

## EDITORIAL

### Where is applied research going?

This special issue brings together a number of contributions that explore relationships at the intersection between university, industry and government. As is so often the case, a workshop provided the starting point for discussions that have ultimately led to this collection of articles. The London Triple Helix conference 2013 served as the venue for a number of us to meet and discuss where applied research might be going. Unsurprisingly, rather than finding answers, we began asking more questions. We then brought in more contributors – and they identified further unanswered questions. The result is the special issue before you, an issue that befits a *critical* journal of innovation studies. Its six contributions offer very different perspectives. We start with a review of various Triple Helix models, explore how other approaches can enrich Triple Helix thinking, delve into the wealth of case studies and empirical analyses, and then conclude with the unanswered questions.

Helen Lawton Smith and Loet Leydesdorff consider new theoretical advances matched by new empirical evidence. They distil four key models or approaches that can enrich Triple Helix thinking, as well as innovation theorising and policy making: (1) the neo-institutional model of arrangements among different stakeholders, typically investigated in case study analysis, offering insights into possible mutations or unravellings; (2) simulation studies from evolutionary economics, which can offer an increasing understanding of complex dynamics; (3) the Triple Helix model adding the sociological notion of meaning exchange among institutional agents to the meta-biological models of evolutionary economics; and (4) from a normative perspective, developing options for innovation policies, providing an incentive to search for mismatches between the institutional dimensions in the arrangements and the social functions performed by these arrangements. In the light of these observations, the authors advocate a shift of focus, firmly grounded in a new evolutionary framework, from best practices to systematic learning about the dynamics of failure.

The two contributions that follow this thought-provoking piece seek to link up Triple Helix thinking with other perspectives that might add value to the venture the Triple Helix has become. Tim Hughes applies service-dominant (S-D) logic within the Triple Helix context. Drawing on S-D logic theorising, four research agendas are developed which focus on four aspects relevant to the Triple Helix: (1) resources supplied by the parties and their integration; (2) the interaction practices that enhance co-creation; (3) value propositions that will motivate the different parties to co-create; and (4) how co-creation modifies the resources of the parties involved. The paper concludes with a model of the co-creation process that encompasses the four research agendas and provides a conceptual framework to analyse Triple Helix initiatives.

Kevin Grant, Martin Meyer and Jari Kuusisto make a case for applying complex adaptive systems thinking to the Triple Helix. They start by asking whether processes can make Triple Helix relationships work. They offer a resounding 'yes' as an answer, making the point that the Triple Helix is about more than newly-emerging organisational structures and that processes linking actors are important. Drawing on two cases of hybrid Triple Helix environments in Canada and Finland, they demonstrate how spaces for knowledge generation, consensus building and innovation, rather than merely new structures, result from successful negotiation and management of interaction.

Henry Etzkowitz and Annika Rickne make a similar point about the importance of innovation processes, but explore an entirely different aspect of the Triple Helix – the connection to civil society. More specifically, they explore citizen-driven innovation, drawing on insights from the case of the California institute of regenerative medicine. They describe how actors went beyond their conventional roles, venturing into the realm of what the authors term 'innovation in innovation'. The authors focus on innovation processes that lead to spaces and coalitions of actors that can result in new hybrid organisations. As the authors contend, these processes have led to overcoming the traditional dichotomy between citizens and scientists. In fact, they argue, the hybridisation of scientists and citizens holds great promise where, in some instances, scientists combine their roles as scientists and citizens, and citizens become increasingly knowledgeable and involved.

Annamari Inzelt reports on insights from a study of Central and Eastern European countries that uses patenting and patent citations. Her findings are sobering in many ways. While she finds some evidence of patenting and related citation activity, the level of activity is still very modest twenty-five years after the fall of the Berlin Wall. A cynic might comment that applied research is going nowhere in these countries, that they have still not freed themselves from the straightjacket of the soviet era. There are certainly emergent concentrations of activity, but they are sparse.

Mark Gilman and Cristina Serbanica review UK university/industry relations and survey the literature in this area. They argue that, despite the importance placed on university–industry linkages, they are extremely tenuous. A wide range of unanswered questions is identified: How to deal with diversity/heterogeneity? How to increase quality in supply/quantity in demand for knowledge? How to increase impact on academics, universities, firms, economy and society? How to increase quality in supply/quantity in demand for knowledge? How to increase impact on academics, universities, firms, economy and society? Thankfully, the authors offer, by way of a transversal analysis, a number of possible answers to these questions and, with this, bring this special issue to a conclusion.

Once you have been through all the contributions brought together here, will you know where applied science is going? Of course not, but hopefully you will have a better sense of the general direction of travel, and some feeling for the new issues that will be encountered on the way. Enjoy the journey.

Martin Meyer  
Editor