

Nuclear experts lacking empathy

Written by Li Shang-jen 李尚堅

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People in favor of nuclear power often condescend to supporters of the anti-nuclear movement, saying: “You do not know what you’re talking about, you are not scientists, yours is an irrational fear.” By this, they mean that “you don’t have a background in nuclear power engineering, you don’t understand anything about nuclear power plants, so you are not qualified to have a say in the debate about nuclear safety.”

However, who is most qualified to talk about nuclear safety? Is it the nuclear power engineers? Are they really the highest authority on the dangers of nuclear power?

The National Tsing Hua University College of Nuclear Science held a meeting three days after the nuclear accident at Japan’s Fukushima Dai-ichi nuclear power plant following the Tohoku earthquake two years ago to explain the situation, and it posted a video of the meeting on YouTube. This video has caused quite a stir recently. It showed nuclear scientists — professors at the university — whimsically likening the Fukushima Dai-ichi disaster to an experiment conducted by God, allowing nuclear scientists like themselves to understand more about how the design of nuclear plants could be improved upon, that it proved that nuclear plants were actually safe and that it was good for the development of nuclear power.

The professors also likened the release of the radioactive dust to a fart: Silent, but not all that deadly, and unlikely to affect anyone standing far enough away. For these comments, the professors have been criticized as being entirely lacking in empathy.

I have no intention of guessing what these professors were thinking when they were talking in this way. However, I do have my doubts about their professional attitude and scientific spirit.

That meeting took place a mere three days after the Fukushima disaster. Information was thin on the ground and the situation was still evolving. On what basis could these professors assert that the radiation leak was actually quite small, and that the problem was not a serious one? Surely, to make such frivolous observations about such a major issue in a public forum betrays a lack of scientific discretion.

At the time, there was still a huge amount of uncertainty surrounding the circumstances at the

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Fukushima Dai-ichi plant, and yet these specialists could presume to reassure the public that these old nuclear power plants were safe, and that there was no need to worry about nuclear safety.

The College of Nuclear Science at National Tsing Hua University has produced Taiwan's finest nuclear power engineers and plant supervisors. If, in the event that an accident does take place, staff taught in this college respond to the crisis with a similarly frivolous attitude, one fears that the chances of minor problems evolving into major catastrophes will increase considerably.

While the comments by these professors, to the effect that the nuclear accident at Fukushima was not serious, were incorrect, I do not want to cast doubts on their level of expertise or knowledge. What their flawed evaluation best reveals is this: A complex technological system such as a nuclear power station has many parts that can go wrong, and as soon as a problem occurs, the nuclear experts have no way of predicting what will happen next, or how serious it will be.

According to a report, the Fukushima disaster was caused by the large number of factors that lay beyond human reckoning or control. If one wants to say that this was some kind of experiment, what it proves is that we cannot rely solely on expert opinion when it comes to the question of safety.

Bryan Wynne, a science and technology studies academic, has done much research on the UK's contentious nuclear energy policy.

He has pointed out that one of the reasons the British are distrustful of, and uncomfortable about, the nuclear energy industry, is the experts' arrogance in their failure to recognize the limitations of their own knowledge in this area, and that, if a nuclear accident does happen, they will have to rely on these experts to deal with the serious and unknowable consequences of the accident.

The British government relies heavily on the opinions of a select few experts, reducing the scope for debate and policy considerations. They reject the public's legitimate concerns, for the reason that "they do not understand anything about science." The result of this is that the

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supposed democratic process behind the formation of government policy on science and technology descends into a dictatorial performance under the guise of a rational one. We have been seeing a similar phenomenon with the contentious issue of nuclear power in Taiwan for the past three decades, in the behavior of our heads of state and a section of nuclear experts.

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Translated by Paul Cooper

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