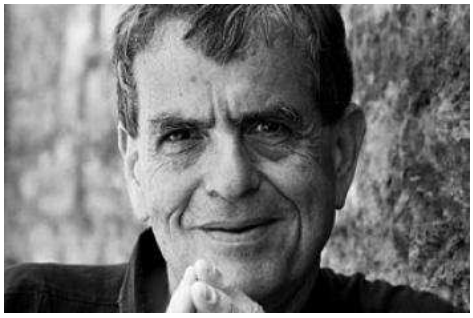
Nobel Laureate Aaron Ciechanover inspires Charlotte

by Michael J. Solender



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"The notion that 'if you believe in Darwin, you can't believe in God' is one that I simply cannot accept," said Nobel Laureate Dr. Aaron Ciechanover, responding to a question asked of him by a local high school student. The young lady asked Ciechanover how he reconciled the apparent dichotomies that exist between science and faith.

"Scientists of course need proof to verify research and scientific theories," said Ciechanover. "Once we start using the same terms and words to describe God, however, God does not exist any longer. Man does not have the tools – language is insufficient – to describe God. God is beyond proof."

The exchange was part of a student dialogue and special curriculum developed by the Echo Foundation, a Charlotte-based nonprofit humanitarian organization. William A. Hough High School in Cornelius hosted 600 students and 30 teachers from sixteen Charlotte-Mecklenburg high schools for the special event earlier this week.

Ciechanover shared the 2004 Nobel Prize in Chemistry, along with his colleagues Dr. Avram Hershko and Dr. Irwin Rose, for their discovery of ubiquitin-mediated protein degradation, a process by which proteins are tagged for destruction within a cell. Their research has improved the understanding and treatment of diseases such as Alzheimer's, Parkinson's, and Leukemia.

For the past fourteen years, Echo has hosted renowned humanitarians bringing speakers and programs to Charlotte, illustrating how one person can make a difference for humanity. Part of their mission is developing educational programs to help equip youth with the moral and intellectual tools to create positive change in the world

Echo Foundation President and co-founder Stephanie Ansaldo noted,

> *We develop unique educational components in order to bring about a shift in perspective and underscore the particular emphasis that these individuals bring to the community. Recent results from the National Assessment of Education Progress show only one-fifth of high school seniors are proficient in science. Science holds the solutions to some of the most pressing problems facing society today. The Aaron Ciechanover Project connects young people with this great humanitarian and scientist, inspiring them to consider science as a career and as a means of serving humanity.*

Ciechanover also served as the keynote speaker at Echo's fourteenth annual award ceremony. This event highlights the work of regional community leaders and their contributions through the Echo Award Against Indifference. This award was established to honor a member of the Mecklenburg County community who works "with an eye towards peace, a heart filled with compassion and a voice against indifference, in order to remind our community of its highest ideals." This year's recipient is Pat Rodgers, President and CEO of Rodgers Builders, Inc.

The award pays tribute in part and is homage to the work of internationally revered humanitarian and Nobel Laureate for Peace Elie Wiesel. Wiesel visited Charlotte in 1997 as the culmination of a community-wide, year-long educational initiative and spoke "Against Indifference" to more than 23,000 students and adults. So inspired was he by this visit to Charlotte that, as he left, he challenged the community to act on its convictions in the critical areas of human dignity, justice, and moral courage. Wiesel provided seed money to continue the work that had been undertaken and co-founded Echo with Ansaldo.

Ciechanover's visit with the students was a fitting supplement to the semester-long program in place at Hough and other area schools. Julie McConnell is a biology teacher at Hough and served as faculty chair of the education committee for the student dialogue. When she learned through Echo of Ciechanover's visit, she immediately saw a tremendous opportunity for her school and students and prepared an application to host the Nobel Laureate at the newly opened CMS school.

"This is an opportunity for students to see the relevance of science, how it can change lives," said McConnell. "Dr. Ciechanover's visit and interest in directly engaging with our students is motivating. He's showing them science can be fun and inspirational."

Ciechanover entertained all manner of questions from the students, ranging from the intersection of faith, religion, and science to predictions about the future of medical discoveries and his views on education. The latter topic is an area that particularly engaged him. He has worked tirelessly in Israel and beyond as an advocate for overhauling traditional education systems, elevating teacher salaries, and enhancing science and mathematics curricula at all levels of education.

Ciechanover noted that he owed a great debt to his parents, who encouraged him with his studies, and his high school teachers, who challenged and supported him. "My teachers cared about me as an individual and demonstrated to me their interest at every turn. A testament to that relationship is that I remained in touch with them for decades until their death."

Ciechanover also explained why he believes strongly in the need for an interdisciplinary team approach in education and learning. "We live in a highly competitive world in so many ways," said Ciechanover, a professor in the Unit of Biochemistry at the Technicon in Israel and former Director of the Rappaport Family Institute for Research in Medical Sciences. "It is incumbent upon our education systems to prepare students for this new, increasingly interdisciplinary environment. We must develop a new type of talent where we approach critical issues and tackle them from multiple angles."

“Groups of students should be given challenging projects/problems to work on in the classroom requiring an interdisciplinary approach,” he said. “For example, kids in Israel could be challenged with a mock project on developing oil and natural gas resources along a particular Israeli border. There are security issues, economic issues, refining and production issues, etcetera. Each group could research a particular aspect of the issue and come up with recommendations to share with the entire group. In this way, everyone gains broader learning and exposure to the various issues in play. I don’t believe we should parade a group of single subject teachers in front of our kids – we must teach using much broader techniques.”

Ciechanover was cautionary as he spoke with students regarding globalization about the preservation of unique culture, traditions, values and beliefs. “Science and economics can serve as a unifying professional languages and it is important that we communicate across the globe using one professional voice,” he said. “We must, however be diligent in holding dear the uniqueness of indigenous cultures and not erase our cultural history. There is a danger of flattening ourselves. We must not lose that which makes us human, the food, the music, the art and writing which make us who we are.”

Many of the students pressed Ciechanover for his views on science and faith, questioning if his scientific discoveries led to moral and ethical dilemmas. He reminded them that Alfred Nobel was the inventor of dynamite. Ciechanover said while the role of the scientist is to better human life, others in society may use scientific discoveries in an adverse fashion.

“Radiation can be used to make nuclear bombs or in the treatment of cancer,” said Ciechanover. “I am a believer in the power of technology to do incredible good in the world. Yet we live in a society where a ten cent bullet can permanently alter a human life, as in the case of your congresswoman Gabrielle Giffords. And it will take hundreds of thousands if not millions of dollars of care to help restore her life to some degree. This is very difficult to reconcile. I am not a politician, but I believe science and education can be a bridge to building a better world, a world where we can find one dollar a day to provide mosquito netting and basic sustenance to African children. We must strive to build these bridges to a better world.”

As the children streamed out of the auditorium after their dialogue with Ciechanover, I overheard one young lady say to her classmate, “Wow, that dude is really kinda cool.”

I couldn’t have said it any better.