Bruce Alberts is Editor-in-Chief of *Science*.

Turkey and Science Academies

THE GOVERNMENT OF TURKEY RECENTLY ANNOUNCED THAT IT WILL HENCEFORTH APPOINT THE president of the Turkish Academy of Sciences (TÜBA) and also, directly or indirectly, appoint the majority of academy members. In response, TÜBA's members have threatened to resign and establish a new academy that is independent of the government.* What happens next could dramatically affect Turkey's future, both because strong merit-based research in science and technology is a critical driver of modern economies, and because Turkey—like all other nations—will need to support and retain its native talent in order to prosper in the highly competitive world of the 21st century.

Turkey increased its support of R&D sixfold from 1995 to 2007, reaching a current investment rate of about 0.7% of gross domestic product.† In order for these resources to be well spent, it is critical that Turkey maintain an environment for science that encourages creativity and rewards excellence. Unfortunately, for the past decade Turkey's scientists have been increasingly subjected to counterproductive top-down management. Teachers are reportedly "facing increasing pressure not to teach modern theories of evolution."‡ And new laws have placed the granting of tenure at universities in the hands of the government-controlled Council for Higher Education. Today, many academic scientists are afraid to openly express their opinions on these issues. This is not the type of environment in which science can thrive, and it is likely to encourage Turkey's most talented scientists to seek careers in nations that offer much greater autonomy.

TÜBA was established only in 1993, but it has already been an important force for promoting excellence in both science and science education in Turkey. For example, it has empowered young scientists through the development of a Young Academy and has focused on creating high-quality inquiry-based science education for children. Its expert guidance will be essential in the future for improving the effectiveness of the government's increasing support for science and technology, a critical function that depends on TÜBA's ability to tell the truth to government, independent of political considerations. An "academy" whose members are largely appointed by government cannot play this role effectively.

Wherever they function well, academies play a major part in defining scientific excellence for a nation. Thus, for example, a scientist who has been elected to membership in the U.S. National Academy of Sciences will often be offered increased responsibilities at her or his home institution and receive leadership offers elsewhere. In part for this reason, the process of identifying possible new members and screening them through the election process is taken very seriously, requiring extensive effort from previously elected members. I know of no effective academy that selects its members in a different way. The fact that scientists themselves select their fellow academy members ensures that scientific excellence will be the primary criterion used to select members, and it also provides the independence from government required for each academy to provide unbiased scientific advice to its nation. This is why the world's association of academies, the InterAcademy Panel, has sent letters to the prime minister and the president of Turkey urging the government of Turkey to "reconsider its decision and restore TÜBA's previous governance structure and autonomy."§

A nation can expect to be successful today only if it strives to create a meritocracy, in which positions of leadership and responsibility are distributed to the most outstanding individuals, irrespective of social class or personal connections. A strong, merit-based, independent national academy of sciences does not guarantee that science will thrive in a nation. But it is the best tool that I know of to make this possible.

– **Bruce Alberts**

*http://scim.ag/_TUBA. †http://royalsociety.org/policy/reports/knowledge-networks-nations. ‡www.dw-world.de/dw/article/0,,14797956,00.html. §www.interacademies.net.