

'claimed' by the artists because they signed their work. Since I regard my paintings as visual essays, to acknowledge my 'quotations' was necessary.

**Reconstruct:** *Thank you so much for sharing this piece with us. This discussion and your work illuminate new ways of relating engineering, social justice, and peace.*

Sylvat: Thank you.

## Action

### Points of Contact

George Catalano and I are starting a project where we want to build case studies of engineering practice which promotes social justice in any way - what do the organizations look like, what do they do? Also we would love to hear about experiences of teaching for social justice in an engineering context. Please contact George and me if you know of a good case. [cbailie@post.queensu.ca](mailto:cbailie@post.queensu.ca)

-Caroline Baillie

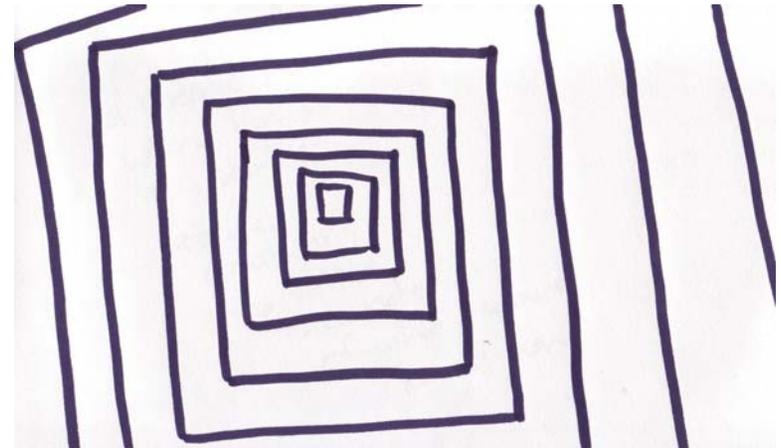
# Reconstruct

## A zine about Engineering, Social Justice, and Peace



*Possible, Tanya Neumeyer, 2006*

please pass this zine on  
to others who would enjoy  
when you are finished



*Bigger Boxes Tanya Neumeyer, 2006*  
(response to Blake's *Elisha in the Chamber on the Wall* c.1820)

# What this is about...

Welcome to *Reconstruct!* This zine grew out of a conference held at Binghamton University in Spring 2006. Through this vehicle we hope to connect with likeminded others out there and stimulate conversation about engineering, social justice, and peace.

Our name reflects our desire to change attitudes and outlooks within the profession. We offer critical analyses to *deconstruct* engineering-as-usual, and to examine social *constructs* of engineering that perpetuate a culture of militarism and materialism. Our community will take action to *reconstruct* engineering as a profession that embraces the goals of social justice and peace.

To learn more about the zine, or to get more involved with our work on engineering, social justice, and peace,

visit our wiki at <http://esjp.wikispaces.com/>. Special thanks to all the contributors to the first issue, to the attendees of the Binghamton meeting, and to Cora Olson for her editing and layout work.

## Submit your ideas!

Our next issue will highlight the diversity of perspectives on engineering, social justice and peace. Send in your phrase or short answer completing the following...

Engineering is...

Social Justice is...

Peace is...

Send your responses, and any other submission (art poetry, short articles of 500 words or less) to Donna Riley, [driley@email.smith.edu](mailto:driley@email.smith.edu).

mischievously, on the bald head of a spectator.

**Reconstruct: How do the figures & flowers relate to each other?**

**Sylvat:** The floral motif comprising the periphery is a reference to the eastern carpets/miniature paintings and the general popular culture of the mid and south east that is incredibly complex in form and function; no breathing space here, but a density of information that borders on the obsessive to the western eye. To the non western sensibility with the weight of its cultural legacies, it is simply life along with its fig (or palm!) leaf- its untidiness and abundance is not an issue.

Cheap, roadside indigenous post cards usually have gaudy borders. They also have an eclectic imagery that can be very regional and topical. This is my intention with the Mother of all Postcards. The reference to 'mother' is of course to signify 'big'; a term used to refer to the Iraq war. (It may be interesting to note that 'motherfucker' is one of the most potent abuses going in the Arab world, it also makes one wonder about the American war song with the title 'die motherfucker die' that the American troops play the most when doing sorties, according to CNN.)

The references to beheadings and big fish eating little fish are, I hope, self

evident. The images are also very absurd in a theatrical context without their own moorings in their own context. A head and a veil floating around, with anthropomorphic figures who almost run into each other, while the skull grins, and one does not quite know whether the big fish is swallowing or regurgitating smaller fish.

**Reconstruct: The veil looks somewhat like a burka. Is that intentional?**

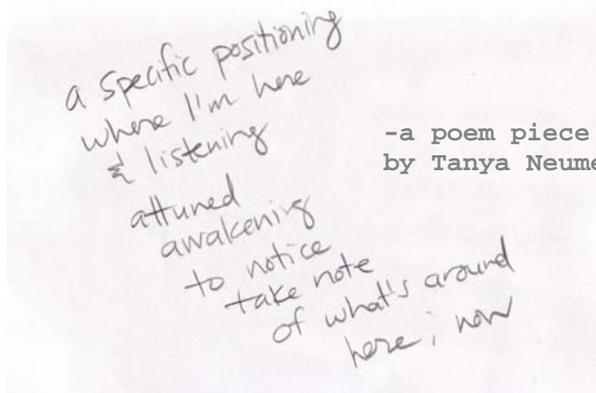
**Sylvat:** The blue veils are a reference to the noble minded efforts to liberate women from their bondage by men in the Muslim world. Again, it is very hard to liberate a woman in her forties whose menfolk have just been evaporated by a

**It is very hard to liberate a woman in her forties whose menfolk have just been evaporated by a \$1 Million cruise missile in her \$5 mud hut.**

\$1 Million cruise missile in her \$5 mud hut. As one believing woman said to me, do not judge a woman by what is on her head but what is in her head. The pathetic images of veiled women among others of equally pathetic men and children, in our newscasts, are not so much an indication of the oppression of women as a definite indication of what happens when one is uneducated, destitute, sick, hopeless, and very, very poor and targeted by all kinds of insecure fanatics, all praying before a kill, some in religious buildings and some in white houses - some in both.

**Reconstruct: Why do you cite the references?**

**Sylvat:** I want to demystify my process. These three references were western and



## Interview

Sylvat Aziz, Associate Professor of Art, Queen's University) on her 2005 work, The Mother of all Post Cards or the Haha Behind the Bush

**Reconstruct: What is a haha?**

**Sylvat:** A 'haha' is an engineered garden planning device that was made popular when the landscaped garden grew out of the old deer parks in England. Hahas are embanked ditches, usually faced with brick or

stone, dug out of the boundary between park and garden, and a partition or a wall structure placed in the median to prevent animals swimming across. The ditch was then filled with water and made to look like an ornamental channel flowing between the wilderness of the park and the civilized (picnic/high tea) garden part of the estate.

This seemingly pleasant deception was inconsequential until the 'commoners' became wealthy enough to buy divided estates of the bankrupt aristocracy. When Witman Bowes, a London glassmaker, bought the Burford House in the 1720s, he was led to believe that the estate included the deer park he could see from the house. Six years of litigation followed the discovery that he had been fooled by the haha. His fury may be explained in the supposition that he was moving out of the trade into

the life of the country gentleman and he had been cheated out of the whole package. (Quest-Ritson, 2001)

The relevance of the haha to the painting is implicit. We are often the subjects of massive deception and often too willing to participate in it and accept it without question. It is a reference to the 'blue-pill people' who forever live in a delusion,

**We are often the subjects of massive deception and too willing to participate in it and accept it without question.**

while the real Matrix in our day and time has its 'pod' keepers as well. They are a part and parcel of our 'democratic' capitalism that we must support and defend to protect the illusion of our 'safe' existences.

**Reconstruct: What do the horned animals represent, and why are they holding sticks?**

**Sylvat:** The horned animals are goats, symbolizing fertility, sexuality, and vulgarity. The medieval (mid eastern) buffoons, clowns and jokers donned the likeness of the goat or other domestic animals to perform, and were immune to punishment while speaking their mind. They had the license to be the fool, the trickster, the jester, the chorus or the little boy that can call the emperor naked, as they were the conscience of the society. The sticks are the jester's tools, 'slapsticks' -- two thick straps of leather that make a slapping noise when struck on the thigh, the palm or, more

## Ironic/ Funny/Sad

**An interesting situation regarding a Vermont nuclear power plant...**

*The Boston Globe* - March 3, 2006. (emphasis ours)

"After what is described as the **most extensive review** of its kind, the Nuclear Regulatory Commission yesterday approved a 20 percent power increase for the Vermont Yankee nuclear power plant... Opponents worry the plant's age and the increased power production will **create vibration and stress critical components** of the plant..."

But Jim Dyer, director of the NRC's office of nuclear reactor regulation, said the agency took **great care** to identify and address technical concerns with safely operating the plant at increased power."

**4 days later...**

*The Boston Globe* - March 7, 2006. (emphasis ours)

"A 20 percent power increase at the Vermont Yankee nuclear plant has been put on hold until a problem with **excess vibration** in a main steam line is resolved..."

**"Some people, you don't have to satirize, you just quote 'em."**

**-Tom Paxton**

"In daily life, the concepts of Mr. Right and Ms. Right are also idealizations, just like the concept of a reversible (perfect) process. People who insist on finding Mr. or Ms. Right to settle down are bound to remain Mr. or Ms. Single **for the rest of their lives**..."

"Having a disorganized (high-entropy) army is like having no army at all.... One army that consists of 10 divisions is 10 times more powerful than 10 armies each consisting of a single division. Likewise, one country that consists of 10 states is more powerful than 10 countries, each consisting of a single state. The *United States* would not be such a powerful country if there were 50 independent countries in its place instead of a single country with 50 states."

**From:** Çengel, Yunus A. and Michael A. Boles. *Thermodynamics: An Engineering Approach*. McGraw Hill 5th ed. 2006. (underline ours, non-bold italics theirs)

**- Cora Olson and Donna Riley**

# Reflections

## A conference on Social Justice, Peace and... Engineering?!?

Yes, indeed. It did happen. I am happy to proclaim that students, professors, administrators and friends alike did gather in Binghamton, NY to discuss some central questions relating to these themes. The question of what engineering might look like if it were to serve social justice has been a key one for me in my final year at Queen's. I would love to find ways to help revision the ways that engineering contributes to society. I am learning to see myself as a citizen and from that position of responsibility, with the privilege of the education I have, I am finding ways to be most helpful in this work on social justice and peace in engineering. There are so many what-if questions that we could ask ourselves, which might help us to see things differently. What if we had networks of people committed to social justice and peace in engineering? And why not? Why not begin to find ways to work as a movement for change in how engineering is constructed and carried forward?

-Tanya Neumeier

## Humbled...and Excited

Hindsight is always an amazing thing. It sifts through history and allows us to see the culmination of a feeling, or an event, or a space in time where we were influenced. In everything we do, we will be influenced, good or bad, significantly or unnoticed.

### An Inspiration

The most memorable and possibly influential time for me was time spent in a group sharing our experiences working for social justice and peace. The group was diverse and included an engineering educator, a student in language, a representative from the military and a peace activist. The session provided time for me to interact with both people who were very much like myself, and people with different opinions.

Our discussion of pedagogy helped me focus my thoughts on incorporating some new ideas in Humanitarian Engineering. It helped me to begin a conversation with another person who is doing what I aspire to do.

My commonality with Charles helped me answer some questions about protesting and fighting for change, and although there was a gap in our age, it was great to see a very small gap in our enthusiasm. The more we talk, the more people get involved and the more positive influence we can have on a path towards greater change.

layers of commodities. Sardar suggests that to break the globalisation of western society and in keeping with the rise and fall of civilizations, plurality must take control. 'It seems that colonialism has predisposed the colonizers to think only in colonial terms.' (Sardar, 2003). The future must reflect a broader range of values.

These two overtly 'political' resources enable concentrated questioning of our perspectives. Once undertaken some of the students say, 'this is biased', 'it's political.'

This caused us both concern initially but many aspects of education are political. Are we always sensitive to our everyday educational practices regarding the implicit and explicit politics fostered through the process and content of our educational system? If for just one moment students encounter some material that raises awareness about politics, in areas that are not perceived 'political subjects' then we can go away thinking at least for a moment the box was broken.

-Sylvat Aziz and Jane Pritchard



Sylvat Aziz, The Mother of all Post Cards or the Haha Behind the Bush [2005. Oil/pigment on canvas, sculpted styrene/canvas with laminated canvas and paint. 9 feet tall and 13 feet wide.] References: 1.Vanitas Still life, O. Guthfeldt; 2.Feast of Herod, Lucas Cranach the Elder; 3.Big Fish Eat Little Fish, Pieter Brueghel

# The Bigger Box!

Often in University education there's talk of encouraging our students to 'think outside the box'. However, instead of rending the box we may be in danger of merely increasing its size. Recently we've been trying ways to encourage students to consider 'other' perspectives relating to technology, society and art. Falsely, the moral and ethical 'responsibility' of art is assumed automatically.

Engineering is now voicing a concern internally regarding its related responsibilities toward society. In both disciplines an audit is required to glimpse how we design, make things and conduct ourselves in relation to technology and society.

We both teach two very different elective courses (Jane's Technology and Society and Sylvat's Methods and Media in Art) during the summer term at the International Study Centre ([www.queensu.ca/isc](http://www.queensu.ca/isc)) in the UK. However, we both share a commitment to social justice and have been working on ways to bring together the learning in our courses. The students in both classes have diverse disciplinary backgrounds - Politics, Development Studies,

English, Engineering and Media Studies.

In the Technology and Society course there was a stumbling block: students could only consider technologies such as mp3 players and toasters; in Art, the students were simply stumped at the question of social justice. Both groups of students were shown the film *Koyansqaatsi: life out of balance* ([koyaanisqatsi.org](http://koyaanisqatsi.org)) and both were introduced at a later date to a superbly evocative

**Are we sensitive to the implicit and explicit politics fostered through the process and content of our educational system?**

essay by Ziuaddin Sardar: Western Colonisation of the Future (in *Technology and the Future*, 9<sup>th</sup> ed., 2003, A.H. Teich, ed.).

The film contains powerful imagery set to music by Philip Glass that challenges us all to see beneath the layers of commodities we have created. The impact on the students was immediate. Some felt harangued by it but none could escape the overtly foreboding sense that the reality of our life today is increasingly distant from nature and our desire for controlling order con-fines us to a smaller box.

Sardar (2003) writes, 'the future has been colonized' and the West are the colonizers. Technology has been the creator of its own secondary technologies to foster our ever increasing separation from balance in nature: as in the *Koyansqaatsi* film with

I enjoyed the inclusive-ness, the techniques used to engage people (art, graffiti boards, journals etc.), and the ability to just spend time thinking and doodling.

## Where do I go from here?

The time spent in New York was a needed catalyst to further my understanding and research for engineering, social justice and peace. It was enlightening to see the initiative in Binghamton and to meet the people involved.

At one time I pessimistically pondered the idea of being an activist for positive change and conversely how easy it is to just not care. Some people find it easy to live unconscious of such ideas and at times I wondered if my passion was masking a youthful naïveté to dream big dreams. Seeing Charles and being amongst this group gave me a great desire to continue. I aspire to be someone who will tirelessly search for greater good.

The conversation has started, and that is a great thing. The conversation will continue, and that is a greater thing. I look be a positive part of the conversation and take what I learn and deliver it into humanitarian engineering, to continue the conversation. There are many ideas that are often overlooked, but should be incorporated in our education, and because I have found a way to be a part of a greater

conversation for future generations of engineers, right now I see no greater responsibility. I hope I can do the conversation justice. I am humbled, interested and excited.

-Jamie Miller

## Building Community

The conference in Binghamton was organized as a series of conversations around the following questions:

**The more we talk, the more people get involved and the more positive influence we can have on a path towards change.**

what are social justice and peace? How does my work promote social justice and peace? What problems have I en-counterred in my efforts to promote social justice and peace? How have I dealt with these problems? What obstacles exist in the engineering profession that impedes the promotion of social justice and peace? What solutions may exist for overcoming these obstacles? What specific ideas exist which can be taken to the classroom and my community?

I came to the conference with trust that exploring these questions through conversation would be a helpful way to address them in depth and with others.

## Lessons & Insightful Moments

Each time I work with these questions with new experiences, there are new insights that emerge. It is helpful to be able to discuss core questions with others who are questioning and working themselves in this area. Out of this

shared discussion and reflection comes a sense of community and support. Since the work of explicitly bringing social justice and peace as dimensions of engineering seems to be new, it is very helpful to feel the support of others when often working alone or as one of a few against powerful professional cultural assumptions.

I had previously not explicitly considered the dimension of peace as it relates to social justice and engineering. I do see it as an important dimension considering the culture of fear and violence that is taken for granted in the United States (and in its actions internationally).

There is certainly a long history of social justice and peace activism and we were fortunate to have a long-standing peace activist, Charles Schultze, amongst our group. Charlie was arrested and jailed for spray painting "thou shalt not kill" on an F-16 fighter plane. It was inspiring to connect with other forms of activism that participants brought to our discussion. I think that continuing to connect with others who work for similar values in different ways can continue to be inspiring and helpful. Through connecting, new strategies can emerge.

#### Emerging Ideas

The creative context in which the conversations

around engineering, social justice and peace were held (complete with crayons, markers, drawing pencils, pastels, colourful paper of all sizes) helped me to explore different dimensions of contributing to this work. I would like to continue to look at how art might be a supportive means of expression and sharing ideas with others for the purpose of social justice and peace.

**It is helpful to feel the support of others when we are working alone or as one of a few against powerful professional cultural assumptions.**

I feel that my presence at the conference helped to support an atmosphere where each person could contribute personally and openly. I hope to continue to find possibilities for how my experience in hosting and organizing conversations can be helpful.

We were successful in building a sense of community through the conversations that we participated in and I hope that we can continue to stay connected and support one another in our work. As I continue to answer the questions of how I can contribute, I know that sharing what work I do can also be supportive to others.

- Tanya Neumeayer

#### Onwards!

When I lived in London, just near the river Thames, I saw the home-less people in 'cardboard city' displaced because of a new

IMAX cinema that was constructed. It wasn't much, a cardboard box with a few books, sheets and a table lamp but for several hundred lost souls, it was dry and it was home. I was living just down the road, in the same area that Blake wrote much about.

I was inspired to study his words and illustrations and my theatre company Critical Stage created a theatre production called 'Experience Innocence'. We drew on the work from 'Songs of Innocence and Experience' - 'shewing the Two Contrary States of the Human Soul'. Blake could see then what effect reductionism to a material world, with reason but no imagination, could have on our world. I want to quote some of his words that inspired me in this work.

#### London

*I wander through each charter'd street  
Near where the charter'd Thames does  
flow  
And mark in every face I meet  
Marks of weakness, marks of woe.*

*In every cry of every Man  
In every Infants cry of fear  
In every voice: In every ban  
The mind-forg'd manacles I hear*

*How the Chimney-sweepers cry  
Every black'ning Church appalls  
And the hapless Soldiers sigh  
Runs in blood down the Palace walls*

*But most thro' midnight streets I hear  
How the youthful Harlots curse  
Blasts the new-born Infants tear  
And blights with plagues the Marriage  
hearse*

Many feel we are in a better position today with reduction of child labour, pollution etc. and yet I believe we see far more 'mind-forg'd manacles' today than ever before - dressed up in progress. I believe our movement and many others working towards social justice can actually ask the questions which necessitate us all to locate the source of our greed and complacency.

**We see far more 'mind-forg'd manacles' today than ever before - dressed up in progress.**

We are not in a position to feel good about ourselves when so many people are still living in terror and woe with conditions no better than those in Blake's London. As he reminds us in his piece 'Human Abstract':

*Pity would be no more  
If we did not make somebody Poor  
And Mercy no more could be  
If all were as happy as we*

After working for two years to bring together such wonderful people in our recent symposium I took away a real belief in our movement - that 'we' - a community of friends are moving forwards towards an ideal which we believe in and hope to attract others to join us along the way. I therefore give my definitions of the terms **Social justice** is... the movement towards a time when all people lead a fulfilled life - where everyone is 'as happy as we' and **Peace** is... the space in which the above may happen.

-Caroline Baillie