

Do people in Physics have a responsibility to inform the public?

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For the 15th International Symposium
Frontiers of Fundamental Physics
Orihuela, Spain – November 27-30 2017

Physics knowledge is required for more and more problems

In today's world, many problems people face require Physics-related knowledge to understand or solve.

- Tsunami
- Earthquakes
- Climate issues
- Nuclear accidents
- Oil spills and drilling leaks
- Other accidents or natural disasters

It is often absent where needed

- Informed sources note that public officials, developers, and others involved in community planning, often lack a basic knowledge of the physical sciences.
- This leads to uninformed decisions being made which later result in problems that could easily have been avoided.
- Sadly; though businesses may hire engineers and scientists, decision makers may not request or heed their advice.

but people are compelled to avoid speaking out

- Increasingly, both academic institutions and corporations have guidelines and/or policies that discourage their professional employees from speaking on public issues.
- Scientists are especially cautioned not to speak outside of their specialties.
- The mainstream media have become more hostile to concerned scientific experts who appear on Radio and/or TV programs.

and it gets more complicated

In addition to the proprietary information of corporations, and the concerns of local or regional governments, scientists may work for national governments or the military, whose information must be protected.

This means that sometimes scientists *must* keep quiet in order to avoid revealing classified information or state secrets.

Ergo; scientists are sometimes asked not to say anything meaningful or revealing, to keep it from those who would cause harm.

As adults we are responsible

- Valid reasons for silence may justify our acts, or absolve us of accountability; but we still remain responsible for our actions or the failure to act appropriately.
- While those in charge may behave badly, and act immaturely; it does not permit us to do likewise, nor does it absolve us from responsibility for what we know.
- People who know better are sometimes the only ones who can help the situation.

Maturity is needed

While, at times, the tone of world leaders is not far above the adolescent level; we can only make the world better by being more mature than they are.

- Higher brain centers, including the neocortex, have the power to provide solutions to problems, but this requires we keep things in the realm of possibilities.
- To avoid putting the lower brain in charge, we need to rise above confrontational reactions, and focus on alternatives.

What do adults do?

- Adults deal with problems or emergencies first, and assign blame afterward.
- Adults focus on solutions and possibilities, rather than seeking reasons why the real answers are hard to find or implement.
- Adults make compromises and sacrifices which allow them to retain a sense of balance with integrity and honesty.
- Adults accept that difficult tasks are sometimes their personal responsibility.

Scientists are more mature

While academic disputes and other rivalries occur among scholars, scientists tend to be more refined or civilized than average members of the general public.

Greater knowledge and a keener focus on what is logical bring rewards of greater sensibility or maturity, in many things, to the men and women of Science.

However; this improved understanding of reality is not well understood by the public.

Scientists are in the middle

To an extent; scientists are automatically caught in the middle of a controversy, by virtue of what they know and do.

- New discoveries, and new advances in the sciences and technology, are wonderful but also scary in their potential for abuses.
- Scientists are bringers of the tools of war, as powerful forces and other things tamed through scientific research have too often been turned into weapons.

Pete Seeger's father

Folk singer and activist Pete Seeger wrote, and explained to the author, that his father Charles was a cheerful and optimistic fellow, until late in life he became upset by the horrifying destructive power unleashed by Science, and because scientists turned a deaf ear to his concerns and objections.

Pete explained, that he would take his father to task – were he alive – as there is another side to the story, a positive use of Science, and only learning more can fix today's ills.

Bucky Fuller's dilemma

- As a young man, Buckminster Fuller had a moment of profound despair, where he contemplated jumping off a bridge to take his own life – because anything he might invent could be put to use to do harm.
- He chose not to jump, but instead to invent things which could not be built yet, in the hopes that mankind could grow up by then.
- Perhaps some scientists at FFP15 have chosen their research topics also hoping their work has a more mature usage.

What can one do?

- First, harm none; act or speak in a way to minimize the damage you create – while you try to make things better.

This sometimes means it is best to do or say nothing, but we should be mindful of consequences of both actions and inaction.

- Second, take responsibility for doing your part to make things better.

Sometimes one must act, as doing nothing to fix problems allows things to get worse.

What is the responsible thing?

Scientists are more knowledgeable than most people, which makes their opinions more valuable, because the way they understand the world is more true to fact.

If the world is a crazy place, the people who can help the most are those whose views and training allow them to make sense of its complexity – namely scientists.

When those with good answers fail to speak up, the people making decisions are left to choose among less effective options.

Safe ways to do good

In order to avoid misunderstandings, people working in Physics need to be somewhat guarded in what they say to the public.

Scientists typically do not want to make statements in public that reflect badly on either their employers or their colleagues.

However; it is all too easy to find things wrong that ones scientific knowledge can improve.

So, there is a challenge for scientists to find ways to make a positive difference in the world that are both appropriate and safe.

The Azimuth Project

- Founded by physicist John Baez
- Focused on environmental issues
- Attempts to provide clear information for scientists, engineers, and others
- Attempts to inform about and sort out complex issues involving climate research and the environment
- Also puts analytical tools in the hands of climate researchers and others who would understand dynamics of the global climate

Is Azimuth both safe and helpful?

By focusing on providing information, and by attempting to inform without expressing opinions, Azimuth avoids many possible complications, and gives knowledgeable people a way to contribute meaningfully.

There are several distinct ways an individual can assist with the project, including

- Writing or editing Wiki and Blog entries
- Writing code or assisting with site upkeep
- Discussing content with other contributors

A genuine desire to do good

- At this point, a relatively small group of people, consisting mainly of physicists and mathematicians, creates about 90 percent of the content on the site.
- It is expressly stated that they are looking for people who want to help save the world – as Azimuth members think the potential for environmental problems is all too real, and that those problems will get worse if we do nothing to prevent this outcome.
- They share a genuine desire to do good.

Desire to end confusion foremost

What makes the Azimuth Project a good example of how scientists can inform the public, without harm to career, is its focus on providing clear information that seeks to end confusion surrounding the complex topic of climate change.

Other topics provide ways for scientists to assist the general good, by providing useful information and informed commentary to aid the understanding of scholars in other fields or the general public.

Worthwhile causes need insight

- Knowledge and expertise are often in short supply, and may be needed more greatly than other resources.
- People whose understanding or insight allows them to sort out complex problems are in demand, because only they have the ability to make sense of certain things.
- When those who have knowledge that might help solve standing problems remain silent, the problems continue, because the answers are not available when needed.

Don't assume others already know

While it is often best to assume that the people in charge of various functions are knowledgeable folks who deserve our support, it is unwise to assume that these people know everything that we do.

The education and experience required to function in any one area of specialization is often so great that people have far too little time to seek more general knowledge, or to become familiar with related topics.

You may be the best hope

In today's world, systems of increasing complexity are ever more interconnected, so effects of problems anywhere are felt more broadly than before.

However; the focus of study has created isolated islands of knowledge about details and specifics pertaining to only one specialty, which leaves gaps in our understanding.

Ergo; you may be the best hope for getting crucial insights to people who need clear answers to solve difficult problems.

Thank You!

The author appreciates your interest in this topic and hopes he has given adequate food for thought, without being offensive.

It is not his goal to criticize the behavior of individuals, but rather to point out how the ills of today's society are caused in part by the failure of knowledge or answers to get where they are needed in time.

If those in power cannot say "there are no better answers" because someone speaks up, the world will be better for it.

Resources to explore

For information on The Azimuth Project
please go to:

www.azimuthproject.org

I will post links to additional content on my
home page at:

www.jonathandickau.com

Thank You!