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Greeting from the President

THIS YEARBOOK IS being published at a time when life as we know it is undergoing various major upheavals and science is seen in an entirely new light. All of a sudden the media are taking an interest in science, research and those who are doing that research. Political leaders worldwide, including many who have deprecated science and scholarship up to now, are consulting with panels of experts and digging up research results from all possible channels. There are exceptions, but the mainstream seems to be flowing in a scientific direction.

The status of science in society thus appears quite different now from what we were used to in the "post-truth world" that still prevailed in the early weeks of 2020. The reversal took place extremely rapidly, for in the face of crisis it is natural to seek safety in reliable information. For many researchers this has meant becoming regular media personalities, and experts in a wide variety of fields have entered the arena: the most obvious and the first to be consulted were representatives of various branches of medicine, notably virology and epidemiology, and those skilled in prognosis and the modelling of the spread of diseases. There has also been a great demand for economists and a rapidly developing need for experts in further fields around issues such as how individual people are affected by isolation, how the human psyche can cope with it, and why people are either motivated to obey instructions or why they prefer to ignore them. There has also been interest to find out what actions were taken in the past in the face of a pandemic, whether anything

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can be learned from this, what short and long-term effects pandemics have had on societies, their economies and the lives of individuals and, of course, how such occurrences were described in literature and the arts. The behavioural sciences, the social sciences, history, and many other branches of the humanities have been closely involved alongside the medical and natural sciences in our efforts to understand the current pandemic.

All this has been welcomed as marking a return to rationality and respect for the truth: at last people have learned to value science and to understand how vital scientific research is and how important those individuals who carry it out. But at the same time words of warning have been heard: this could be followed by a new wave of populism, more sophisticated ways of generating fake news, of surreptitiously modifying scientific facts, and of taking research results out of their context and jumping to over-simplified conclusions, rather in the same fashion as the American white supremacy groups some time ago drew attention to the drinking of milk in the belief that lactose tolerance in adults comprises everyone of the "white race" but excludes everyone else.

The value attached to science and scientific research has varied in the course of history from optimistic trust in the ability of humankind to resolve all its problems by scientific means to occasional bouts of pessimism and scepticism aroused by the use of scientific knowledge for promoting inequality and racial discrimination or for military purposes, in the worst case nuclear weapons. Modern science as practised in the West has also been criticized for its haughty and belittling attitude towards "traditional" forms of knowledge, its narrow-mindedness and its retreat into an ivory tower. In spite of this alternation between praise and criticism, however, science has retained its position, and even in countries where opinion polls have given it very much lower ratings than in Finland, scientific journalism in the form of popular magazines, blogs and serious scientific discussions in the quality media has increased its readership in this millennium.

The public attention to science and scholarship may have succeeded in familiarising the media and the general public with the nature of scientific information: it is never complete but is always changing as it increases in volume. There is an immense area that is still unknown, and whenever we find out something new, this immediately raises new questions and points to new gaps in our knowledge, things that we were not even aware that we didn't know. Research results always contain uncertainties that arise partly from what is still not known and partly from what is perhaps impossible to know. Also, the same results often have different interpretations , and results obtained in different places may not be commensurable. The room for interpretation may be much greater in results concerning certain phenomena than it is in other results, so that it is very much easier, for instance, to reach agreement on the genetic structure of a particular virus than it is to state how individual people will react to social isolation. The fact that researchers are not monolithically agreed on all matters is again a function of the nature of scientific information.

Amongst scientists themselves the current crisis appears to have strengthened collaboration on a global scale. The ResearchGate survey in March reports that about half of the respondents announced

that their international collaboration had remained at its previous level or had increased, so that, despite frequent predictions that the pandemic will mean the end of the age of globalization and nation-states will barricade themselves within their own boundaries, this fortunately does not seem to hold for scientific research.

Is there reason to expect that the Corona crisis will be followed by a populistic backlash and that science will be blamed for the massive social and economic damage caused by the pandemic? Political decision-makers have been seen to lean heavily on science in the course of the crisis, and it may be easy to argue that they were given bad or conflicting advice and that scientists may have a profound knowledge of small details but are helpless when larger or policy solutions are required and in any case are unable to agree amongst themselves. Although the crisis is still going on at the time of writing, there have already been some claims, for instance, that the prognosis in the early stage was too steep and led to unnecessarily stringent and abrupt measures that have caused suffering amongst those in the weakest position of all. The governments of various countries may feel a need to defend their earlier decisions by finding a scapegoat – possibly science – to divert criticism away from their own actions.

Science had found its way into the collective consciousness well before the Corona outbreak, however, and it is capable of defending itself against unfounded criticism. Although sudden attention from the media is typically followed by an equally sudden decline in attention, science and scientific research had not exactly been in the shadows previously. On the contrary, it had been in the midst of a battle over climate change for a long time, and scientists had been actively promoting their presence in the public eye through the social media, in the form of blogs, tweets and YouTube videos centred on their own work and findings. Scientific events that were open to the general public had been attracting progressively larger audiences and researchers had become accustomed to appearing at these. In this field the Finnish Academy of Science and Letters has played its own part in supporting the visibility of academic research and those engaged in it and in enlarging the range of events and improving communications. This important, although not immediately visible, background work and the participation of top-rank scientists in national and international networks has led to the production of numerous advisory committee reports, chiefly for the use of decision-makers at various levels. Conversely, the fact that researchers and the general public have found each other serves equally well, and perhaps even more so, as a means of ensuring science a broader and more permanent role in society. Science may thus be said to have conspicuously earned its place as a cornerstone of society regardless of whether it is at the centre of people's attention at a given moment or not.

The facet of science that comes to the fore at a time of crisis such as this may be summed up in the concept of "Science as a Public Good". We have seen how both research results and the knowledge and skills of individuals can play a decisive role in coping with a pandemic, for what would we do without tests and conceivable medications, not to mention the effective vaccine that we are all looking for-

ward to so eagerly? How, in a crisis like this, can we understand our own behaviour, feelings and reactions and those of others without the long-term efforts of the research community for conceptualizing and comprehending the phenomena involved? Its social mission is an intrinsic value that science possesses and not just an instrumental value, such as a means of securing funding.

Even so, it is obvious that one cannot think of the solutions and applications that we are seeking in the present situation without high-quality, constantly self-renewing basic research. If it takes time to develop solutions at a moment like the present, when wide-scale joint efforts are being made at maximum intensity, there would be no hope at all of achieving such a speed if the relevant research had not already been going on and there had not been continuous investments in knowhow, training and equipment. Without these, there might be no prospects of any solutions. Our social mission, then, important though it is, may prove to be no more than the tip of the iceberg of understanding of new phenomena and the creation of new knowledge, which is, after all, the principal task of science.

Helsinki, 24 April 2020
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The Governing Board of the Finnish Academy of Science and Letters meets in the Academy's own rooms at Mariankatu 5 in Helsinki.