GUEST EDITORIAL

Emotional Engineering

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The hypotrochoid of the moral universe is long,

but it bends toward justice.

I arise in the morning torn between a desire to improve the world and a desire to enjoy the world. This makes it hard to plan the day.

E. B. White

One thing alone I charge you. As you live, believe in life! Always human beings will live and progress to greater, broader and fuller life. The only possible death is to lose belief in this truth simply because the great end comes slowly, because time is long.

W. E. B. Du Bois

I want to talk about emotions. Well, I don't really want to. Frankly, not having to deal with emotions was one of the attributes of engineering that attracted me to this field of study. I liked keeping interactions on an intellectual level. Answers to Math and Physics homework sets were cut and dried and the odd numbered ones could be found in the back of the book. There was security in knowing the right answer. However, despite the promise of clarity, even as an engineer, I found questions finding their way in, or their way out, questions that were rooted in my emotional landscape. Is this all there is? What do I want my life to be about? How am I making the world a

better place by the work that I do? These weren't academic questions for me; they were soul searching questions that challenged the core of my identity. Could I be an engineer and be whole, whatever that might mean? I'm proud of the work I have done to become an engineer, but there is something missing.

Adding to the difficulty, I felt alone. No one else seemed to be asking these types of questions. It looked more and more as if I were the bad data point. Others may have complained about aspects of the job, but few articulated asking what we were doing on a fundamental level. Thankfully, I found some fellow travelers who were also questioning our place as engineers in a larger context. This Engineering, Social Justice, and Peace community is a sanity-saving organization for me. While there are few of us, and we may all be bad data points, I know that I am not alone.

However, to my surprise, with this new connection, I still wasn't able to abandon my emotions and center only on intellectual pursuits. The emotional tumult was still there, but now with different questions. How do I know if I am doing enough? What is enough? Everyone is doing so much more than I am. Is change even possible? Maybe nothing we do will actually make a difference. In my meandering relationship with my emotions, I have finally come to believe that emotions are not just a bug in the program that need to be controlled, but the unacknowledged feature that holds the critical key to our work towards social justice.

Instead of running from these questions, I am practicing sitting in the discomfort of them. Furthermore, I expect that if these questions lose energy for me, others will appear in their place. We need to embrace the emotional aspect of our engineering lives. A classic quote from Einstein asserts that a problem can't be solved at the same level with which it was created. The level on which our profession of engineering operates is one which de facto denies emotions. This denial hurts. It hurts us because we aren't acknowledging our whole selves. It hurts our quest for social justice and peace because we certainly can't acknowledge the whole planet if we don't even know ourselves.

Welcoming our emotional lives to the table is a step we have to take in pursuit of fundamental change. It will be easier for some of us than for others, and we need to be respectful of where everyone may be in their own journey. However, we have to stretch through our uneasiness, with the same effort and dedication that we had to use when faced with an academic challenge like thermodynamics. I see it as an inverse function where my goal is now to move from certainty to mystery.

For me, the ESJP conferences are where I feel most connected to the emotional dimensions of an engineering community, aligned to the pursuit of social justice. This is why I volunteered to host the ESJP conference on Whidbey Island in 2009. In the face-to-face interactions, in the space between the formal presentations, I found what was missing in "normal" engineering conferences. In the conferences that I attended in Binghamton, NY, we played theater games and constructed dioramas with modeling clay. We acknowledged that we were more than people who just think.

At the conference at Smith College, we found ourselves constantly behind schedule. We would have thought-provoking presentations, and then we would spill over into conversations that included our feelings of hope and despair. A theme for me is the importance of what happens in the space around the actual presentation or exercise. "Debriefing" sounds so cold, when that is often the richest part. At the conference in Bogota, we did a "privilege walk" where we took steps forwards or backwards depending on our lived experiences. After several questions were asked, we found ourselves spread out—a strong visual of how privilege plays different roles in our lives. The harder,

and more painful part, was the conversation back in the classroom. It illustrated for me that we can pretend all we want that information is just information, but we were clearly traversing an emotional terrain while on our privilege walk. I don't think we have all the answers on how to do this work perfectly or with extreme grace, but I fully believe that the work we want to do won't be accomplished without opening ourselves to the vulnerability of sharing our emotions—risky behavior with a huge potential reward.

The conference at RPI illustrated again that our community is willing to take the risk of connection. Our conversations went beyond facts and delved into the feelings of what we are dealing with. Those feelings weren't necessarily comfortable. Maybe they are necessarily uncomfortable? We were asking if all of this is just a complete waste of time. What are we putting our students through? For me, I was thankful for the level of honesty. We experienced even more discomfort later by sitting in a circle with no guidance or rules of conversation and dealing with what emerged. Again, the willingness to pursue other ways to be with each other is inspiring.

Another example honoring emotional connection came from the conference held on Whidbey island. We participated in a lively, somewhat intellectual, exercise about “polarities”—the both/and aspects in our work such as the tension between working from within the system and working from outside the system. We then took a long walk on the beach, hanging out in small groups, collecting driftwood and shells. From that relaxed space and using our found objects, we started individual art projects of creating mobiles that represented our own personal polarities. Patience and activism. Individualism and community. Chaotic creativity and detailed precision. The art pieces were beautiful to behold. However, a profound part of the process, which I had completely underestimated, was when we gathered around each mobile, and its creator explained the meaning behind the art. Deep, real sharing happened. The world wasn't quite so lonely.

I have certainly been inspired and grown from intellectually knowing what others are doing and researching, but the most powerful moments for me at the ESJP conferences have always included a large emotional content. Working on social justice within an engineering context is lonely. There aren't enough of us and it can be hard to tell who is an ally in the work. When we honor and acknowledge our emotions in the space of other engineers, we are offering our trust in each other and a certain level of bonding. We are not going to create social justice within engineering as individuals, we have to be in community. These connections happen, even when the emotions leave the realm of love and joy and veer into the terrain of fear, pain, or anger. Social Justice and Peace work isn't supposed to be comfortable. We have built an environment that gives us some moments to turn towards our emotions and towards each other. How rare for us engineers and how thankful I am for the space and for all of you. I am interested in diving in even more deeply to the emotional landscape we bring to this work.