

Merit-based Academies in the 21st Century: a think piece

IAP Working Group on “Improving scientific input to global policymaking”

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Context

This think piece, prepared by academicians and senior scientists on the [IAP Working Group for “Improving scientific input to global policymaking”](#), was originally shared with IAP member academies, the Global Young Academy and National Young Academies, in January 2019. It has since been revised in light of comments received and will feature as an appendix in the project’s final report, to be launched in May 2019.

This “think piece” does not attempt to hold ‘the truth,’ but rather to provoke ideas, spur discussion and effect change as academies consider how to shape their futures. It explores how academies - *who wish to be effective practitioners in science policy advice* – may need to adapt to better support policy demands, including the implementation and realisation of the SDGs. It complements work by other leading thinkers in this space¹ and is designed to stimulate discussion amongst the academies.

Some of these issues will be discussed at the IAP Triennial Conference and General Assembly on 9-11 April 2019.

Summary

In an increasingly complex world, with an unprecedented pace of social, political and technological change, and ever-mounting social, economic and environmental pressures, it has become imperative to review merit-based academies and their role in society. This think-piece explores how learned academies (of any discipline of scholarship) can adapt to better support a variety of demands and be vital, relevant organisations in the 21st century.

Introduction

The oldest merit-based learned societies (hereafter referred to as ‘academies’) have existed for over 350 years, which is a tribute to their usefulness and sustainability. Many more were established in the nineteenth century, coinciding with an upsurge in the social awareness of science and the rise of modern nation-states, particularly in Europe. In the late 20th and early 21st centuries, new academies were created in Asia, the Americas and Africa, and a handful continue to be established every year in all parts of the world, modelled predominantly on their predecessors. Collectively, the academies have produced a wide range of advisory reports for global, regional and national policymakers, and learned lessons along the way. Nevertheless, the effectiveness (and recognition) of academies as independent advisory bodies is highly variable and some, both old and new, report an aging and declining membership and a sense of increasing marginalization in the affairs of the world.

¹ For example: Sir Peter Gluckman, Dr Bill Colglazier

Many factors may contribute to this trend. One is that the knowledge landscape, once dominated by learned societies, now has many and diverse actors. Another is that the rise of new modes of ideas exchange, such as the internet, have eroded the primacy of academic meetings, conversations and journals as a way to stay informed. There is also a demand for more participative, democratic decision making, putting pressure on science and opening it up to closer scrutiny and surveillance, and in turn making it increasingly vulnerable. A post-modern scepticism of knowledge and elites has made venerable institutions, their traditions and members, seem out-of-touch and self-serving. This century also brings unprecedented opportunities for academies, including the urgent need for more effective and sustainable policy at all levels, and new, fast ways of acquiring, disseminating and exchanging knowledge. How might academies, whether new or old, big or small, rich or poor, adapt to the changing world of the 21st century, so that they can continue to use science to serve society equitably and sustainably, and contribute to improving the quality of life through the generation and application of knowledge?

The perception of merit-based academies

In general, if academics, researchers and other intellectual workers were to rank the institutions crucial to their daily work, they would probably start with their employers, followed by funders and professional bodies, with academies further down on the list. This ordering would likely have been quite different a century ago, when academies may have filled several of those roles. The low contemporary priority given to academies by both academy members and society in general is reflected in the frequently disappointingly-low response to academy initiatives. With some notable exceptions, a declining fraction of research publications take place through journals owned and run by learned societies. Commercial publishers and, increasingly, open access platforms, have a significant share.

Some young scientists are unaware of their national academies or doubtful about their utility. Even those who are engaged by academies have some scepticism. An informal survey of Global Young Academy (GYA) membership and national young academies in 2017 revealed that few consider senior academies (like most institutions today, including their own) to be fully fit-for-purpose i.e. vital members of their national science systems, championing science and providing evidence-informed advice to decision-makers. Yet it is striking that over 35 national young academies have been set up in the last decade, as vehicles for young scientists to have a collective voice in society. Young academies differ from “senior” academies in three important respects: (1) they are composed of early- to mid-career researchers of a typically wider array of scholarly disciplines; (2) membership is typically limited to 4-5 years (rather than lifetime); and (3) members commit to bringing science to society. Their strengths are different but complementary to senior academies, and both share common challenges, such as how to engage their respective members in their work.

In only a relatively small number of countries are academies seen as the first source of technical knowledge and advice to governments, and it is even rarer for the private sector to approach academies for advice. The IAP project which stimulated this think-piece found that academies had not been engaged by their respective national governments to help assess progress on the implementation of the Sustainable Development Goals, and that academies

were largely unaware of this process². Academies are only indirectly involved, if at all, in the nomination of researchers to serve on major international assessment bodies. However, the European Academies of Science Advisory Council (EASAC) was awarded Think Tank of the Year (2018)³, demonstrating that academies and academy networks with strong leadership, a professional secretariat, an engaged membership and a commitment to communications and outreach can play valuable roles in their national and (where they exist) regional science advisory systems.

Members of the general public are frequently unaware that academies exist, or the role they play. Academies are only rarely recognised as major conduits of information between learned people and citizens, through the solicitation of advice and the organisation of public lectures or exhibitions. The public today is more likely to get their information from the internet or the media. While many academies have a web and social media presence, they are either not using it to maximum effectiveness, or this mechanism, by itself, is not enough. The deliberative and evidence-based voice of academies seems to be lost in the cacophony of competing opinions.

Various models of merit-based academies

Academies worldwide have tended to become more ‘corporate’ in their governance and management over time. This brings advantages in professionalism and accountability but is one of the factors which may tend to distance or disengage academy members from a sense of ownership. However, far from being homogeneous, the few hundred academies which exist in the world are diverse in terms of their stated aims and the way in which they operate. Table 1 summarises some of the variants which can be found.

	The classical model	An adapted model	A transformed model
Purpose	Promotion of the fields which they represent and honouring the most successful practitioners	Evidence-based decision-making and the promotion of knowledge are a core part of their mission	Ensuring that the most widely-trusted knowledge informs decision-making
How are members appointed?	Nominated and evaluated by those already in the academy on the basis of exceptional merit in matters of learning, as determined by their peers	Nominated by anyone (including themselves), transparent selection process based on merit in both research and service. Deliberate attention to diversity and interdisciplinarity	Automatic inclusion based on defined merit-based criteria (e.g., PhD, H-index >30, top 5% of field), across all fields, age cohorts, genders and origins
For how long do members belong to the academy?	For their lifetime, with no consequence for inactivity in research or service	In a young academy, 4-5 years. In a senior academy, voting membership to 70 or 75; thereafter honorific only unless elected to a formal position	As long as they remain active, with increasing levels of recognition based on both service and recognition of intellectual contribution

² InterAcademy Partnership: Results of the Survey of the Academies. Available at:

<http://www.interacademies.org/36188/Results-of-the-Survey-of-the-Academies>. Accessed 8 March 2019.

³ The Public Affairs Awards Europe celebrate the best of public affairs in Europe. Available at:

<http://news.prca.org.uk/the-public-affairs-awards-europe-celebrate-the-best-of-public-affairs-in-europe/>. Accessed 8 March 2019.

How is the academy funded?	Bequests, endowments, donations, member subscriptions, partial state subsidy	State subsidy for core operations, contracts for studies requested of the academy, endowments for special projects they initiate	Entirely out of public funds, or entirely on the basis of contracts
What disciplines are included?	Separate academies for sciences, humanities, engineering and health	Unified or federated academies for all endeavours with a rationalist epistemology,	Unified academy for all knowledge systems, including indigenous knowledge
Geographic scope	National, sometimes subnational, a few regional or global	National, but with voluntary regional or global cooperation/function	Globally coordinated, but locally organised

Table 1: Example alternative models of academy operation. For each attribute (rows), the models (columns) successively represent the widely-perceived ‘standard’, or ‘classical’ model, and two degrees of modification. Few academies occupy a single column of this table. Individual academies may include elements of various degrees of deviation from the ‘standard model’, mixed with elements of traditional and idiosyncratic elements based on their particular history or location. All operating rules summarised above exist in at least one academy, somewhere in the world. This think-piece is not advocating a particular model, merely pointing out that apparently-successful variation exists.

Considerations for merit-based academies

1. **Balance the immediacy and context relevance of being locally- or nationally-organised with the imperative to act collectively at regional and global scale on issues of shared concern.** A ‘federated’ model which offers a great deal of autonomy for individual academies within their own domains, combined with an effective mechanism for coordinated action where required, would appear to be a robust and acceptable mode of collaboration for many academies. The InterAcademy Partnership (IAP) and its regional networks are examples of this coordinated action, but their collaborative potential has not yet been fully realised. Typically, these networks depend on the support of one or two academies, do not have sufficient resources to make a significant impact and are not seen as particularly relevant (or even visible) by their academy membership and their respective Fellows. Participating academies must consider how than can make such a loose and voluntary arrangement rapidly responsive, coherent and efficient.
2. **Maintain quality while increasing inclusivity.** The perception that academies are elitist, closed clubs, prone to disciplinary chauvinism, sexism, racism and nationalism can be dispelled by ensuring that the entry criteria do not introduce unintended biases, and that the process of member selection is transparent, balancing merit and opportunity⁴. Many academies expend an inordinate part of their energy in policing the entry gates. Despite the rigour of their processes, academies are notoriously poor at identifying the influential thinkers until they have been widely recognised elsewhere. The special attribute of academies, which gives them their credibility and access to power, is that they are seen to comprise individuals who have demonstrated exceptional talent in the intellectual sphere. Learned societies need to ensure that this is indeed the case, but they should consider less ponderous and more sensitive ways of doing so. The existence of substantial disparities between the demographic

⁴ Tickner, J. and Baum, J (2016) Membership selection procedures for young academies: experiences of the Global Young Academy 2010-2016. Internal paper approved by GYA Executive Committee, 15 May 2016

composition of academy membership and that of the broader community is a signal that explicit or implicit selection barriers may exist. Knowledge takes time to accumulate in individuals, so academicians will generally be older than the population average; nevertheless, academies often engage with potential members too late in their careers. Creating and supporting Young Academies and developing a progression pathway from young to senior academies, is one solution to this tendency.

3. ***Encourage disciplinary inclusiveness and interaction.*** There is a worldwide trend towards placing less emphasis on disciplinary purity, and more on the advantages of including a diversity of perspectives under one roof. Some academies have embraced both natural sciences and humanities, and a few have incorporated indigenous knowledge-holders. Where individual academies exist for different disciplines, their collaboration can convey more coherent and compelling messages on critical issues of public policy. The needs of knowledge generation in the 21st century require inter- and transdisciplinary approaches, in addition to disciplinary depth: societal problems necessarily require interdisciplinary perspectives and solutions, which requires close cooperation, mergers or federated models.
4. ***Revitalise the service mission of academies.*** In order to thrive, academies need to engage with the broader community, have a greater awareness of policymaking and context, and take a key role in the provision of knowledge-based advice. Academies which fail to do so are perceived as out-of-touch, inward-looking, and self-serving. Particularly among younger researchers, the application of their learning for the greater good is a powerful motivator. The traditional way in which academies served society – by providing knowledge-based advice – is no longer their exclusive domain, so what is the particular value which academies can add? Firstly, their emphasis on merit in their membership means that the advice has credibility. Second, academies have convening power and access to decision-makers, which other institutions may lack. Third, the fact that participants in academy-based science-policy advice processes are unpaid, and secure in their careers and academy recognition, means that they can exercise independence of thought and perceived neutrality on contentious issues. Finally, the accumulated experience represented in academies can bring deliberative power to complex problems. To deliver this value proposition, academies must be proactive in helping to identify and respond to societal needs and in pulling together the knowledge required to address them.
5. ***Advocate rationality in a post-truth world.*** The fundamental tenets on which learned academies were founded are under attack in many parts of the world. The academies should not stand by idly while this happens. The notion that academies speak truth to power can only persist if the idea of truth is recognised; similarly, evidence-informed decisions need to have some mechanism for deciding which bodies of evidence are relevant, and how much confidence can be associated with them. Academies should use all the pathways and tools of modern communication to ensure that their message stands out because of its thoughtfulness and impartiality.