but also heart felt, led to generally good decisions. But in the years that followed I watched, as I worked on a variety of projects at Ground Zero, as the political and planning process made a general mess of things. The past decade and a half of development in New York, in my view, has had some successes but overall many unnecessary and costly mistakes. I don’t think it has to be this way and I believe engineers and architects have an opportunity, civic duty and capacity to do things better that those currently in power, both political and financial. If you look back on the role of figures like the architects Charles McKim and Wallace Harrison or the landscape architect Frederick Law Olmsted, or the civil engineers Othmar Amman, Nate Newmark, Gilbert White and Abe Wolman, there are many instances of effective civic leadership that is generous, compassionate and has stood up over time.

For 10 years, from 2006, I was a member of the city’s Art Commission – now Public Design Commission. I was put there by Mayor Bloomberg to help improve the quality of engineering design and planning on city projects – but I had very limited success. In particular I tried to ameliorate the design of pedestrian bridges, so that they wouldn’t be the rusting cow tunnels they are now - and I encountered immovable opposition from the departments. The problem was of course bureaucratic resistance but also the absence of a common set of values about what design excellence in infrastructure represented.

In the past decade I’ve worked on climate adaptation and coastal resilience together with my wife Catherine Seavitt. Our book *On the Water* served as the basis of the MoMA exhibition *Rising Currents* which set the framework for many of the post Hurricane Sandy design initiatives. While those all have had a positive impact and more and more coastal resilience projects have incorporated public uses and natural and ecological elements, there too we have all found many obstacles to quality and strategic planning.

A beautiful pedestrian bridge in Europe costs half of what an ugly one does in the US. We could have high speed rail in the US, elegant airports at half the cost of our current ones, fair and generous training programs and health care and job security for construction workers, and adaptation to climate change that enhances city life and ecologies. We have the money. We have spent it in the last two decades on wars and tax cuts for those that don’t need them.

We have witnessed a boom in construction in NY in the last 2 decades. Who benefits, how proud will our grandchildren be of these civil works? Will they measure up in time to the other great achievements of NY – the public libraries, the bridges, the parks. The transportation hub at the World Trade Center has 2/3 the steel tonnage of the 1,792 ft tall WTC Tower 1. Is that a good allocation of resource? Can engineers learn how not to make a similar mistake in the future?

The last time the voter turnout for a presidential election was greater than 60% of the voting age population was in 1968. That’s 50 years ago. People don’t vote for many reason but some are that they see from their everyday experience on roads and mass transit, in schools and libraries, and in their neighborhood services from water to gas to power, that the physical things of cities and country are deteriorating and no amount of privatization or public private partnership has made them much better.

In the last two years and even months we have seen how federal chaos and insult has stirred people, especially women, to become engaged as citizens and even run for office. They want to gain power and serve the public. They know clearly what they want to achieve – better health and day care, equal pay, good schools. I don’t see why organizations like SEAoNY couldn’t mobilize for the things they know and care about and do great things to promote the best allocation of our resources to the civil works around us.