INTERVIEW WITH CLIFFORD D. CONNER: SCIENCE IS THE PRODUCT OF MILLIONS OF ANONYMOUS WORKING PEOPLE

Interview and Translation: Muzaffer Gül

BIOGRAPHY

Clifford D. Conner is a historian of science and a biographer of revolutionaries. He is the author of A People's History of Science and The Tragedy of American Science: From Truman to Trump. Conner is the only living English-language biographer of Jean Paul Marat, a primary leader of one of history's most transformative revolutions. He has written two biographies of Marat, one focused on his scientific career and one devoted to his years as a leader of the French Revolution. Conner has also written biographies of Irish revolutionaries Arthur O'Connor and Colonel Edward Marcus Despard.

Conner was educated as an engineer, but later switched to the humanities and became a historian. He taught history of science at the School of Professional Studies at the City University of New York Graduate Center, was on the editorial board of The International Encyclopedia of Revolution and Protest (Blackwell, 2009), and was among the coauthors of Imagine: Living in a Socialist USA (HarperCollins, 2014). He is currently on the editorial board of Science for the People magazine.

Conner was born in New Jersey in 1941, grew up in Tennessee, and attended university at the Georgia Institute of Technology. After graduating, he remained in Georgia to work for Lockheed Aircraft, which in 1966 sent him to England as an engineer on the C-5A military cargo plane design project. His time in England coincided with the escalation of the Vietnam war. When he returned from England to Georgia, he resigned from Lockheed in a public act of protest against its role as a war profiteer. As a result, he became unemployable as the FBI warned all prospective employers against hiring him. (This was suspected at the time, but only confirmed years later when Conner received his FBI files via a Freedom of Information Act request.)

After leaving Lockheed, Conner joined the local antiwar movement and began organizing protests against the war in Vietnam. The antiwar movement in Atlanta was headquartered in Dr. Martin Luther King's civil rights organization, the Southern Christian Leadership Conference, and many of the civil rights leaders, including Reverend Andrew Young, participated in antiwar activities. As a result, Conner finally found employment when Reverend Young's wife, Jean Young, offered him a job in a teacher training program. Her connection to the civil rights movement, which had suffered constant harassment from the FBI, rendered her impervious to FBI influence. The two-year program resulted in Cliff earning a master's degree in education from the University of Georgia, which led to a teaching position in the Atlanta Public Schools system. That led him to active participation in the trade union movement as a founding member of the Atlanta branch of the national teachers' union, the United Federation of Teachers.

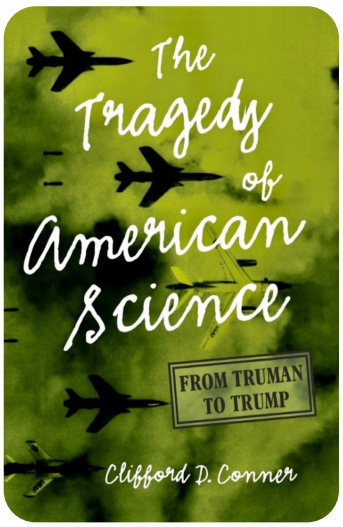
Picture 1. Clifford Conner speaking at the historic Paris Observatory

Meanwhile, Conner encountered socialist activists in the antiwar and trade union movements, and soon thereafter became a socialist activist himself. In the early 1970s he moved to New York City to work full time on the editorial staff of a socialist publication, the International Socialist Review. In 1985 he decided to become a historian, earned the requisite Ph.D. degree, and went on to teach history and write books on historical subjects.

BIBLIOGRAPHY

A People's History of Science: Miners, Midwives, and "Low Mechanicks" (Bold Type Books, 2005)

The Tragedy of American Science: From Truman to Trump (Haymarket Books, 2020)

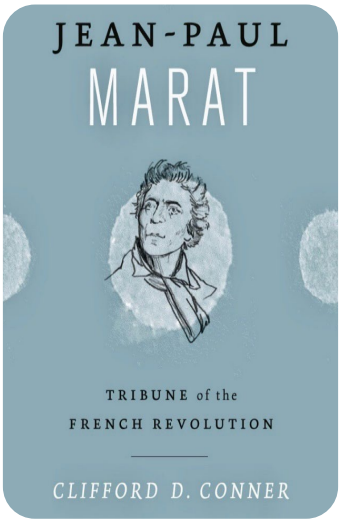


Picture 2. The Tragedy of American Science: From Truman to Trump

A revised edition, The Tragedy of American Science: From the Cold War to the Forever Wars, is scheduled for publication in 2022.

Jean Paul Marat: Scientist and Revolutionary (Humanities Press, 1997)

Jean Paul Marat: Tribune of the French Revolution (Pluto Press, 2012)



Picture 3. Jean Paul Marat: Tribune of the French Revolution

Colonel Despard: The Life and Times of an Anglo-Irish Rebel (Da Capo Press, 2000)

Arthur O'Connor: The Most Important Irish Revolutionary You May Never Have Heard Of (iUniverse, 2009)

Dear Clifford Conner, first of all, thank you for accepting this interview for the journal Matter, Dialectics and Society. Could you briefly tell us about your education and working life, your meeting with socialist ideas, and your orientation to the discipline of the history of science as well?

Thank you for your interest in what I have written about the history of science. In fact, my encounter with socialist ideas occurred before I became a historian of science. I became acquainted with socialism in the late 1960s, during the U.S. war in Vietnam. The obvious injustice of that war led me to question the Cold War ideology that was used to justify it. When I rejected the anticommunist premises of that ideology, I was able to appreciate the socialist point of view and to understand the war in Vietnam as an imperialist war against a small country fighting for its political and economic independence.

Ironically, at that time I was working as an engineer for a major war contractor, Lockheed Aircraft, and I publically resigned as an act of antiwar protest. That forced me to find another way to make a living. Meanwhile, I had developed a strong interest in science and technology, and that led me to study the history of science at the university level. I was not independently wealthy, and had a family to support, so I had to work during the day as a proofreader and take classes at night. I eventually earned a Ph.D. in the history of science, and belatedly began a career teaching and writing about that subject.

As for my orientation to the discipline of the history of science, it so happened that when I was in graduate school, a revolution in the way historians were thinking about the subject was occurring, and I was strongly attracted to the new approach. Instead of the traditional treatment of the development of scientific knowledge as a progression of pure ideas in the brains of solitary geniuses like Galileo and Newton, historians began to appreciate the crucial importance of the *social context* in which scientific ideas arise. And that has been my orientation ever since.

Picture 4. Selling a socialist newspaper in Manhattan in 1975

In The German Ideology, Marx and Engels emphasize that the ruling ideas of each epoch belong to the ruling class of that period, and the ideas of those who lack the material and mental means of production are generally subject to the ideas of the ruling class. Can this approach of Marx and Engels be related to the dominant historiography of science? And in this context, can you tell us the main arguments of your book, A People's History of Science, which you published in 2005?

Marx and Engels propounded ruling class ideological supremacy as a general verity, but as with any general verity there are always plenty of exceptions and counterexamples. I have devoted much of my attention to the period of the French Revolution that erupted in 1789. It is undeniable that for several decades the leading French historians of that revolution were Marxists, most notably Lefebvre, Soboul, and Mathiez. That was certainly antithetical to the notion of capitalist ideological dominance. In the 1950s, however, the Cold War ideology in the English-speaking world challenged the Marxist interpretation of the French Revolution and eventually managed to insinuate itself into the French universities as well, and reestablish procapitalist supremacy.

In the historiography of science, procapitalist ideology reigned supreme until the 1960s, when, as I previously mentioned, a revolutionary new approach began to call attention to the importance of social context in the formation of scientific knowledge. That trend in fact began several decades earlier, in the radicalization of the 1930s that was triggered by the capitalist collapse known as the Great Depression. At that time, a Soviet physicist named Boris Hessen confronted Western academia with a powerful argument attributing the rise of Newtonian physics to the social conditions of seventeenth-century England. The "Hessen Thesis" influenced a number of prominent Western scientists, and a Marxist historian of science named Edgar Zilsel extended and developed it into the "Zilsel Thesis". Western academic historians of science, under the influence of ferocious Cold War anti-Marxism, either ignored Zilsel's ideas or rejected them outright until they began to receive renewed attention during the worldwide political radicalization of the 1960s.

The old orthodoxy in academic history of science crumbled, and now the significance of social context is universally recognized. That created the intellectual environment in which I was able to write and publish A People's History of Science, which took Edgar Zilsel's ideas as a starting point and attempted to generalize them. Zilsel's focus was on the period of European history known as "the Scientific Revolution," and I tried to extend it to the entire scope of human history, from the Paleolithic to the postmodern. In brief, I tried to demonstrate that scientific progress can only superficially be attributed to "Great Men of Science" like Newton, Einstein, and Darwin, but must instead be recognized as the product of millions of anonymous working people, discovering new knowledge in the course of their efforts to wrest the means of survival from their encounter with nature on a day-to-day basis.

Picture 5. Addressing a rally demanding that Julian Assange be released from prison

There have been many discussions on science because of its role in the destruction in the two world wars in the twentieth century, and science still has central importance in maintaining the imperialist hegemony today. As for the relationship between science and the public good, we see that the use of science for the public good is accompanied by the profit motive. What do you think about the possibilities of changing this process, which now works in favor of capital, to completely favoring the public?

The phenomenon of modern science cannot be understood without taking its corporatization and militarization fully into account. Those two aspects are certainly related and intertwined in today's world, in the context of the global capitalist economic system, but it is possible to consider them separately.

By corporatization, I mean the domination of science by corporate interests, which is a purely corrupting influence. Another way of saying "corporatization" is privatization. You've heard the familiar phrase, "science in the public interest." Well, most science in today's world is not in the public interest, it's in the private interest. That includes all of the research done directly by corporations or funded by corporations, which is to say, the vast majority of research done in the world today.

I am not saying that corporate laboratories don't sometimes produce valid and useful scientific knowledge. They do. The Covid-19 vaccines are a prime example of that (although I'm aware that widespread false anti-vax propaganda continues to deny that positive example). "Big Pharma"—the multinational pharmaceutical industry—has demonstrated the capacity to accomplish remarkable scientific feats when it wants to. But there's the rub: It has to want to. And the only thing that can make it want to is the prospect of material rewards in the form of supersized profits. It took a

massive infusion of public funding, not private capital, to incentivize the research and development of several viable Covid-19 vaccines.

There is no material reason why all of that money should be funneled through private corporations, allowing private investors to become fabulously wealthy by taking all the profits for themselves. The rational and equitable approach would be to nationalize Big Pharma and create the vaccines in publicly-funded laboratories.

The militarization of science points to another way vast amounts of public money are fed to private investors to create valid scientific knowledge, but in this case the ideal of science as a creative engine of human progress is distorted into serving destructive and antihuman purposes. Since the end of World War II, the U.S. science establishment has provided the most extreme example of that process.

Twenty-five centuries ago, a philosopher in a town that is now in your country—Heraclitus of Ephesus—said "War is the father of all things." Today, unfortunately, that is still an accurate description of most of the accomplishments of modern science. The most remarkable technologies in today's world originated in the offices of a secretive U.S. military agency called DARPA—the Defense Advanced Research Projects Agency. The science DARPA produces is "good" in the sense that it is scientifically valid, but "bad" in that its purpose is to facilitate American imperialist world domination.

Can this situation be changed for the better? Can science, technology, and industry be brought under genuinely democratic control in the context of a global planned economy, so that we can communally put our hard-won scientific knowledge to mutually beneficial use? I believe it can, but that is not a scientific problem; it is the ultimate social problem confronting all of humanity today.

Can we say that the pandemic, Covid-19, made the contradictions in the imperialist system more visible and that the way science is used has an effect in this context?

The answer to the first question is yes, definitely. The impact the pandemic has already had on the world economy has been devastating and destabilizing, and we can be sure that its effects will continue to reverberate, and probably intensify, for a long time to come. It frightened the ruling class of the United States into spending trillions of dollars on public projects that go directly against the grain of their "austerity" instinct to starve the public sector on behalf of the private sector.

Despite that social spending, the economic effects of the pandemic have been far more damaging to working people than to the wealthy. According to one reliable report, the wealth of nine of the U.S.'s richest billionaires increased by $360 billion during the first year of the pandemic, while millions of Americans were experiencing soaring unemployment and evictions from their homes. That means that the already vast global economic inequality is accelerating as never before. It is an unsustainable situation that simply cannot continue indefinitely.

Science did not play a role in the economic devastation caused by the pandemic, and its creation of safe and effective vaccines was actually to some degree helpful. But as I previously pointed out, the corporate control of science insured that its contribution would come at a heavy price, further deepening the world's number one social problem: extreme global economic inequality. Rather than international scientific cooperation and solidarity, we saw the opposite, driven by concerns for "intellectual property rights" rather than human well-being. That resulted in the wealthy nations gaining access to the vaccines' benefits while the poorest nations—most tragically in Africa—did not.

In your book The Tragedy of American Science, you mention that there is consensus on anti-science in the US Parliament, especially among the Republicans. In this context, although you express the general opinion that Trump's inauguration marks the start of a "post-truth" era, anti-Enlightenment and an Age of Unreason, you draw attention to the fact that this process did not start with Trump. Don't you think that such discussions conducted over presidents' personal characteristics have an idealist perspective and cover the real source of the problem?

You make a valid point. Trump's "personal characteristics" were certainly extreme and reprehensible, but as you suggest, they were a symptom rather than a cause of the social problems that have engulfed the United States. The ruling circles in the U.S. feel threatened by the obvious decline of American imperial financial and political hegemony throughout the world, and that has destabilized U.S. politics.

Trump's election did bring a widespread irrationality—including an open hostility to science—to the surface in the U.S. public discourse. It had previously been suppressed, but it had been there all along. The kind of public irrationality that Trump and his minions encourage—QAnon, climate change denial, racial superiority theories, and so forth—is a hallmark of fascist politics. The pseudopopulist demagogy Trump represents is designed to undermine class consciousness and thereby weaken the solidarity of the working people. The irrationality it fosters is not a "natural" phenomenon; it is created and supported by the enormous material resources of the wealthiest capitalists on the planet. They don't want to resolve the crisis of extreme economic inequality—they want it to increase. Unfortunately, the spread of illogic in the public sphere cannot be stopped by logical argument—it can only be defeated by a successful resolution of the class struggle.

In The Tragedy of American Science, you character-

ize the economies of the Soviet Union and China before the 1990s as "post-capitalist," not socialist, and state that the "post-capitalist" scientific achievements suggest that far more could be achieved by societies meeting the criteria of genuine socialism. Can you explain this assessment a little more here?

I will try. I distinguish between socialist and Post-capitalist national economic systems, and I maintain that the distinction is crucial. In my view, fully developed socialism requires a high level of economic development and democratic control of production and political life. Citing the Soviet Union and China before the 1990s as examples, I stated that by replacing the market system with planned economies, both countries started out "on the road to socialism" but unfortunately got bogged down and eventually turned back. Nonetheless, their experience demonstrated that scientific advance is not dependent upon individual material incentives and the profit motive.

The Russian and Chinese revolutions replaced market-controlled economies with centrally planned economies that created the capacity to marshal resources and focus attention on scientific goals to an unprecedented degree and with unprecedented results. In a period of sixty years, the Soviet Union went from being a nation of minor significance in international science to being a great scientific power, second only to the United States. Likewise, centralization and planning were at the root of revolutionary China's transformation from a negligible factor to a major player on the international science scene—perhaps even the primary future challenger to the United States' preeminence.

The impressive Soviet and Chinese Post-capitalist scientific achievements suggest that far more could be accomplished by genuinely socialist societies. Meanwhile, a revolution in a much smaller country showed that science motivated by human needs rather than by private profit is not a utopian fantasy but a demonstrable reality.

Revolutionary Cuba has come closest to realizing the goal of a fully human-oriented science. Cuba's remarkable achievements in the medical sciences testify that important, high-level scientific work can be performed without being driven by the profit motive. They also show that centralized planning does not necessarily have to follow the ultrabureaucratized model offered by the Soviet Union and China, where science served the interests of strengthening the state instead of improving the well-being of their populations. Although Cuba's small size limits its usefulness as a basis for universal conclusions, its example certainly provides hope for the rest of the world.