JCOM

SCIENCE COMMUNICATION: FREQUENTLY PUBLIC, OCCASIONALLY INTELLECTUAL

Evolution of a public intellectual: coral reef biologist Jeremy Jackson

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Abstract

This commentary is both a case study of the evolution of one public intellectual, and an analysis of how he has broadened his voice beyond the standard academic bubble. His story gives a perspective on the question of, "How do public intellectuals get their start?" They almost certainly begin as "mere" intellectuals — the public part comes later. But how? How does a studious academic go from following the media to being part of the media?

Keywords

History of public communication of science; Professionalism, professional development and training in science communication; Science and media

The transition from intellectual to public intellectual can be slow and even painful at times. That's what I was thinking in the spring of 2006 as I sat looking across a sea of 484 empty seats, watching my long time friend Dr. Jeremy Jackson speak to almost no one.

I was at the annual American Geophysical Union meeting in San Francisco. The event is huge, drawing over 15,000 scientists. Jeremy was lured by the offer of the best speaking slot in a session titled, "Communicating Broadly." The session would go all morning, culminating with a speech by Al Gore, fresh off the premiere of his starring role in the movie, *An Inconvenient Truth*. Being the last speaker before Gore, Jeremy was guaranteed an overflow crowd.

But then the organizers announced the 500 seat room was too small. They moved Gore to the huge 2,000 seat auditorium, but not Jeremy. The result was an audience of 16 people — the remaining stragglers after the masses bolted in a star struck stampede for Gore. I sat in the back thinking to myself, "well, my friend, I guess you're not THAT public of an intellectual, yet."

I've known Jeremy Bradford Cook Jackson (or just "JBC" to most of us) for more than four decades. In the seventies I sat on the front porch of the Discovery Bay Marine Laboratory in Jamaica pestering him with coral reef ecology questions. In the eighties we argued coral reef destruction beside the pool at a resort in Tahiti during the International Coral Reef Symposium. In the nineties I watched him give an embattled keynote address at a marine biology meeting imploring his

Figure 1. Dr. Jeremy Jackson.

colleagues to ask more interesting questions of nature. By the new millennium he had emerged as the most compelling spokesman for the world's coral reefs, just as I had become a filmmaker, so we teamed up to translate his intellectual knowledge to the masses through film.

By last fall he had a TED Talk with over a million views and was on the National Geographic channel sitting in the large glass bubble of an underwater submersible in a documentary. Seated beside him was the director/producer of the show, movie heartthrob Leonardo DiCarprio. It was Leo's documentary, *Before the Flood*. He and Jeremy have been buddies for several years now — the senior scholar advising the celebrity on how to save the planet.

I offer this essay as both a flattering case study of the evolution of one public intellectual, as well as the analysis of how he has broadened his voice beyond the standard academic bubble. His story gives a perspective on the question of, "How do public intellectuals get their start?" They almost certainly begin as "mere" intellectuals — the public part comes later. But how? How does a studious academic go from *following* the media to being part of the media?

Speak up, young man

By the time I met Jeremy in the summer of 1977 he was already a leading light in the world of coral reef biology. He had a commanding presence in his talks which played to packed audiences at scientific meetings. But what I didn't know then was that he wasn't always such a confident and domineering force.

His first pubic talk was a dud. It was 1967 at the annual meeting of the Geological Society of America in Mexico City. He was a tall, gangly, shy introverted graduate student at Yale University with the same shoulder-length curly locks he has sported throughout his life. For that talk, rather than holding court with the stentorian voice he grew into, he spent the entire half hour looking down at his

notes. He talked so quietly members of the audience asked him to speak up. He was unable to even make eye contact with any member of the crowd.

Within a few years that would change. The transition was driven by a single experience — the creation of his first major course as a young professor at Johns Hopkins University. He was newly married, had a crying, colicky baby that kept him awake night after night, and several months of time to prepare for his "Principles of Ecology" course.

It was the mid-1970's and almost no textbooks existed for teaching ecology. This forced him to read the primary research literature in great detail — gathering together the building blocks of knowledge. Thus began the development of his natural gift for "narrative" — the ability to take a collection of seemingly disconnected facts and work them into a coherent, logical over-arching story instead of just piles of information.

In my recent book, "Houston, We Have A Narrative," I define, in the simplest of terms, the word "narrative" as referring to, "the series of events that occur in the search for the solution to a problem." Jeremy began to develop his ability to present scientific knowledge in the form of a journey in search of solutions to the large scale problems.

It was his first teaching experience, but he won the university's Best Instructor award — a sign of things to come. Over the years he would translate this ability to "tell the story of science" to the broader scientific community and eventually the public.

The story changes

In the 1960's, despite the birth of the environmental movement, there was virtually no realization that the world's oceans had limits. The 1950's had produced the old adage, "The solution to pollution is dilution," but that had become a mistaken belief. From the dwindling of whale populations to massive oil spills, bad things were happening to the oceans.

The awakening was slow to hit the academic community. Among academic marine biologists in the late seventies there remained a blissful ignorance to these problems. They were still happily ensconced in theorizing about how ocean communities worked, driven more by their curiosity of science than any need to address environmental problems.

Jeremy had spent much of the decade studying the coral reefs of Jamaica. He would bury his head underneath the corals, studying the microscopic organisms growing down in the nooks and crannies of the reef. He had found a group of creatures who were biologically fascinating, but of minimal importance to the overall coral reef system. But his interests changed with one massive climate event.

In the summer of 1980 both Jeremy and I were at the Discovery Bay Marine Laboratory in Jamaica. The reefs were a visual splendor — a menagerie of coral formations that were like attractions at an amusement park. They had names — like The Haystacks (thickets of stag horn and elk horn coral), The Emerald City (a huge formation of pillar coral that from a distance looking like Oz), and Pear Tree

Bottom (massive plate corals of twenty foot diameter). But all of it would vanish in a day, obliterated by a mammoth hurricane.

Hurricane Allen marched across the Caribbean, the strongest hurricane to date in the twentieth century. It hit Discovery Bay with full force. We retreated to the mountains for the night, listened to trees crash down, then awoke in the morning to a stunning sight. The same reef on which we had never seen more than a three foot wave suddenly was now being pulverized by waves over thirty feet high.

A day later we went diving to survey the damage. Everything was gone, down to forty foot depth. The stag horn coral, the pillar coral, the plate corals, all destroyed. A few of the colorful fish remained, but they swam at you with shredded fins and missing scales, looking like disaster refugees.

Jeremy was one of the first to realize the enormity of the event. His curious creatures growing in the depths of the reef were now trivial compared to the loss of the entire ecosystem. He headed up a group of scientists at the lab who documented the devastation, producing a paper in the journal *Science*, the most important scientific journal in North America, that basically said, "We've failed to realize that coral reefs can be destroyed at this scale by nature, but we predict they will rebound in a few years." Years later Jeremy would cite that that paper often, always saying "we got it wrong" in reference to the prediction of recovery. It never happened.

It was the beginning of his shift from the theoretical world to the real world. His work in the 1970's was acclaimed in academic circles, establishing him as an intellectual. Now he was broadening his interests to the rapidly changing oceans.

The scientist becomes human

By the mid-1980's Jeremy had married Nancy Knowlton, also one of the world's top coral reef ecologists, making them a power couple. The Smithsonian hired them for their marine biological laboratories in Panama. Before Jeremy could think about returning to his microscopic creatures inside the reefs, an enormous oil spill hit the coast of Panama and he was front and center to oversee the documentation of the impact.

The coral reefs of the Caribbean were now changing in catastrophic ways. First there was Hurricane Allen, then in 1983 something killed the sea urchins en masse (think of urchins as the cattle that chew down the grass in the fields, they are essential to keeping reefs healthy), then elevated temperatures in the late 80's began the first mass coral bleaching events.

By the end of the decade the impacts were everywhere. But what was most needed was someone who could speak at the broadest levels and "tell the story" of what was happening. This is where Jeremy's command of narrative — formed back with that first ecology course — came into play.

There was also an element of courage involved needed in the 1990's to speak up on environmental issues that is hard for scientists to fathom today. The International Coral Reef Symposium takes place every four years and is the most important forum for updating the world on the status of coral reefs. In 1985 it took place in

Tahiti, I was there, and the most memorable presentation I saw was from Dr. Katherine Muzik who gave a heartfelt presentation on the devastation of Japan's coral reefs that she had been studying for a decade.

She showed photos of traditional Japanese parades filled with artwork of all the local sea creatures, but where the parades still continue, almost all of the creatures have gone extinct in the region from human activities. She pleaded for more involvement of scientists in defending nature, but was greeted with a firestorm of criticism from scientists in the Q&A. She had gone against the prevailing attitude that scientists were meant to be detached, objective observers of nature — driven only by data, willing to document the end of nature without ever raising an eyebrow. This meant staying clear of the highly politicized world of conservation biology. That would change and Jeremy would be part of it.

The voice emerges

If there was one moment, one paper, one event that catalyzed the shift of Jeremy Jackson from intellectual to public intellectual it was a single talk he gave in 1996. The Smithsonian Institution hosted the International Coral Reef Symposium, he and Nancy were the organizers, and he decided to make a bold move.

Despite the lingering anti-conservation sentiments of some scientists, Jeremy would give one of the plenary talks to the entire assembly of more than one thousand coral reef scientists from around the world.

The short title of his talk was, "Reefs Since Columbus," and the message was simple — we have trashed the place. He drew on historical records all the way back to the logs of the ships of Columbus telling of bays filled with thousands of sea turtles where today there are none. More importantly, he drew on his narrative voice and intuition. He gave a sweeping presentation that left the crowd silenced, then produced the written version that became one of the most widely cited papers in the entire history of coral reef science.

In a single moment Jeremy emerged as the lead voice for Caribbean coral reefs. The talk established him as a major leader in the emerging field of "historical ecology" where ships logs and fishing records going back centuries are drawn upon to get a picture of how much we have degraded the oceans.

In 2001 he took the next step, being the lead author along with 18 other scientists for a paper published in *Science*. The title of the paper said it all, "Historical overfishing and the recent collapse of coastal ecosystems." Within a year the study was written about in over one thousand media outlets around the world. It remains a major landmark in the realization of how we have destroyed the oceans.

The voice goes wide

As Jeremy basked in the glow of worldwide attention, his high school aged daughter set him straight one day saying, "You may think you are famous, but no one in my high school has ever heard of you." It was at that point that Jeremy reached out to me to use the filmmaking skills I had acquired in an effort to truly reach the public with his message of ocean decline.

We formed The Shifting Baselines Ocean Media Project, producing a series of short films and public service announcements (PSAs) involving Hollywood actors including comedians like Jack Black, Melissa McCarthy, Dustin Hoffman and a variety of other popular stars. Our Ocean Symphony PSA with Jack Black and Henry Winkler scored over ten million dollars in free air time making it the most successful ocean conservation PSA ever produced.

Most importantly, our media collaboration caught the eye of the World Wildlife Fund who invited Jeremy to join their board on which he served for six years. He continued to spread the word about ocean decline in general, then in 2010 he hit the jackpot for public intellectuals today — a TED Talk.

It was part of a cruise to the Galapagos Islands organized by TED. The ship was filled with scientists and celebrities. By the end of the cruise Jeremy had become best buddies with Jackson Browne and Leonardo DiCaprio. He had also delivered a talk that the TED producers would title, "How We Wrecked the Ocean" which would eventually score over a million views.

I knew he had finally arrived at the status of public intellectual in the fall of 2016 when I saw him at Yale University. He was giddy and brimming with tales of having spent three days as part of the entourage of his buddy "Leo" at the Toronto Film Festival premiere of *Before the Flood*. DiCaprio had turned to him consistently for advice during the making of it.

What takes an intellectual public?

Jeremy Jackson had gone the distance, from mumbling student to iconic voice for the oceans. He is now, at age 74, arguably the most important spokesperson for ocean conservation. The large environmental groups, the foundations, the research institutions — they plead with him to give their largest presentations.

And the most important group that continues to hang on his every word is students. There is a youthfulness to Jeremy's voice and persona that students connect with in ways that I've never seen for any other intellectual. At Scripps Institution of Oceanography in La Jolla, California, over the course of a decade he and his wife Nancy established one of the nation's lead graduate training programs in ocean conservation biology.

He has had a broad and deep impact on our understanding of the oceans over the decades. The key to his success can be boiled down to a a single word that might be the essential element needed for an intellectual to truly transit from academic to public voice.

The word is "narrative." It is the ability to digest, shape and present vast amounts of information in a form that "tells the story" of entire subjects. Jeremy may well have had an unfair advantage with this from the start.

His grandfather, Ferdinand Reyher, was himself a master of narrative. He was a prominent Hollywood screenwriter in the 1930's. Before World War II he had lived in Berlin and been best friends with the legendary playwright Bertholdt Brecht.

I tracked down Brecht's papers in the U.S.C. Feuchtwanger Memorial Library. There is a personal journal in which Brecht tells about visiting Jeremy's grandfather

in Hollywood in the late 1930's. He called him, "The greatest storyteller of Americana I have ever known." So there it was. Like grandfather, like grandson.

Jeremy spent entire days with his grandfather in the 1950's who was living at the Chelsea Hotel in New York City. It was the favorite haunt of Dylan Thomas, Alan Ginsburg and countless other poets and literary figures of the fifties. That was the world in which Jeremy was raised. That had to have been a key element in the development of his narrative strengths.

Which leaves us with one conclusion as we look at the entire life of this important public intellectual. It is clear that the intellectual element takes brains. But for the public element to be added on, it requires a voice. That is what the life and journey of Jeremy Jackson tells us.

Author

Despite his Harvard Ph.D., four years of post-doctoral research in Australia and Florida, and years of diving around the world from the Great Barrier Reef to Antarctica, Randy Olson tossed it all in, resigned from his tenured professorship and moved to Hollywood to explore film as a medium for communicating science.

Today he is an *independent filmmaker* and no longer considers himself a scientist, but is now fluent in the two languages of science and cinema. In addition to writing and directing his own feature films about major issues in science, he has worked with a variety of clients from the academic and corporate worlds with his program in narrative training. Through his writings he has both related his journey, and continues his exploration into the role of storytelling in the mass communication of science. E-mail: rolson@usc.edu.

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