

Is Outdated Economics Threatening Western Civilization?

C.J. Polychroniou and Graciela Chichilinsky

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In the interview that follows, Graciela Chichilinsky, an Argentine-American economist, author of the Carbon Market of the Kyoto Protocol and renowned for her work in International Economics, Development Economics and Mathematical Economics and for being at the forefront of the struggle to combat climate change, talks about her life and career in the academia, her work and the need to change Economics in order to save the planet. Indeed, Graciela Chichilinsky's contributions include not merely scores of books and hundreds of academic articles in highly prestigious journals, but also the introduction of concepts and proposals that have been adopted by international organizations such as the United Nations and turned into international law,. Graciela Chichilinsky is Professor of Economics and of Statistics at Columbia University and Visiting Professor of Economics at Stanford University and the author of the Carbon Market of the Kyoto Protocol.

C.J. Polychroniou: Graciela, your formative years were in Argentina during which time your father was a minister in the Juan Peron government. What was it like growing up in Argentina at the time of the Peron reign?

Graciela Chichilinsky: When I was a child, Buenos Aires seemed a magical place at a magical time. Buenos Aires is a lively and beautiful city, people were interesting and intense. In reality, Buenos Aires then reminds me of New York now: a graceful old city full of life, intensity and culture. And the Argentine countryside is extraordinary – Patagonia is a huge empty land of glaciers, cattle, sheep, whales, penguins and pink flamingos. The peaceful beauty of the Atlantic Coast, the majesty of the snowy Andes that have some of the tallest mountains in the world, the Iguazu Falls in the North boundary with Brazil, the enormity of the Pampas, it was all magic.

My father was a Professor of Neurology at the University of Buenos Aires and a minister of Public Health under Peron and he built hundreds of hospitals all over Argentina. He was the doctor of Eva Peron and a friend of Juan Peron, who admired him. I still have some of the letters that Perón hand wrote to my father.

Life under Peron then was intoxicatingly eventful. Evita took on the landed oligarchy and stood firm with the "descamisados" - the shirtless. In reality Evita and Peron represented the industrial revolution while the landed gentry represented the Spanish aristocracy. Landowners vs shirtless. The land in Argentina is so enormously rich and fertile - comparable only to the Ukraine and the Great Lakes in the US - that Argentina in the 1950 was bound to become one of the richest countries in the world. But the forces of darkness won and there were coups d'etat that removed Peron after Evita's early tragic death, the military dictators made torture a staple and dedicated the nation to exports of natural resources such as wheat and meat. No industrialization and a war pitting the landowning oligarchs against the labor unions. This destroyed the social advances of Peron and his intentions of industrializing Argentina. Even today a visitor can observe the industrial revolution that never happened. Eventually however and with the help of Margaret Thatcher - her best role perhaps - the military lost its prestige and was unmasked as brutal and incompetent and nowadays everybody is a Peronist. The recent presidential elections pitted one Peronist candidate against another. Even my spell corrector knows how to spell Peron and Evita and despite their errors they emerged as the heroes of the people - and the military-religious complex as the villains of the people. In a way the entire world now needs a Peronist revolution to counteract the enormous inequality of wealth that was created during the period of globalization and is destroying everything and the most basic human values along with the rest.

C J Polychroniou: How did you end up in the United States and, specifically at MIT, where you did postgraduate work without having an undergraduate degree?

Graciela Chichilnisky: I came when I was 17 years old. I was finishing high school in Buenos Aires and had I started taking University courses without permission – There I met wonderful professors and students who opened my eyes to the world of science and mathematics – it was a great privilege. But towards the end of the 1960's and the beginning of the 1970's the military staged several coup d'etats and in one of them they closed down the University in Buenos Aires. One MIT professor who was there at the time, the famous Warren Ambrose, a well-known Mathematician, decided to take 6 Argentinian students to MIT to continue their studies, since the University had been indefinitely closed down. All of them were graduate students who were taking doctoral courses in Mathematics – except for me who never went to college. MIT accepted me, a single mother without a college degree, as a Special Graduate Student in Mathematics and the Ford Foundation gave me a scholarship. After a year of very hard but enjoyable work I came on top of the Mathematics PhD class at MIT -- and then I became an official PHD student in Mathematics at MIT. This led me to obtain to a PhD in Mathematics, and then another PhD in Economics at UC Berkeley – two PhDs to compensate for the fact that I never got a college degree!

C J Polychroniou: Was there something specific that attracted you to the study of mathematics and economics, or, being so gifted in these fields, was it just a natural direction to follow?

Graciela Chichilnisky: I was most interested in sociology and philosophy, but could not make sense of what professors and books were saying. Mathematics on the other hand seemed clear and simple, a natural way to think, a world without boundaries. Mathematics is the language that the brain uses to communicate with itself.

In the end I did another PhD in Economics at UC Berkeley because Economics seemed to be the discipline that needed most change and advances. I still think so. Our Economic structures are old and the inequalities and inordinate use of natural resources that they cause can spell disaster for Western Civilization and for the planet. I was right on that. We badly need change in Economics.

C J Polychroniou: What do you make of the continuing claim or myth that women are not intellectually endowed as men are to pursue careers in mathematics and the sciences?

Graciela Chichilnisky: This is a shameful myth that persists in our society and causes huge damage to us all. It seems incredible in the 21st century to have such totally unfounded and degrading statements made about any group in society – especially about women who are the pillars of human society. Recall what Larry Summers had said as President of Harvard University – i.e., that women are “genetically inferior in the sciences.” He did, yet he was made Director of the White House United States National Economic Council for President Barack Obama. If Larry would have said that about blacks, I feel pretty sure that he would not have been asked to serve as the adviser of President Obama. The discrimination and even hate against women is widespread in our society, particularly in a knowledge based society, where it is used to impede the participation of women in the creation of ideas and the highest pursuits. In our world physical size no longer matters, and therefore men no longer have an edge -- but creativity and brainpower does. This is a way to keep women down, degrading them in what counts. Several years ago, the Presidents of the top 9 Universities in the US publicly declared gender discrimination and hostility to be a most serious issue in their own Universities and promised to fight against it – but the trend persists specially in the fields such as Mathematics, Economics, and Physics, which are at the top of the science heap. The American Association of University Professors published each year official University data on salaries by gender -- showing the persistent continuation and seriousness of the gender discrimination in salaries in US Universities. For a long time, Columbia University had the dishonor of being the 2nd worst among all Ivy League universities in this shameful gender discrimination and hostility trend. I advise many women on this issue, having fought and won twice myself in Court against this illegal trend, and my heart goes out to them. I work with them, we persist. We will eventually win, but the damage, destruction and loss of international

competitiveness for the US is a serious cost of this irrational gender bias. We all have to work together to overcome this bias, men and women. Same with racism, which is still deeply entrenched in many aspects of American life.

C J Polychroniou: You are among a handful of women in the field of mathematics and economics, but have met professional adversity in the pursuit of your academic career and had long legal battles with the University of Columbia. Do you believe the adversity you have faced was due largely to your gender?

Graciela Chichilnisky: Yes. But it was not the only factor. Innovation is often met with hostility in well organized and successful intellectual and academic networks, as the ones that exist in the US. Partly due to my background, my work has always been a bit different- as has my life, and innovation has been my trademark. But one thing is clear. While striking innovation is met with aggressiveness and hostility in academia, for men and women alike, what men do to innovative women exceeds in scope and ferocity what they would do to other men. It is like rape – a way to try to control a group by intimidation. Think of it this way – Larry Summers would not have dared say in public that blacks are genetically inferior in the sciences – would not even talk about this topic no matter what he thinks. With women, everything goes. He felt no fear in making a totally unfounded degrading statement in public about women. Why? Because the ferocity with which women are treated is of a totally different order of magnitude, everything goes.

C J Polychroniou: You are responsible for having introducing the concept of "basic needs," which was adopted by the United Nations. Can you elaborate a bit on this and explain its significance?

In the mid 1970's, as part of a response to the Club of Rome, I created a new model of economic development based on the goal of the Satisfaction of Basic Needs (my words) rather than on maximizing Gross National Product (GDP). In the Bariloche Model (A Latin American World Model), developed in Argentina, we showed that the world's natural resources suffice to achieve this new goal. The Basic Needs approach was introduced in the United Nations and, in 1992, it was adopted by 150 nations at the Earth Summit of Rio de Janeiro in Brazil, thus becoming international law and representing one of the most important concepts of economic development. In the process, it became the foundation for Sustainable Development, which was based not on measuring GDP but on the satisfaction of the needs of the present and the future. Our book Catastrophe and New Society became a best seller and was translated into 9 languages.

C J Polychroniou: Another one of your major accomplishments has been of course the design of the Kyoto Protocol carbon market and the introduction of the Green Fund. However, while both of these undertakings have contributed to the efforts of addressing and tackling climate change, the phenomenon of global

warming seems to have intensified and we are now at a breaking point. What has gone wrong?

I designed and wrote the carbon market into the UN Kyoto Protocol in 1997, and it also became international law in 2005, trading \$175Bn annually by 2012 and leading to about 30% reduction of emissions for the carbon market nations. The Clean Development Mechanism used funds from the carbon market to help poor nations develop clean energy projects, transferring over \$200Bn, which was the largest transfer to take place in such a period of time. In 2009, at the Copenhagen COP15, I also created the \$200 Bn/year United Nations Green Power Fund using the carbon market funding to build carbon negative power plants in developing nations. The Green Power Fund was accepted by the US Department of State and also became international law in a modified form under the name Green Climate Fund. This is the third time I created or help to create international law. However, the Green Climate Change is divorced from the Kyoto Protocol and therefore has no access to reliable funding. We need to complete the Green Power Fund so it becomes the Green Power Fund and that the funding is used to build carbon negative power plants in developing nations that can achieve economic development that cleans the atmosphere.

C J Polychroniou: You are indeed one of the world's leading authorities on climate change and development economics. How do we define climate change?

Graciela Chichilnisky: Climate change means a major shift in climate patterns, such as dramatic increase in violence, frequency, length, and severity of climate events, including superstorms, tornadoes, typhoons, major floods and long severe droughts, and other climate related environmental disasters. These events increase both in intensity and frequency as the energy in the atmosphere increases, which occurs when the mean temperature increases. Climate change means also dramatic changes in long term climate patterns such as desertification, the alteration or the reversal of major ocean currents, changes in the sea level, melting of the planet's polar caps, glacial periods.

C J Polychroniou: You served for many years as lead author in the Intergovernmental Panel for Climate Change. In your view, what is the strongest evidence that climate change is real and caused by human activities?

Graciela Chichilnisky: The statistical evidence conforms to the definition just provided: the planet's polar caps are indeed melting, and the sea levels are indeed rising. This has been measured and is directly observed. We have increasingly violent, frequent, lengthy and severe climate events, major floods and unusual severe droughts that do not correspond statistically to standard deviations from the mean. Thousands of scientists from all over the world who report to the United Nations Intergovernmental Panel of Climate Change (IPCC) have come to the conclusion that changes in temperature are associated with changes in the concentration of greenhouse gases, of which the main one is CO₂, and that mean temperature is increasing due mostly to the burning of fossil fuels

- coal, natural gas and petroleum -- for economic purposes: industrialization.

C J Polychroniou: You have been arguing that the climate change phenomenon has intensified since the postwar era with the creation of the Bretton Woods system, and in turn you have been calling for a change in economic values. Can you elaborate a bit on this?

Graciela Chichilnisky: The world economy has changed fundamentally since the mid-1950s because of globalization. World trade increased 3 ½ times more than the growth of the world's GDP. At the same time, the wealth gap between North and South increased deeply and became three times larger than it was before, when abject poverty led over 1.3 billion people to live below the level of satisfaction of basic needs, and on the brink of survival. The institutions that govern the global economy – the so-called Bretton Woods Institutions such as the IMF, the World Bank and the WTO were created in the 1950's and have not changed since then. This is a recipe for disaster –it is like driving in a fast highway with a horse cart. Not fair for the horse, not effective for us, unlikely to succeed -- and plain dangerous for all!

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