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Make the Butterflies Fly in Formation? Management of Copyright created by Academics in UK Universities

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[p. 709]
‘The first interview was with the university’s leading non-academic administrator. … There was a kind of diffidence, in a tone of respect, as if the world of research with its various secrets was a world that he as a manager could never completely grasp. Yet there was frustration too. How could all that creative energy be harnessed so as to maximise the university’s position? The problem – as he unselfconsciously and unforgettably put it – was “to make the butterflies fly in formation”’.

[p. 710]
INTRODUCTION

Universities have increasingly become aware of the fact that the intellectual property rights which attach to the work of their academics could become significant and valuable assets to the university as institution and economic organisation.2 Probably most universities have issued intellectual property (IP) policies directed particularly at patents and copyright, because these are the most relevant IP rights that arise as a result of university academics’ activities. It is therefore worth looking at university policies on IP rights created by academics, taken from a representative sample of

1 S Marginson and M Considine, Enterprise University in Australia. Governance, Strategy and Reinvention (2000), 133, quoted in R Deem, S Hillyard and M Reed, Knowledge, Higher Education, and the New Managerialism: The Changing Management of UK Universities (2007), 71, in the context of the discussion of the managing of knowledge production through research in UK universities (by way of (1) gathering external funding, intellectual property rights, and spin-off companies; (2) the monitoring and regulating of the performance of academics’ research).

2 A L Monotti, S Ricketson, Universities and Intellectual Property: Ownership and Exploitation (2003), 297, 301, 309, 334. That study covers all IP rights, not only copyright, and looks at universities worldwide; UK universities are considered only incidentally, and interviews with university representatives do not seem to have been conducted, see (methodology), at 299.
universities in the UK. This study investigates whether universities as employers claim ownership over the IP rights in their policies, how restrictive this claim is with regard to further use, whether this claim complies with the law, and whether one can detect a broadly coherent IP policy across different universities. The study is confined to copyright; this is not only for keeping the study within manageable proportions, but also because copyright is the most important intellectual property right for a legal conceptualisation of academic output. Copyright, the most far-reaching and almost all-encompassing intellectual property right, concerns every academic output, whether in the arts and humanities, the social sciences or the sciences, while patents arise only in a science and engineering environment. (Currently patents are commercially more relevant for universities than copyright.) The study also wanted to find out the ways in which a copyright policy is enforced in reality within the university, whether the policy’s intention is reflected in the actual wording, and how the role of the policy is perceived by its administrators in the broader context of university management.

The last point raises an important issue. It seems that the growing concern about IP rights generated within universities has gone hand in hand with the rise of the emergence of university managerialism in the 1990s. The phenomenon of managerialism has been defined as ‘a general ideology or belief system that regards managing and management as being functionally and technically indispensable to the achievement of economic progress, technological development, and social order within any modern political economy’. ‘Management’ can be regarded as an abstracted social practice and design for a comprehensive set of ideas for rationally coordinating and controlling collective action. University managerialism seems to be a type of neo-liberal managerialism which emerged especially in the late 1990s when the New Labour government came into power in the UK. This form of managerialism has dominated quickly public sector entities. It characteristically replaces political debate by detailed bureaucratic continuous work control at micro-level, implemented by accountability and performance processes and technologies. Universities, though formally not subjected to central government agencies, have increasingly come under pressure to adopt this regime of ‘new managerialism’ and have moved towards an entrepreneurial and market-driven outlook, with the effect that academics have largely lost their importance in university governance and have been replaced by

4 Deem, Hillyard and Reed, above n 1, at 6.
managers or academics-turned managers. Several factors have fundamentally contributed to the changing culture in universities over the last forty years, including particularly the growing size of the higher education sector and the incessant reduction of public funding by the state. Today the state is less financial provider for the universities but rather regulator of their internal affairs (through requiring external auditing of teaching and research standards). In such a climate, the emergence of a market-oriented ‘knowledge economy’ or ‘knowledge society’ ideology implemented by ‘knowledge management’ practices within the institutional university structure cannot come as a surprise. This ideology demands that the knowledge creation and output be evaluated, monitored and audited in a seemingly objective/standardised and near-commercial manner (‘business metrics’). The language of university management reveals this economist’s approach: so it has been suggested that institutional decision making is to be complemented by the ‘principle of externality’, a concept taken over from economics in the context of market (equilibrium) inefficiencies. All that ties in with the idea that universities are just businesses in the service industry and the students are their most important customers. A management scheme following these parameters will try to measure and increase academic staff performance and will seek to create wealth for the university as an economic entity. Intellectual property rights, particularly copyright, can be of great assistance in such a scheme. [p. 712]

The connection between copyright (or copyright ownership) and managerialism has apparently not yet been made explicitly in academic literature. For a more detailed account of the different forms of managerialism and their historical development, see Deem, Hillyard and Reed, above n 1, at 6-27; on manager-academic identities, at 102-110. On the marketisation of the education system in the UK, see R Brown, ‘The march of the market’, in: M Molesworth, R Scullion and E Nixon (eds), The Marketisation of Higher Education and the Student as Consumer (2011), 11, at 17. G Delanty, Challenging Knowledge: The University in the Knowledge Society (2001), 106-107, 116, 120-121. Deem, Hillyard and Reed, above n 1, at 62, 68, 77. P McCaffery, The Higher Education Manager’s Handbook, 2nd ed. (2010), 12, 60-61. McCaffery, above n 9, at 45. E.g. N Gregory Mankiw, Principles of Economics, 6th ed. (2012), 196: Externalities arise when one person’s activities have an effect on the well-being of a third party (outside the contractual relationship of a seller and a buyer, for example) but that third party neither pays or receives a compensation for that effect. Discussion by McCafferey, above n 9, at 273. Critical F Furedi, ‘Introduction to the marketization of higher education and the student as consumer’, in: M Molesworth, R Scullion and E Nixon (eds), The Marketisation of Higher Education and the Student as Consumer (2011), 1-4. On staff performance management, see e.g. McCaffery, above n 9, at 162-178. Some aspects of such management schemes verge on the comical. At 171, a table says: ‘Staff need to know: What is my role? Why do I exist? – As a manager you must: Develop the job role.’ There was a time when the question ‘why do I exist?’ was discussed by philosophers and answered less trivially. Perhaps one of the first discussions by A Rahmatian, Copyright and Creativity: The Making of Property Rights in Creative Works (2011), 228, 252, 255.
but the higher education sector is a good example that can demonstrate the workings of this alliance. The intellectual achievements and services (in a broad sense) of an academic become more measurable if they can be translated (or packaged) into intellectual property rights, above all copyright. In this way the person’s work can be expressed as a sum of proprietary units, detached from the individual and capable of being assessed and priced for the purpose of evaluation and auditing as part of the university’s management framework. Thus copyright can be a legal vehicle for turning the academic’s intellectual creations into alienable products which (a) enable management to conceptualise an individual as a commodified or objectified ‘human asset’, and (b) create capital for the university as a ‘business’ organisation by virtue of the separable value of the product (or copyright-property). The latter objective benefits particularly from ownership rules which vest copyright from the outset in the university as employer. It goes beyond the scope of this study to provide empirical evidence of the use of copyright in the rise of university managerialism, but some of possible contributing factors to such a development – copyright policies and ownership rules – will be examined.

THE LEGAL FRAMEWORK OF COPYRIGHT AND EMPLOYEES’ COPYRIGHT

First, the legal framework on which this study is based needs to be set out. A human creation is protected by copyright under UK law if it constitutes a ‘work’ that is ‘original’ and ‘recorded’ in some permanent form. All three terms are normative definitions that cannot be understood in their ordinary meaning. There are eight categories of ‘work’, literary, dramatic, musical and artistic works (authorial works), and sound recordings, films, broadcasts and typographical arrangements (entrepreneurial works). Potentially every category can be relevant to an academic’s creation, but the most relevant ones are likely to be literary works, artistic works, sound recordings and films. This is because these categories are astonishingly wide,

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15 A nicer way of putting it is to say that ‘the university considers its staff as its most valuable resource’ or similar pronouncements, see discussion of these in McCaffery, above n 9, at 160.
16 The common phrase that ‘knowledge’ is the ‘new capital’ is only a slightly different expression of the same thing, compare critical comments by S. Fuller, Knowledge Management Foundations (2002), 6.
17 Compare Rahmatian, above n 14, at 14-15.
18 Literary, dramatic, musical, artistic works, Copyright, Designs and Patents Act 1988 (CDPA 1988), ss. 1, 3-4; sound recordings (s. 5A), films (s. 5B), broadcasts (s. 6), published editions (typographical works) (s. 8).
so ‘literary works’ also comprise entirely inartistic information compilations, such as timetable indices, university examination papers or listings of TV programmes. Computer programs and databases are also literary works for the purpose of copyright. Derivative work on existing sources is covered in principle, such as translations, editions and restorative editions of fragments, critical annotations and selections or abridgements, and earlier drafts. One can see that an academic’s typical output of academic articles and books, critical editions, handouts, oral lectures and speeches (once recorded e.g. in writing or on tape), lecture notes (either prepared for herself or for distribution in class), material for talks and conferences, compilation of reading material, reading lists, overhead slides, examination papers, course booklets and information material, memoranda and emails for management purposes would clearly be protected by copyright. The category of artistic work is also relevant, as it includes diagrams, maps, charts, plans, photographs (all irrespective of artistic quality). Dramatic and musical works, as well as works of architecture (the latter are part of the ‘artistic works’ category), are usually only significant for conservatoires and art colleges. Recordings of lectures and talks, sound and video podcasts would fall into the sound recording and film category: in the UK, a film does not need to be a cinematographic work with some artistic input; CCTV footage would qualify for protection. Literary, dramatic, musical and artistic works obtain protection only if they are ‘original’, that is, the work must originate from the maker (‘author’) as the result of his own ‘skill, labour, effort, investment, choice and selection, judgement and expertise’, according to the usual judicial pronouncements. Artistic creativity, inventiveness or novelty is irrelevant. That also applies to

22 CDPA 1988, ss. 3 (1) (b) and (d), 3A.
26 Sweeney v. Macmillan Publishers [2002] RPC 651 (at issue were earlier drafts of James Joyce’s Ulysses).
27 See Caird v. Sime (1887) LR 12 App. Cas. 326, HL (Sc) (Lord FitzGerald dissenting), at 337-338, 343, 345-346, which decided that a professor in the University of Glasgow could prevent the unauthorised printing and publishing of his lectures which he delivered orally. This is not an employee’s copyright case (on these see below), and it was decided before the Copyright Act 1911 which contained the first employee’s copyright rule comparable to the modern one.
28 Walter v. Lane [1900] AC 539.
29 CDPA 1988, s. 4 (1) (a) and (2) (a).
30 CDPA 1988, s. 3 (1) (dramatic and musical works), and s. 4 (1) (b) (works of architecture).
31 CDPA 1988, s. 5B (1).
derivative works: a translation of an article into French obtains copyright protection because it is the product of the translator’s own skill, labour and effort. This is independent of whether the original source is (still) protected by copyright, and whether permission to the translation has been given. Thus it is possible to obtain copyright by creating a work that infringes another work’s copyright, but copyright protection in the new work encompasses only the non-infringing elements. A chart copied out of a textbook for a handout would infringe copyright, because no independent skill, labour and effort has gone into it. The redrawing of the chart on the basis of the same data or information would be ‘original’ and attract copyright in its own right without infringing pre-existing copyright. Entrepreneurial works (sound recordings, films) do not need to be ‘original’; it suffices if they are merely ‘not copied’. If the creation is a work that is also original, it must be recorded in some permanent form (e.g. writing, electronic saving, taping, filming, carving) to obtain protection. There are no formality requirements for copyright protection, such as registration.

Once the criteria of ‘work’, ‘originality’ and ‘recording (fixation)’ are fulfilled, copyright, being a property right, arises automatically. The general rule for the allocation of this property right is that the first copyright owner is the ‘author’ of the

Doctrine Under Pressure’, (2013) 44 International Review of Intellectual Property and Competition Law, 4-34, for a discussion why effectively the traditional originality criteria of UK copyright will only need slight adjustment in the light of recent CJEU cases. For a contrary view which presumes a significant change of the originality principles in UK copyright law, E Rosati, ‘Towards an EU-wide Copyright? (Judicial) pride and (legislative) prejudice’, (2013) Intellectual Property Quarterly, 1, 47-68. Both articles discuss the relevant CJEU cases. Ultimately the question depends on which normative interpretation the UK courts will adopt. In the present context the matter is hardly relevant because works produced by academics virtually always fulfil the originality criteria of copyright, whether under the ‘old’ or a possible ‘new’ regime under the influence of EU law.

33 Compare the Scottish case regarding compilation of information for custom-house books, maps and itineraries, Walford v. Johnston (1846) 20 D 1160.
34 Ladbroke v. William Hill [1964] 1 WLR 273, 286-287, 291-292; Elanco Products v. Mandops [1979] FSR 46, 51-52. Where the chart cannot be drawn differently from the pre-existing chart because data and scholarship dictate so, the immutable elements would not attract copyright protection and there would be no infringement (coincidence or ‘merger’ of the ‘idea’ with the ‘expression’). Protection would only extend to the variable parts, such as the layout or colour coding. Compare also the old Scottish case Lennie v. Pillans (1843) 5 D 416, at 419, for illustration. On the protection of ‘expressions’ as opposed to unprotectable ‘ideas’, see e.g. L. Bently and B. Sherman, Intellectual Property Law, 3rd ed. (2009), 181-182.
35 In case of the entrepreneurial works (CDPA 1988, ss. 5-8), the requirement is ‘not being copied’ (CDPA 1988, ss. 5A (2), 5B (4), 6 (6), 8 (2)), rather than originality. For a discussion of differences as a result of this lower threshold, see Bently and Sherman, above n 34, at 111.
36 CDPA 1988, s. 3 (2). For artistic works recording is self-evidently comprised in the very nature of the creation of an artistic work and need not be a separate criterion, see e.g. W Cornish, D Llewelyn and T Aplin, Intellectual Property: Patents, Copyright, Trade Marks and Allied Rights, 7th ed. (2010), 462.
37 Requirement of freedom from any formality by the Berne Convention for the Protection of Literary and Artistic Works 1886 (revised 1979), Art. 5 (2).
38 CDPA 1988, s. 1.
The law defines the author of the work as the ‘person who creates it’. That includes producers of sound recordings, and producers and principal directors of films, so the ‘author’ in copyright law need not be a human being but can also be a legal entity. The principle that the author is the first owner of the copyright in the work, has an essential exception: where an authorial work (literary, artistic etc.) has been created by an employee in the course of his employment, his employer is the first owner of any copyright in the work, unless there is an agreement to the contrary. This rule is of fundamental importance to academics who are employees of their universities.

If an author is an employee, his employer becomes the copyright owner from the outset; if the (self-employed) author has been commissioned to do the work, the commissioner can only become copyright owner by obtaining a separate copyright assignment from the author. This prompts two questions: (a) is there a contract for services or contract of service (employment contract), and in the latter case (b) has the copyright work been made by the employee in the course of his employment? Thus the relevant element for attributing ownership of copyright generated by employees is the scope of their employment and the definition of ‘in the course of employment’. The English courts tend to take a rather narrow view. The principal decision is still the Court of Appeal case of Stephenson Jordan: An accountant

39 CDPA 1988, s. 11 (1).
40 CDPA 1988, s. 9 (1).
41 CDPA 1988, s. 9 (2) (aa) and (ab). Despite initial ownership, principal directors as authors of cinematographic works are subject to a presumption of transfer of the lending right to the film producer under Directive 2006/115/EC (Rental and Lending Right Directive) to ensure the film producer’s recouping of the (risky) investment, see recently the CJEU in Luksan v. van der Let (Case C-277/10) [2013] ECDR 5, at paras. 77-81.
42 But he does not become author, unlike in the USA under the ‘works made for hire’ doctrine, see US Copyright Act 1976, 17 USC § 201 (b).
43 CDPA 1988, s. 11 (2). A contract of services (employment contract) which wants to exclude the operation of the rule of s. 11(2) must satisfy two requirements: (1) the agreement must state that marks created during the course of the contract shall not vest in the employer; (2) the agreement must be legally effective, see Robin Ray v. Classic FM [1998] FSR 622, at 638-640.
44 A L Monotti and S Ricketson, above n 2, at 193.
45 CDPA 1988, s. 90: The formality requirements are: assignment must be in writing, signed by the assignor. An implied assignment or licence is, however, a possibility: see e.g. Durand v. Molino [2000] ECDR 320. For commissioned works equitable ownership of the commissioner can be established according to the rules of equity, since the ownership rule of CPDA 1988, s. 11, only legislatizes for the purpose of legal ownership, see Griggs Group Ltd v. Evans [2004] FSR 31, at 682: A commissioner can compel the legal assignment according to s. 90 from the freelance author if that author has (orally) agreed to create the work for the commissioner on terms that copyright shall belong to the commissioner, which has made the commissioner copyright owner in equity. See also Robin Ray v. Classic FM [1998] FSR 622, at 640.
46 Stephenson Jordan & Harrison v. MacDonald & Evans (1952) 69 RPC 10, at 17, 22 and further discussion of this case below. Whether or not there is an employment contract or a contract for services is to be ascertained in accordance with employment law rules, see e.g. S Deakin and G S Morris, Labour Law, 5th ed. (2009), 121.
47 Stephenson Jordan & Harrison v. MacDonald & Evans (1952) 69 RPC 10. The following discussion restricts itself to the copyright aspects, not the breach of confidence issues. The case was decided under
assigned his copyright to publishers for the publication of a textbook, ironically on cost control for business management. One part of this book contained public lectures which the accountant prepared and delivered when he was the employee of a company. Another part of the book consisted of material he composed under a particular assignment for that company. The company claimed the copyright, stating that the work was made in the course of the accountant’s employment with the company, and sought an injunction to restrain the publication of the book, because the accountant was unable to assign to the publishers the copyright he did not have in the first place. The Court held that copyright in that part which the accountant wrote under a particular assignment of the company belonged to that company, while the other part, containing the public lectures, did not. The delivery of lectures was not part of the specific employee’s duties, he could not have been ordered to prepare and deliver them. Thus the lectures were not considered as work made in the course of employment and the author retained copyright. The fact that some of the composition of the lectures happened in office hours and the typing by typists of the company, did not change that. In the discussion of the copyright situation of the lectures, the Court gave the example of a university lecturer:

‘What then is the position in regard to the giving of lectures? … prima facie I should have thought that a man, engaged on terms which include that he is called upon to compose and deliver public lectures or lectures to some specified class of persons, would in the absence of clear terms in the contract of employment to the contrary be entitled to the copyright in those lectures. That seems to me to be both just and commonsense. The obvious case to which much reference by way of illustration was made in the course of the argument is the case for the academic professions. Lectures delivered, for example, by Professor Maitland to students have since become classical in the law. It is inconceivable that because Professor Maitland was in the service at the time of the University of Cambridge that anybody but himself, one would have thought, could have claimed the copyright in those lectures. This Court in the case of *Waites v. Franco-British Exhibition* [(1919) 35 TLR 441], lent support to the view that prima facie a man engaged in the way I suggest would have the copyright in the lectures he composed and delivered.’

The important point here is that in the Court’s view even a university lecturer whose typical duty is to give lectures, will retain the copyright in his lectures by default. *A fortiori* that also applies to an accountant in an engineering company (as was in *Stephenson Jordan* itself), who has not normally a duty to give lectures. That means that an academic’s duty for the purpose of copyright is to teach and to do research in general terms, not to carry out a determinable kind of research, ordered in advance,

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s. 5 (1) (b) of the old Copyright Act 1911, but the law today is the same on this point, see CDPA 1988, s. 11 (2).

48 *Stephenson Jordan & Harrison v. MacDonald & Evans* (1952) 69 RPC 10, at 18, 19-20, 22, 23.

49 Ibid., at 18.

50 Correctly: ‘(1909) 25 TLR 441’, see below.
that is to be expressed in a particular form capable of attracting copyright protection.\(^{51}\)

Or more generally, writing and publishing lectures, let alone preparing specific and definable scholarly papers and books would be outside the course of the academic’s employment and he would retain copyright as the author of these works.\(^{52}\) It is also noteworthy that the Court sees its finding as ‘just and commonsense’ and a contrary view as ‘inconceivable’, and ‘one would have thought’ that only the lecturer can claim the copyright in his lectures. So this ruling expresses a position that is confident and self-evident, not a potentially contentious view in a borderline situation. The case cited in the extract of *Stephenson Jordan* above is also of interest (decided in 1909).\(^{53}\) In this vicarious liability case the Court of Appeal held that, as in evidence [p. 717] it had been shown that the person in question was indeed nothing but a lecturer, ‘it was not reasonable to say that a person employed as a lecturer had entered into a contract of service within the [Workman’s Compensation Act 1906].’\(^{54}\) It is unclear whether this statement can be understood more generally or is only restricted to the Act at issue, but in *Stephenson Jordan* Denning LJ discussed, along similar lines, that somebody who delivers lectures alongside his other employment duties can be under a mixed contract, being in part a contract of service and a contract for services.\(^{55}\) In relation to the duties under the latter, he retains copyright. In another older case it was held that a journalist employed by a newspaper who prepared a translation from a foreign newspaper article retained the copyright because the preparation of the translation was not in pursuance of any duty to his employer or made in the course of his employment.\(^{56}\) So the tradition of a narrow interpretation of ‘in the course of employment’ is older than *Stephenson Jordan*.\(^{57}\)

The case of *Stephenson Jordan* is still good law,\(^{58}\) and its ruling has been confirmed in at least two more recent cases. In *Noah v. Shuba*,\(^{59}\) the author, a doctor,


\(^{52}\) Such activities could fall under a contract for services besides the employment contract in which case the author would retain the copyright. See Denning LJ in *Stephenson Jordan & Harrison v. MacDonald & Evans* (1952) 69 RPC 10, at 22 with examples and reference to *Byrne v. Statist Company* [1914] 1 KB 622.

\(^{53}\) Waites v. Franco-British Exhibition (1909) 25 TLR 441, March 24, 1909, CA: Waites, a lecturer, was engaged to explain the various parts of an airship on exhibition. At one point the airship exploded, and the lecturer died as a result of the burns he suffered. In a claim for compensation by the widow the Court held that the lecturer was not a ‘workman’ within the meaning of s. 13 of the Workman’s Compensation Act 1906.

\(^{54}\) Ibid., at p. 442 per Cozens-Hardy, MR.

\(^{55}\) *Stephenson Jordan & Harrison v. MacDonald & Evans* (1952) 69 RPC 10, at 22.

\(^{56}\) *Byrne v. Statist Company* [1914] 1 KB 622, at 624.


\(^{58}\) Cornish, above n 51, at 15.
wrote and published ‘A Guide to Hygienic Skin Piercing’ during the time of his employment with a community health centre. His employer claimed copyright in the guide. The Court held that the Guide had not been made in the course of employment and applied specifically *Stephenson Jordan*. Thus the author retained his copyright despite the fact that he gained the necessary knowledge as a result of his employment with the health centre, that he used the employer’s library and discussed the draft of his Guide with colleagues at work, and that the Guide was typed by the secretary at the office. However, he wrote the draft at home in the evenings and at weekends. The second case involved an employee’s patent (the employee-inventor was a junior registrar of a teaching hospital) and it was held, with express reference to the copyright case of *Stephenson Jordan*, that the employee-inventor owned the patent.

When ascertaining the legal parameters for the study, one can summarise that: Universities as employers cannot assume that by default they obtain the copyright in all the works of their employees who are academics. If the universities are the copyright owners, then with regard to core academic works this is rather an exception: lecture notes, academic articles, books, conference proceedings, artistic or scientific pictures and photographs, musical scores (either traditional or modern notation systems) and sound recordings of compositions, the bespoke programming of computer programs for the purpose of specific academic research projects, and any scholarly texts and graphics in whatever format stay under the individual academic’s copyright, unless there is an agreement to the contrary. The matter is less clear with regard to learning and teaching material, such as handouts, overhead projector acetates and slides, course booklets and connected material, university examination papers, teaching podcasts and the like, since preparation of all this could be considered as part of the academic’s teaching duties and may be in the course of employment. There is no clear statement in this regard by the courts. Internal memoranda and texts prepared as part of internal management functions of the university are likely to be the employer’s copyright. But the actual lecture notes an academic prepares for herself for teaching in a lecture theatre must be considered as part of her academic works in which she retains copyright, following *Stevenson*.

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60 Ibid., at 18-19, 26.

61 *Greater Glasgow Health Board’s Application* [1996] RPC 207, at 223.


63 Harmony and counterpoint exercises, for example, which may not necessarily be regarded as compositions of music, are a borderline case because they may be considered as teaching/examination material and the university is in a better position to claim copyright ownership. Copyright protection as such is not normally an issue because they will be able to fulfil the originality criterion for protection.

64 For example in the employment contract. The legal effect of general IP policies is more difficult to assess, see discussion below.

It will be shown that University IP Policies do not seem to recognise this principal legal position.

THE STUDY

The study involved the analysis of copyright and intellectual property policies of universities in the United Kingdom and the interview of specialised representatives of universities in relation to the policy of their respective institution. The principal question of the study was the way in which university policies deal with the issue of ownership of copyright generated by university staff, with emphasis on academic staff.

Emails were sent out to persons who appeared from an internet search as being in charge of, or familiar with, copyright policies of their university; a sample of universities which were representative of old and new universities was taken. The emails set out the content and objective of the study, asked whether the researcher could be provided with the copyright policy of the institution in case it was impossible to obtain the copyright policy from the internet, asked for a more suitable person to contact if appropriate, and enquired whether it was possible to have an interview in relation to the institutional copyright policy. The emails also explained that if the interview were to take place, it would last between 30 and 45 minutes and would be fairly structured: the email provided eight questions around which the interview would be built. These questions were:

(1) Is the documentation which the researcher/interviewer has obtained the complete documentation on the intellectual property policy of your university with regard to its employees, especially its academics? Or is there further documentation (clauses in employees’ contracts, staff handbooks and the like)?

(2) For this study, emphasis is on copyright: do you think that your intellectual property policy distinguishes between copyright and other intellectual property rights, particularly patents? If not, do you believe such a distinction would be necessary or relevant?

(3) On the basis of the documentation before the interviewer, how do you, as the university’s representative, understand and interpret the existing copyright policy for university employees? [p. 719]

66 Ethics approval by the ethics committee of the researcher’s university for the interviews and data collection had been obtained in beforehand.
(4) What would you think is the principal position of the university with regard to the ownership of copyright that university academics have created?

(5) Are you aware of any exceptions or rules that deviate from the principal position?

(6) What are in your opinion the purpose and the aims of the present copyright policy of your university?

(7) How is your copyright policy managed and controlled within the organisation of your university?

(8) How does the enforcement of your copyright policy look like in reality? How strictly is it monitored, and have sanctions been implemented in case of breaches? Could you give practical examples which you have come across in your university?

The email assured complete anonymity of the interviewee and of the interviewee’s university in relation to the reported information. This also applied to the tape-recording of the interview (provided the interviewee would give permission) which would only remain available to the researcher. It was necessary to conduct the interview as a relatively detailed semi-structured interview and to provide in advance the questions to be covered because of the technical nature of the subject-matter. Potential interviewees could prepare for the interview or decide whether the topic of the study might go beyond their expertise. All eight questions above were asked in each interview, though not necessarily in the same order. As part of the less structured, not pre-determined elements, the interviewees were invited to add issues to those addressed in the questions, make changes, give examples or provide their own opinion. The researcher had to ensure that he obtained interviewees who were familiar with the relevant law and with the practicalities of the subject area in their institutional administrative system.

The interviews were generally face-to-face interviews lasting for about 40-50 minutes in the university representatives’ offices, but there were some telephone interviews (an option preferred by some interviewees) and in one case an email exchange on the most important questions of the study. Since the telephone interviews had been agreed in beforehand and occurred in the interviewee’s usual professional

67 The universities who kindly participated in the study will be mentioned in the following, but specific information or findings discussed in the study will be anonymised as ‘University A, B’ etc.

68 On semi-structured interviews generally, see B Gillham, Research Interviewing (2005), 70.

69 Some social scientists refer to interviews with such ‘sophisticated subjects’ or specialists in a certain area as ‘elite interviews’, see Gillham, above n 69, at 54.

setting in which contacts by telephone (also for negotiations etc.) were common, the problem of intrusion on someone’s privacy which often characterises telephone interviews71 did not arise here.

The subject-matter of the study proved remarkably sensitive. The study was supposed to be carried out over a period of 6-8 months, from autumn 2011 until spring/summer 2012, but it lasted about six months longer, because, apart from other inevitable work commitment of the researcher, it was extremely [p. 720] difficult to get representatives of universities agreeing to be interviewed. At least ten to twelve interviews were planned, but it turned out to be extremely challenging and time consuming to get even eight interviewees only in the end. To achieve that, over thirty universities had to be approached by email.72 The majority did not reply at all, often not even to a follow-up email, or expressly declined to take part in the study.73 In one case, the person approached confirmed to be in charge of copyright policy matters, did not want to participate, but sent the copyright policy of the university with the responding email.74 Occasionally, other work commitments were given as a reason for not being available.75 Another reply was ‘that after some discussion we did not feel it was the right thing to take part in your study as our IP policy is currently being reviewed’.76

The appropriate interviewees were not always apparent from the university websites. In most institutions there is not necessarily a designated copyright officer of the university; such a role is rather new.77 Usually staff devoted to university copyright matters in particular have been in their post for some two or three years only; such persons however seemed to be more willing to be interviewed. Most

71 Gillham, above n 69, at 102.
72 University of Aberdeen, University of Aberystwyth, University of Bath, University of Birmingham, University of Bristol, University of Cardiff, University of Coventry, De Montfort University (Leicester), University of Derby, University of Durham, University of Edinburgh, University of Exeter, Heriot-Watt University (Edinburgh), University of Kent, Kings College London, University of Lancaster, University of Liverpool, London School of Economics and Political Science, University of Manchester, University of Newcastle, University of Nottingham, University of Oxford, University of Reading, Robert Gordon University (Aberdeen), Royal Academy of Music (London), Royal Conservatoire of Scotland (Glasgow), University of Sheffield, University of Stirling, University of Strathclyde, University of Swansea, University College London, University of Warwick, University of Westminster.
73 The following email is a representative answer: ‘I will respectfully decline the invitation to take part in the survey on this occasion.’ Email to the researcher, 13 April 2012.
74 Email to the researcher, 31 Oct. 2012.
75 For example: ‘Unfortunately I am due to be out of the office for a while so will not be able to assist you on this occasion.’ Email to the researcher, 15 Oct. 2012. Or: ‘I’m afraid that due to current work pressures (and the fact that I am going on maternity leave shortly), either of us will be able to participate in it. We do, though, wish you all the best for the project.’ Email to the researcher, 10 Oct. 2012.
76 Email to the researcher, 13 Dec. 2011.
77 Compare interview with representative of University H.
specialists in this area could be found in the universities’ ‘research and enterprise’ department (or similar administrative units) which were designed to assist in the commercialisation of university IP rights, that is to say, at least as much patents as copyright, in relation to third party businesses.

Sometimes the addressee passed on the information to a more competent person, although there was no guarantee that this would lead to an interview.\(^\text{78}\) There were also unhelpful responses, without an attempt at referring the researcher to a more suitable person.\(^\text{79}\) It could not be ruled out that, occasionally, the researcher approached the \([\text{p. 721}]\) wrong persons, particularly in the case of conservatoires or academies of arts which would be of great interest, since they employ staff who create a large number of copyright-protected works in the artistic sector. There were no responses from these institutions. Perhaps they have not adopted copyright policies as yet, or they keep those policies and their enforcement management undisclosed. However, the absence of any response did not necessarily mean that a completely wrong person had been approached; in some interviews interviewees helpfully mentioned to the researcher specialists at other universities for further interviews,\(^\text{80}\) but these were often persons the interviewee had approached already without any success (in some of the cases in question without any reaction at all).

Eventually, eight universities participated.\(^\text{81}\) Towards the end of the study it turned out that the small sample of eight interviews was nevertheless representative because it became apparent that the information given in the interviews by and large repeated itself.\(^\text{82}\) In some of the interviews it became apparent why so few university representatives were willing to be interviewed. The relationship between university as employer and academic staff was often an uneasy one with regard to the situation of copyright ownership. Compromises between the stakeholders involved, usually with

\(^{78}\) For example email to the researcher, 24 Oct. 2012. Obviously, there were several cases in which the researcher was led from one person to another in the administrative thicket of the institution, often without leading to anything (in one case over a period of one year without success).

\(^{79}\) Email to the researcher, 12 July 2012: ‘I have nothing to do with the University’s copyright policy nor is copyright something of any real significance in my work, consequently I am not in a position to help you with your research project.’ For a member of that university’s research commercialisation team this is rather unconvincing; even if that person may not have had some detailed knowledge of copyright, some of the colleagues that person worked with would definitely have had it.

\(^{80}\) Interviews with representatives of Universities H and B.

\(^{81}\) The eight universities (as included in the list of universities approaches, set out in n 72 above) were named in the initial draft of this article, but one of the peer reviewers raised concerns that because of the small sample of participants anonymity may not be guaranteed. The consent of the participants in the ethical approval process should cover their consent to be named (and also the problem of the small sample was explained to them). However, it is better to retain complete anonymity, following the reviewer’s recommendation, to avoid possible difficulties for the participating interviewees, given the potentially controversial nature of some of the findings in the study. In the following discussion, the participating universities will be referred to as universities A, B, C, D, E, F, G and H, to distinguish them from one another.

\(^{82}\) ‘Theoretical saturation’, see Gillham, above n 69, at 50.
an input by the trade unions, frequently resulted in copyright policies remaining essentially working documents within the respective university, as the negotiations had not really come to a clear end. Often, this situation has remained the status quo, also because administrative staff avoided to open up the controversies around copyright policies that an express restatement or revised version would entail, and therefore many policies are still not finally agreed. This is one reason why copyright policies are not necessarily publicly available documents. Sometimes they can be viewed on the internet, but often they are only available within the university. The astonishingly high levels of concern about confidentiality also stood against any specific examination of possible IP clauses in academics’ employment contracts, which are normally regarded as confidential by employer and employee alike. Such IP clauses can be the result of individual negotiation, or are standard clauses provided by the human resources departments, or the employment contract makes a general reference to the university [p. 721] IP policies (a common practice). Interviewees have provided the researcher with draft policies or final policies before or during the interview, but have often pointed out that these are confidential and can only be referred to anonymously. In one case, the interviewee promised in the interview to enquire whether the draft intellectual property policy of the institution could be shared with the researcher, and subsequently obtained consent. The document was not in the possession of the interviewee either, but the interviewee had seen it. However, over the following months the research division of the university still did not send it to the interviewee after several reminders, which prompted the interviewee to suggest to the researcher to make a freedom of information request to the university to compel disclosure.

There also seems to be some nervousness about the actual accuracy and workability of the copyright policies in place, so university representatives perhaps did not want to discuss their policies with a researcher who is a copyright specialist and an academic. The university representatives’ concerns were frequently justified, although the researcher in the interviews needed to retain a neutral appearance in order not to prejudice the results of the study. As will be shown later, some regulations in existing policies are decidedly problematic in the light of the actual law, or – presumably as a result of the internal compromises universities had to reach – contain certain design flaws from a lawyer’s perspective. Interviewees generally were

84 Email to the researcher, 20 July 2012.
85 Email to the researcher, 16 Oct. 2012. (The researcher decided not to follow this suggestion).
concerned about anonymity, and not all interviewees agreed to their interview being taped. There was sometimes also some anxiety that the interviewee may say something that was wrong from a legal viewpoint\textsuperscript{86} which would then be recorded (so this was not really an issue of confidentiality), or that the interviewee may not do the right preparation for the interview.\textsuperscript{87}

\section*{FINDINGS FROM THE EMPIRICAL MATERIAL}

\textit{The nature of the university policies}

One can make the general observation that universities do not have a special copyright policy but an all-encompassing University Intellectual Property Policy,\textsuperscript{88} of which copyright forms a part.\textsuperscript{89} This can lead to several difficulties. Usually there is a definition in the policy what ‘IP’ comprises, often broad and not necessarily coinciding with the legal understanding of intellectual property.\textsuperscript{90} Such a [p. 723] definition includes copyright; the other principal IP right is that of patents. In some cases, the distinction between copyright and patents is not critical in practice because not every university has hard science departments where patents would arise, so patents needed not to be catered for specifically in the policy (software development is covered by copyright anyway). The researcher was told in one case that the combined treatment of different types of IP in the university policy reflects the

\textsuperscript{86} Interview with representative of University C.
\textsuperscript{87} Email to the researcher, 18 October 2012, in view of the upcoming interview with University A.
\textsuperscript{88} E.g. University IP policy of University E, cl. 1.4 and 2; Policy of University F, objectives and terminology clause (this policy is still in draft stage); Policy (Code of Practice) of University H, cl. 4; Policy of University A, cl. 1, and other policies which differ in detail but not as to the principle.
\textsuperscript{89} What is specifically called ‘copyright policy’ is often the policy of the university in relation to copyright owned by third parties to be used by university staff in accordance with this policy, e.g. University H..
\textsuperscript{90} E.g. University IP Policy University C, cl. 1: ‘Intellectual Property is defined as all outputs of creative endeavour in literary, artistic, scientific and engineering fields that can be protected either formally or informally including but not limited to all forms of copyright, design right whether registered or unregistered, patent, patentable material, trademarks, know-how, trade secrets, rights in databases, information, data, discoveries, mathematical formulae, specifications, diagrams, expertise, techniques, research results, inventions, computer software and programs, algorithms, laboratory notebooks, actual and potential teaching and distance learning material, and such other items as The University may from time to time specify in writing.’ The IP lawyer will immediately notice that some elements of this definition are not IP rights as such at all (expertise, research results), or are expressly exempt from IP protection by the law itself (e.g. techniques, arguably also information – ‘ideas’ in copyright; discoveries, mathematical formulae – exclusions in patent law), and as IP rights are property rights, they are created by the law in line with the idea of a \textit{numerus clausus} of property rights and thus cannot be ‘items as The University may from time to time specify in writing’. Definitions of ‘IP’ for example also in: Policy of University E, cl. 1.4, Policy of University A, cl. 1 (which is closer to the actual law).
practical reality of creation and use of IP-protected works, and university staff would not be able to relate to a legally correct division of IP rights in patents, copyright, designs in the policy. The practical distinction applied in the policy in question is between teaching/learning material and scholarly material (with different rules), not between, say, patents and copyright.\(^91\) That shows reasonable pragmatism, but even the specific policy at issue indicates that a relatively detailed distinction between the various IP rights is nevertheless required, and that renders it by no means too clear and straightforward.\(^92\) Other policies contain a wide definition of ‘IP’, but then exclude rather arbitrarily certain types of works from that definition, especially articles in learned journals and published books, sometimes also teaching material.\(^93\) The reason for this drafting style is to avoid for such works the effect of the ownership rules for IP rights created by employees, at least how universities interpret them.\(^94\) That is understandable (and sometimes perhaps the result of pressure from the unions), but \textit{lege artis} a hopeless mess which defies scholarly treatment by a lawyer. Unlike some ‘IP’ items in policy definitions, such as ‘expertise’ or ‘research results’, an academic journal article is obviously within the meaning of ‘IP’, being a copyright-protected work \textit{par excellence}.\(^95\)

Furthermore, this lumping together of all IP rights neglects the fact that different IP rights are directed at different protection objectives. Thus the same image can be protected as a trade mark and by copyright; or patent specifications attract copyright protection.\(^96\) But all these IP rights, even where they relate to the same object of [p. 724] protection, have an entirely different purpose. The different types of IP rights also arise on the basis of different and incompatible subsistence criteria (e.g. patents: novelty, inventive step, industrial application, no exclusions;\(^97\) copyright: work, originality, recording\(^98\)). Patents require application and registration, while copyright arises automatically if the subsistence criteria are met. University IP Policies tend to take the existence of IP rights for granted and ignore the differences of the subsistence criteria; they look instead at the proprietary quality of these IP

\(^91\) Interview representative University H, and University Policy University H, cl. 7.1-7.6 (teaching and learning), cl. 7.7-7.15 (software and databases), and cl. 7.21-7.25 (scholarly works).

\(^92\) University Policy University H, cl. 5.2.

\(^93\) University C, Policy, cl. 1; Policy University F, terminology section (this policy is still in draft stage).

\(^94\) On that aspect, see the next section immediately below.

\(^95\) Literary work: CDPA 1988, s. 3 (1).

\(^96\) \textit{Catnic Components v. Hill and Smith} [1982] RPC 183, at 222-223, Court of Appeal: in this patent decision patent specifications were recognised as being copyright-protected as artistic works, but copyright infringement was denied in this case. The copyright point was not appealed before the House of Lords.

\(^97\) Patents Act 1977 (PA 1977), s. 1 (1).

\(^98\) CDPA 1988, ss. 1 (1) and 3 (2).
rights – this quality indeed assimilates them all\(^9\) – and regulate the question of ownership and assignment of IP rights in general.\(^{100}\) As to assignment, the additional hurdle of different legal formality rules for the assignment of patents compared to the assignment of copyright\(^{101}\) has fortunately disappeared fairly recently.\(^{102}\) For the lawyer, however, this combined treatment of heterogeneous rights as effectively one uniform (but as such non-existent) ‘IP-right’ in the University IP Policies is necessarily unsatisfactory, because it is *subsistence* in its variegated forms which determines the questions of ownership, assignment, and finally, infringement. A lawyer must not take some diffuse IP right for granted but must ask first and foremost which IP right(s) could arise in a given situation, decide whether a specific IP right has arisen and in relation to what part of the academic’s ‘product’, and then determine the right allocation, that is, ownership. In the context of employees’ IP rights, the relevant ownership provisions in relation to employees for patents and for copyright express a similar spirit, but are by no means identical and may lead to different outcomes with regard to one specific employee and/or ‘product’ in a given case.\(^{103}\) As University IP Policies unquestionably seek legal recognition,\(^{104}\) they will ultimately have to defer to the differentiating framework of intellectual property law, no matter how inconvenient this may appear in a practical policy setting.

However, all interviewees supported the *status quo* of combined IP policies.\(^{105}\) If more explanation was given, it was said that policies should deal with IP rights collectively for efficiency reasons as it creates ‘more value’ to have several IP rights bundled together in relation to different aspects of whichever product;\(^{106}\) or it was argued that lay persons have no clear understanding as to the legal differentiation \([p. 725]\) between patents and copyright anyway.\(^{107}\) None of the interviewees seemed

\(^9\) CDPA 1988, s. 1, PA 1977, s. 30 (1), TMA 1994, s. 22.
\(^{100}\) Extensive and exemplary in University IP Policy University H, cl. 5 and 7.
\(^{101}\) CDPA 1988, s. 90 (3), PA 1977, s. 30 (6).
\(^{102}\) For patents under the old s. 30 (6) of the PA 1977, the patent assignment had to be in writing, signed by assignor *and* assignee, while under CDPA 1988, s. 90 (6) the copyright assignment had to be signed by the assignor only: this rule for copyright now also applies to patents. For Scotland, PA 1977, s. 31(6), applies: Any assignation (the Scottish term for assignment) or grant of security must be in writing in accordance with the Requirements of Writing (Scotland) Act 1995.
\(^{103}\) E.g. CDPA 1988, s. 11 (2) and in contrast PA 1977, s. 39, and the compensation rule in s. 40(2) for the employee-inventor for outstanding benefit of the patent to the employer. See also the patent case regarding employees *Liffe v. Pinkava* [2007] EWCA Civ 217 which may depart from the approach in copyright.
\(^{104}\) It is unclear what the legal quality of University IP Policies exactly is, compare in relation to the similar problem of university student rules, S Whittaker, ‘Public and Private Law-making: Subordinate Legislation, Contracts, and the Status of “Student Rules”’, (2001), 21(1) OJLS, 103.
\(^{105}\) E.g. interview representatives University E, University H, University B, University G, and the universities referred to in the following footnotes.
\(^{106}\) Interview representative University D.
\(^{107}\) Interview representative University C, similar argument by representative of University A in interview (academics are far too busy to deal with the administrative niceties of the IP exploitation and do not much care about that).
to be aware of, or concerned about, the difficulties with this ‘homogeneous’ approach in relation to IP rights. Some interviewees were surprised that a collective approach to IP rights could become problematic.108

The default rule in the university policies on academics’ copyright, their interpretation, and the law

Not only has the ‘homogeneous’ or combined regulation of all IP-rights in one university policy raised no particular concerns with the interviewees. Also the principal rule regarding the ownership of copyright created by academics who are employees of the university, has not been questioned as such. As a rule, all available University IP Policies assume, and often state with express reference to the relevant patent109 and copyright law provisions,110 that copyright111 in all works which employees, including academics, create in the course of their employment, is owned by the employer, that is, the university.112 This is perceived as the default rule, and is regarded as comprising all output by academics, particularly also scholarly works and teaching material. (The University IP Policies then typically contain rules in relation to scholarly output which appear as a kind of exemption from the default rule; this complicated and problematic construct will be dealt with later.) The researcher came across only few policies which deviated from this position.113 In one case the University IP Policy provides that the author owns the copyright in ‘teaching materials, academic and other publications (books, articles, etc.), […] lesson plans and learning modules’ except (in particular) computer software,114 but this rule is in strange tension to an earlier clause which states unequivocally that intellectual property (including copyright) created by academics as employees within their

108 Interview representatives University A, University F.
109 PA 1977, s. 39.
110 CDPA 1988, s. 11 (2).
111 Or, ‘IP’ in general in accordance to the usual approach in University IP Policies.
112 E.g. all University IP Policies in relation to which interviews were conducted, e.g. University IP Policies, University H, cl. 5.1, University C, cl. 2.2, University E, cl. 3.1., University A, cl. 2.2, University IP Policy University G, email correspondence with researcher. See also other policies in relation to which no interview was conducted, for example: IP Policy University of Bath, cl. 22.3 (http://www.bath.ac.uk/ipls/legal/ippolicy.html, visited 10 January 2013), University of Newcastle Policy Statement on Intellectual Property (http://www.ncl.ac.uk/res/assets/documents/PolicyStatementonIntellectualProperty191011.pdf, visited 10 January 2013).
113 There are exceptions in other University IP Policies, but the researcher could not obtain an interview from the respective representative, for example, an exception can be found in the ‘Policy Statement on Intellectual Property’ of the University of Newcastle (http://www.ncl.ac.uk/res/assets/documents/-PolicyStatementonIntellectualProperty191011.pdf, visited 11 January 2013): ‘In the case of copyright other than copyright in computer software the University agrees that members of academic staff, in accordance with past practice, will be the owners of copyright in works produced in the course of their academic duties, provided there are no third party interests arising, for example, through a research contract.’
114 University IP Policy University E, cl. 4.2.
academic or research expertise belongs to the university.\textsuperscript{115} A second possible exception is the draft policy of another university\textsuperscript{116} according to which copyright in the teaching material seems to be owned by the university, while copyright in scholarly books and articles remains with the academic. However, this is based on information given by the university representative in the interview, and the interviewee qualified this statement by pointing out that it could also be that the university owns the copyright for everything but does not exercise it in relation to academic books and articles. For the final version of the policy the plan would be to go for the option that would be most agreeable to academic staff, since the matter appeared to be quite sensitive.\textsuperscript{117}

In law, it is doubtful whether the scholarly books, articles, and other research output of an academic can necessarily be regarded as works ‘created in the course of employment’ within the meaning of CDPA 1988, s. 11 (2), particularly in the light of the narrow interpretation by the courts in Stephenson Jordan\textsuperscript{118} or Noah v. Shuba.\textsuperscript{119} These two cases also demonstrate that the definite answer turns on the individual facts at issue, but the typical scenario of the creation of scholarly works by academics as university employees is mirrored in the decided cases already. The example of Professor Maitland’s lectures in Stephenson Jordan\textsuperscript{120} is particularly instructive: if it is, in the Court’s view, ‘inconceivable’ that anybody but Professor Maitland could claim copyright in his lectures, although he was an employee of the University of Cambridge, then one can fairly confidently infer that copyright in lectures, and, a fortiori, scholarly books and articles is owned by the academic. The idea behind this thinking is probably that the university as employer orders academics to teach and to do research in general, but not to teach specific lectures or write specific books with a clearly defined content: however, it is only to that that copyright ownership rules could be attached. Only if the university as employer orders, in advance, the employee-academic to write a book with a specific and precisely delineated content, one can consider this as a clearly defined duty of the employee and the scholarly book as created ‘in the course of employment’ – an artificial scenario. So we have rather clear guidance as to copyright ownership in relation to the common situation of scholarly output. When an academic creates scholarly works, such as books, articles, lecture notes for his/her own use, the academic is the first owner of the copyright by

\begin{itemize}
\item \textsuperscript{115} University IP Policy University E, cl. 3.2.
\item \textsuperscript{116} University B.
\item \textsuperscript{117} According to the interview with the representative of University B. The actual (draft) policy of University B could not be made available to the researcher. On that point, see also the discussion above under ‘The Study’.
\item \textsuperscript{118} Stephenson Jordan & Harrison v. MacDonald & Evans (1952) 69 RPC 10.
\item \textsuperscript{119} Noah v. Shuba [1991] FSR 14.
\item \textsuperscript{120} Stephenson Jordan & Harrison v. MacDonald & Evans (1952) 69 RPC 10, at 18, and above.
\end{itemize}
If the university wants to obtain copyright ownership, it has to procure an assignment from the academic. So the assumption of university IP policies about the default rule on employees’ copyright ownership – the university owns, as the first owner, the copyright in work created by employee academics – is usually incorrect in relation to core academic works.

Irrespective of the perceived principal copyright ownership position in relation to employee academics, University IP Policies frequently contain an ‘exception’ with regard to scholarly books, articles, lectures, sometimes artistic works, and other works “produced solely in the furtherance of an academic career”:\(^{122}\) in relation to these, the \(\text{[p. 727]}\) university does not normally intend to assert copyright ownership.\(^{123}\) The wording differs from policy to policy, but the effect (that is, ‘non-claiming’ or ‘non-assertion’) is broadly the same; however, sometimes the drafting method used is not free from inconsistency and contradictions.\(^{124}\) The conceptual distinction is typically made between scholarly works and works which are capable of, or created for, commercial exploitation, in which case the university would usually claim copyright ownership.\(^{125}\) University representatives always approved, in their interviews, of the default rule on employees’ copyright ownership and the policy rule of non-assertion for scholarly works. At this stage in the interview the researcher often faced a difficult moment. As already discussed, from a legal point of view the principal position of the universities’ policies is at least highly problematic, so the presented conception of an ‘exception’ is actually erroneous: academics, as a rule, own the copyright in the ‘excepted’ works anyway and there is no place for an ‘exception’. Matters become even more complicated if a policy then, in a contradicting way, orders that the author-academic ‘grants the University a free, unconditional, irrevocable and perpetual, transferable non-exclusive licence to use and copy’ excepted (i.e. scholarly) works ‘for academic and administrative purposes, including for archival purposes and to

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\(^{121}\) CDPA 1988, s. 11(1).

\(^{122}\) So the wording of the University IP Policy University H, cl. 7.21.

\(^{123}\) E.g. University IP Policy University A, cl. 2.3; University IP Policy University H, cl. 7.21; University IP Policy University G, email correspondence of university representative with researcher (‘Normally we cede copyright in terms of books and we may cede copyright in articles.’), University IP Policy University D (the university does not assert its right to ownership of scholarly output in relation to list of works, including ‘books, seminar papers […], journal editorships, external examination duties, invited lectures, publications of research outcomes […]').

\(^{124}\) An example is the University IP Policy of University E, cl. 3.2 and 3.3, in connection with University Procedures for Implementation of its Policy on IP, cl. 3.1 (‘the University can disclaim ownership of resulting Intellectual Property created only with insignificant use of University Resources’. The definition of ‘insignificant use’ includes that ‘the IP has been created exclusively during the personal unpaid time of the creator’). This creates problems regarding the relationship of this clause to the legal understanding of IP created by employees the course of employment and even to another rule in the main IP policy of University E (cl. 4.2 which gives copyright ownership to the author of scholarly material).

\(^{125}\) E.g. University IP Policy University A, cl. 2.3; University H, cl. 7.25, 8.1.
make [them] available online for academic purposes. If the academic is the copyright owner (arguably the legally correct interpretation in most cases), then this clause makes sense. But as the policy has just asserted that the university is the copyright owner of all employee academics’ works, a licence would be meaningless and void because it would be a licence granted by a non-owner (who has no entitlement) to the owner (who does not need it).

Furthermore, some policies do not provide an express exception to the copyright claim by the university, but exclude scholarly works from the definition of ‘Intellectual Property’ under the policy in question and effectively arrive at the exception in this way, albeit in a untidy manner from a logical, legal and drafting perspective. The distinction between claimed and unclaimed copyright is also bound up with the question of commercial exploitation, and this may correlate with different IP rights (patents – commercial exploitation presumed, copyright – rather not, unless it relates [p. 728] to software). Again, the combined treatment of different IP rights in one policy does not appear advantageous. It was obviously not easy to discuss this legal quagmire in the interviews without prejudicing the findings of the study. Interviewees sometimes stress that universities seek to secure copyright ownership in relation to works that are commercially relevant, and that may involve not only the obvious computer program or database, but also (in rarer cases) an unusually successful monograph. This division between commercially relevant and commercially not relevant works is also visible in the distinction between teaching material and research material. This distinction appears expressly in some policies, or is practiced in reality. Teaching material can also comprise distance learning material with significant commercial importance, and the university is usually keen to enforce copyright in relation to such works. But the ownership regulations especially regarding teaching material are sensitive and controversial in universities.

126 In this way the University IP Policy University H, cl. 7.23.
127 Policy University F, terminology section (this policy is still in draft stage); University IP Policy University C, cl. 1, and interview with the representative of University C. On the question of the artificial definition of ‘IP’ in policies, see also the discussion above.
128 Interview with the representative of University D; interview with representative of University E.
129 Interview with representative of University C, University D. As the regulation of copyright ownership is typically lumped together with patent ownership in University IP Policies, one can find a rule or practice in universities with regard to patents, according to which the academic is asked to inform the relevant research and enterprise unit of the university about the patentable matter, and is also asked (if necessary in form of negotiations) to hold back with the academic publication until the patent application is filed to preserve novelty (the Policy may even require this, but that is not enforced in reality): interview with university representative of University A. Copyright is in this respect obviously less critical, as it needs no registration.
130 Example given by representative of University E. In the case in question, a separate joint agreement between the university, the academic (editor of the monograph) and the publishers was made.
131 University IP Policy University H, cl. 7.1, 7.13, 7.21; University E, cl. 4.
132 According to interviewees, e.g. university representative University B, University D.
133 Interview university representative University D.
and this controversy contributes to policies remaining in draft stage for several years.\textsuperscript{134} One university stresses, however, its commitment to open access of teaching material and seeks to have such material (handouts, podcasts, slides etc.)\textsuperscript{135} licensed under open access or creative commons licences.\textsuperscript{136} In this connection there is the equally sensitive topic of the situation of ownership and use of teaching material when the academic, as the author, moves to a different university. Interviewees seemed to be aware of potential restraint of trade implications under employment law\textsuperscript{137} and indicated that the academic could not realistically be hindered from using this material at the new institution.\textsuperscript{138} Sometimes there are specific practices for this situation, for example, academics will sign a licence that they are allowed to take the teaching material with them but in turn will be asked to leave a copy behind at their old university,\textsuperscript{139} or they are required to obtain consent which will in fact always be given.\textsuperscript{140} But, as one [p. 729] interviewee put it, ‘the university does not want to prevent staff from having careers’,\textsuperscript{141} problems do not arise in reality.

In law, the universities are in a better position to lay claim to copyright in teaching material than to copyright in scholarly works. Perhaps because of that, and certainly in order to upset academics as little as possible, universities do not normally assert copyright ownership in relation to scholarly works. If, as has been demonstrated, that problematic ‘non-claiming’ policy is coupled with an effectively contradicting licence regime, it becomes very difficult to establish the legal meaning of ‘non-assertion’ or ‘non-enforcement’. Under the law, the owner cannot really abandon copyright,\textsuperscript{142} and, because it is a property right, the owner cannot lose his copyright because of estoppel, laches or acquiescence.\textsuperscript{143} But universities do not want to abandon their copyright anyway (provided they own it in the first place and not the academic), they want to refrain from enforcement essentially where the works are commercially irrelevant, and that is typically the case with scholarly works. There is

\textsuperscript{134} Information from university representative University H, University B, University F.

\textsuperscript{135} In fact, university representatives were not always clear about what would fall exactly under ‘teaching material’: in one case the representative did not know for sure whether podcasts were covered, and there was no policy regarding filming in any case (but staff would resist filming of their lectures anyway), interview with university representative University H.

\textsuperscript{136} Interview university representative University B.

\textsuperscript{137} Deakin & Morris, above n 46, 318. Teaching material, particularly if already used, cannot reasonably be considered as confidential information.

\textsuperscript{138} E.g. interview university representative University D, University B.

\textsuperscript{139} Interview with university representative University H.

\textsuperscript{140} Interview with university representative University D.

\textsuperscript{141} Interview with university representative University D.

\textsuperscript{142} On this difficult issue in relation to several legal systems, see J A L Sterling, \textit{World Copyright Law}, 3\textsuperscript{rd} ed (2008), 596. See also discussion by Phillip Johnson, ‘“Dedicating Copyright to the Public Domain’ (2008) 71(4) MLR 587-610, at 591, 594.

nevertheless no clear rule when a work is ‘commercially relevant’, nor is there any contractual/policy safeguard against a change of the current practice. Universities apparently want to keep all options open.

Usually, interviewees did not appear to be able to discuss the legal niceties involved which could also have revealed the fundamentally problematic nature of this approach. But the researcher could gain a few insights in three cases. One interviewee said that, as academics are encouraged to publish, the university will not object to the academic dealing with publishers of books and journals on his/her own. However, the academic would not be able to grant an exclusive licence (as ownership is deemed to be with the university). If the publisher insists on a copyright assignment, the academic would have to contact the university as the right holder. The process would then be as follows: not the university would assign directly to the publisher, but would assign to the author-academic, who, in turn, would assign to the publisher; the same process would apply if an exclusive licence had to be granted to the publisher (which is the typical situation in reality). The interviewee conceded, however, that this was a grey area. At another university, the researcher was told that, as the university claims copyright in all works in principle, and some academics know that, the interviewee got frequently sent publishing agreements from academics for signature by the interviewee as the representative of the university. Since it was administratively practically impossible to deal with a great number of diverse publishing agreements, the university has the policy to regard the academic as the authorised representative or agent of the university with the power to sign the publishing agreement on behalf of the university, so that the academic does not have to go through the official administrative channels. This method is particularly problematic from a legal perspective. If it is understood that the university is the right owner and not the academic, then this means that the academic has been granted an (implied, apparent?) authority to bind the university as the principal in relation to a work of which the academic is the author. It is most doubtful whether an apparent authority can be assumed if the apparent agent-academic is not even aware that he acts as agent and not on his own behalf, and it is probable that he will rather appear and represent himself as the owner of the copyright. That is typically the case if the agent is also the author of the work that is the subject-matter of the transaction.

144 Interview with representative University C. This procedure would not apply to software, as that is commercially more relevant to the university. The university would retain the copyright and grant the third party an exclusive licence.
145 Interview university representative University H. At the University D, academics sign publishing agreements in relation to articles and book chapters, but to not books; in the latter case the academic is requested to contact the university which will negotiate with the publisher directly, interview with university representative of University D.
This scenario is not a case of ‘usual authority’ either (as apparent authority arguably does not apply), because academics are not ‘usually’ agents of their university in these matters.\textsuperscript{147} Even if initial copyright ownership of the university is accepted, or if a formally proper assignment from the author-academic to the university has taken place (either separately or in an employment contract\textsuperscript{148}), it is interesting to imagine what a court may make of this legal construct and how the evidence may be conducted in a trial. Perhaps the best approach was presented by the representative of a third university: ownership of copyright in scholarly books and articles is presumed to rest with the academic as a result of the university not claiming copyright ownership in these works.\textsuperscript{149}

These tortuous methods in dealing with copyright ownership in scholarly work do indicate a certain uneasiness of university administrations as to their true entitlement. Successful enforcement in court is probably doubtful in many cases, but usually such a legal conflict will be avoided by university and academics alike, so that the policies will probably not be put to the test soon. It is obviously possible to obtain clarity about copyright ownership by requiring academics to assign copyright in all their present and future works to the university, either in a separate document, or in the context of their employment contract,\textsuperscript{150} and if the legal formality requirements are observed, such an assignment is valid.\textsuperscript{151} Whether this is politically enforceable among academics, is a different matter.\textsuperscript{152}

\textit{Copyright exploitation and employees’ share}

Where universities retain and exploit copyright commercially, they give a share in the income from the exploitation to the academic (author). This can be found in all policies, and it is usually in this context when the interviewees become professionally involved as members of the ‘IP group’ or ‘research and enterprise department’ of their

\textsuperscript{147} Compare \textit{Watteau v. Fenwick} [1893] 1 QB 346, and Treitel, above n 147, at 716-718, and there also are additional criteria for answering ‘usual authority’ in the affirmative.

\textsuperscript{148} In either case, the copyright assignment has to comply with the formality requirements of CDPA 1988, s. 90 (3), to be valid.

\textsuperscript{149} Interview with university representative University B.

\textsuperscript{150} So for example at the University H, according to the interview with the university representative. So also statement in cl. 2 of the University IP Policy of University G which is otherwise mostly directed at IP created by students, although it applies ‘equally to students and staff’.

\textsuperscript{151} CDPA 1988, s. 90 (3): The assignment must be in writing, signed by the assignor. If in relation to specific works (examples would be teaching material, material produced at the behest of the university, as such distance learning course material) a court may find that the work has been created in the course of the academic’s employment, then the university as employer would indeed be (first) owner of the copyright, and the assignment would be superfluous and void, but would not harm.

\textsuperscript{152} The researcher has anecdotal evidence that such copyright assignment clauses appear sometimes in employment contracts of academic staff, and are often crossed out by academics signing the contract on taking up the new post – with no consequences.
university. Academics having created IP are requested to notify the university IP staff who will then decide and communicate to the academic whether the IP will be commercialised.\footnote{E.g. University IP Policy University E, cl. 4.6, 4.10; interview with university representative University D, University A.} It is obviously difficult to enforce this duty in reality, either, because academics are not aware of this duty or avoid getting trapped in the perhaps byzantine administration of their institution,\footnote{One university representative (University F) said in the interview that academics often do not see the reason why the university research and enterprise department exists.} or they do not realise that an exploitable IP right has arisen: that is typical of copyright which arises automatically with no formalities. As one interviewee said, the ‘capturing’ of works which are generated by academic staff and commercially potentially exploitable is a difficult task.\footnote{Interview university representative University E.} IP department staff do not have power to enforce the IP policy. The way to go about this is by way of information and raising awareness, also through staff training sessions. Only in case of severe breach of the IP policy theoretically disciplinary measures may be taken via the Head of Department of the academic in question or even via the personnel/human resources department of the university.\footnote{Interviews university representative University B, University H, University D, University C, University F, the latter adding the characteristic comment: ‘academics run the show’.} However, none of the interviewees could refer to a case where this had really happened, and the approach by university IP staff to conflicts is a non-confrontational, conciliatory one: university IP departments are for assistance, not for policing.\footnote{All university representatives interviewed in this study stressed this point. The interviewee of University D said that staff were dismissed in the past for using university IP for their own businesses: this is, arguably, a more aggravated form of a breach of the IP policy than the issues considered here.} One interviewee emphasised that the university IP unit is a ‘service department’ and viewed the academic as ‘customers’, but it was not the objective of the university to generate income from IP rights created by academics.\footnote{Interview university representative University A.}

The share in the IP revenue is regulated in many IP policies, and the rules are often complex, because they incorporate regulations regarding spin-out companies, students (who have to assign their copyright to the university first,\footnote{Students are often required to assign their copyright to the university, at least when they are creating commercially exploitable IP or/and involved in third-party funded research projects, see e.g. University IP Policy University A, cl. 2.9, University IP Policy University G, cl. 6, University IP Policy University C, cl. 4.} as they are not university employees), (commercial) third parties,\footnote{This can also concern University/NHS hospitals and their relationship to academic staff at medical schools of the university: usually this problem is, however, in the area of patents and not discussed here. But it came up in interviews, e.g. interview university representative University F.} research funders (who often have specific rules how IP rights as a result of the research have to be dealt with) and so forth. These technicalities cannot be dealt with here, although they are usually the interviewees’ \[p. 732\] most important area of practice. As far as the simple rules are
concerned, for example, one university has the royalty split of 90% for the first £10,000, 75% for the next £20,000, and 50% over £30,000. Other universities have different share sizes, but the regulation principles are similar. If spin-out companies are involved, academics may obtain a mixture of a royalty share (IP) and an equity share (e.g. in a spin-out company). University IP policies frequently state that ‘University Personnel who have created Intellectual Property which is commercialised should receive a fair share of the commercial benefit, as should the University and the relevant University school(s)’, or something of that kind. In one case the interviewee emphasised clearly that the university does not use its intellectual property policy to make money; this is not the driving force. ‘The reason why we exploit IP is to get out to the public domain.’ The role of the university is to disseminate the information for the public good; after all, the university is a charity.

The role and purpose of copyright policies and their enforcement within university management

Interviewees emphasised that monitoring and enforcement of universities’ IP policies is not meant to be ‘Big-Brother like’, but supposed to establish relationships of consensus with academia. The purpose of the policy is to highlight that IP is an integral part of an academic’s job, that it raises awareness about IP rights among academics. Universities also have to show to potential research funders that they have an IP policy in place, and the IP policy shall assist in attracting research funding and in increasing research impact. One interviewee said that a lot of copyright is about ‘managing risk at the end of the day’, another pointed out that the IP policy plays a

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161 Interview university representative University D.
162 E.g. University IP Policy University H, cl. 11 and Annex A8: £0-5,000: Creator 100%; £5,001-£100,000: Creator 60%, School 20%, University 20%, over £100,000: ¼ for Creator, School and University, respectively. Similar: University F: £0-50,000: 50% belong to the author-academic, above £50,000: 35% go to the author (according to draft IP Policy, cl. 2.1 and interview with university representative); University IP Policy University C, cl. 8.2: ‘Creator 50%, School 40%, [University IP Administration] 10%’. Often these breakdowns of share sizes have mostly patent exploitation in mind, because this is the commercially far more important situation.
164 So the wording from the University IP Policy University E, cl. 2.2.
165 See, e.g. University IP Policy University H, cl. 3.5.
166 ‘Public Domain’ is here not to be understood in the sense of a surrender or abandonment of intellectual property rights. On this complicated issue see Johnson, above n 143, at 587.
167 Interview university representative University F.
168 E.g. interview with university representative University E.
169 Interview with university representative University C, University A.
170 Interview with university representative University H.
role in relation to the university insurance, as the insurer wants to have all university-owned copyright declared and listed for the IP insurance policy (in fact an impossibility).\footnote{171} But the university IP policies could serve a different, or additional, managerial purpose. If the output of academics is (also) assessed by way of the amount of copyright-protected work produced as units of productivity, expressed in the legal framework of property (copyright), the policies primarily seek to ensure that none of these commercially relevant assets are lost by the university. In this way, individual human beings (academics) can be reconceptualised in economic models as (objectified) human assets who are managed accordingly and whose value is predominantly assessed according to their commercially relevant IP output.\footnote{172} If the valuation of, among other things, the IP output does not match the overheads and other costs, the academic may be replaced by a more efficient colleague, while teaching and research material by the old colleague remains with the university as copyright owner. Consequently, a strong producer of IP assets may obtain promotion in the university hierarchy more quickly, either as an academic (e.g. to a chair) or within the higher university administration as an academic-turned manager. Furthermore, as IP rights are commercially valuable assets (particularly patents), they can serve as security for loans the university may take out for investments.

Any squeamishness in addressing these points is unhelpful. Some of these matters can be found in reality already, although IP does not (yet) play a dominant role. Promotion to a chair is now often determined by the ability to attract large-size research grants and by short-term and commercially important research impact, rather than by the quality of the research itself. Students are today frequently seen as customers who are provided a higher education service,\footnote{173} and to improve on the service and to attract a bigger customer base academics are increasingly asked to produce extensive handouts, slides, podcasts, e-learning material etc. to assist in the learning, or at least to create the illusion of assistance. This illusion suffices, not for education, but for selling a product or service. The legal conceptualisation of these

\footnote{171}{Interview with university representative University D.} 
\footnote{172}{On this problem more generally within the currently prevalent economic conception of society as a ‘market’, not confined to the university sector, see P Legendre, La 90\textsuperscript{e} Conclusion (1998), 213-214; P Legendre, Dominium Mundi. L’Empire du Management (2007), 31-33, 42-43, 46, 49; A Supiot, Homo Juridicus. On the Anthropological Function of the Law (2007), 64-65, 94-95, 104-105, 154-155, 170-173, 176-177.} 
\footnote{173}{Furedi, above n 12, at 2-3; P Gibbs, ‘Adopting consumer time and the marketing of higher education’, in: M Molesworth, R Scullion and E Nixon (eds), The Marketisation of Higher Education and the Student as Consumer (2011), 52, at 59-60. The distinction between consumer (who merely consumes the commodified service provided) and customer (who enters into a purchase relationship with the service provider) which can sometimes be found in the literature appears exaggerated in the context of the higher education ‘service’, especially in the light of substantial tuition fees.}
products or services is especially the property of copyright (mostly in form of a literary work), and the economic conceptualisation is that of the commodity on a market. The separation of the academic from his/her work that is turned into an independent copyright asset and the ensuing alienation\(^\text{174}\) is probably one reason why university IP policies are so controversial and sensitive in academic institutions,\(^\text{175}\) and why it was difficult to find more persons agreeing to an interview, although anonymity was assured.

To pursue such managerial aims one obviously does not have to resort to university IP policies, but they may become an additional supporting factor. While this study was not designed to examine exactly this problem, in the conversation with the interviewees, especially in relation to questions 7 and 8 (management, control and enforcement of copyright policy within the organisation of the university), certain indications for a possible drive towards a further commercialisation of academics’ work output with the assistance of copyright could have been detected. But the interviews did not provide \(\textbf{p. 734}\) such evidence, even when the interviewees were probed by the interviewer in this regard. The interviewees stated that the university IP policies are not supposed to hinder academics from research and publications or to control academic freedom; they are envisaged as assistance.\(^\text{176}\) Interviewees stressed that the purpose of the policy is to increase research impact, to improve chances for academics for getting research grants, and to raise the general university profile.\(^\text{177}\) This is connected with the approach to sanctions for a contravention against the IP policy: either there are in reality no disciplinary sanctions at all\(^\text{178}\) or conflicts will be dealt with in an informal, conciliatory way to avoid antagonism with academic staff:\(^\text{179}\) ‘the academic is the centre of the university’.\(^\text{180}\) Interviewees even stressed that universities are different from corporate entities and have to be judged in their own terms.\(^\text{181}\) When asked whether academics may benefit, for example in form of improving the chances for promotion, if they generate a greater amount of commercially relevant IP rights, interviewees always said that they did not think so, or at least were not aware of that.\(^\text{182}\) At the moment IP rights are not a human resource management factor within the university administration.

\(^{174}\) Rahmatian, above n 14, at 226-236.

\(^{175}\) Clear indication of this point in interviews with university representatives of University B, University H, University F.

\(^{176}\) All interviewees emphasised this point.

\(^{177}\) E.g. interview university representatives University A, University H.

\(^{178}\) Compare interview university representative University F: ‘not a chance’.

\(^{179}\) E.g. interview university representatives University E, University B, University H.

\(^{180}\) So the university representative University A.

\(^{181}\) Interview university representatives University F, University H.

\(^{182}\) Interview university representatives University F, University H, University B, University C.
CONCLUSION: COPYRIGHT IN THE MANAGERIALIST ENVIRONMENT OF ACADEMIC INSTITUTIONS

This study has shown that the question of copyright ownership of works created by academics as employees of universities is highly sensitive and controversial, partly also because academic staff may fear the commodification of their academic work, and that sensitivity has contributed to the difficulty in finding interviewees. University IP policies deal with copyright only together with all other IP rights. This can become problematic because they ignore the diverse nature of the protection objectives of different IP rights. But the most problematic aspect is that university policies presume that by default they own all work academics create as their employees. The reason seems to be insufficient appreciation of the differentiated legal interpretation by the courts of the ‘work created in the course of employment’ criterion according to the relevant statutory provision. At least in relation to core academic work (scholarly books and journal articles in particular), initial copyright ownership of the university by virtue of the statutory employee-copyright rule is highly doubtful. As a result of the universities’ principal position to ownership, university policies have to come up with complicated solutions to face a publishing reality: academics must publish for the purpose of scientific progress and for achieving esteem in the academic community; for them, commercial considerations are secondary and often irrelevant altogether. Furthermore, for practical reasons academics need to deal with journal and book publishers on their own behalf which is supposed to be technically impossible since employee-academics apparently do not hold the copyright. To tackle this problem, university IP policies have resorted to artificial assignment and licencing provisions or make assumptions with questionable enforceability. In any case, interviewees frequently emphasised that the university is centred around the academics, also in relation to IP matters.

There is a trend towards managerialism in universities, and IP rights may obtain increasing importance in this development. Managerialism provides the technocratic illusion of seemingly rational and unquestionable managerial rules that replace substance by procedure. In this context, academics can be redesigned as ‘content providers’ from a human resources and marketing perspective. The content they produce (‘research’, ‘teaching’) can be commodified as saleable education

183 CDPA 1988, s. 11 (2).
products by conceptualising them as copyright assets, without much concern for the actual substance itself or its creator, who invariably suffers a kind of standardisation under such an approach. This military-like ‘uniformisation’ is a typical effect of modern human resource management,\(^1\) as the metaphor of ‘making the butterflies fly in formation’ also nicely illustrates. This can obviously be achieved without the assistance of copyright, but efficient management may try to utilise every means. The assertion of copyright ownership by universities can serve as a first step in this development.

\(^1\) Rahmatian, above n 14, at 252, 263-264.