The entrepreneurial university in the twenty-first century

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Burton Clark's 1998 monograph, *Creating Entrepreneurial Universities: Organizational Pathways of Transformation*, has become seminal in the literature on entrepreneurialism in universities. In this paper I re-examine the validity of Clark's analysis through an interview study of one of his original entrepreneurial universities, namely Warwick University; at the same time, I seek to remedy some of the defects in Clark's original study. The study affirms that the entrepreneurial culture that Clark identified some 15 years ago still persists at Warwick University. I speculate on the reasons why this culture has persisted, discuss the suitability of the entrepreneurial university in the post-2012 era and stress the importance of distinguishing between commercialism and Clark's concept of entrepreneurialism.

Keywords: entrepreneurial university; enterprise university; Burton Clark; Warwick University; pathways of transformation

An entrepreneurial university, on its own, actively seeks to innovate in how it goes about its business It seeks to work out a substantial shift in organisational character so as to arrive at a more promising posture for the future Entrepreneurial universities seek to become 'stand-up' universities that are significant actors on their own terms. (Clark 1998, 4)

Introduction

A large literature has developed concerning the pressures for change in the higher education sector, in terms of both the internal organisational structure of universities and the changing role of universities in society (e.g. Bok 2003; Clark 1998, 2004; Deem, Hillyard, and Reed 2007; Kirp 2003). In turn, this has generated a considerable debate concerning the fundamental concept of the university (Graham 2002; Maskell and Robinson 2002). While it is probably true to say that there is little clear consensus that has emerged from these debates, there does appear to be an emergent broad consensus as to the nature of the pressures on higher education to become more entrepreneurial in the broad sense of generating a growing percentage of funding from non-state sources or linking more closely to society through third-stream activity with an industrial or commercial association (Clark 1998, 2004; Shattock 2003, 2009, 2010a). In this context, Burton Clark's 1998 monograph, *Creating Entrepreneurial Universities: Organizational Pathways of Transformation* (Clark 1998), investigated the response of universities to these pressures and has become seminal in the literature on entrepreneurialism in universities (see, e.g. Shattock 2010b). On the basis of case studies of five universities, Clark developed a set of defining characteristics or 'pathways of transformation' of the entrepreneurial university.

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In this paper, I re-examine the validity of Clark's analysis through an interview study of one of his original entrepreneurial universities, namely Warwick University, some 15 years after Clark carried out his original research; at the same time, I seek to remedy some of the defects in Clark's original study.

The Clark study

Clark's research design involved choosing five European institutions identified through informally canvassing European colleagues for 'their nomination of institutions that had been involved in self-instituting efforts to change their general character for eight to 10 years or more' (Clark 1998, xiv). The five universities chosen by this process were Warwick (England), Strathclyde (Scotland), Twente (the Netherlands), Chalmers (Sweden) and Joensuu (Finland). The research consisted of two rounds of short, one- to two-week visits during 1994 and 1995 during which Clark conducted and recorded 'about a dozen taped interviews' (Clark 1998, xiv) in each institution. In addition, Clark acquired university documents, 'sat in on a few meetings', 'and looked around at what was going on in the offices, classrooms, laboratories, corridors, and pathways of the campus' (Clark 1998, xv).

Clark's first round of interviews covered the following broad categories (Clark 1998, 8):

(1) Personal background of the interviewee.
(2) Overall character of the university.
(3) The nature of the university leadership.
(4) The relationship between the administrative and academic functions.
(5) The basis of financial support.
(6) The shape of research and advanced training.

Based on this, Clark drew out five elements or categories that appeared to be common, core features of the institutions under examination, which he explored further in a second round of visits and interviews in 1996. These developed into the five 'pathways of transformation', described later, that Clark sees as the defining characteristics of his concept of the entrepreneurial university, namely the 'strengthened steering core', the 'expanded developmental periphery', the 'diversified funding base', the 'stimulated academic heartland' and the 'integrated entrepreneurial culture'.

Clark's work on entrepreneurial universities has achieved almost iconic status in the higher education literature and is widely cited (e.g. Kogan and Hanney 2000; Rothblatt 2000; Subotsky 1999; Wilson 2000); a search on *Google Scholar* in May 2012 found 2229 separate academic citations to Clark (1998).

While discussion of the Clark study work tends to be largely uncritical, several studies, notably Smith (1999), Deem (2001) and Finlay (2004), have criticised the methodological basis of the study. Smith (1999), for example, suggests that Clark's choice of universities may be misleading because they consist largely of successful and self-confessed entrepreneurial universities and argues that Clark's analysis is in some sense 'self-congratulatory and uncritical of both concepts and practice'. Deem (2001) is even more trenchant, arguing that Clark relies, in particular, 'too heavily on interviews with a small number of … senior manager academics and administrators, and hence provides a rather one-dimensional picture of the institution', and, similarly, that 'Little attention seems to have been paid to the selection of interviewees which would enable contentious or debatable statements to be interrogated or cross-checked' (Ibid.).

In the work reported in this paper, we revisit one of Clark's entrepreneurial universities in an attempt to remedy some for the alleged defects of his study, in particular, by examining a broader based, stratified sample of interviewees, as well as re-examining the validity of his analysis some 15 years after the original study. It should be noted, however, that by limiting the study to Warwick University, it is in some ways rendered vulnerable to criticism of a similar nature to that which Smith (1999) and others have levelled at Clark's original study, namely that there may be a selection bias in the analysis: if we define entrepreneurialism as what Warwick does (or in Clarks' original study, as the template to which his five model universities conformed), then it may not be surprising to find that Warwick is entrepreneurial in this sense. I return to this issue in the concluding remarks to this paper. For present purposes, however, it should be noted that in returning to an analysis of Warwick University some 15 years after Clark's original study, the purpose of the present study is to examine whether the template of characteristics that Clark identified at Warwick still persists today. Once we have analysed the empirical evidence in this respect, we can then discuss whether or not a significant modification of Clark's paradigm is warranted and, relatedly, how relevant Clark's concept of the entrepreneurial university is in the early twenty-first century.

As a preliminary to both the interview study and our exploration of Clark's five pathways of transformation, we next briefly describe the five pathways.

Clark's five 'Pathways of Transformation'

Pathway 1: the strengthened steering core

The strengthened steering core may involve decentralization of control, as in three of the universities in Clark's study (Twente, Chalmers and Joensuu) or centralization of control, as in the other two (Strathclyde and Warwick).[1] However, a defining feature of Clark's concept of the strengthened steering core is that it allows the university the capacity to cut through bureaucracy and to be flexible, dynamic and decisive in its decision-making while remaining collegial and representational: 'it must embrace central managerial groups *and* academic departments … It must operationally reconcile new managerial values with traditional academic ones' (Clark 1998, 5–6).

Pathway 2: the expanded developmental periphery

Clark's second pathway of transformation, the expanded developmental periphery, is conceived of as a means of reaching across 'old university boundaries' to reach organizations and structures beyond academia. This is not to deny the continuing importance of traditional academic subject areas and departments: 'their disciplinary competence is essential, too valuable to throw away' (Clark 1998, 6), but there is a presumption that, in the entrepreneurial university, these must be overlaid with overlapping matrices of interdisciplinary networks that look across the traditional academic silos, or be complemented by an infrastructure that is deliberately and consciously outward looking.

Pathway 3: the diversified funding base

The development of a diversified funding base fulfils two objectives according to Clark (1998, 6–7): it provides a degree of autonomy or self-reliance so that the university is not

entirely in thrall to any one funding source (notably government), thereby allowing the flexibility and dynamism and self-determination that is at the heart of the strengthened steering core; but it also requires the university to reach out to the wider world in developing third-stream and research income, nurturing philanthropic donations, and so forth.

Pathway 4: the stimulated academic heartland

Clark (1998, 7) argues that as the implementation of entrepreneurial transformation needs ultimately to take place in academic departments and sub-departments, then this 'academic heartland' must align itself with the entrepreneurial innovations taking place if they are to succeed. 'For change to take hold, one department and faculty after another needs itself to become an entrepreneurial unit, reaching more strongly to the outside with new programs and relationships and promoting third-stream income' (Clark 1998, 7).

Pathway 5: the integrated entrepreneurial culture

Finally, Clark likens the capacity to embrace change in the entrepreneurial university as akin to that of successful high-technology firms (Clark 1998, 7). The successful entrepreneurial university creates an entrepreneurial culture which embraces change, which is diffused in the academic heartland and which is embedded at all levels across the university.

Research design

In August 2010, I interviewed a total of 26 staff – 17 academics and nine administrators – at Warwick University, drawn from both the central university administration and all academic faculties. Table 1 provides details of the sample. Of the nine administrators, four were from the central administration and five were embedded within faculties, with all faculties represented; three were female and six were male, and administrative grades

Table 1. Interviewees.

	Social science	Science	Medicine	Arts	Central administration
Academics					
Male	Prof(15) Prof(2) Prof(4) Assoc Prof(14) Assoc Prof(15)	Prof(17) Prof(13) Assoc Prof(12) Assist Prof(3) Assist Prof(5)		Assoc Prof(9)	
Female		Prof(15)	Prof(12) Assoc Prof(11)	Prof(30) Prof(11) Assoc Prof(12)	
Administrators					
Male	FA9(5)	FA8(7)	FA6(3)	FA7(3)	FA7(4) FA9(13)
Female	FA7(10)				FA9(6) FA6(5)

Note: The figures in parentheses give the number of years the member of staff had been employed at Warwick University.

FA6, FA7, FA8 and FA9 were represented.[2] Of the seventeen academics interviewed, six were female and eleven were male, nine were full professors, six were associate professors and two were assistant professors; at least two academic representatives of each faculty were interviewed. Table 1 also gives the number of years, to the nearest whole number, that each of the interviewees had been working at Warwick University; the average length of employment was 10 years with a minimum of two years, a maximum of 30 years and a median of 11 years.

While Clark conducted two rounds of interviews, I conducted a single interview in two parts. In the first part, I asked general questions based broadly on those that Clark used in his first round of interviews. In the second part, I explored Clark's five pathways by asking the interviewee to comment on a set of statements about Warwick University related to the five pathways; respondents were asked to indicate on a five-point scale their degree of agreement with the statement but they were at the same time invited to comment qualitatively on the statements, which were as follows:

Statement 1: The University is flexible, dynamic and decisive in its decision making while remaining collegial and representational.

Statement 2: The University actively and consistently reaches out to the wider world beyond academia through various means, including its research centres, liaison and collaboration with private industry and the public sector and government, its science park, its conference trade, its arts centre, fundraising activities and alumni relations.

Statement 3: The University actively and successfully pursues a policy of obtaining funding from a range of sources so that it is not reliant on any one particular source.

Statement 4: Financial diversification allows the University a significant degree of independence in its decision making.

Statement 5: Academic departments and units in the University are interested in developing entrepreneurial activities as well as traditional academic activities, in reconciling new managerial values with traditional academic ones.

Statement 6: The culture of the University at all levels is one which embraces change and innovation.

Statement 1 was designed to capture the essence of Clark's 'strengthened steering core'; statement 2 to correspond to the concept of the 'expanded developmental periphery'; statement 3 to correspond to the idea of the 'diversified funding base'; statement 5 to capture the idea of the 'stimulated academic heartland'; and statement 6 to capture the notion of the 'integrated entrepreneurial culture'. Statement 4 is supplementary to statement 3 and was designed to elicit a response concerning the *degree* of autonomy that is afforded by a diversified funding base. In terms of their correspondence with Clark's five pathways, there is perhaps little that is required in terms of clarification, with the possible exception of statement 6. A reading of Clark's work suggests that a willingness to embrace change is the key aspect of this pathway: 'Enterprising universities, much as firms in the high tech industry, develop a work culture that embraces change' (Clark 1998, 7).

Finally, I asked the interviewees whether there was anything that they wished to add about Warwick University that had not been covered elsewhere in the interview.

Methodology

The interviews lasted between 18 and 78 min each and averaged around 36 min; a total of 15 h and 45 min of interviews were recorded in total. All interviews were recorded and fully transcribed. The transcripts, totalling a little over 136,000 words, were then analysed using the constant comparative method of qualitative analysis. This method was first posited by Glaser and Strauss (1967) and later elaborated upon by Lincoln and Guba (1985) and Grove (1988). It is typically employed by researchers to analyse qualitative data obtained through interviews, observations on professional practice, etc. The basis of the method is to sort the qualitative data – words, sentences and paragraphs – into intuited, unnamed categories. As the sorting process continues, categories become more explicit and rules can be built for inclusion of terms within categories.

As a complement to the qualitative analysis of the data, the questionnaire results were also analysed quantitatively using the responses given by each interviewee to indicate their degree of agreement with the statement in question.

Data analysis I: the questionnaire results

We begin by analysing the degree to which interviewees agreed or disagreed with each of the statements in the questionnaire, together with their verbal caveats.

Analysis of statement 1

There was general agreement that this statement was true of Warwick University, in that nearly all respondents either agreed (69.23%) or strongly agreed (26.92%), with only one respondent recording a 'mixed opinion' (see Figure 1).

In terms of verbal comments on this statement, many respondents were unequivocal:

> Interviewee 14: I would strongly agree with that. And I would cite as evidence for that in the way that we have our structures in the university, our decision-making structures, with the steering committee and the senate and the council, I believe we've managed to strike a balance, and possibly the best balance in the sector … (FA7 central administrator)
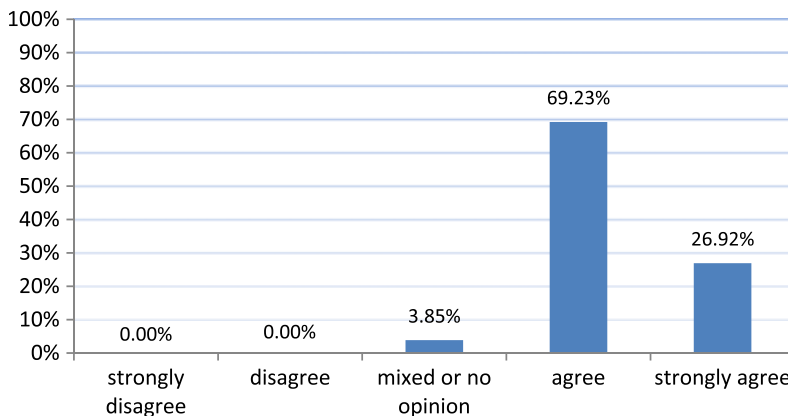

Figure 1.   The university is flexible, dynamic and decisive in its decision making while remaining collegial and representational.

The one respondent who recorded a 'mixed opinion' on this statement commented, somewhat colourfully:

Interviewee 22: I think there are aspects where the university is still flexible, dynamic, and decisive … But, I think also there are inflexible elements … there has been a recent focus on hierarchy, and I think that that's changed … Warwick is famous for its dynamism, but I'm just a little worried that it may be becoming a bit of a middle aged rock star, as we hire people in power who forget or even don't know how we got here, I mean … forget just how dynamic we were in our youth. We can't afford to forget. We have to be constantly hustling, constantly refreshing … (Associate Professor, Arts)

It was also clear that a number of the interviewees, both administrators and academics, who agreed rather than strongly agreed with the statement did so only after some soul searching concerning whether University decision-making was representative or perhaps overly bureaucratic in its attempts to be representative:

Interviewee 3: It can be decisive in its decision making. I think we're, I think we're sometimes overly collegial and that's the sort of … the checking and rechecking and making sure everybody's happy with everything … I think there are instances of … where we're not as flexible and dynamic as we think we are. (FA9 central administrator)

Interviewee 9: Well, there's a slight, a sort of, a two-aspect question there, I think. On the first one, yes, I'd say it is flexible, dynamic, perhaps strongly agree with that. But its, sort of, collegial and representational elements is slightly less, so it's somewhere between mixed or no opinion and agree. So, I think just about agree, overall. (Associate Professor, Arts)

Interviewee 7: Well, I think I'd put … 'agree'. It's definitely decisive. It's usually flexible and dynamic and it is collegial and probably representational but I'm not quite clear on that and I think sometimes some people feel unrepresented. (Professor, Medicine)

Analysis of statement 2

Again, the majority of respondents either agreed (61.54%) or strongly agreed (34.62%) with this statement, although one interviewee disagreed (see Figure 2).

Again, the strongly agreeing respondents tended to see the issue unequivocally:

Interviewee 6: Yes. I strongly agree here. I think this has always been part of Warwick's approach. And we do it deliberately. We do it in a diverse way, which this list shows. We do it
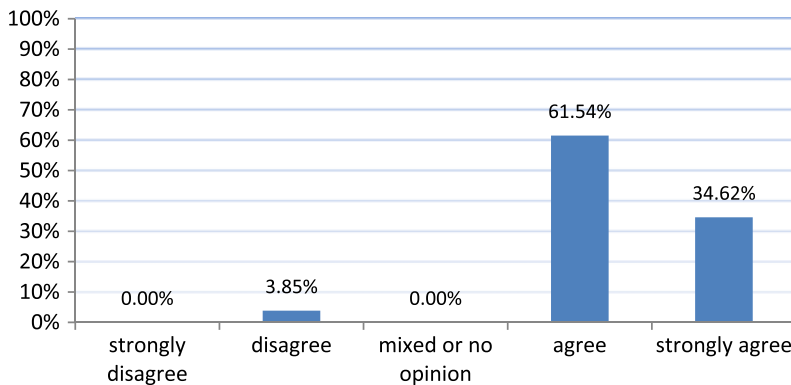

Figure 2.   The university actively and consistently reaches out to the wider world beyond academia.

to different communities, externally. We do it for both commercial and for intellectual and for social reasons. So I think this is a very, very strong feature of Warwick. (Associate Professor, Social Studies)

Another theme, however, was that Warwick did not publicise or market itself well enough in its outreach activities:

Interviewee 2: It could be more effective in communicating what it's doing, and therefore as a ... you know, might have the effect of making it more successful in these reaching-out activities, if people in the wider world were aware of what it was doing, or people in the university were more aware of bits we're doing, because then they can sort of, maybe tack on opportunities that they're aware of. (FA6 central administrator)

Interviewee 11: I think that's what we talked about with its brand recognition and really I think we're lacking a little bit there ... (Professor, Science)

Analysis of statement 3

For this statement, responses were even more heavily skewed towards agreement (42.31%) and strong agreement (50%), although two respondents (7.69%) disagreed (see Figure 3).

The two interviewees who disagreed were both scientists and expressed a view that not enough research money was raised from private industry with too much reliance on the research councils.

Analysis of statement 4

Although there was again majority agreement with this statement (53.85% agreed and one strongly agreed), significant proportions of overall responses were recorded in all categories, with one respondent strongly disagreeing, over 15% of respondents disagreeing and nearly a quarter of respondents recording a mixed opinion or no opinion (see Figure 4).

It was clear from the verbal caveats raised concerning this question that some interviewees were concerned about the degree of control exercised by the government through HEFCE and the Financial Memorandum, even though Warwick took only a quarter or less of its income from this source:

Interviewee 2: ... we're still tied to the 25% or whatever it is of HEFCE funding. (FA6 central administrator)
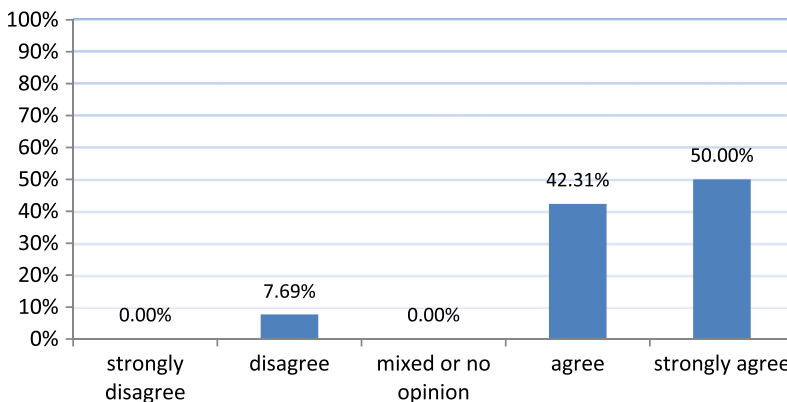

Figure 3.   The university actively and successfully pursues a policy of obtaining funding from a range of sources so that is not reliant on any one particular source.
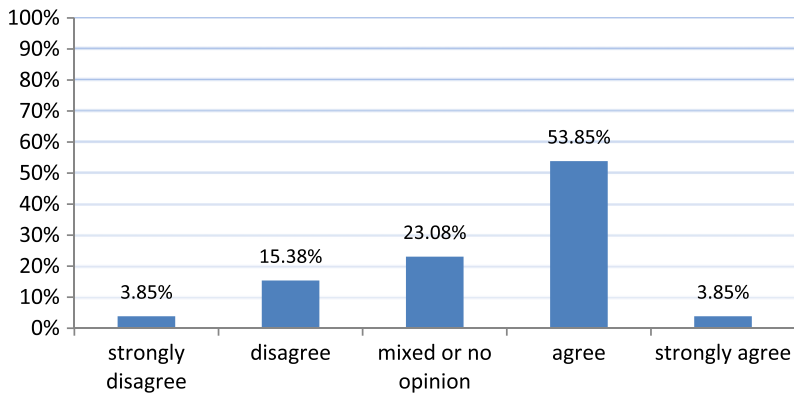
Figure 4.   Financial diversification allows the university a significant degree of independence in its decision making.

> Interviewee 20: Sorry, degree of independence from external bodies? I'm going to tend towards 'disagree', in that external requirements are not proportionate to the degree of dependence on the money from those institutions. So it doesn't matter that you're not diversified, depending on whether you get 23% of your income from the block grant, or 63%, the same procedures and processes apply, and the same requirements apply … I think that is one of the arguments that the Russell Group made very strongly about proposed changes to the Financial Memorandum. (FA9 department administrator, Social Studies)

One respondent went so far as to suggest that the University should consider refusing the HEFCE money and possibly privatising:

> Interviewee 19: … I think the University probably could be more independent. I mean there is a worry about HEFCE and those sorts of things, and maybe we should just say, 'well, it's only 25% of our income', and push on, consider the alternatives. If we could set our own fees things would look a lot different. (FA8 department administrator, Social Studies)

Analysis of statement 5

This statement elicited a similar pattern of responses to those recorded for statement 4, albeit with a very slightly more marked skew towards agreement (46.15%) or strong agreement (11.54%); three respondents flatly disagreed and over 30% registered mixed opinion or no opinion (see Figure 5).

Of the 11% or so not agreeing with this statement, the most common justification was that the degree of entrepreneurialism across the university was not uniform. Interestingly, some of those agreeing registered a similar caveat:

> Interviewee 4: I agree but it's a weak agree, if you like … it's a question of … different departments have different degrees of interest. So it's definitely not disagree, I think there is, when I talk to other departments, there is interest, … with different degrees of interest across the University. (Professor, Social Studies)

> Interviewee 11: I think there's clearly an interest in running … well, I think in the Science Faculty there clearly is an interest in running science in more close relationship with industry. I don't know … I can't speak about the Arts and I hope they think the same way. But in Science definitely I would say that academic departments are very open to working more with business and engaging in activities like that. So I would say 'strongly agree' with respect to the Science Faculty but only 'agree' overall. (Associate Professor, Science)
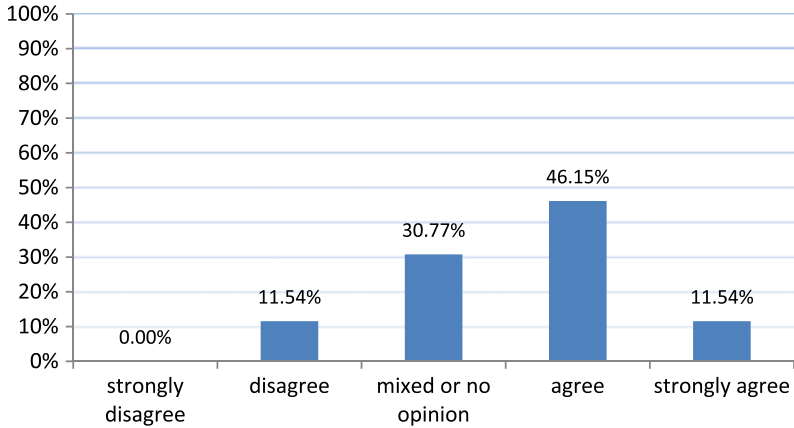
Figure 5.   Academic departments and units in the university are interested in developing entrepreneurial activities as well as traditional academic activities.

More generally, some respondents, while agreeing that Warwick does display a general entrepreneurial spirit, suggested that there was a tension between academic and entrepreneurial activities:

> Interviewee 12: I think all departments and units at Warwick to some extent have to be entrepreneurial. But I still think it's quite hard to get that message across and get staff on board with that as a message and … I think in some departments where there's a very kind of traditional, research library notion of research, there is a real tension between that need to be entrepreneurial and the need to be good at research that's going to be valued by something like the REF and … In general we've managed that tension well. We've managed to be entrepreneurial without losing sight of our academic standards … but it's something we constantly have to think about. (Professor, Social Studies)

Analysis of statement 6

While the strong majority of respondents either agreed (61.54) or strongly agreed (7.69%) with this statement, two respondents (7.69%) disagreed and nearly a quarter (23.08%) expressed a mixed opinion or no opinion (see Figure 6).
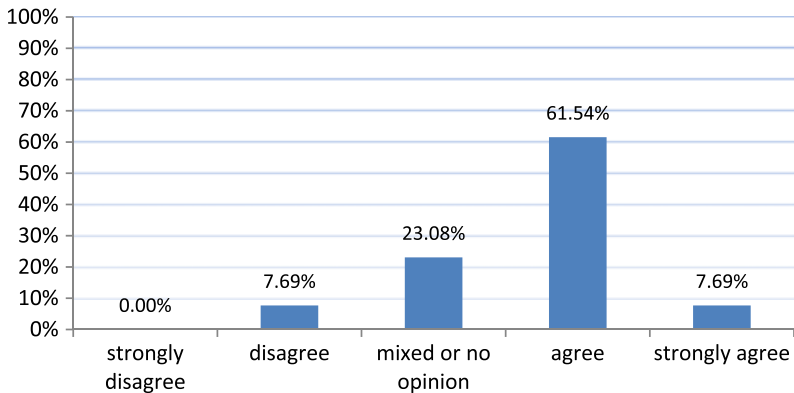

Figure 6.   The culture of the university at all levels is one which embraces change and innovation.

In general, those disagreeing or recording a mixed opinion did so on the basis that a culture of change is not uniform across the University:

> Interviewee 1: 'At most levels' I would say. At most levels this is true, but at some levels change is resisted. I think people on the whole don't really like change if they can't see immediately how it's going to benefit them. (FA7 department administrator, Social Studies)

And the lack of uniformity was also cited by one respondent as a justification for disagreeing with the statement:

> Interviewee 13: I think … it is 'at all levels' that I have to disagree with that … think that there is a place where this is probably quite good, but there are, of course, some pockets … change and innovation are not always part of what people want; it is a very difficult thing to have to be embraced at all levels. (Professor, Science)

Some interviewees saw the lack of uniformity in this respect as a virtue, however:

> Interviewee 16: I think at each level, you will have the innovators and the people who are open to innovation … there are people who are cautious, or can't see the business case for change, in which case that's an issue about credibility and convincing them. But no, I see strong momentum for innovation, but I also see, you know, some stabilising, and I think actually let's have ying and yang … I think we've probably got it right. (Associate Professor, Social Studies)

Data analysis II: themes arising from the structured interviews

A number of common themes and categories were drawn out of the more general structured interviews using the constant comparative method of qualitative textual analysis, as discussed earlier.

Overall university character

Interviewees generally described the character of Warwick University as entrepreneurial in a broad sense, with adjectives like 'ambitious', 'dynamic', 'young' and 'entrepreneurial' being very common:

> Interviewee 9: I'd say it's quite dynamic, expanding, keen to be among the leading institutions of the UK and striving to obtain better international recognition. (Professor, Arts)

> Interviewee 8: I would say it's ambitious and driven. (Associate Professor, Medicine)

> Interviewee 14: I'd describe it as an entrepreneurial culture and I would, specifically, say that it's got a very young atmosphere to it. I don't think it's weighed down with the weight of history in the same way other universities of the same status are. It's a get-things-done kind of culture and often behaves quite bullishly, you know, considering its age. (FA7 central administrator)

Interviewees generally thought that the willingness to embrace change was a positive aspect of Warwick, although one saw both positives and negatives:

> Interviewee 10: It's a low-inertia university. I think the best thing about Warwick: you can change things. I think that's fantastic. I think the worst thing about Warwick: you can change things. I think there are some things in it that don't need to be changed, and there are some things that do. Sometimes, it's very difficult … to tell the difference. (Assistant Professor, Science)

The same interviewee did also confide, moreover, that he was looking to return to the university where he had completed his doctorate on the grounds that he found Warwick 'just a little bit too brash'. On the other hand, some interviewees mentioned Warwick's dynamic culture as a strong reason for being there, for example:

> Interviewee 4: This is the most dynamic university I've ever worked in, on either side of the Atlantic. This was a breath of fresh air when I arrived and, having got used to it, I think I could never work anywhere else. (Professor, Social Studies)

Finally, a consistent general view that emerged was that Warwick pursued high academic standards:

> Interviewee 20: … traditional in some senses, standing on, you know, strong principles of academic excellence but with an edge to it, which I know some would characterise as entrepreneurial perhaps, and a bit creative, fast, might be another way of looking at it. But prepared to do things a little bit differently. (FA9 department administrator, Social Studies)

University leadership

It is interesting to note that something akin to Clark's strengthened steering core did emerge as a theme in the structured interviews. The following comments are not atypical:

> Interviewee 4: I would characterise Warwick's senior management leadership as a flat structure, that's how it's run while I've been here, and it's very effective most of the time. There aren't layers upon layers of hierarchy and bureaucracy to cut through like at some universities that I've worked at, although I sometimes would like it to cut through the red tape even faster. (Professor, Social Studies)

> Interviewee 14: I think there's, you know, there's great support in the senior management team and the top management committees, you get a feeling of dynamism and … aggression, I suppose, wanting to get things done rather than delay things, wanting to do well. (FA7 central administrator)

> Interviewee 7: … my general feeling is that the central management wants to be helpful and dynamic, I think, wanting to get things done and done for the good of the University and, on the whole, my impression is that it generally succeeds. I do think sometimes we are a bit too risk averse but then again I'm sitting talking to you in a medical school that would not have existed if the University had not been willing to take a very large calculated risk ten years ago … (Professor, Medicine)

The administrative function

In terms of the administration, there were two common themes that emerged. The first concerned the quality of Warwick's administration, making particular mention of Registrar Shattock:[3]

> Interviewee 13: When I came to Warwick Mike Shattock was here and he was perhaps … at that stage in my career I perhaps thought he was quite intimidating; but at the same time I had a great lot of respect for him and realised what he had done, his vision. The idea of the strength of the administration being something that he wanted to be as good as the academic faculty was a great vision and it was clearly delivered on and that has been hugely important for Warwick. (Professor, Science)

Interviewee 15: Mike Shattock understood academics; with a different registrar it could have been a disaster … [Warwick] probably got to its strength because it was led by excellent administrators … (Professor, Science)

The second was that the degree of understanding between academics and administrators was lower at the non-professional administrative levels:

Interviewee 4: So I think the [lack of] trusting is … more down at the lower administrative levels. Maybe, it's not that it's deliberate lack of trusting … But certainly the higher professional grades have progressed because they do trust the academics … (Professor, Social Studies)

Research and teaching

Approximately two-thirds of interviewees thought that the balance between research and teaching at Warwick was appropriate and achieved levels of excellence in both cases, albeit with some degree of tension between the two. The following comments are typical:

Interviewee 1: I think Warwick has a good balance. I think Warwick is as a whole a research university primarily … However, on the other hand Warwick doesn't forget that, you know, it's got students and it's got good students and it wants to produce good people for the future. And teaching is important and feedback from students is very much considered … (FA7 department administrator)

Interviewee 4: Warwick is a research institution first and foremost. Research excellence is absolutely crucial … I think equally, second behind is teaching excellence. I think we as an institution are also known across the world, not just in the UK, for teaching excellence. I think we should not compromise on that either. You know, a lot of colleagues sometimes, academic colleagues come and tell me we can't do both. I don't see why not. I think we can do both. But as I pointed out maybe, just maybe, it maybe is the case that teaching will be behind research but just behind it, it's not going to be a long way behind, *just* behind it. (Professor, Social Studies)

Interviewee 7: I suppose I worry a little bit about people who love teaching and love research because it's quite difficult to do both to the level that's required … So I think there's a tension that has to be constantly revisited really for individuals and within departments … I think it probably is a healthy tension, actually, and I think it's just one of those things that's part of being in a top university, these tensions, and the thing to do is not to get too upset about it but to work with it. (Professor, Medicine)

University finance

All interviewees appeared to be aware that Warwick had a diversified funding base and many, without prompting, quoted the figure of 23–25% as the proportion of funding coming from government sources in 2010 and were aware that this was very low by UK standards. In general, interviewees thought that this was very positive in terms of the degree of autonomy it afforded the University and in terms of the facilities that the University is able to offer as a result. Nevertheless, some interviewees thought that the funding base was not diversified enough:

Interviewee 18: Warwick's a very well-run university financially. The tension between the spenders and the accountants is an appropriate one. The Director of Finance and her office are very keen to make sure that we're always in surplus, very keen to make sure that we're efficient and effective in how we do things … we punch our weight very well with the research councils; we don't punch our weight very well with charities. In part, that's because we've got a very young medical school. We don't punch our weight very well enough with the private sector … and

we're still very strongly reliant on overseas fee income … But we're constantly striving to do better … (Associate Professor, Medicine)

As in the responses to the questionnaire statement about university finance, a number of science academics expressed the view that not enough research income was raised from private industry. Another theme was that alumni and philanthropic fundraising could be better:

Interviewee 16: I come from the American system which is much further along in terms of fund-raising: knows how to do it and how to make use of its assets from student calling campaigns to buildings and getting endowments in exchange for naming buildings and things like that. And Warwick has developed a lot in that way … but like with most English universities, there seems to be a certain amount of shyness about actually asking people for money … (Professor, Arts)

Concluding remarks

One purpose of carrying out the interview study reported in this paper was to remedy some of the defects in Clark's (1998) study, in particular, by using a broader and properly stratified sample of interview subjects than Clark used. It was clear, however, that most if not all of the interviewees in the present study were aware of Clark's work on Warwick University, or at least were aware of Warwick's reputation as an entrepreneurial university, and the present researcher is extremely familiar with Clark's work. To that extent, the initial conditions in the two interview studies (Clark's and the present study) are radically different, with the former strongly influencing the latter. Notwithstanding these caveats, however, broadly speaking, the first three pathways – a strengthened steering core, an expanded developmental periphery and a diversified funding base – did tend to emerge as themes in the structured interviews and interviewees on the whole tended to agree that these were recognisable features of present-day Warwick University, although a number of reservations were made concerning the degree of autonomy that diversification of the funding base yielded.

The evidence for a stimulated academic heartland and an integrated entrepreneurial culture was more ambiguous. However, although these pathways did not tend to emerge strongly as themes or categories during the structured interviews, nearly 60% of interviewees thought that there was an interest in entrepreneurialism across the University and nearly 70% thought that the University culture was entrepreneurial in the sense of embracing change and innovation; the main sources of disagreement and dispersion appeared to be in the perceived degree of uniformity across departments or across other levels of the University. As we suggest below whether Warwick is to continue to enjoy success stemming from its entrepreneurial culture, it will be important to keep open these pathways of transformation going forward and to ensure the engagement of the academic community and their support for a culture of entrepreneurialism combined with the pursuit of high academic standards.

In general, however, the interview evidence supports the view that Warwick in the twenty-first century does still appear to accord well with Clark's characterisation of the entrepreneurial university and that his five 'pathways of transformation', whilst perhaps not finally settled in terms of their content and meaning, nevertheless still appear to be broadly recognisable features of the University of Warwick some 15 years after Clark's original study. In this sense, the present study does not merely confirm Clark's analysis; it affirms that the entrepreneurial culture that Clark identified some 15 years ago still persists at Warwick University. The interesting question that naturally arises from this is how this

culture has persisted for so long, and it is perhaps worth speculating on the forces that may have driven this.

One possibility is that, by its nature, Warwick has tended to attract and retain like-minded administrators and academics: if a person enjoys a more conservative approach to life than is the norm at Warwick, they are perhaps less likely to be attracted and even less likely to stay and thrive, and some evidence in support of this explanation did indeed emerge in the interviews. A second force will undoubtedly have been Warwick's success, in the sense that this may have rewarded and reinforced the entrepreneurial culture. However, it is interesting to note in this respect the colourful warning of one interviewee that Warwick should not forget how it achieved its success in its dynamic youth, lose its flexibility and become a 'middle aged rock star'.

As noted earlier, however, by limiting the study to Warwick University, it is potentially rendered vulnerable to criticism of a similar nature to that which Smith (1999) and others have levelled at Clark's original study, namely that there may be a selection bias in the analysis. Put simply, if we define entrepreneurialism in higher education as being a template of characteristics to which Warwick University conforms (or in Clarks' original study, to which his five model universities conformed), then it may be argued that it is not surprising that Warwick conforms to that template. In defence of the present study, however, we might argue that the interest of this work lies in the fact that it reveals that Warwick *still* largely conforms to that template some 15 years after Clark's original study and, judging by Warwick's success as a top-rated UK and European university, this template appears to have served Warwick well.

This then naturally leads onto a related question, namely whether or not our findings on the continuing relevance and validity of Clark's five characteristics at Warwick University justify a significant modification of Clark's original conception of the entrepreneurial university. In answer to this, I would argue that, despite the flaws in Clark's original study, his conception of the entrepreneurial university is, if anything, today more relevant than ever, and to modify Clark's concept may be dangerous.

In terms of the continuing relevance of the Clarkian template, if one is content to characterise its essence as encompassing flexibility, opportunism and self-reliance in a university, coupled with the pursuit of the highest academic standards, then at this point in the early twenty-first century, it seems highly likely that being entrepreneurial in this sense will be key to surviving and thriving in the challenging, constantly shifting, marketised, globalised environment in which higher education institutions now find themselves. To that extent, the self-reliant, flexible entrepreneurial university as envisaged by Clark, in which opportunism is seen as a virtue but is never pursued at the expense of high academic standards, is an attractive template to which to aspire. Indeed, the concept of entrepreneurialism in higher education – albeit perhaps a little less tightly defined than by Clark – appears to have been championed in a number of quarters in recent years, to the extent that it may even now be viewed as a mainstream rather than peripheral aspiration (*Economist* 2009; Wedgwood 2006).

However, in terms of the dangers inherent in modifying the Clarkian template and defining university entrepreneurialism more loosely, it is perhaps worth sounding a note of caution. If a university is to be entrepreneurial in Clark's sense – if it is to be dynamic, flexible, self-reliant and positively opportunistic whilst maintaining the highest academic standards – it is, in my view, crucially important simultaneously to pursue all five of Clark's pathways. In particular, no matter how dynamic and flexible the leadership of a university may be, simply engaging in forms of near-market activity as a kind of expanded developmental periphery and thereby developing a diversified funding base may lead a university into commercialism or 'academic capitalism' (Slaughter and Leslie 1997), rather than entrepreneurialism in

Clark's sense. In their study of Australian universities, Marginson and Considine (2000), for example, argue that failure to engage with the academic heartland and develop an integrated entrepreneurial culture is a key difference between the commercialisation of the universities they studied and Clark's concept of the entrepreneurial university; they argue that these commercialised universities conform to a paradigm that works around and against academic cultures rather than through and with them, and in which 'the goal is not the fulfilment of a range of social, economic and cultural purposes: it is serving its corporate self as an end in itself' (Marginson and Considine 2000, 243). Our finding that the evidence for a stimulated academic heartland and an integrated entrepreneurial culture was not as strong at Warwick as was the evidence for the first three of Clark's pathways therefore raises an important issue concerning the continued success of Warwick, in terms of ensuring the engagement of the academic community and their support for a culture of entrepreneurialism combined with the pursuit of high academic standards. The key to Warwick's success as an academic institution over the past 50 years has lain in its ability over the years to remain true to the Clarkian paradigm, to avoid the commercialism in higher education of the kind identified by Marginson and Considine (2000) and Slaughter and Leslie (1997) and to retain academic standards as the primary rather than secondary objective. As one former Warwick Registrar noted, 'Warwick did not place financial performance at the top of its priorities, but it had always taken steps to ensure that its resources were broadly sufficient to fund its academic objectives' (Shattock 2003, 153).

Acknowledgements

Notes

1. Interestingly, in Chapter 2 of *Creating Entrepreneurial Universities*, Clark catalogues the control of Strathclyde University as decentralised (Clark 1998, 21), while in Chapter 4, he proceeds to describe a centralised system of control for Strathclyde, operating crucially through the University Management Group or UMG (Clark 1998, 68–71). I believe that what Clark had in mind in describing the UMG as a decentralised form of control was that it contained a high number of elected deans: 'Elected deans play a central role: they come to the UMG as representatives of their university sectors; they then find they must also consider the overall institutional interest' (Clark 1998, 69). The Strathclyde UMG might therefore be best described as a centralised form of control within a system of 'shared governance' (Lapworth 2004).
2. The administrative grades FA6, FA7, FA8 and FA9 are those used at Warwick University to denote the top four, or 'professional', grades of administrator; in some UK universities, these top four grades are denoted as grades 7–10, respectively. Similarly, Warwick uses the titles Assistant Professor, Associate Professor and Professor to classify its academics, corresponding to the titles Lecturer, Senior Lecturer/Reader and Professor which are sued at some other UK universities.
3. Michael Shattock was the University of Warwick Registrar during the years 1983–1999.

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