

How We Deal with Science: The Increasing Role of and Involvement of Ordinary People

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Key points

- Cultivating relationships of trust between politicians and expert groups
- The shift of science and technology patrons from the state to the private sector
- How ideas from ordinary people can make up for the limitations of experts

The spread of COVID-19 has brought a major issue to the fore: what is the right relationship between political judgment and scientific knowledge, or between politicians and experts? We are often finding the opinions of experts grounded in scientific knowledge to be at odds with the decision-making of politicians.

This issue is not limited to Japan; it is causing great confusion around the world, including in European countries. It is also not something that sprung up overnight. In Japan's case, after the accident at Tokyo Electric Power Company's Fukushima Daiichi nuclear power plant (the "NPP accident") caused by the Great East Japan Earthquake in 2011, similar problems were evident in the appraisal of health risks due to radiation exposure.

Compared with the government's response following the NPP accident, this time it appears that the views of the experts are being better incorporated into political judgment. The eventual decision to hold competition at many of the Tokyo 2020 Olympics venues without spectators was also due to the Prime Minister's office giving weight to the opinions of the experts, albeit begrudgingly.

Meanwhile, the relationship between political decision-making and scientific expert groups continues to be strained. Traditionally, the responsibility for political judgment has rested with the politicians, but the pressure from these experts' views has forced them into making decisions. At times, politicians seem to have framed things to appear as though the blame for an unfavorable outcome lies with the experts. But since politicians tend to procrastinate too much over decisions, frustrated experts sometimes take to social media and other platforms to voice their views directly.

It must be said that politicians fail to grasp the wide gap in knowledge between themselves and the experts.

In such situations, it is often said that the role of politicians is to aggregate the opinions of experts from various fields and then make a final decision. While that is a sound argument, the reality is that politicians do not always operate that way.



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For many politicians, whether a choice will help them win the next election always plays a factor in their decision-making, and as a general election approaches, those considerations take on even greater importance. Given that, it may be fundamentally difficult for politicians to take the initiative with COVID-19 measures that could cause dissatisfaction among voters.



So what should we do about this? While there is no silver bullet, the situation could be improved through a combination of several measures. Having said that, since these are all things that need to be put in place when we are not in the midst of a crisis, it will take time to see the results.

The first measure is to create more opportunities for politicians and expert groups to cultivate relationships of trust. Experts in the science, technology and medical fields span a wide range of specialties. According to the Academic Directory, there were 2,075 academic societies in Japan as of 2020. Given that, it is impossible to register the relevant experts in advance of every potential disaster or risk that could materialize in the future.

Instead of that, perhaps it is better to place an agent of these experts in proximity to the Prime Minister and establish close communications under normal circumstances. Such an agent would need to be someone with a degree of expert knowledge in the fields of science, technology and medicine, but who also understands things in the political and social contexts.

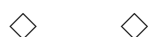
In Japan, the Council for Science, Technology and Innovation lies under the jurisdiction of the Cabinet Office, and is tasked with deciding strategies and policies for Japan's overall science and technology efforts. However, it does not appear to function as a conduit with expert groups, including those versed in risk management.

In terms of position, it may be the president of the Science Council of Japan (SCJ) who best fits this agent role. The SCJ is an organization that brings together the various specialist academic groups of Japan, and its president delivers information from the SCJ's Specialty Committees. A political leader must have what it takes to build a relationship of trust with the SCJ and draw on the knowledge that will be useful to governance.

Don't think that just because science and technology has only recently become a major part of society, that those in power must be out of touch with it.

Since ancient times, from the beginnings of human civilization in China, Egypt or India, managing science and technology appropriately to bring stability to people's lives has been an important mission of rulers. Whether reading the movements of the stars to create calendars to match the cycles of people's lives, predicting and properly managing river flooding or developing and maintaining weapons to maintain and extend a country's power, this has been a requirement for a good ruler.

Human history has shown us that rulers who fail to take the side of science and technology and the expert groups promoting it are not able to hold on to power.



Ordinary people are another important group who can improve the relationship between political decision-making and experts. It is difficult for regular citizens to take part in the political decision-making process directly, but what they can do is provide feedback on political decision-making in faster and more accurate ways. Today, criticism and complaints regarding COVID-19 measures abound on social media. It should be possible to examine and systematically organize that information, and express it as the raw voice of the people. NPOs or university researchers would be able to serve as a hub of those activities, and there are signs that such endeavors are already underway.

Looking back on the historical relationship society has had with science and technology, expert groups in science and technology have not traditionally established themselves as an independent occupational field. There were times, such as seventeenth-century Europe, when local lords or royal families would become patrons, giving support to scientists to facilitate their research activities. From the late nineteenth to early twentieth century, imperial nation states developed scientists and technologists in a centralized manner to boost national power.

Main Stakeholders of Science & Technology (Sponsors and their recipients)		
Period	Main stakeholders	Examples
16-17th century	Royal aristocrats, lords, etc.	Galileo and the Medici family
18-19th century	Public domain, autonomous groups of scientists	Royal Society (UK), French Academy of Sciences
Late 19th century– mid 20th century	Nation states (in addition to the above)	Meiji era Japan America during the Cold War
Late 20th century	Private sector companies (in addition to the above)	Bio-ventures, GAFA
21st century	Consumers (in addition to the above)	Research involving citizen participation, subject-driven research(<i>Tojisha-Kenkyu</i>)

The policy of increasing wealth and military power by the Meiji Government of Japan is a prime example of the latter. One of the factors behind Japan's success in rapid modernization and industrialization was that the Meiji Government encouraged and supported science, technology and the experts in those fields.

Over two world wars and the ensuing Cold War, nations continued to be the principle patrons of science and technology. From the late twentieth century, however, private sector companies began to play a major role as an important stakeholder in science and technology. That trend has been especially prominent in the biomedical and information sciences. Recently it has been Google that is at the forefront of AI research, for instance.

However, that structure may not last forever. Without doubt, everyday people will be among the next generation of stakeholders in science and technology.

There is an increasing number of cases where regular people have worked with science and technology experts or even played a role as experts in tackling themes and issues that were not apparent to traditional experts, such as R&D involving citizen participation, or subject-driven research where people with disabilities describe their condition using their own words or concepts (known as [Tojisha-Kenkyl](#)).

In dealing with the COVID-19 pandemic, the likes of New Zealand and Taiwan have had success with approaches that accurately reflect the sentiments of their populations. I wonder if it is just a coincidence that female and transgender politicians have taken leadership in these countries.

In retrospect, the COVID-19 pandemic may be regarded as a turning point toward an era in which regular people started to play a major role in science and technology. While it is a dark and difficult time, I hope that it will become the dawn of a new era.

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Born in 1960. Earned his Ph.D. in 1992 from Kyoto University. Recent activities include the popularization of science for those without background knowledge. Served as Associate Professor at Yokohama National University (1993–2000) and Visiting Researcher at Freiburg University (1995–96). Has served as Advisory Board member of the academic journal *Biology and Philosophy* since 1998 and *East Asian Science, Technology and Society* since 2010. His publications include *Kagaku towa nanika (How we deal with science: Three novel views of science)* and *Benri wa hitoo fuko ni suru* (Convenient technology does not always make us happy).
