The fully-functioning university and its contribution to society

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This is the concluding article of a series of four articles, which started by introducing the concept of the ‘fully-functioning university’ in 2008. Subsequent articles have looked at the consequences of this concept for the higher education of students and the advancement of knowledge. This article is about the fully-functioning university and its contribution to the service part of the tripartite mission; the ‘third leg’. Its main aim is to identify how social engagement can best contribute to the tripartite mission in total. The main conclusions are that: (1) there is a set of questions that can be used to help enlarge the contribution of third leg work to the advancement of knowledge, (2) there is another set of questions that can be used to help enlarge the contribution of third leg projects to the higher education of students and (3) greater use of project-based thinking within the domain of the third leg activities can support research-led, and hence evidence-based, practices and outcomes. The article ends with some implications of these conclusions and some questions surfaced by this enquiry.

Keywords: tripartite mission, social engagement, third leg, fully-functioning university, post-Humboldtian university

Introduction
The main aim of the article is to explore how a university can contribute to the community and society in ways that also support the advancement of knowledge and the higher education of its students.

This is the final part of a series of articles on the ‘fully-functioning university’ (FFU). The first article explored the question: ‘What endeavours have been present in all the stages of the Western University since its birth in the Middle Ages?’ (Bourner, 2008). It found an answer
in the tripartite mission: the advancement of knowledge, the higher education of its students and the wider world beyond the university. However, in each stage, one part has dominated the other two which have been expressed in ways that reflect and serve that domination. The FFU concept emerged to describe a university that seeks to realise each part of the tripartite mission directly and not by placing two parts at the service of the currently dominant part. In other words, the FFU values each part of the tripartite mission in its own right.

Two subsequent articles explored, respectively, the nature of a higher education that would be offered by such a FFU and how it would seek to contribute to the advancement of knowledge. This article explores how such a university would seek to contribute to those beyond the walls of the university – i.e. to society more widely. This is usually referred to, particularly in the UK, as the ‘third leg’ of the tripartite mission.

This is an important issue for at least three reasons. First, third leg activities are often seen as competing with research and teaching for resources and FFU concept underlines the importance of looking for complementarities and synergy between the three parts of the tripartite mission. Second, universities that contribute most to society are more likely, in the long run, to survive and flourish. Third, third leg activities have received less attention by universities than the other two ‘legs’, particularly, research and teaching in universities. The FFU concept offers a framework for re-examining third leg activities. Each of these reasons is elaborated below.

Within most universities, there are vocal advocates for more emphasis on research and the advancement of knowledge and others who argue strenuously for greater emphasis on teaching, student learning and educational development with yet others, usually a very much smaller group, who want more focus on third leg activities. The resources of each university, however, are limited so these groups often compete for the resources. The FFU concept offers a broader perspective within which the narrowness of the claims of the different interest groups can be recognised and, arguably, reconciled. It shifts the focus of attention to the size of the total output of the university and away from the size of particular slices of the ‘pie’. In practical terms, this means looking for complementarities between activities that contribute to the three parts of the tripartite mission. The success of US universities over the last century has shown that greater emphasis on third leg activities is compatible with greater success in research and developing new and effective practices.

Which universities will thrive in the 21st century and which will languish? A plausible answer to this question is that it is those universities
that are recognised as making the greatest contribution to society which are likely to flourish most in the long run. In the final analysis, the value of the advancement of knowledge and the higher education of students derives from their contribution to society and, more generally, the world. Third leg activities make that contribution directly. Universities that contribute greater value to society increase their value to society and are therefore likely to be more highly valued by society in the long run. This underlines the importance of clarifying the nature of a FFU’s contribution to the third part of the tripartite mission.

The third leg has, in recent centuries, been the ‘poor relation’ part of the tripartite mission, so it is less well developed than the other two parts (Shaheen, 2011). The last time that it was the dominant part was in the Middle Ages when the pre-eminent purpose of the emergent university was to serve the Latin Church and people of Latin Christendom (Bourner, 2008). Because much has changed since that time the third leg of the tripartite mission and ways of expressing it needs to be thought through in the context of the 21st century. This article and the concept of the FFU, offers a contribution to that thinking.

The next section of this article looks at some background issues, including some of the conclusions of our earlier articles on the FFU (Bourner, 2008, Bourner et al., 2013, 2016). Then we look at a case study which makes the issue more concrete and distils some general lessons. The penultimate section picks up some of the emergent issues for further scrutiny and the last section summarises the conclusions, implications and questions that have been surfaced by the preceding sections.

The main conclusions of the article are:

- There is a set of questions that can be used to help enlarge the contribution of third leg work to the advancement of knowledge.
- There is another set of questions that can be used to help enlarge the contribution of third leg projects to the higher education of students.
- Greater use of project-based thinking within the domain of the third leg activities can support research-led, and hence evidence-based, practices and outcomes.

The article ends by identifying some implications of these conclusions, and some questions that have surfaced as the article has progressed.

**Background**

*Origins of the concept of a fully-functioning university*

This article has its roots in an earlier enquiry (Bourner, 2008) into the
question: ‘What does it mean to be a university in the 21st century?’ That enquiry was prompted by a number of concerns. First, rapid change within universities leading to the question: ‘How much can a university change and still be a university?’ Second, increasing diversification of the range of institutions referred to as universities prompted concern about fragmentation of the university idea. Third, the rapid growth in the number of university students and growth in the number and size of universities raised questions about dilution of the university concept.

Questions about what it means to be a university are not new. They tend to surface when existing conceptions of the university are challenged by significant change. Perhaps the most famous example is Newman’s The Idea of a University published in 1852, when British universities were under threat from the idea of the ‘research university’ originating in Germany.

Recent decades have seen unprecedented change in universities and higher education prompting much thought about the essence of a university and a lot of soul-searching. In the US, it produced classics such as Scholarship Reconsidered (Boyer, 1990) and Clark Kerr’s book, The Great Transformation in Higher Education (Kerr, 1991). In Britain, Ron Barnett has led the way with a series of significant studies on the nature of the university and the nature of higher education (see, for example, Barnett, 1990, 1997, 1999, 2010).

The main danger of focusing on recent and current changes to universities is the risk of missing the wood for the trees. For this reason, the 2008 enquiry sought an answer in those aims and objectives that have endured across all the stages of the development of the Western university.

The main conclusion was that what it means to be a university in the 21st century is the following: (1) contributing to the advancement of knowledge, (2) the higher education of students, and (3) service to those beyond the university’s walls. Evidence of these three ingredients was found in all the stages of the development of the Western university since the Middle Ages. This is, of course, the tripartite mission, which is sometimes seen as a development of the land-grant universities in the US following the Morrill Acts of 1862 and 1890 (see, for example, Boyer, 1990 or Christy and Williamson, 1991). It turned out that the tripartite mission had a pedigree that extends back to the Medieval university.

That article also found that, superimposed on this continuity, was a history of change as first one and then another part of the tripartite mission has dominated the other two. At such times the subservient two parts were transformed in ways that served the dominant part.
The dominant purpose of the *Medieval university* was to serve the Latin Church by educating potential clerics who could contribute to saving the immortal souls of Latin Christendom. The higher education it offered was directed towards that Christendom and it advanced knowledge by disseminating and interpreting the text-based knowledge approved by the Latin Church, including some knowledge that originated in ancient Rome, ancient Greece, Byzantium and Islamic countries (Bourner, 2008).

The dominant purpose of the *Renaissance and early modern university* was to provide its students with a higher education fit for godly gentlemen able to tell right from wrong, morally, intellectually, aesthetically and socially. It sought to introduce students to what Arnold (1869: 94) would later describe as ‘the best that has been thought and said in the world’. Such graduates exercised a civilising influence within the emerging nations of Western Europe in what was still a barbarous age. The so-called ‘new learning’ of the Renaissance university extended university education towards the classics-based humanities. It advanced knowledge by extending the range of texts available for instruction beyond those approved by the Latin Church, to include what it deemed to be the finest works drawn from the whole history of western civilisation. This included, in particular, works from ancient Rome and Greece in which the nature of civic virtue had been a major theme.

The dominant theme of the *modern university* has been the advancement of knowledge. This era in the history of the university was initiated by William von Humboldt in establishing the university of Berlin to be devoted to the pursuit of knowledge. According to Humboldt (1801/1970: 243): ‘At the highest level, the teacher does not exist for the sake of the student: both teacher and student have their justification in the common pursuit of knowledge’. Higher education became valued insofar as it supported and reflected the pursuit of knowledge. And the pursuit of knowledge was seen as the main way that universities could contribute to society more widely. In particular, it offered a way of improving the human condition, including lives foreshortened by disease and extreme poverty. Knowledge was seen as having the power to solve, or at least alleviate, many of the problems of humankind.

A university cannot function fully if two parts of its mission are distorted to serve the dominant part or if it values those two subservient parts insofar as they serve the third, dominant, part. An FFU would be one that places direct value on all three parts of the tripartite mission at the same time; it would place value on each of the three parts in their own right. It would not then distort two parts to serve the third.
A second article (Bourner et al., 2013) started to unpack the FFU concept by asking: ‘What sort of higher education would be offered by an FFU?’ In other words: ‘What sort of higher education would be offered by a university that places direct value on the advancement of knowledge and the advancement of its students and the advancement of the world beyond the university?’ The answer was a higher education with a subject-centred part, a student-centred part and society-centred part.

We went on to explore the nature of each of those parts and concluded that the main purpose of subject-centred higher education is to equip students with the capacity to serve the advancement of knowledge in their chosen subject discipline (through the accumulation of new knowledge, its preservation, dissemination and application), the main purpose of student-centred higher education is to prepare students for TABLE 1

<table>
<thead>
<tr>
<th>Knowledge, skills and attitudes</th>
<th>Subject-centred university education</th>
<th>Society-centred university education</th>
<th>Student-centred university education</th>
</tr>
</thead>
<tbody>
<tr>
<td>Knowledge</td>
<td>The most recent/advanced knowledge revealed by research</td>
<td>Knowledge that enables students to make a difference, especially knowledge of where and how to find things out</td>
<td>Knowledge about learning and how to learn</td>
</tr>
<tr>
<td></td>
<td>Knowledge located within academic subjects</td>
<td>Self-knowledge</td>
<td>Self-knowledge</td>
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<tr>
<td></td>
<td>Text-based knowledge</td>
<td>Knowledge distilled from experience and reflection</td>
<td>Knowledge about human well-being and flourishing</td>
</tr>
<tr>
<td></td>
<td>Critical thinking skills that enable a student to test ideas, including assumptions and assertions</td>
<td>The skills of reflective thinking and strategic thinking</td>
<td>Skills of learning to learn (particularly skills of reflective thinking and strategic thinking)</td>
</tr>
<tr>
<td>Skills</td>
<td>Skills of written communication, especially the ability to write for an academic audience</td>
<td>Listening skills</td>
<td>Skills of self-management</td>
</tr>
<tr>
<td></td>
<td>Subject-specific skills</td>
<td>Personal transferable skills</td>
<td>Personal transferable skills</td>
</tr>
<tr>
<td>Attitudes</td>
<td>1. Sceptical/questioning attitude</td>
<td>1. Desire to make a difference</td>
<td></td>
</tr>
<tr>
<td></td>
<td>2. Intellectual curiosity, that is, a spirit of disinterested enquiry</td>
<td>2. Commitment</td>
<td></td>
</tr>
<tr>
<td></td>
<td>3. Impartiality</td>
<td>3. Proactivity, that is, a bias towards action</td>
<td></td>
</tr>
</tbody>
</table>

Source: Bourner, Heath and Rospigiosi (2013)
their lives after their graduation and the main purpose of society-centred higher education is to equip students with the capacity and disposition to contribute to society in general and the community in particular. We then looked at the kinds of knowledge, skills and attitudes implied by each of those goals.

For the purpose of this current article, it is the society-centred part which is most relevant. Society-centred learning ranges from the sort of service-learning courses that have become common in North America through the sort of student-community engagement programmes pioneered at the Brighton University’s *Community-University Partnership Programme* (Millican and Bourner, 2014) to the kinds of accredited volunteering programmes that have become relatively common in the UK (Brewis and Holdsworth, 2011; Shaheen, 2011). Usually, it involves learning in community-based organisations and groups.

What kinds of knowledge, skills and attitudes would equip a student to make a difference to the lives of others in society in general and the local community in particular? The answer we arrived at is shown in the middle column of Table 1 above.

Most recently, we have looked at the implications of the FFU concept for a university’s contribution to the advancement of knowledge (Bourner, Rospigliosi and Heath, 2016). We asked how a university can support all three parts of the tripartite mission by the way(s) that it seeks to contribute to the advancement of knowledge. Our conclusions included the following: (1) the ‘social engagement’ part of the tripartite mission can be supported by problem-based research, applied research and research that engages the university with wider society, including the local community, (2) research is only one way that a university can contribute to the accumulation of knowledge and the accumulation of knowledge is only one way that a university can contribute to the advancement of knowledge. Other ways can be found which support the higher education of its students and social engagement. In that article we identified many ways in which its contribution to the advancement of knowledge can also support the higher education of its students and society beyond the university. In this article we are particularly concerned with the latter, so here are some of those ways:

- Demystifying knowledge and popularising knowledge to make it more accessible to people based outside of academia¹.

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¹ In this respect, we see it as significant that many universities have recently established Chairs in the public understanding of various subjects.
Interpreting new knowledge and its significance to individuals and groups beyond the university.

Advancing *local* knowledge. It would be possible, for example, for each university to develop a ‘knowledge hub’ for its local community. It would be possible, as another example, for each university to develop and publish a strategy for the advancement of knowledge about its local community and/or region.

Knowledge transfer between producers of knowledge and potential users of knowledge – i.e. knowledge brokerage.

Liaising with others with an interest in advancing knowledge – e.g. professional bodies and government agencies.

Developing research as a transferable skill amongst university at all levels. We have explored this elsewhere – Bourner, Heath and Rospigliosi (2014).

Identifying *domains of applicability* of knowledge in the world (including the local community) beyond the university.

In those two latter articles we asked, respectively, how a university can serve the third leg part of the tripartite mission through the higher education that it offers and how it can serve the other two parts through its endeavours to advance knowledge. In this article, we ask the equivalent question within the domain of social engagement: ‘How can a university contribute to the advancement of knowledge and the advancement of learning through social engagement?’

The service part of the tripartite mission within a fully-functioning university

The key question for this article is: ‘How can a university pursue the service part of the tripartite mission in ways that contribute to the other two parts of the tripartite mission?’ That question is addressed in the two parts of this section. The first contains a brief case study of a service-based activity within a university where we ask how that activity could have been pursued in ways that contribute also to the advancement of knowledge and the HE of students? The second seeks to generalise some of the lessons.

Case study

This case concerns a university’s Business Faculty, which scheduled a ‘Faculty Day’ each semester when the members of the Faculty came together to connect, communicate and interact. Each semester, one of the five departments comprising the Faculty would take it in turn to host and organise the Faculty Day. Usually, this took the form of a
conference, workshop or an ‘away-day’ that addressed an issue of current relevance to the whole Faculty.

On one occasion, the Department of Management Development, whose turn it was to host the Faculty Day, decided on an off-site team-building day. Further discussion led to a plan to redecorate a home for blind and partially-sighted residents. The idea had been suggested in a chance conversation with one of the Department’s part-time students whose employing organisation had done something similar a year before, organising an apparently successful team-building day of a similar nature.

The participating staff of the Business Faculty organised themselves into groups who each had the task of planning their work, sourcing their own materials, liaising with other groups and, on the day, painting and decorating their particular part of the residential home. The day ended with a barbecue for those who had participated.

It worked out very well and when the then Dean subsequently retired, he said it was one of the highlights he had enjoyed most and felt most proud about during his time as Dean. It had served the Faculty, served part of the local community and had been an enjoyable experience that left the participants feeling good about themselves and their Faculty.

This is the sort of activity that any organisation, or part of an organisation, might have taken on. The fact that it was part of a university was largely irrelevant to its team-building role. It is worth noting, in this respect, that the source of the idea was a team-building day organised within a ‘for-profit’ organisation.

If we now look at this event through the perspective of the FFU we observe that in addition to supporting the organisation as an institution through the team-building, it also supported the ‘service’ part of the tripartite mission. The FFU perspective raises the question, how could this Faculty Day activity have supported the other two parts of the tripartite mission – i.e. how could this Faculty Day have supported also the advancement of knowledge and the advancement of its students respectively? A plausible answer to each part of that question is as follows:

(1) Advancement of knowledge
It would have been possible to do some research on team-building in organisations and its relationship with service in the community. This could have included, for example, a literature review, a search for other examples of this kind of event and possibly interviews with other people with first-hand experience, such as the part-time student referred to above. In this way, this particular kind of Faculty Day, an innovation
within the university, could have been turned into an evidence-based development. It might even have resulted in publication of the findings, an article titled something like, ‘Organisational team-building through community engagement’.

Second, the event itself could have been treated as a piece of subject-centred research in the field of Human Resource Management (HRM), Human Resource Development (HRD) or Organisation Development (OD). It would not have been difficult to structure it as an action research project. The department had academic specialists in HRM, HRD and OD who could have taken responsibility for such research. Alternatively, instead of subject-centred research, it could have been treated as a practitioner-led research project, again possibly as action research or some other action-based mode of enquiry (Raelin, 2015). Possibly also, the human resources department in the university could have been invited to be involved as non-participant observers. And it would also have been possible to have undertaken a project of this kind under the banner of ‘institutional self-study’ (Watson and Maddison, 2005).

Third, instead of looking for a contribution to knowledge in advance as an evidence-based development or during as action research, another option would have been to focus on the research aspect afterwards. This approach could have taken the form of a retrospective case study to distil the outcomes and lessons from the experience, encouraging reflection on the activities of those involved. This could have been framed as an evaluation of the project.

It seems clear that there were many possible answers to the question: ‘How can we use this activity which contributes directly to the service part of the tripartite mission, to also make a contribution to the advancement of knowledge?’ In this case, the knowledge would have been about team-building through community engagement. Sharing the lessons from the experience by means of a published article, or by some other means of dissemination, would have made the knowledge available to the other faculties in the university, other universities and organisations more generally outside of the university.

(2) Supporting student learning and their higher education

Is there any way that this Faculty Day could have been used to contribute to the HE of the students and, in particular, their learning? One answer follows immediately from the discussion above: an article distilling the lessons from the day could have supported the learning of students in HRM, HRD and OD.

Second, students in these subjects could have been invited to learn from observation of the experience. There is increasing interest in
undergraduate research as part of the higher education experience (see, for example, Jenkins and Healey, 2015). It would have been possible to engage students – undergraduate or postgraduate – as observers of the Faculty Day ‘experiment’ as part of the development of their research skills (Bourner, Heath and Rospigliosi, 2014).

Third, it would have been possible to use this experience to broaden the higher education of the students in this faculty. We have previously explored what sort of university education would be provided by an FFU (Bourner, Heath and Rospigliosi, 2013) and our conclusion was that it is one that contains a subject-centred part, a student-centred part and a society-centred part. The easiest part of this remit is the subject-centred part because universities have most experience of this, certainly over the last two centuries. The least well-developed is the society-centred part, which is led by such developments as student-community engagement (Millican and Bourner, 2014), service learning (for example, Speck and Hoppe, 2004) and extracurricular activities such as student volunteering (Holdsworth and Quinn, 2010). Education is sometimes partitioned into knowledge, skills and attitudes and a significant part of society-centred HE concerns the development of pro-social values and attitudes. An event like this kind of Faculty Day, provided an opportunity for students to witness academic and other staff at their university engaging in pro-social behaviours which could have supported, through role modelling, the development of pro-social attitudes and values as part of their higher education experience.

**Generalising the lessons**

To the best of our knowledge, the Faculty Day described above met its team-building objectives and also, incidentally, contributed to the service part of the tripartite mission of the university, but there were opportunities missed to use it to contribute to its other two parts of the tripartite mission. The case study took place before the development of the FFU concept so that concept was not available to frame the question to which the team-building Faculty Day was the answer. Rather, the team-building event was an answer to the question: ‘What sort of Faculty Day can our department lay on that will enable members of the Faculty to interact, produce something of value for the Faculty and play to our departmental strengths?’

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2 There was no formal evaluation of the Faculty Day afterwards.

3 As always, the answers one gets depends on the questions one asks.

4 The department in question was a Centre for Management Development so it had strengths in areas like team-building.
With the benefit of the FFU concept we could have added the rider: ‘And, as part of a university, how can we do that in a way that best serves the other two parts of the tripartite mission?’ That question can be combed out into:

1. How can we do this in a way that also contributes to the advancement of knowledge?
2. How can we do this in a way that also contributes to the advancement of our students and, in particular, their higher education?

The case study above suggests the main areas where answers to these questions might be found. Almost any project within a university can be approached as a research-based development. Its implementation might contribute to knowledge (possibly as an action research project) as subject-centred research or as practitioner-centred research. And evaluation of the project provides an opportunity for reflective learning that can be shared more widely within the university and beyond. It is

<table>
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<th><strong>TABLE 2</strong></th>
<th><strong>Examples of knowledge creation within a community project</strong></th>
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<tr>
<td><strong>Timing of the research</strong></td>
<td><strong>Illustrative research options</strong></td>
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<tr>
<td><strong>Before</strong></td>
<td>Evidence-based project development</td>
</tr>
<tr>
<td><strong>During</strong></td>
<td>Subject-centred or practitioner-led research (possibly by means of action research)</td>
</tr>
<tr>
<td><strong>After</strong></td>
<td>Reflective learning through evaluation</td>
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<tr>
<th><strong>TABLE 3</strong></th>
<th><strong>Examples of student engagement with community projects</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Components of university education</strong></td>
<td><strong>Illustrative ways in which they may be realised</strong></td>
</tr>
<tr>
<td><strong>Contribution to student knowledge</strong></td>
<td>Dissemination of knowledge gained by the research (as above) through the subject-centred part of the HE curriculum</td>
</tr>
<tr>
<td><strong>Contribution to student skills</strong></td>
<td>Research skills acquired through student-led research during the project – see Bourner, Heath and Rospiglioni (2014).</td>
</tr>
<tr>
<td><strong>Contribution to development of prosocial attitudes</strong></td>
<td>Role modelling by academic staff engaging in prosocial activities.</td>
</tr>
</tbody>
</table>
possible to differentiate these different approaches in timing – i.e.,
before, during and after. Table 2 illustrates this.

Any project within a university can also be questioned about its
potential contribution to the higher education of its students. The
knowledge, skill and attitudes framework is helpful here (see Table 3).

We can generalise further and conclude that all projects and
significant activities within a university can be interrogated with the
following three questions:

1. How can this ‘project’ contribute to the advancement of knowledge?
2. How can it contribute to the advancement of our students and, in
   particular, their university education?
3. How can it contribute to the service part of the tripartite mission?

We have already addressed the third question the preceding two articles
on the FFU. The discussion in this section leads to the conclusion that
we can disaggregate the first question into:

- What can we do before the project that could contribute new
  knowledge?
- What can we do during the project that could contribute new
  knowledge?
- What can we do after the project that could contribute new
  knowledge?

And we can disaggregate the second question into:

- How can we take this project forward in a way that can contribute to
  the knowledge students acquire on their university education?
- How can we take it forward in a way that we use it to enhance
  student skills?
- How can we take it forward in a way that contributes to the
  development of prosocial attitudes of our students?

**Discussion**
This section of the article takes a closer look at some of the issues raised
in the previous sections, including: (1) question-based thinking, (2)
devolution of the FFU concept to units within a university, (3) the
impact of incentives, scrutiny and regulation on university behaviour,
(4) institutional self-study, (5) the university as a good neighbour and
citizen, (6) the UK context and transferability elsewhere.
Question-based thinking

The last section ended by offering some questions that can be directed at any kind of university endeavour or activity that can be conceptualised as a project. We were not, of course, in a position to ask how an FFU could contribute to the advancement of society more widely until we had developed the FFU concept. This concept enables us to ask some new questions.

The modern university has placed much emphasis on accumulating new knowledge – i.e. finding new answers. Unfortunately, this can direct attention away from another equally important function of a university: asking new questions. Universities are essentially questioning institutions. It is no coincidence, therefore, that our work on the FFU have been driven by questions:

- What endeavours have endured through the long history of the Western university?
- What sort of higher education is implied by the concept of an FFU?
- How would an FFU contribute to the advancement of knowledge?
- How would an FFU contribute to the advancement of society?

Clearly, questions are triggers for thought and the advancement of knowledge. According to an aphorism often attributed to Bertrand Russell, ‘the greatest challenge to any thinker is stating the problem in a way that will allow a solution’. He could, with no loss of meaning or generality, have said ‘the greatest challenge to any thinker is stating the question in a way that will allow a solution.’

Moreover, the relationship between questions and knowledge does not run in one direction only. Questions trigger thoughts, ideas, concepts and new knowledge but new knowledge leads to new questions. A very valuable result of the accumulation of new knowledge is to surface potentially fruitful new questions that would not otherwise have been asked. An undervalued contribution of research to the advancement of new knowledge is the discovery of new and fruitful questions.

Questions trigger thoughts and thoughts lead to actions. When Bacon wrote that ‘knowledge itself is power’ (Bacon, 1597/2005) he saw that the accumulation of knowledge of the natural world could enable actions that could improve the human condition. Sometimes, questions like, ‘How can we take this project forward in a way that contributes to the advancement of knowledge, the higher education of students and/or the local community?’ are best answered by action(s).
Devolution of the FFU concept to individual units within a university

Should a university seek to realise the tripartite mission by devolving the FFU concept down to each of its constituent units or should it do so by specialisation of these units on different parts of the tripartite mission?

Conceivably, a university could realise the tripartite mission through complete specialisation at the level of its component units. It is possible to imagine a university comprising units which specialise fully in research, other units that specialise entirely in teaching and yet others that specialise completely in using the knowledge and education resources of the university to serve society more widely. However, as there are potential synergies between the advancement of knowledge, service to the wider society and the higher education of students, such extreme specialisation would be inefficient and ineffective.

On the contrary, one task for a university that aspires to be fully-functioning is to organise itself in ways that makes the most of those synergies. This implies the need to shape the incentives within its constituent units such that staff are motivated to seek out opportunities to contribute to all three interdependent goals.

An example of this would be a reporting system which periodically, perhaps annually or biannually, asks each unit to compile a report on its contribution to all three parts of the tripartite mission. Such a system would focus the attention of each of the units on the university’s aspiration to contribute to the tripartite mission in its entirety. This would not, however, eliminate specialisation where a unit is thereby able to make sufficiently large contribution to one or two of the three parts that it is exempt from a contribution to one (or both) of the other two parts.

Such specialisation is more likely to occur in smaller units than larger units within a university if only because the larger units constitute a bigger proportion of entire university. Thus it is less likely to apply to a whole Business Faculty within a university than to, say, a small specialised research unit within that Faculty.

The key principles at work here are the economists’ principle of ‘comparative advantage’ (favouring specialisation) and the systems theory’s principle of ‘synergy’ (favouring integration). The optimal degree of specialisation on particular parts of the tripartite mission within the individual units of a university is likely to be the result of the application and balancing of these two principles.

Impact of incentives, scrutiny and regulation on university behaviour.

In this article we have assumed that universities are free to choose their direction, the projects they take on and their on-going activities. In other
words, we have assumed that universities have control over the work they do, unconstrained by external forces such as government regulations. In practice, however, universities work within constraints and externally imposed incentive systems. This is one reason that they have narrowed down the advancement of knowledge part of the tripartite mission to ‘just’ research and the higher education of students part to ‘just’ teaching. The incentive systems they inhabit reward research more than other ways of advancing knowledge, and teaching is the object of significant external scrutiny whereas many other aspects of the higher education of students are not. Unsurprisingly, universities respond to these incentives.

Currently, the third leg work is less externally regulated, incentivised or scrutinised than the other ‘legs’ and this means that universities have relative freedom about how they pursue it. However, this endeavour is also affected by incentives, scrutiny and regulation. Thus, for example, an article resulting from third leg work published in a refereed journal will be more highly regarded and rewarded within a university than a popularising book, even though a book might be a more effective means of disseminating new knowledge of this kind of work.

**Institutional self-study**

The section on researching third leg initiatives, above, raised the issue of institutional self-study. A proximate goal of institutional self-study is to gain knowledge and information about the university itself and its activities. All organisations collect some information about their own activities, of course, for a range of purposes, including decision-making, planning and satisfying legal requirements. ‘Institutional self-study’, however, goes much further in seeking to generate organisational knowledge. To what end(s)? First, organisational knowledge is the institutional equivalent of an individual’s self-knowledge; just as the self is the instrument of individual agency in the world so the institution is the instrument of an organisation’s agency in the world. Second, institutional self-study is one way that an institution can become a learning organisation with all the benefits which that can convey (Easterby-Smith et al., 1999; Watson and Maddison, 2005). A third reason is captured in Bacon’s words, at the birth of the scientific revolution, that ‘knowledge itself is power’ (Bacon, 1597/2005). All these reasons suggest that organisations with much institutional knowledge are likely to be more effective than those with little self-knowledge. The university as an institution is particularly well-placed to apply established methods of enquiry to accumulate knowledge about itself and its activities.
With its addition to the application of recognised methods of enquiry, universities have gained particular expertise in recent decades in learning through systematic reflection. Donald Schön has been a leading developer of the idea of the improvement of professional practice through reflective learning and reflective practice (Schön, 1983). It is not difficult to extend this concept of reflective practice to institutions, particularly universities, which one might expect to be at the forefront of the realisation of the concept of evidence-based practice.

In the UK, David Watson and Elizabeth Maddison have pioneered institutional self-study (Watson and Maddison, 2005). Watson has also been a leading advocate of the importance of the third leg of the tripartite mission in the UK in the form of civic engagement (see, for example, Watson, 2007; Watson et al., 2013).

Institutional self-study conveys a further benefit for the third leg. It generates knowledge of institutional and professional practices that can be shared across institutions for their benefit and also for the benefit of society more widely. A good example here is the work of the University of Brighton’s Community and University Partnership Project (CUPP), an innovative unit set up to support university engagement with the wider community. Those responsible for it have sought to share the fruits of their self-study and learning from this unique endeavour through a range of publications (Hart et al., 2007).

The relationship(s) between institutional self-study and the third leg of the tripartite mission are worth further study. Two key questions are: ‘How can institutional self-study support a university’s third leg aspirations?’ and ‘How can the third leg work support institutional self-study?’

The university as a good neighbour and active citizen
In his 2007 book, Managing Civic and Community Engagement, David Watson observed that US universities are much more loved by their local communities than UK universities. Why should that be?

One plausible reason is that US universities are better neighbours and more active citizens than their UK counterparts because they have placed more value on the social engagement part of the tripartite mission. There are many people who perceive the very term ‘tripartite mission’ as an Americanism along with the term ‘service’ to describe university contributions to the community and society more widely.

Universities in the UK have tended to focus on national and international contexts rather than their local and regional contexts. Traditionally, they have perceived themselves as players within an international arena. Arguably, this was more reasonable when there were
relatively fewer universities and it is less so as the number of universities has multiplied both in the UK and globally.

The international arena is increasingly crowded with universities seeking ascendance or at least positional advantage. There remain however many opportunities for universities to contribute to society regionally and locally. A university seeking ways to make third leg contributions is likely to be an institution that is a good neighbour and an active citizen in addition to seeking national and international excellence. Evidence from North American universities indicates that seeking to be a good neighbour and an active citizen does not detract from international excellence or reputation within the global arena.

**UK context and transferability elsewhere**
The content of this article has been the UK university system. The authors are based in a UK university, the illustrative examples, including the team-building case study took place in a Business Faculty in a UK university and much of the discussion including the language used such as ‘third leg’ arise from UK higher education. To what extent are the conclusions of this article thereby limited to universities in the UK?

The concept of a FFU is not limited to the UK at all. It originated from an examination of the entire history of the Western university from its birth in the Middle Ages. It is based on the idea of the tripartite mission, a term which originated in the America, and which has long been recognised in many countries outside of the UK and only relatively recently come into common usage in the UK.

This article has taken the FFU as a general concept and worked out its implications for the third leg part of the tripartite mission. As far as we can see there is no impediment to applying those implications to universities in any other country.

**Conclusion and implications**
In this series of articles on the fully-functioning university we have argued that: (1) the tripartite mission is not a product of the modern university, but lies at the heart of the Western university with a pedigree going back to the earliest universities of the middle ages, (2) in each succeeding era of university development one part has dominated the other two parts of the tripartite mission which have been justified and expressed in ways that serve the dominant part and (3) the fully-functioning university is one that values each part of the tripartite mission in its own right and not just for the contribution it can make to the currently dominant part.

This led to the question: ‘How can a university serve each part of the
tripartite mission in ways that contribute to the other two parts of that mission? This is the question that has underpinned each of these articles on the FFU. The three parts of the tripartite mission are interrelated so the pursuit of each part can impact on either or both of the other two parts, in either positive or negative ways.

A shift in mission dominance occurred between the 19th and 20th centuries. At the start of the 19th century the higher education of students was dominant with the advancement of knowledge (by research or otherwise) occupying a subsidiary position. By the high years of the 20th century the relative importance of the advancement of knowledge had risen to pre-eminence. The esteem of a university was mainly determined by its research activity and research success. By the end of the 20th century, this situation had been formalised by the publication of league tables in which rank was highly correlated with research success. The ‘pursuit of knowledge for its own sake’ had become the mantra of many universities which raised concern about universities becoming disengaged from the community and society more generally. This concern was expressed in the increasing use of the terms like ‘ivory tower’ and the term ‘academic drift’ had emerged in which the word ‘academic’ was used in a pejorative sense (see, for example, Robinson, 1968; Neave 1979). In the UK, that concern found practical expression in the early 1970s by the establishment of polytechnics with a brief to place more focus on teaching and higher education for professional employment with an emphasis on relevance, impact and responsiveness to locality.

Towards the end of the 20th century the UK government tried to address the problem of perceived inadequate university engagement by a series of measures, including, for example, the Enterprise in Higher Education Initiative, the introduction of Knowledge Transfer Partnerships and the introduction of third leg funding. There was always pressure, however, on those within the university who were pursuing third leg activities to justify their work in terms of its contribution to the other two legs, the advancement of knowledge and the higher education of the students. There was no similar pressure on those pursuing those other two legs to justify their work in terms of social engagement or impact.

The FFU concept implies that this is an unbalanced position and that each part of the tripartite mission should be pursued with explicit regard to the other two parts. This line of reasoning can, however, be taken further. It can lead to the conclusion that all activities within a university can be pursued with explicit regard to each of the three parts of the tripartite mission.
The case study above concerning a team-building event by one part of a university illustrates that conclusion. Most team-building activities in most organisations are conducted, of course, without any thought about any tripartite mission. We have seen that team-building within a university, however, could be different by paying explicit attention to its possible contribution to each part of the tripartite mission – i.e. by virtue of the fact that it is the tripartite mission which makes the difference between a university and other organisations.

This approach would be facilitated by conceptualising more of the work of the university as projects. Some university endeavours and activities are naturally classified as projects, particularly those with a well-defined start-date and ending. Others, such as student recruitment and staff development, seem to be just on-going activities or processes. There is not much, however, which cannot be conceptualised as a project within a university, if one is willing to be a little imaginative with beginnings and endings. Student recruitment, for example, is an ongoing activity, but student recruitment for the forthcoming year could be viewed as a discrete project.

The main advantage of conceptualising activities as projects is that it facilitates the use of project-based methods. A second advantage, however, is that it facilitates the use of research-based development. In our discussion of the team-building case study above we made the statement that ‘any project within the university can be approached as a research-based development’. However, university activities must first, of course, be conceptualised as projects. This, in turn, helps the university, or part thereof, to engage in evidence-based practice and then to disseminate the results of any gains in knowledge.

In this article we have looked at how a university can seek to realise third leg outcomes in ways that contribute to the advancement of knowledge and to the higher education of students. Our main conclusion is that all (third leg) projects and significant activities within a university can be interrogated with the following two sets of questions:

- What can we do before the project that could contribute new knowledge?
- What can we do during the project that could contribute new knowledge?
- What can we do after the project that could contribute new knowledge?

And
• How can we take this project forward in a way that can contribute to the knowledge students acquire on their university education?
• How can we take it forward in a way that we use it to enhance student skills?
• How can we take it forward in a way that contributes to the development of pro-social attitudes of our students?

In addition, we have concluded that:

• The modern university has been preoccupied with the accumulation of subject-centred knowledge in ways that have meant looking for new findings – i.e. new answers. Our main conclusion (above) has led to a greater appreciation of the value of questions in provoking thought and action. There is great value in the discovery of new questions that are insightful and significant. A significant original new question is a valuable contribution indeed. From a third leg perspective, this suggests an extension of the university’s role to include more focus on questioning aspects of the society within which universities are embodied and offering a higher education which encourages students to do so.
• Specialisation of individual units of the university on just part of the tripartite mission needs to be done in full awareness of the potential loss of synergy gains to the other two parts. In the light of the substantial interests supporting research and educational development that developed in the 20th century, it is likely that the main loss will be to the third leg part of the overall mission of the university.
• Evidence from the North America suggests that universities that place more value on positive social engagement as active citizens and good neighbours are unlikely thereby to hinder aspirations for international reputation.

These conclusions have some significant implications, including:

1. Asking each unit within a university to produce an annual or biannual report on its contribution to all three parts of the tripartite mission is likely to encourage such units to ask the sets of questions identified above.
2. Institutional self-study offers one way by which third leg activity can contribute new knowledge and, less obviously, the advancement of higher education of students.
3. Greater use of project-based thinking within universities will facilitate third leg activities that supports research and higher
education and research and higher education that supports third leg activities.

The structures and processes of institutions, including universities, reflect their past. Greater emphasis on third led work can present problems to universities that have been focused for much of the 20th century on teaching and research. For example, the estates department of a university may have an implicit model of the academic year as starting in October and ending in June based on a norm of lecturing and seminars or tutorials. This can make it difficult to find accommodation for third leg activities that involve extension work with different patterns of attendance such as full-days or weekly blocks. This raises questions about the extent to which third leg activities are impeded by structures and practices established at a time when third leg work was less important than it is now. Can universities learn to be more flexible in the use of their resources? Other questions surfaced by this article include:

1. What can universities learn from each other about how best to realise the third-leg of the tripartite mission? Is there a case for a ‘centre for university comparisons’ to seek answers to this question, identify good practice, or, at least, identify options?
2. How can third leg work be incentivised within institutions in which the incentives have over the last century been focused on research and teaching?
3. How is third leg work related to question-based thinking, project-based thinking and institutional self-study respectively?

In the introduction, we asserted that the FFU concept has a contribution to make in thinking through how the third leg can be realised by universities in the 21st century. Its contribution follows by asking how the advancement of knowledge and the HE of students can each contribute to the third leg and how the third leg work can contribute to the advancement of knowledge and the HE of students? In this article we have sought to provide some answers.

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