

THE STONY BROOK PRESS

<http://www.sbpress.com/2010/10/it-was-a-s-mash-of-science/>

It Was a S M*A*S*H of Science

Posted on 01 October 2010.

By Steven Licardist and Erica Mengouchian

If you were to thumb through any serious scientific journal, you would more than likely find a collection of essays peppered with words that leave many ordinary, competent individuals scratching their heads in confusion. Terms like “qualia,” “comorbidity,” and “presupposition” make it hard for anyone not familiar with their usage to discover exactly what the authors mean.

Indeed, many college students read through their textbooks or listen to their lectures without ever grasping or retaining much of the information. Because of this, science remains a shadowy entity that permeates nearly every corner of society, but whose true essence is only understood by a select few.

For physicist Brian Greene and actor/director Alan Alda, this divide between society at large and the scientific community is a problem of communication, and one that needs solving. On September 23 in the Staller Center, Greene and Alda led an informative discussion into the relationship between science and communication, sharing their personal experiences and how they feel the communication process can be improved.

Alda, best known for his role as Captain Benjamin Franklin “Hawkeye” Pierce on the 1970s television series M*A*S*H, began the discussion by asking Greene, whose ability to make complex scientific concepts understandable is world renowned, why the process of communicating science is so important. Greene’s response took three parts, the first two of which, he maintains, are obvious. First, we live in a nation where science is a prominent part of society and that one cannot have a democracy unless a broad community understands what is going on within it.



Brian Greene (left) and Alan Alda (right) discussing the importance of communicating science.

His second response was a practical one. Because scientific research is often funded by taxpayers, people should know what their money is going toward. He felt his third and final point was the most

important. For some, the experience of science as a listener or observer is vague and unattractive. Yet when led to understand and experience science as the scientist does, they “light up,” as Greene put it.

Alda built upon this by saying that, “Science is the greatest detective story.” He said the end product takes precedence over the process and most of the time scientists are seen as arbitrarily finding things out. Society often only sees the end result and doesn’t get to experience the mistakes, the trials and the failures that led to a particular discovery. Alda thinks these wrong turns are fascinating and believes that mistakes are scientifically necessary. Greene agrees, stating that “99 percent of science is wrong” and that the journey leading to a result is rarely discussed. It’s not that science can’t make up its mind, he said, but that we haven’t seen it all yet.

Greene also voiced his frustration with the over-dramatization of science. Each new discovery is hailed as rewriting the books, while in reality, most only add another chapter. He said the idea of declaring something a “new discovery” is counter-productive. In his experience working on the PBS NOVA series, *The Elegant Universe*, Greene felt many programs apply arbitrary effects, like drum rolls or flashes of light, adding that, “Sophisticated ideas don’t need explosions to be exciting.” Following from this, Alda asked Greene what he feels are the hallmarks of scientific education. Greene adamantly responded that it’s important not to sacrifice scientific integrity for the sake of others’ understanding. This can be accomplished, he said, by incorporating it into a story. Greene described the approach he uses in his books, which he compares to drawing a bridge between what people know and what they don’t understand, gently introducing them to new ideas as they go along. It is set up to make abstract ideas more comfortable; he makes people feel and reason as the scientist does. Alda agreed, stating, “We are not trying to dumb it down, but to clarify it.”

Alda talked about his experience working on the program *Scientific American Frontiers*, which also appeared on PBS. When interviewing scientists and experts behind the scenes, he discovered that their concepts and ideas were much easier to understand when they were presented in a more conversational manner. It was as if once the cameras were turned on the scientists went into what Alda called “lecture mode.” It got Alda thinking about how a different approach to science could be implemented. That was the beginning of Alda’s novel idea, which would later become the Center for Communicating Science here at Stony Brook. The center is sponsored by Brookhaven National Laboratory and Cold Spring Harbor Laboratory.

More than just a commercial plug for the Center, the conversation between Greene and Alda illustrated how the relationship between science and communication can be improved for the better of mankind. At the very end of the presentation, an illustration of Alda’s passion and natural gravitation toward science came in the form of a simple experiment. To help answer an audience member’s question, Alda asked Howard Schneider, Dean of the School of Journalism and Co-chair of the Center for Communicating Science, to stand across the stage with an empty glass in his hand and then instructed him to walk over and place the glass on the table between himself and Greene. Bewildered, Schneider did so without very much effort. After setting the glass down, Alda asked him to repeat the experiment, only this time he filled the glass to the brim with water and told him he could not spill a drop. Schneider was much more engaged this time around, as was the entire auditorium. That kind of concentration and participation, Alda said, is what himself, Greene and everyone working at the Center for Communicating Science are trying to draw from the public.

In a society that emphasizes the importance of science, it is the public's right to understand and share in that experience. What Alan Alda and Brian Greene are striving toward are solutions to challenges that many college students directly face in every reading and every lecture they encounter. Beautiful and abstract concepts, often lost beneath technical jargon and intoxicating verbosity, once grasped, can fill any human being with awe, wonder and excitement, and that excitement should not be reserved solely for a select few.