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31<sup>st</sup> March 2004

## PATENTS ACT 1977

BETWEEN

I.D.A. Limited, Colin Thomas Metcalfe, David  
Julian Lax and Polymer Powder Technology  
(Licensing) Limited Claimants

and

The University of Southampton, Philip Edwin  
Howse and Roger Edward Ashby Defendants

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### PROCEEDINGS

Reference under sections 8, 12 and 13 in respect of UK patent application number GB 9814507.1, International patent application number PCT/GB99/02090, European patent application number EP 99929525.6 and Australian patent application number AU 4631799 and of patents or applications for a patent deriving or claiming priority therefrom

HEARING OFFICER S N Dennehey

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## DECISION

### Introduction

- 1 This reference was filed on 17 September 2001 on behalf of I.D.A. Limited, Colin Thomas Metcalfe, David Julian Lax and Polymer Powder Technology (Licensing) Limited ("the claimants") to determine questions of inventorship and entitlement under sections 8, 12 and 13 of the Patents Act 1977 ("the Act"). In particular, the reference sought a decision on:
- (a) whether Colin Thomas Metcalfe and David Julian Lax (alone or with any other person) are the true inventors of Patent Application No. GB 9814507.1 dated 3 July 1998, International Application No. PCT/GB99/02090, European Patent Application No. 999295.6 (*sic*) and Australian Patent Application No. 4631799, and all patents or applications for a patent as defined in section 12(7)(a) of the Act deriving or claiming priority therefrom; and

- (b) whether I.D.A. Limited (alone or with any other person) is entitled to be granted each of the patents (within the meaning of section 12(7)(a)) deriving from the Patent Applications throughout the world and whether I.D.A. Limited and/or Polymer Powder Technology (Licensing) Limited have any right in or under each such patent or application for a patent.

The reference, including the claimants' statement of case, was amended on 17 October 2001 to correct the number of European Patent Application No. 99929525.6 and to make some other small changes but the thrust of the matters to be determined remained unchanged. The relief sought by the claimants is extensive but I do not need to deal with it here for reasons which will become apparent later in this decision.

- 2 UK Patent Application No. 9814507.1 ("the UK application") has the title "A method and apparatus for controlling pests" and was filed on 3 July 1998 in the name of the University of Southampton ("the University"). This application was terminated on 5 July 1999 before publication under section 16 of the Act. International Patent Application No. PCT/GB99/02090 ("the PCT application") claimed priority from the UK application and was published on 13 January 2000 as WO 00/01236 A1. Philip Edwin Howse and Roger Edward Ashby are named as inventors in the PCT application and the University is named as the applicant. European Patent Application 99929525.6 ("the European application") and Australian Patent Application No. 4631799 were derived from the PCT application.
- 3 In their statement of case the claimants sought disclosure of the identity and current status of other patent applications which had or could still derive or claim priority from the patent applications specifically mentioned in their reference. The University resisted this request for disclosure and invited the claimants to undertake appropriate Patent Office searches. The claimants responded on 23 October 2001 by asking the comptroller for an order under rule 106 of the Patents Rules 1995 ("the Rules") for the disclosure of the desired information. Following an exchange of correspondence between the claimants and the Office, the claimants agreed to defer this matter until after 30 November 2001 which was the deadline for filing a counterstatement.
- 4 On 30 November 2001 a counterstatement, opposing the reference, was filed on behalf of the University, Philip Edwin Howse and Roger Edward Ashby ("the defendants"). In this counterstatement the defendants identified a further relevant patent application, namely US Patent Application No. 09/736023 filed on 28 February 2001. They also observed that in all other countries of interest to the claimants, it would be possible to obtain information about the identity and status of other relevant patent applications by making appropriate local enquiries. This response to the claimants' request for information about other relevant patent applications did not satisfy them. Moreover, the counterstatement prompted further requests by the claimants for copies of certain documents and information related to allegations made by the defendants. Once again the defendants' response to these further requests did not fully satisfy the claimants. The defendants in their turn raised a matter of security for costs. At this stage it was clear that differences between the parties on various procedural matters were such that they could not be resolved without a preliminary hearing. Thus, a hearing was held on 16 January 2001, following which the hearing officer ordered the defendants to supply, among other things, information concerning any other relevant patent applications. The

defendants complied with this order on 19 February 2002 and is so doing identified Brazilian Patent Application No. PI 9911813-0, Japanese Patent Application No. 557692/2000 and South African Patent Application No. 2000/7781. In his decision the hearing officer also directed that the claimants should have an opportunity to file evidence of the law and practice in other jurisdictions, if the questions of entitlement and inventorship were determined in their favour and if they considered it necessary in order to obtain appropriate relief in those jurisdictions. In the event the matter of security for costs was not disputed by the claimants and the hearing officer was content with a proposal for the claimants to pay a sum of £800 as security for costs. Finally, the hearing officer sought to put the proceedings back on course by setting a timetable for the remaining stages.

- 5 The claimants' evidence in chief was filed on 12 March 2002 but was corrected later to overcome several formal deficiencies noted by the Office. The bulk of the defendants' evidence in chief was filed on 14 May 2002 although a short extension was granted, principally for filing witness statements by the named inventors, Philip Edwin Howse and Roger Edward Ashby. (As an aside I should point out that at the hearing before me Philip Howse was addressed as Professor Howse and this is how I will refer to him in this decision, notwithstanding that at the time of filing the UK application in 1998 he had not been awarded his Professorship and was known as Dr Howse.) The defendants requested that three of the witness statements, forming part of their evidence in chief, be treated as confidential. As a result a direction as to confidentiality was made on 29 May 2002 under rule 94(1) of the Rules. This direction restricted the availability of the confidential witness statements to the patent agents and counsel acting for the claimants in these proceedings. When the witness statements of Professor Howse and Mr Ashby were filed on 5 June 2002, a further application was made for a second witness statement of Professor Howse to be treated as confidential. This led to another direction as to confidentiality on 25 June 2002, restricting the disclosure of this second witness statement to the claimants' professional advisors.
- 6 On 7 August 2002 the claimants wrote to the Office to dispute the directions as to confidentiality and to argue that the witness statements in question should be open to inspection by Mr Metcalfe and Dr Lax. Moreover, when the claimants filed their evidence in reply on 28 August 2002 they requested that the bulk of it should be treated as confidential. The questions of what should and what should not be confidential and who should be entitled to see confidential matter resulted in a considerable volume of correspondence between the Office and the parties. Although a measure of agreement between the parties emerged, there remained matters on which agreement was not possible. Thus, once again it fell to a hearing officer to decide the unresolved matters and a second preliminary decision, this time based on the papers, was issued on 30 October 2002. In this decision the hearing officer issued a further direction that parts of the claimants' evidence in reply were confidential. He also indicated that he was minded to withdraw his earlier directions and allow the relevant documents to be laid open to public inspection in their entirety. However, before doing so he gave the parties an opportunity to comment. The defendants responded by requesting withdrawal of two of the confidential witness statements (by witnesses who had become known as Mr X and Mr Y to protect their identity) and by withdrawing their request for confidentiality in respect of a third witness statement. In addition, they withdrew their request for confidentiality in respect of Professor Howse's second

witness statement, subject to masking of certain passages, which identified Mr X and Mr Y. In their turn, the claimants did not accept the defendants' request to withdraw the two witness statements and to redact Professor Howse's second witness statement to protect the identities of Messrs X and Y. Indeed, the claimants indicated that they had taken steps to subpoena these two witnesses for cross-examination at the main hearing.

- 7 In parallel with the matter of confidentiality first raised by the claimants on 7 August 2002, the claimants requested in a letter, dated 28 August 2002, an order for the supply, inspection and disclosure of documents. Once again it became apparent that the differences between the parties could not be resolved without a hearing. In a third preliminary decision, dated 7 November 2002, the hearing officer made various orders concerning disclosure, the supply of a copy of a particular document and the inspection of various other documents. These orders were met almost immediately by a request from the claimants to modify them.
- 8 With a view to resolving the issues, concerning confidentiality, disclosure and inspection of documents, which arose from his decisions of 30 October 2002 and 7 November 2002, the hearing officer appointed a case management conference on 25 November 2002. The outcome was a fourth preliminary decision, dated 10 December 2002. In this decision the hearing officer directed that the witness statements of Mr X and Mr Y should be treated as withdrawn and that these witness statements should not be open to public inspection. The hearing officer also directed that parts of Professor Howse's second witness statement and elements of the claimants' evidence in reply should be treated as confidential. He also redefined who could have access to the confidential matter to include Mr Metcalfe, Dr Lax and Ralph Brown, who was a business associate of Mr Metcalfe. As for the other matters, the hearing officer ordered disclosure and inspection of certain documents. One of these documents, a Research Agreement, dated 21 March 1996 and filed by the defendants on 20 December 2002, was subject in part to a further direction as to confidentiality on 12 March 2003.
- 9 On 15 January 2003 the claimants submitted further evidence in reply by Dr Lax and an unsigned draft statement by one of the defendants' witnesses. The defendants had no objection to Dr Lax's further witness statement and it was admitted. However, they expressed surprise and concern at the submission by the claimants of the unsigned statement and sought leave on 7 March 2003 to introduce a second signed statement by this witness, describing how he had been approached by the claimants' patent agent with a view to obtaining a witness statement. The Office took the view that both the unsigned witness statement and the subsequent signed witness statement were inadmissible.
- 10 Just a few days prior to the main hearing before me, the patent agent acting for the defendants sought permission to correct her first witness statement which had been filed on 14 May 2002 with the defendants' evidence in chief. Permission was also sought by the defendants to allow the admission of a third witness statement of Professor Howse. Due to the lateness of these submissions they were left for consideration as preliminary matters at the main hearing.

- 11 With most of the preliminary issues seemingly settled, the matter eventually came before me at a hearing. This hearing was initially planned to last for five days but in the event it took six. Mr James St Ville, instructed by Raworth Moss & Cook, appeared as Counsel for the claimants and Mr Daniel Alexander, instructed by Boulton Wade Tennant, appeared as Counsel for the defendants.

#### **Further preliminary issues**

- 12 At the hearing it was necessary for me to consider several preliminary issues in addition to the outstanding matters concerning correction of the defendants' patent agent's first witness statement and the late filing of Professor Howse's third witness statement. I will deal with these issues briefly in the order they arose at the hearing.

#### ***Conduct of the hearing in the light of the pre-existing Direction as to confidentiality***

- 13 The matter of the confidentiality regime for the hearing had been identified by Mr St Ville in his skeleton and at the hearing he proposed that I should sit in private when it was likely that something of a confidential nature might arise. However, he suggested that it should not be necessary to sit in private when talking about Mr X and Mr Y, if they were referred to in this anonymous way and when it was not necessary to go into details. Mr Alexander raised no objection and I agreed to conduct the hearing on this basis. In the event, it proved necessary to sit in private for only short periods. After the hearing I reviewed the transcript in the light of comments from both sides and issued a decision on 29 August 2003 directing under rule 94(1) that certain parts of the hearing transcript shall be treated as confidential but ordering that the full, unredacted transcript should be open to certain individuals, including Mr Metcalfe, Dr Lax, Professor Howse and Mr Ashby.

#### ***Admission of a third witness statement of Professor Howse***

- 14 Mr St Ville had no objection to the admission of the third witness statement of Professor Howse. I therefore admitted this additional witness statement.

#### ***Correction of the patent agent's first witness statement***

- 15 Mr St Ville observed that the corrections sought by the defendants simply addressed typographical errors in the first witness statement of the defendants' patent agent. The claimants had already spotted these errors and had no objection to substituting pages incorporating the requested correction. I agreed and therefore allowed the requested corrections.

#### ***The outcome of a further search by the defendants in relation to disclosure***

- 16 Annexed to Mr St Ville's skeleton was a letter, dated 26 March 2003, from the defendants' patent agent, Boulton Wade Tennant, to the claimants' patent agent, Raworth Moss & Cook. Enclosed with this letter and also annexed to Mr St Ville's skeleton was an internal Southampton University memorandum, dated 3 July 1998, concerning the UK application. The letter explained that the defendants' counsel had advised that the memorandum should be disclosed and that a further search should be instituted

immediately for any other documents of this kind. Prior to the hearing before me the claimants had not been informed about the outcome of the further search and not unreasonably Mr St Ville wanted to know what the position was. I questioned Mr Alexander why this document had not been turned up earlier as a result of the hearing officer's order on discovery in the decision of 10 December 2002, and Mr Alexander explained that it had been a pure oversight. He added that the further search had not revealed anything more. Mr St Ville expressed surprise at this explanation, considering the nature of the document found, and he reminded me that I was entitled to adopt a sceptical attitude to evidence where there has been a failure of disclosure. I noted Mr St Ville's point of view but I saw no need to consider this further as a preliminary matter.

***Requests for a copy of each current application and information about its status***

- 17 Mr St Ville raised a point about the consequential relief that would arise if I found, at least in part, in the claimants' favour. He saw a danger that the first thing to happen would be a series of interim decisions. Thus, he wanted to know what the defendants' position was in relation to requests for copies of the applications in question and information about their status. For his part Mr Alexander did not imagine that this matter would be a problem for the hearing before me. However, he recognised that it may arise in the context of what he described as a "remedies hearing" consequential upon my decision. I saw no need to dwell on this point since, if I found in the claimants' favour, my decision would be an interim one and I could order later that the information sought should be provided.

***Hearsay***

- 18 In his skeleton Mr Alexander noted that there was a good deal of hearsay in both sides' statements which, if I were prepared to ignore it, may save some time. At the hearing Mr St Ville explained his understanding of the point made by Mr Alexander. This was that where more than one witness repeats the evidence of someone else, in other words, it is hearsay as opposed to corroboration, and if the main witness's evidence on a point is undermined, there would then be no need to cross-examine everyone on the hearsay elements as well. Mr Alexander confirmed that this was indeed the point he wanted to make. He did not want to be in a position of having challenged one witness in relation to matters that were primarily within that witness's concern, then for it to be said, "You did not challenge this other witness who gave evidence of a hearsay nature as to what the first witness did or did not say" and somehow be stuck with that. Mr St Ville acknowledged that such matters go to the weight of the evidence. Although Mr Alexander's reference in his skeleton to ignoring hearsay may not have been quite the clearest way of presenting his proposal, I saw little, if any, difference between the parties on this matter and I was content to proceed on the basis outlined by Mr St Ville and Mr Alexander.

***The confidentiality of the first contact between Mr Metcalfe and Professor Howse***

- 19 Mr Alexander explained that the extent to which an initial telephone conversation between Mr Metcalfe and Professor Howse on 24 April 1998 is to be properly regarded as a confidential communication, was potentially an issue which could impact on the

validity of the patent in due course. Mr Alexander went on to add that potentially it also had an impact on breach of confidence proceedings which had been commenced in the High Court and which to a large extent claimed parallel relief to the relief claimed in the present proceedings. Thus, the defendants wanted to avoid creating a kind of *res judicata* or some kind of undesirable estoppel in relation to this matter. Mr Alexander stated that in the light of these concerns, the defendants did not want to challenge at this juncture the question of confidentiality but in not doing so, did not want to be stuck for the purposes of other proceedings where it does arise. Mr St Ville did not accept that the defendants were entitled to take this position but both he and Mr Alexander recognised that this was not an issue for me and that it was for any later proceedings. For my part I indicated that both sides were free to put their case as they saw fit and that I would decide the matter of inventorship and entitlement on the basis of the evidence and arguments put to me.

### **The Law**

20 It would be helpful at this stage to outline the legal framework within which the present reference stands. I will start with section 7 of the Act, which among other things sets out who has the right to obtain a patent. The relevant parts of section 7 are:

7.-(1) .....

(2) A patent for an invention may be granted -

(a) primarily to the inventor or joint inventors;

(b) in preference to the forgoing, to any person or persons who, by virtue of any enactment or rule of law, or any foreign law or treaty or international convention, or by virtue of an enforceable term of any agreement entered into with the inventor before the making of the invention, was or were at the time of the making of the invention entitled to the whole of the property in it (other than equitable interests) in the United Kingdom;

(c) in any event, to the successor or successors in title of any person or persons mentioned in paragraph (a) or (b) above or any person so mentioned and the successor or successors in title of another person so mentioned;

and to no other person.

(3) In this Act “inventor” in relation to an invention means the actual deviser of the invention and “joint inventor” shall be construed accordingly.

(4) Except so far as the contrary is established, a person who makes an application for a patent shall be taken to be the person who is entitled under subsection (2) above to be granted a patent and two or more persons who make such an application jointly shall be taken to be the persons so entitled.

21 If the entitlement to the grant of a patent under the Act is challenged or if there is a question about rights in or under a patent or an application for a patent, it is necessary

to look to section 8 of the Act, which concerns the determination before grant of such questions. The relevant part of section 8 reads as follows:

“**8.**-(1) At any time before a patent has been granted for an invention (whether or not an application has been made for it)-

(a) any person may refer to the comptroller the question whether he is entitled to be granted (alone or with any other persons) a patent for that invention or has or would have any right in or under any patent so granted or any application for such a patent; or

(b) ...

and the comptroller shall determine the question and may make such order as he thinks fit to give effect to the determination.”

22 On the other hand the determination of questions about entitlement to the grant of foreign and convention patents or rights in or under such patents or applications for such patents is regulated by section 12 of the Act. The relevant parts of this provision are:

“**12.**-(1) At any time before a patent is granted for an invention in pursuance of an application made under the law of any country other than the United Kingdom or under any treaty or international convention (whether or not that application has been made)-

(a) any person may refer to the comptroller the question whether he is entitled to be granted (alone or with any other persons) any such patent for that invention or has or would have any right in or under any such patent or an application for such a patent; or

(b) ...

and the comptroller shall determine the question so far as he is able to and may make such order as he thinks fit to give effect to the determination.

(2) ...

(3) Subsection (1) above, in its application to a European patent and an application for any such patent, shall have effect subject to section 82 below.”

23 One of the patent applications covered by the present reference is a European patent application and as is clear from section 12(3), I am obliged to take account of section 82 of the Act when considering the question of entitlement to this application. The relevant part of section 82 reads as follows:

**82.**-(1) ...

(2) Section 12 above shall not confer jurisdiction on the comptroller to determine



a question to which this section applies except in accordance with the following provisions of this section.

(3) This section applies to a question arising before the grant of a European patent whether a person has a right to be granted a European patent, or a share in any such patent, and in this section “employer-employee question” means any such question between an employer and an employee, or their successors in title, arising out of an application for a European patent for an invention made by the employee.

(4) The court and the comptroller shall have jurisdiction to determine any question to which this section applies, other than an employer-employee question, if either of the following conditions is satisfied, that is to say-

(a) the applicant has his residence or principal place of business in the United Kingdom; or

(b) the other party claims that the patent should be granted to him and he has his residence or principle place of business in the United Kingdom and the applicant does not have his residence or principal placer of business in any of the relevant contracting states;

and also if in either of those cases there is no written evidence that the parties have agreed to submit to the jurisdiction of the competent authority of a relevant contracting state other than the United Kingdom.

(5) .....

24 The right of an inventor to be mentioned in any patent or patent application under the Act is regulated by section 13. The relevant parts of this section are:

**13.**-(1) The inventor or joint inventors of an invention shall have a right to be mentioned as such in any patent granted for the invention and shall also have the right to be so mentioned if possible in any published application for a patent for the invention and, if not so mentioned, a right to be so mentioned in accordance with rules in a prescribed document.

(2) ...

(3) Where a person has been mentioned as sole or joint inventor in pursuance of this section, any other person who alleges that the former ought not to have been so mentioned may at any time apply to the comptroller for a certificate to that effect, and the comptroller may issue such a certificate; and if he does so, he shall accordingly rectify any undistributed copies of the patent and of any documents prescribed for the purposes of subsection (1) above.

25 Since I am also considering a European patent application, I should perhaps refer to Article 60(1) of the European Patent Convention, which states that:

“The right to a European patent shall belong to the inventor or his successor in title. ....”

26 At the hearing Mr St Ville identified the key issues I must decide as:

- (a) inventorship of and resulting entitlement to the invention disclosed in the applications which are the subject of this dispute;
- (b) rights in the applications under an alleged agreement concerning the ownership of intellectual property discovered during the evaluation of the claimants’ materials and technical information, which is based on a draft Heads of Agreement sent to the claimants on 30 June 1998; and
- (c) rights in those applications arising as the result of the misuse of confidential information which was provided by the claimants to the defendants under an equitable obligation of confidence and under an alleged oral confidentiality agreement made on 29 April 1998.

Of these three issues, issue (a) arises under the first limb of sub-sections 8(1)(a) and 12(1)(a) whereas issues (b) and (c) arise under the second limb of the same sub-sections.

27 Having considered the terms of sections 8, 12 and 82, I am satisfied that I have jurisdiction to hear matters related to the entitlement to any patents which may be granted on the basis of the applications identified in these proceedings. This jurisdiction has also been recognised by the European Patent Office and as a result that Office has stayed the European application under rule 13 of the European Patent Convention.

28 In his skeleton Mr St Ville noted the requirement of section 7(2)(a) that a patent for an invention is to be granted “primarily to the inventor or joint inventors”, and that according to section 7(3) an “inventor” in relation to an invention means the “actual deviser of the invention”. Thus, when seeking to determine inventorship, Mr St Ville suggested that the fundamental inquiry should be to identify who was responsible for the inventive concept. In support of this approach he cited the authority of *Henry Brothers (Magherafelt) Ltd v Ministry of Defence and Northern Ireland Office* [1999] RPC 442 and [1997] RPC 693. Mr Alexander advocated the same approach in his skeleton and I accept that this approach is the one I should follow.

29 Mr St Ville also suggested in his skeleton that I had the jurisdiction to deal with entitlement based on an equitable duty of confidence or rights in contract if the relevant principles of equity or contract law can be shown to have been satisfied. He referred me to paragraph 37.06 of the *CIPA Guide to the Patents Acts* and *Goddin and Rennie’s Application* [1996] RPC 141, in which entitlement was found on the basis of an implied term in the parties’ contractual arrangement and on the basis of an obligation of confidence. The references in sections 8(1)(a) and 12(1)(a) to “any right” in or under any patent or any application for a patent indicate that these provisions are concerned with more than legal ownership. Right is defined in section 130(7) as:

“‘right’, in relation to any patent or application, includes an interest in the patent or application and, without prejudice to the foregoing, any reference to a right in a patent includes a reference to a share in the patent;”

Thus, I am satisfied that I have jurisdiction under sections 8 and 12 to consider equitable rights in a patent or an application for a patent.

### **The applications *in suit***

30 I can now turn to the patent applications at the heart of this dispute. At the hearing before me both parties seemed content to base their cases on the UK application, the PCT application and the European application. I was not taken to the content of the other applications and so I will limit my consideration to the disclosure contained in these three applications.

### ***The UK Application : description***

31 The UK application opens with a statement that the invention relates to a method and apparatus for controlling pests by trapping or killing them and that the invention particularly concerns the control of flying or crawling insects. Houseflies, mosquitoes and cockroaches are identified as the most common domestic insect pests. By way of background the application states that the prolonged use of insecticides can lead to insecticidal resistant insects and goes on to refer to public pressure throughout Europe for the development of environmentally acceptable pest control measures. This leads into an acknowledgement of an earlier International Patent Application (WO 94/00980) by the University and some disadvantages associated with the invention of this earlier application. The stated disadvantages are that electrostatically charged particles used in the earlier invention must be charged before use, they also lose their charge rapidly in conditions of high humidity and when moisture films develop, and they are prone to loss due to wind currents or shaking.

32 The invention is introduced in the application by the statement:

“We have now developed a method and apparatus for controlling pests which involves the use of particles which are permanently magnetised and are not affected by moisture or humidity and which, when anchored or (*sic*) a conducting or magnetic surface, will remain in position for long periods of time without losing their effectiveness. Although electrostatically charged particles adhere to the cuticles of insects, it is surprising that ferromagnetic particles also adhere to the cuticles of insects and this is a surprising and unexpected effect.”

The invention is then defined as follows:

“Accordingly, the present invention provides a method of controlling pests, such as insects, by trapping and/or killing them wherein at least a part of the pest to be trapped or killed is exposed to a composition comprising particles containing or consisting of at least one magnetic material.”

33 Further aspects of the invention are defined as follows:

“..... a first pesticidal composition in particulate form which comprises composite particles each comprising a core of an inert substrate having a pesticide or behaviour modifying chemical impregnated thereon or associated therewith and the core being impregnated or coated with a ferromagnetic oxide.”

“..... a second pesticidal composition in particulate form which comprises particles containing or consisting of a magnetic material in admixture with particles which contain or consist of one or more pesticides or behaviour modifying chemicals.”; and

“..... an insect trap which comprises a housing, a zone of the housing or a zone within the housing comprising a magnetically polarized material and the said zone being coated with a composition comprising particles containing or consisting of a magnetic material of opposite polarity to that of the magnetically polarized material.”

34 Ferromagnetic oxide is given as an example of a suitable magnetic material. The application explains that ferromagnetic oxides are often termed ferrites. The preferred materials for use in the invention are stated to be strontium ferrite, which is described as a hard magnetic material, optionally in admixture with ferrosilicate or neodymium barium salts. Soft magnetic materials, such as Fe, Fe<sub>2</sub>O<sub>3</sub> or ferrosilicates, may also be used if they have been magnetised or become magnetised on admixture with hard magnetic materials. According to the application, the composition may consist wholly of magnetic particles or it may comprise a proportion of magnetic material admixed with one or more filler materials, such as talc, silicon dioxide, diatomaceous earth and ferrosilicates. The magnetic particles are stated generally to comprise at least 10% of the composition, preferably at least 50% by weight of the composition. The preferred average particle size diameter is given as 2 to 100 micrometers, preferably 3 to 50 micrometers.

35 As described in the application the magnetic particles may consist solely of magnetic material or they may be composite particles comprising a core of a chemically and biologically inert substrate, which is impregnated with and/or coated with magnetic material. Additionally, the inert substrate may be impregnated with a pesticide or behaviour modifying chemical or the pesticide or behaviour modifying chemical may be adsorbed on the substrate. The amount of pesticide or behaviour modifying chemical is stated to depend upon the intended release rate and duration but it generally comprises at least 0.1% by weight of the substrate. Such composite particles are alleged to have a dual effect: the magnetic material is stated to affect the orientation and stability of the insects while the pesticide or behaviour modifying chemical is stated to produce a second effect dependent on the particular nature of the pesticide or behaviour modifying chemical. The pesticide used may be specifically targeted for particular pests. The application suggests the use of pesticides with a narrow spectrum of action, such as entomopathogens. The behaviour modifying chemical may be an attractant, such as a sexual pheromone. By way of an example, it is suggested that an insecticide is applied to sexually mature male insects so that it spreads to the rest of the population during mating or swarming. Another embodiment of the invention

comprises particles containing or consisting of magnetic material admixed with particles containing or consisting of one or more pesticides or behaviour modifying chemicals.

- 36 The application states that generally the particles are applied to a surface in an area where the pests are present. It goes on to explain how insects adhere to smooth or inclined surfaces. On their feet they have pads which are covered with numerous fine hairs with flattened tips. An oily substance is secreted onto the tips of the hairs so that surface molecular forces ensure adhesion of the hairs and hence the insects to a surface. This ability to adhere to surfaces is lost when an insect's feet become covered in particles. Moreover, the flight reflex of flying insects is said to be inhibited when their feet are in contact with any substrate, and so an accumulation of particles on their feet tends to inhibit not only the adhesion of an insect but also its flight. This makes it more likely that insects will fall from an inclined surface when their feet are contaminated by magnetic particles. In addition the application mentions that the magnetic particles might cause insects to groom more frequently by interfering with their sense organs.
- 37 The application envisages that the zone of magnetically polarized material, which is coated with the magnetic particles in the insect trap of the invention, may be a portion of one or more walls of the housing or a separate insert within the housing. It may be formed from a plastic material impregnated with a ferromagnetic oxide. In a preferred embodiment, this zone has an inclined surface which is inclined to the horizontal so as to assist the disorientation of insects crawling over it. As described there may also be a trapping zone into which the insects fall and come into contact with a fluid, a powder, a desiccant, a chemical toxicant or a sticky surface. Immobilised and trapped insects are left to die or are removed for destruction or study. Additionally, the trap may include means to lure the insects, such as a light source or chemical stimulant.
- 38 The stated advantages of the insect traps of the invention are its low cost and the elimination or reduction of problems associated with the use of toxic chemicals. The traps may also be recharged with additional magnetic powder when the original charge of powder has been used up. Another advantage specified is that the insects are killed efficiently when the trap is used with composite powders, which incorporate a pesticide or a behaviour modifying chemical, because the pesticide reaches the insects more effectively and remains in place for longer or because the mating and reproductive cycles of the insects are disrupted.
- 39 Following on from the above description of the invention, the application describes a specific embodiment of a insect trap by reference to drawings. The illustrated trap comprises an elongate body with a central trapping area and ramped surfaces, which extend downwardly from the tops of two longitudinal walls of the trap body. The top edges of these longitudinal walls are recessed to support an elongate bridging plate which has inwardly curved surfaces and which is made from plastic material containing ferromagnetic material to make it weakly magnetic. The trap also has a lid which is held in place by magnetic studs located at the ends of the ramped surfaces. The top surface of the bridging plate is dusted with a ferromagnetic powder and an odorous attractant is placed in the trapping area. In use a cockroach walks up one of the ramped surfaces, through a gap between this surface and the lid, and eventually onto the bridging plate in search of the attractant. As the cockroach walks along the bridging

plate, the magnetic powder adheres to its feet and causes it to slip down the curved surface into the trapping area which may be provided with a glue pad. When the trap is full of cockroaches, it can be closed by pushing the lid off the magnetic studs.

- 40 The application continues by describing experiments designed to investigate what happens when insects walk over a surface coated with magnetic particles. The first of these experiments, referred to as Example 1, used particles with an average diameter ranging from 5 to 100 micrometers in a composition comprising 10% by weight of strontium ferrite and 90% by weight of a ferrosilicate. Houseflies were allowed to walk over the composition for 3 to 5 minutes and became coated over most of their body parts as a result of their own grooming activities. The flies tried to dislodge the particles by grooming and could not walk on a sloping plastic surface without slipping with every movement. This behaviour continued for 4 days until all the flies were dead. This experiment was repeated with cockroaches with a similar result. Example 2 describes a further experiment involving adult cockroaches and the same powder as used in Example 1. In this experiment the density of the particles on the thorax of the cockroaches was determined by sacrificing ten insects at intervals of up to 178.5 hours and counting the particles under a microscope. The results are described as showing an initial exponential loss rate of the particles (mainly larger particles), after which the density of the particles on the surfaces of the insects remained fairly constant. Finally, as described in Example 3, the procedure of Example 1 was repeated using strontium ferrite powder. It was observed that after an initial decline in the amount of powder remaining attached to the cockroach bodies, a fairly steady state was reached after about 60 hours with only a further slight tailing off with time.

#### ***The PCT and European applications : description***

- 41 The disclosure of the PCT application is identical to that of the UK application, except that there is a specific reference in the PCT application to the magnetic particles being coated with one or more pesticides or behaviour modifying chemicals.

#### ***The claims***

- 42 The claims of the PCT application, as originally filed, are also very similar to those contained in the UK application. However, the PCT application explicitly claims particles of magnetic material coated with a pesticide or behaviour modifying chemical, which are not claimed in the UK application. Subsequently, the originally filed claims of the PCT application were amended prior to entry into the European regional phase. It is most convenient if I reproduce these amended claims here since by and large they were the claims referred to at the hearing before me and they include everything claimed in the UK application and the original PCT application. The text shown in italics indicates additions introduced into the claims of the PCT application by the amendment.

1. A method *of trapping and/or killing pests*, such as insects, wherein at least a part of a pest to be trapped or killed is exposed to a *particulate* composition comprising particles containing or consisting of at least one magnetic material, *in combination with one or more pesticides or behaviour modifying chemicals*.

2. A method as claimed in claim 1 wherein the particles have an average particle size diameter in the range of from 2 to 100Fm.
3. A method as claimed in claim 1 or claim 2 wherein the magnetic material is a ferromagnetic oxide.
4. A method as claimed in any one of the preceding claims wherein the particles are applied to a surface in an area in which pests are present, preferably a surface which is inclined to the horizontal.
5. A method as claimed in any one of the preceding claims wherein the composition comprises at least 10% by weight of magnetic particles.
6. *A method as claimed in any one of the preceding claims wherein the pesticide or behaviour modifying chemical is admixed with the particles of the magnetic material.*
7. *A method as claimed in any one of claims 1 to 5 where the pesticide or behaviour modifying chemical is coated onto the particles of the magnetic material.*
8. A method as claimed in any one of claims 1 to 5 wherein the particles are composite particles which comprise a core of an inert substrate which is impregnated with and/or coated with the magnetic material.
9. A method as claimed in claim 8 wherein the core comprises silicon dioxide, magnesium silicate, diatomaceous earth, cellulose or a natural or synthetic polymer.
10. A method as claimed in claim 8 or claim 9 wherein the inert substrate has a pesticide or behaviour modifying chemical impregnated thereon or associated therewith.
11. A method as claimed in claim 10 wherein the pesticide is an insecticide, fungicide, acaricide, insect growth regulator or chemosterilant.
12. A method as claimed in any one of claims 1 to 10 wherein the pesticide is a bacterium, virus or fungus.
13. A method as claimed in any one of claims 1 to 10 wherein the behaviour modifying chemical is a pheromone.
14. A method as claimed in any one of claims 6, 7 or 10 or 13 wherein the pesticide or behaviour modifying chemical comprises at least 0.1% by weight of the cores of the particles.
15. A pesticidal composition in particulate form which comprises composite particles each comprising a core of an inert substance having a pesticide or behaviour modifying chemical impregnated thereon or associated therewith and

the core being impregnated or coated with a magnetic material.

16. A pesticide composition as claimed in claim 15 wherein the core comprises silicon dioxide, magnesium silicate, diatomaceous earth, cellulose or a natural or synthetic polymer.
17. A pesticidal composition in particulate form which comprises particles containing or consisting of a magnetic material in admixture with a pesticide or behaviour modifying chemical or particles of a magnetic material coated with a pesticide or behaviour modifying chemical.
18. A pesticide composition as claimed in any one of claims 15 to 17 wherein the pesticide is an insecticide, fungicide, acaricide, insect growth regulator or chemosterilant.
19. A pesticide composition as claimed in any one of claims 15 to 17 wherein the pesticide is a bacterium, virus or fungus.
20. A pesticide composition as claimed in any one of claims 15 to 17 wherein the behaviour modifying chemical is a pheromone.
21. A pesticide composition as claimed in any one of claims 15 to 20 wherein the pesticide or behaviour modifying chemical comprises at least 0.1% by weight of the cores of the particles.
22. A pesticide composition as claimed in any one of claims 15 to 21 wherein the magnetic material is a ferromagnetic oxide.
23. An insect trap which comprises a housing, a zone of the housing or a zone within the housing comprising a magnetically polarized material and the said zone being coated with a composition comprising particles containing or consisting of a magnetic material of opposite polarity to that of the magnetically polarized material.
24. An insect trap as claimed in claim 23 wherein the zone of the magnetically polarized material is formed by a portion of at least one wall of the housing.
25. An insect trap as claimed in claim 23 or claim 24 wherein the zone of the magnetically polarized material comprises a removable insert placed within the housing.
26. An insect trap as claimed in claim 23 or claim 24 wherein the zone has a surface which is inclined to the horizontal.
27. An insect trap as claimed in any one of claims 23 to 26 wherein the magnetic material is a ferromagnetic oxide.
28. An insect trap as claimed in any one of claims 23 to 27 wherein the said



zone is coated with particles of a pesticidal composition as claimed in any one of claims 13 to 20.

### **The Parties**

43 Before I consider the events surrounding the present patent applications I should outline the relationships between the parties involved. The first defendant is the University where the second defendant, Professor Howse, was a Reader in Biology until he retired on 1 January 1999 with the title of Visiting Professor. The Professor is now involved with an independent company which is concerned with the development of insect trapping technology. The third defendant is Mr Ashby, who at the relevant time was Managing Director of Southampton Innovations Limited (“SIL”), a company used by the University to commercialise its inventions. The first claimant is I.D.A. Limited (“IDA”), which is a research based company made up of experts, who develop technologies based on the use of modified mineral powders, such as those produced by an associated group of companies called the PPT Group. The second claimant is Mr Metcalfe, who is IDA’s consultant in the field of magnetic powders, industrial waste powders and ferrosilicates, and the third claimant is Dr Lax, who was leader of the University Research Group at Teeside University as well as a consultant to IDA at the relevant time. The remaining claimant is Polymer Powder Technology (Licensing) Limited (“PPTL”) which is a company set up by the PPT Group to license its technology.

### **The Witnesses**

44 Nine witnesses were cross-examined at the hearing before me and this accounted for a substantial part of the six days of the hearing. The time taken to cross-examine some of these witnesses was reasonably short but for others it was considerably longer. Although I was reluctant to curtail the cross-examination, I found it necessary to cap the time available on some occasions. However, I have no doubt that both parties had ample opportunity to develop and present their cases fully.

45 Mr Metcalfe was one of the main witnesses for the claimants, as was illustrated by the fact that he spent approximately a day in the witness box. He appeared nervous but generally his recollection of events was firm and he was open about it when it was not. Overall, he tried to answer the questions put to him, especially direct ones, in a straightforward manner and in my view honestly. Nevertheless, on occasions, particularly when giving his evidence on whether his first contact with Professor Howse was confidential and on who conceived the idea of coating the magnetic particles, he did seem to shift his ground during cross-examination. Moreover, his responses seemed to become more guarded during the course of his cross-examination. On balance, I found him a fair but not wholly unshakeable witness.

46 Dr Lax spent considerably less time in the witness box than Mr Metcalfe. Dr Lax seemed to be a very practically minded person and this may be why he tended not to view his alleged contribution against what was actually disclosed in the UK application. As a result he rarely gave a direct answer to the questions he was asked. I do not believe that he was deliberately trying to be evasive, indeed he was probably trying to be helpful, even though this was not the effect. For reasons which will become apparent

later in this decision, Dr Lax's evidence was not central to the matters I had to decide.

47 The third of the claimants' witnesses to take the witness box was Mr Allan Ernest Churchman. Mr Churchman became Chief Executive Officer of IDA in the autumn of 1998 and just prior to that he was the Managing Director of Maunsell Structural Plastics Limited which was a company having a specific interest in polymers. I found Mr Churchman a very reliable witness and I did not once sense that he was concealing anything from me or shading his evidence at all. His answers were clear, precise and open. He also recognised the limits of his knowledge of relevant events and was not inclined to speculate. In all, Mr Churchman was an excellent witness.

48 The claimants' final witness to be cross-examined was Mr Ralph Lyman Brown. Mr Brown was a Director of a number of companies in the PPT Group, including Powder Services Limited ("PSL"), at the relevant time. He was also involved with Mr Metcalfe on joint PPT Group and IDA development programmes. Mr Brown struck me as a confident witness although at times he tended to look to the claimants' corner for visual support. I also found him to be a careful witness but he could seem evasive and sometimes his memory appeared selective. He was also ready to assert that a "Gentleman's agreement" was binding even though he admitted that he was not a lawyer and had no idea what a binding agreement must include. I therefore believe that I should treat Mr Brown's evidence with some caution.

49 As one of the named inventors, Professor Howse's evidence was central to the defendants' case and this was reflected in the time he spent in the witness box, approximately two days over a period of three days. Professor Howse appeared to be somewhat overwhelmed by the experience of giving evidence; it is daunting, I recognise, and I sympathise with him (and all witnesses). His demeanor contributed an impression of considerable imprecision, and indeed evasiveness at times, which I might simply have attributed to nervousness had it not been sustained and indeed increased in the course of his cross-examination. Professor Howse was often vague, hesitant and uncertain. His memory tended to be selective and he would justify recalling events, which he had previously forgotten, by saying his memory had been helped by setting the relevant events in context. I sometimes felt that his recollections were reconstructions implied by the defendants' case, and indeed he had a tendency to argue black was white when confronted by evidence that did not fit in with his own evidence. Overall I felt that Professor Howse was not a reliable or compelling witness. Inevitably, my assessment of him as a witness under cross-examination affects the weight I feel I can reasonably give his evidence where it conflicts with that of others.

50 The defendants' second main witness was Mr Ashby, who is the other named inventor. I found Mr Ashby's evidence largely satisfactory but occasionally thin and uncertain, and his memory somewhat selective. I had reservations about the reliability of some of his evidence and so I feel I should consider it carefully.

51 The defendant's next witness to give oral evidence was Mr Ian Baxter, who was an entomologist working with Professor Howse from October 1996 until February 1998, when his industrial research collaboration with the University expired. He was funded during this period by Reckitt & Colman Limited ("Reckitt & Colman"). I found Mr Baxter to be a reliable witness, even though he was in the witness box for only a

short time. He appeared to be confident and was clear and straightforward in his answers. He was also not inclined to speculate about events after he left the University.

52 When Mr Baxter left the University in February 1998, his work was taken over by Dr Karen Underwood, who had worked with Professor Howse since 1995. Dr Underwood was not in the witness box very long and she answered the questions put to her in a direct and clear manner although she seemed a little nervous. She had a slight tendency to speculate but was always ready to acknowledge a speculative statement as such when questioned further. I have no reservations about the accuracy and quality of Dr Underwood's evidence.

53 The final witness to take the witness box for the defendants was Mr Sean Dolan Huggett. He was a non-practising barrister employed by the University between February 1999 and June 2000. During this time he was involved with litigation concerning SIL and various attempts to conclude agreements related to traps and bait stations. In the witness box Mr Huggett was brimming with confidence and his answers were perfectly straightforward. I noticed a slight tendency to speculate but that had little bearing on the bulk of Mr Huggett's oral evidence. He too was a dependable witness.

### **The evidence**

54 In addition to written evidence filed by the above witnesses, written evidence was filed by:

(a) Nasser Al Salem who was the Managing Director of Warba National Contracting Co. W.L.L. ("Warba") at the relevant time. In his witness statement, dated 25 August 2002, Mr Al Salem states that Warba had been working together with IDA in the development of various technologies since 1995 and that he was aware of the discussions between IDA and the University as the result of contacts he had with Mr Brown. There is no indication in this witness statement that Mr Al Salem had any direct contact with anyone from the University;

(b) Susan Joyce Allard who acted as the patent agent for the University in the preparation of the UK application. There are two witness statements by Ms Allard, the first was dated 14 May 2002 and the second was dated 26 March 2003;

(c) Donald Peter Fox who was Director of the Office of Innovation and Research Support (now the Centre for Enterprise and Innovation) at the University between 1995 and 2000. In his witness statement, dated 10 May 2002, Mr Fox explains that he became involved in discussions with IDA on behalf of the University following Mr Ashby's retirement on 1 October 1999;

(d) Arthur Frank Wesley Willoughby who was Professor of Electronic Materials and Director of M. Eng. Programmes at the University at the time of filing the UK application. In his witness statement, dated 10 May 2002, Professor Willoughby states that he met representatives of IDA on 7 July 1998 to discuss how he might be able to assist IDA;

(e) James Henry Peter Watson who is Professor of Physics in the Department of

Physics and Astronomy at the University. Professor Watson states in his witness statement, dated 8 May 2002, that he met representatives of IDA sometime before 12 June 1998 to explore possible areas of research collaboration; and

(f) Mr X who was an employee of Reckitt and Colman. In his witness statement, dated 10 May 2002, Mr X refers to discussions he had with Professor Howse in 1997 relating to the possibility of exploiting magnetic properties as a means of insect control. As I have explained above, following one of a number of preliminary hearings in these proceedings, a hearing officer directed that this witness statement should be treated as withdrawn and not open to public inspection. However, I learnt from Mr Alexander during the course of his closing submissions that it had been agreed by consent that this witness statement should not be withdrawn. Nevertheless, it remained confidential along with the identity of Mr X.

### **History surrounding the patent applications**

55 I can sub-divide the events, which led to the present proceedings, into three separate phases. The first phase relates to a time before there had been any contact between the claimants and the defendants. The next phase began on 24 April 1998, when Mr Metcalfe telephoned Professor Howse after seeing an article in “The Times” newspaper about an Ecobiotic cockroach trap, and ended when the UK application was filed. The third and final phase ran from the filing date of this UK application up to the point when the relationship between the claimants and the defendants broke down. I will now outline the evidence as it relates to these three phases. I should add that not all of this evidence is uncontested and I will consider it in more detail later in so far as it is relevant to the matters I must decide.

#### ***First phase - the events prior to the first contact between Mr Metcalfe and Professor Howse***

56 Professor Howse’s particular field of interest lay in entomology, which in layman’s terms is the study of insects. In 1993 he was named as the inventor in an International Patent Application for a method of insect pest control. The University was the applicant. In due course this application was published as WO 94/00980, after which it entered the European regional phase and was granted as European Patent EP 0650322 in 1999. The method of pest control disclosed in this International Patent Application utilised electrostatically charged particles of opposite polarity to that existing on the surface of the pest so that the particles would adhere to the pest. According to one aspect of the invention, a trap had a surface coated with the charged particles. When a pest landed on the surface it became contaminated with the particles, lost its grip and fell into a trapping zone. In another embodiment of the invention, the particles were associated with a pesticide or behaviour modifying chemical, removing the need for a trapping zone.

57 In his written evidence Professor Howse alleges that in 1992, following his research work with electrostatic powders, it became clear to him that particles with magnetic qualities could have a similar effect.

58 In late 1997 Professor Howse worked on the use of electrostatic powders under a

Research Agreement with an industrial sponsor. I would add here that the claimants initially sought to keep the identity of this sponsor confidential but later accepted that the sponsor could be named as Reckitt & Colman. However, parts of the Research Agreement with Reckitt & Colman are still subject to the confidentiality direction, dated 12 March 2003. In his first witness statement Professor Howse states that in late 1997 he discussed his thoughts on the use of magnetic powders at a meeting with representatives of Reckitt & Colman and his research assistant at the time, Mr Baxter. More specifically, the Professor states that the potential for the use of magnetic particles in trapping insects was discussed and that one of the Reckitt & Colman representatives agreed to supply him with magnetic powders for testing. Professor Howse goes on to allege that in due course he received these magnetic powders and tested them but they proved too large to adhere to the insects. In his second witness statement Professor Howse gives further details of the alleged test and states that the experiments involved allowing ants and cockroaches to walk across a substrate coated with the particles. Even though this particular test was unsuccessful, he states that he believed at the time that magnetic particles would adhere and prove successful if they were finer. In his written evidence Mr Baxter alleges that during his time working as a research assistant to Professor Howse, they discussed the magnetic properties of insects. On the subject of the meeting with Reckitt & Colman, Mr Baxter states that he remembered not only Professor Howse discussing the idea of using magnetic material in pest control but also a Reckitt & Colman representative undertaking to send samples to the Professor for testing. More particularly, Mr Baxter alleges that the basic concept underlying “the patent application”, which is the subject of these proceedings, originated from Professor Howse and was discussed during the meeting. Mr Ashby and Professor Howse both make the point in their written evidence that prior to any contact from IDA they discussed with each other the Professor’s magnetics work. In his first witness statement, Mr Ashby alleges that his contribution to this discussion was a suggestion that magnetic powders could be positioned and retained on a bridge of the trap by producing the bridge from a magnetised plastic. Mr Ashby continues by stating that he attended the British Pest Control Association Annual Exhibition in Brighton with Professor Howse in November 1997 and used the opportunity to investigate the availability of magnetic powders.

- 59 On 2 April 1998 “The Times” newspaper reported that an Ecobiotic cockroach trap, created by scientists at Southampton University, would be one of the first 200 innovations to receive a Millennium Award. The report appeared under the headline “Unveiled: cockroach trap to beat the world” and included a photograph of Professor Howse demonstrating his cockroach trap. It stated that the trap had been tested in a London flat, where it terminated 50,000 roaches, and it went on to describe how the trap worked. The report explained that the creatures were lured onto a bridge of a wooden box by bait and when their feet came into contact with electrostatic talcum powder, which had been dusted on the bridge, the creatures slipped onto a flypaper and met their end. The absence of pesticides was highlighted as an advantage over more traditional forms of extermination. The report also mentioned a \$1 million deal with an American manufacturer.
- 60 Mr Metcalfe saw this report in “The Times” newspaper and became interested. In his first witness statement he alleges that he met Mr Brown on 21 April 1998 on other business but took the opportunity to propose using their ferrosilicate, a soft magnetic

powder, with a hard magnetic powder, such as strontium ferrite, instead of the electrostatic powder used in Professor Howse's trap. Mr Metcalfe also states in this witness statement that he discussed this idea with Tony Abbott, a magnetician at another company in the PPT Group, called PPT Compounding Limited, and alleges that Mr Abbott thought the idea might work.

*Second phase - from Mr Metcalfe's telephone call to the filing of the UK application*

- 61 Mr Metcalfe telephoned Professor Howse on 24 April 1998. Professor Howse maintains in his second witness statement that at this time he was still engaged in a search for suitable magnetic powders following the failure of his experiments with the powders supplied by Reckitt & Colman. Perhaps not surprisingly Mr Metcalfe and Professor Howse cannot recall the precise details of their first telephone conversation. However, both remember Mr Metcalfe saying that he had access to magnetic powders and Professor Howse recollects Mr Metcalfe asking him if he had thought of using magnetic powders, rather than electrostatic powders, in the Ecobiotic trap. After speaking to Professor Howse, it seems that Mr Metcalfe also spoke on 24 April 1998 by telephone to Mr Ashby. In his evidence Mr Metcalfe states that it would be his practice in conversations, such as the one with Professor Howse on 24 April 1998, to mention that the discussions should be confidential but he cannot recall what was said on this occasion.
- 62 This first of several telephone conversations between Mr Metcalfe and Professor Howse led to a meeting on 29 April 1998 at the University between Professor Howse, Mr Ashby, Mr Metcalfe and a further representative of IDA, whom Mr Metcalfe identifies as Peter Hay. Mr Metcalfe does not describe what happened at this meeting in any great detail in his evidence. However, Mr Ashby indicates in his evidence that the meeting was wide ranging. Both he and Professor Howse recall discussing the use of fine magnetic powders, which IDA could source, as well as the possibility of manufacturing traps, which were already in production elsewhere. In his evidence the Professor states that he pointed out that the magnetic powders needed to be very fine if they were to work and that they needed to be coated. It is common ground that arrangements were made during this meeting for Mr Metcalfe to supply samples of magnetic powder for testing. Moreover, Mr Metcalfe recalls that he may have left Professor Howse samples of ferrosilicate.
- 63 From his evidence it is apparent that Mr Metcalfe thought that the meeting on 29 April 1998 was a confidential one and Professor Howse confirms this in his first witness statement. Subsequently a written confidentiality agreement between Professor Howse, SIL and Polymer Powder Technology International Limited ("PPTI"), a company associated with IDA and with an address in the British Virgin Islands, was signed on 30 April 1998. This agreement related to recycled materials and pest trapping technology.
- 64 In his first witness statement Mr Metcalfe records that on the 29 April 1998 he arranged for a further sample of ferrosilicate powder to be delivered. Mr Metcalfe also states that Professor Howse was sent a sample of strontium ferrite, which is a hard magnetic powder, on 12 May 1998 and that by 29 May 1998 PSL had sent more samples of ferrosilicate powder and strontium ferrite to the University for Professor Howse. The

Professor recalls that samples were sent to him after the meeting on 29 April 1998 but they were identified by number only and no details about their size or composition were supplied.

- 65 Professor Howse states in his first witness statement that he planned experiments to test the powders sent to him and that these experiments were supervised by Dr Underwood from 18 May to 25 June 1998. The results of the experiments on batches of powders, numbered from 1 to 6, were recorded and passed to Professor Howse.
- 66 At some point early in May 1998 it appears that Mr Metcalfe decided to consult Dr Lax about coating IDA's ferrosilicate powder with, for example, pheromones which would attract cockroaches. In his evidence Mr Metcalfe states that he took this step because he knew that IDA's ferrosilicates were difficult to coat and he believed that Dr Lax was more likely to find a solution to this difficulty than Professor Howse and his team. According to Dr Lax's account of events, as stated in his witness statement, he spoke to Professor Howse on 12 May 1998 or shortly afterwards and offered technical assistance. Dr Lax continues by stating that he went on to provide assistance into 1999. Dr Lax also states that he arranged for the preparation of samples of insect attractants and these were sent to the University for evaluation during May to July 1998.
- 67 On 13 May 1998 Professor Howse telephoned his patent agent, Ms Susan Allard of Boulton Wade Tennant, to advise her that he had a new invention relating to the use of magnetic materials in pest control. On 22 May 1998 the experiments, supervised by Dr Underwood, on powders numbers 1 and 2 were completed and on the same day Professor Howse faxed to Ms Allard a first draft of a patent application based on the use of magnetic particles which adhere to the cuticles of arthropods. Ms Allard used this draft to prepare a draft patent application which she sent to the University on 4 June 1998. At the same time she requested more information from Professor Howse on the technical make up of the magnetic powders. In her evidence Ms Allard recalls that Professor Howse telephoned her on 12 June 1998 to discuss the draft patent application. As a result of this telephone call Ms Allard amended the application and then sent a second draft to Professor Howse on 15 June 1998.
- 68 On the same day as Ms Allard sent the second draft to Professor Howse, a further confidentiality agreement between the University and PPTL was signed. There followed various discussions aimed at setting up a business relationship for future technological research and development opportunities. These discussions led to consideration of a possible Heads of Agreement between PPTL and SIL and a draft Agreement was prepared by Mr Ashby. This draft was faxed to Mr Brown on 30 June 1998, Mr Brown annotated it with his comments and seemingly returned it to Mr Ashby. Thereafter, the negotiations continued and further draft agreements of various sorts were exchanged until the end of 1999 but none were ever formally signed.
- 69 The written evidence in this case points to various meetings and other discussion during June 1998 between Professor Howse, Mr Ashby and Dr Underwood on the University side and Mr Metcalfe, Mr Brown and Dr Lax on the IDA side. However, it is not very clear from this evidence who attended what meeting and what was discussed. This confusion extends to events on 23 June 1998 in that Mr Metcalfe states in his first witness statement that further samples of ferrosilicate were sent from PSL to Professor

Howse. On the other hand, Professor Howse recalls telephoning Mr Metcalfe to ask for information on the technical make-up of the magnetic powders, which Mr Metcalfe provided in a letter dated 23 June 1998. The copy of this letter, which is exhibited by both Mr Metcalfe and Professor Howse, seems to support the Professor's recollection and I note that Mr Metcalfe clarifies his position in his second witness statement. Armed with the information supplied by Mr Metcalfe and after Dr Underwood had completed the experiments on the six batches of magnetic powder sent to Professor Howse, the Professor faxed comments on the second draft of the patent application to Ms Allard on 2 July 1998. Ms Allard amended the draft patent application to take account of Professor Howse's comments and then filed the application on 3 July 1998.

### ***Third phase - events following the filing of the UK application***

70 Although the draft Heads of Agreement of 30 June 1998 and all subsequent draft agreements were never signed, the dialogue and cooperation between Professor Howse, Mr Ashby, Mr Metcalfe, Mr Brown and Mr Churchman, among others, continued after the application had been filed. For example, according to Professor Howse's account of events, there was a further meeting at the University on 7 July 1998, at which there was discussion of the concept of coating metallic particles so that biologically active materials could be carried. There were also meetings in July, August, and October 1998 at which the manufacture and marketing of traps were discussed. The claimants' consider that in the absence of any signed agreements, a binding Gentleman's agreement provided the basis for this ongoing co-operation. Finally, in January 2000 discussions between the University and IDA ended.

### **Inventorship**

71 Before I begin to consider who invented what in this case, I should summarise the claims made by both parties. In his written evidence Mr Ashby states that his contribution relates to features of the magnetic insect trap as claimed in claims 23 to 25 of the PCT application and that the subject matter of the remaining claims reflects Professor Howse's contribution. Professor Howse confirms Mr Ashby's view in his own written evidence and denies that Mr Metcalfe or Dr Lax made any contribution whatsoever. On the other hand, Mr Metcalfe states in his evidence that the use of compositions containing magnetic particles (claims 1 to 3, 5 and 22) was his invention along with the magnetic trap idea (claims 23 - 25, 27 and 28). Furthermore, Dr Lax in his written evidence states that his contribution resided in the proposal to coat the magnetic powders (claims 8 - 10 and 15 - 17).

### ***The inventive concept or concepts***

72 I have already accepted that I should follow the approach taken in *Henry Brothers (Magherafelt) Ltd v Ministry of Defence and Northern Ireland Office* and identify who was responsible for the inventive concept or concepts. Therefore, my first step must be to identify the inventive concept or concepts at issue. In his closing skeleton Mr St Ville identified a series of related inventive concepts, namely:

(1) A method and apparatus to trap and kill pests which involve the use of particles which are permanently magnetised (and therefore are not affected by moisture or



humidity) which, when anchored on a magnetic surface, remain in position for long periods of time without losing their effectiveness and the surprising effect arising from applying that method, that ferromagnetic particles adhere to the cuticles of insects which are exposed to them (the “Magnetic Powder” concept);

(2) The insect trap comprising a housing, a magnetically polarized zone (made for example from a plastic material impregnated with ferromagnetic oxide and provided for instance as a separate insert) and a magnetic material coating that zone (the “Magnetic Zone” concept);

(3) The use of a pesticidal composition made up of magnetic material in admixture with (for instance coated with) a pesticide or behaviour modifying chemical (the “Admixture and Coating” concept); and

(4) Details such as particle size and 10% strontium ferrite / 90% ferrosilicate mix (the “Particle Size and Mixture” concept).

In his skeleton Mr St Ville also stated that the remaining disclosure in the applications is positively asserted by the defendants either to be derived from earlier published applications or straightforward, non-inventive and well known.

73 Mr Alexander took a fundamentally different view on what constituted the inventive concept. He contended that the central inventive concept is that specified in claim 1 of the UK application and involves sticking magnetic particles to insects. He later refined this view by opining that the patent applications are for a global or generalised concept of adhering the particles by magnetic interaction to the cuticle of the insect. Mr Alexander acknowledged that the patent applications described and claimed other concepts, such as the trap, but he took the view that these were no more than more sub-concepts.

74 I questioned Mr Alexander at some length on his characterisation of the inventive concept because claim 1 of the UK application, to which Mr Alexander had referred, does not specify that the magnetic particles stick or adhere to the insects, let alone to the cuticles of the insects. Mr Alexander agreed that the wording of claim 1 was broad enough to encompass a situation where the particles stick to the insect or where the particles stick to the trap because of their magnetic properties. However, he maintained that I should follow the approach of the hearing officer in *Norris’s Patent* [1988] RPC 159 and look at what is central to the inventive concept, which in the present case was adhering the relevant particles to the insect in question. Referring to the same authority Mr St Ville reminded me that I should not be concerned with the precise formulation of the claims but should consider all aspects of the invention.

75 I accept Mr Alexander’s and Mr St Ville’s submissions on the approach I should take and in the absence of an agreed position on what the inventive concept or concepts are, I must consider the applications *in suit*, particularly the UK and PCT applications, to determine if there is just one global inventive concept, as Mr Alexander submitted, or if there are separate inventive concepts, as Mr St Ville submitted. Moreover, I must define the concept or concepts which I identify.

76 I should also make clear that I recognise it is well established that in deciding what are the inventive concepts in issue in entitlement proceedings, I should not take account of whether a particular concept is or would be patentable. That said, I do believe it is fair for me to approach the task by reading the specifications *in suit* in the light of the evidence so as not to regard as an inventive concept *in suit* a concept which has merely been carried forward from an earlier specification.

*Ms Allard's evidence*

77 In attempting to identify the inventive concept or concepts in issue, very much my primary sources are the applications *in suit*. The intentions of the inventors, named in these applications, if evidenced only extrinsically of the applications are not persuasive. However, it is appropriate for me to consider the context in which the applications were made.

78 Although it is not determinative, therefore, it may be helpful to start by considering Ms Allard's evidence on how the UK application took shape. In her first witness statement Ms Allard states that she used the notes provided by Professor Howse, her knowledge of pest control from other applications, which she had previously drafted for the University, and her own technical research in respect of ferromagnetic materials in order to prepare the application. Ms Allard's evidence specifically addresses the origins of the disclosure in the UK application relating to the magnetic materials, the composite materials and the particle size.

79 On the subject of the magnetic materials Ms Allard states that in the notes provided by Professor Howse, the magnetic materials were referred to as "ferromagnetic particles" or "ferromagnetic dust". She goes on to explain that she wished to incorporate into the UK application details of some magnetic materials which potentially could be used as the ferromagnetic materials mentioned in the Professor's notes. Thus, in order to determine what types of materials were involved, she turned to the McGraw-Hill Encyclopaedia of Science and Technology, 6<sup>th</sup> Edition. From this Encyclopaedia she obtained information about ferrites, which she included in a first draft of the UK application and ultimately in the application as filed.

80 Ms Allard's first draft also included a description of composite particles, comprising a core of an inert substrate, which is impregnated with and/or coated with the magnetic material. Ms Allard states in her first witness statement, as corrected by her second witness statement, that she introduced this description of her own volition, based on her knowledge of electrostatic pesticidal compositions, particularly as described in an earlier International patent application no. WO 97/33472 in the name of the University. Once again this description of composite magnetic particles in Ms Allard's first draft was carried over substantially unaltered to the UK application as filed.

81 Based on the notes provided by Professor Howse, Ms Allard's first draft referred to magnetic particles having an average particle size diameter in the range of from 5 to 100 micrometers. However, as I have mentioned above, the UK application as filed specifies a wider range of particle sizes, more particularly an average particle size diameter range of from 2 to 100 micrometers. From one of two faxes, exhibited with Ms Allard's first witness statement and sent to her by Professor Howse on 2 July 1998,

it is apparent that this amendment was made at the request of the Professor. However, Ms Allard states in her first witness statement that claim 2 of the University's PCT application no. WO 00/01236 refers to an average particle size diameter in the range of from 2 to 100 micrometers. She explains that during the prosecution of patent applications, based on this PCT application, she was advised by Professor Howse that the reason for this particular particle size limit was that if the particles were below the lower limit they became hazardous to human health, whilst if they were too large they would tend to fall off the insect. Ms Allard states in her evidence that the particle size claimed was therefore known to her to be the appropriate particle size range within which the invention could be expected to work.

82 I fully accept Ms Allard's evidence on the disclosure she found in the McGraw-Hill Encyclopaedia of Science and Technology and the disclosure she carried over from the earlier International patent application no. WO 97/33472. However, Ms Allard's evidence in relation the size of the magnetic particles does not help me. International patent application no. WO 00/01236 was derived from the UK application *in suit* and was not filed until 1 July 1999, almost a year after the date of filing of the UK application. Whilst her discussions with Professor Howse in relation to patent applications based on the PCT application may have informed her about the appropriate particle size range at that time, it says nothing about her knowledge of the appropriate particle size range prior to filing the UK application. Therefore, whilst I do not need to consider further the question of inventorship in relation to the disclosure relating to ferrites and composite particles in the UK application, I cannot rule out from Ms Allard's evidence that there may be an inventive concept associated with the size of the magnetic particles.

#### *Analysis of the UK Application*

83 This leads me on to a consideration of the aspects of the methods, compositions and apparatus for controlling pests, disclosed in the applications *in suit*.

84 As I have explained above, the UK application opens with a statement that the invention relates to a method and apparatus for controlling pests by trapping or killing them. Thus, from this opening statement, it seems that, whatever else is involved, the invention must serve to trap or kill the pests. Later the application acknowledges the earlier method of controlling insects, described in International patent application no. WO 94/00980, by using electrostatically charged powders, which adhere to the cuticle and the feet of the insects, as well as to surfaces of a trap. There is then a reference to disadvantages associated with electrostatically charged particles, one of which is that they lose their charge rapidly in conditions of high humidity and when moisture films develop. Another is that the particles can be blown away by the wind. The application goes on to state:

“We have now developed a method and apparatus for controlling pests which involves the use of particles which are permanently magnetised and are not affected by moisture or humidity and which, when anchored or (*sic*) a conducting or magnetic surface, will remain in position for long periods of time without losing their effectiveness.”

This statement says nothing about the interaction of the magnetic particles with the pests but clearly addresses identified shortcomings of electrostatically charged powders. However, the next statement in the application does establish a relationship between the magnetic particles and insects, as follows:

“Although electrostatically charged particles adhere to the cuticles of insects, it is surprising that ferromagnetic particles also adhere to the cuticles of insects and this is a surprising and unexpected effect.”

85 Later, on pages 4 and 5 of the UK application, there is a description of how the ability of insects to adhere to smooth or inclined surfaces, or to fly is adversely affected when their feet are covered with particles. Then on page 6 it is stated that:

“As the insects contact the magnetic particles the particles are picked up by the insect from the surface on which the particles are located. The particles are then transferred to the body parts of the insect by movement and during grooming. The particles remain in place and continue to release the pesticide or behaviour modifying chemical, .....”.

Finally, as I have already summarised above, the description concludes with three examples detailing experiments and demonstrating that on exposure to magnetic particles the bodies of houseflies and cockroaches become coated with the particles.

*The first inventive concept*

86 In the light of the above I consider that one inventive concept of the applications *in suit* essentially involves an interaction between magnetic particles and pests, for example insects. Without this interaction there would be no point to the invention because it seemingly would not work. In other words it would be ineffective for the purpose of trapping or killing of pests. However, Mr St Ville argued in his closing statement that I should not separate the idea of the powder-trap and the powder-insect interaction. He suggested that it was not surprising that these characteristics cannot be separated because you need a material that is there to carry out the trapping activity, or sticking to the insect activity. If it is blown away or drifts off because of moisture, then that is no good. This view was reinforced in Mr St Ville’s opinion by the description of trapping insects, which relied not only on blocking the mechanism by which the insects grip surfaces but also causing them to slide down an inclined surface. On the other hand Mr Alexander argued that the interaction between trap and powder was only applicable when it was desired to put the invention into effect that way, and that the invention could be put into effect without there being any interaction between the container and the magnetic powder. On this matter I prefer Mr Alexander’s submission to that of Mr St Ville. Whilst I would not deny that the material must be “there”, as Mt St Ville submitted, it does not seem essential that for the invention to work, the magnetic particles must be anchored in place where they can be picked up by the pests. In my view, the particles could be effective for their prime purpose of controlling pests even if they were not anchored to a surface by magnetic forces.

87 Part of “Magnetic powder” concept, put forward by Mr St Ville, was based on the surprising and unexpected effect that magnetic particles adhere to the cuticles of insects.

On the same lines, Mr Alexander submitted that inherent in the concept of bringing magnetic particles and insects together was an appreciation that there will be some form of magnetic interaction between the particles and the insects. As I have already mentioned, Mr Alexander went on to refine this statement by referring specifically to a magnetic interaction between the particles and the cuticles of insects. At one stage during the course of the hearing I suggested, in the context of a trap, that the clogging up of the little sticky pads on the feet of the pests might not be dependent on the powder sticking to the cuticle of the insect. In other words, the trapping of insects by clogging their feet up so that they then fall into the trap might not depend on there being any magnetic interaction between the cuticle of an insect and the particles. The point of my comment was that if this were the case, it would seem that, at least in the context of the trap, the main benefit to come from making the particles magnetic would be that they could be anchored to the trap. This angle was not picked up by either Mr Alexander or Mr St Ville and even if it were to have some force, I would not weigh it heavily as compared to both sides' firm reliance on the adherence of magnetic particles to the cuticles of insects to characterise one inventive concept. In the absence of any contrary explanation from either side, I assume that the clogging up of the feet of insects is the result of the magnetic attraction between the cuticle and magnetic particles. Thus, in my view one of the inventive concepts I should consider is a method of trapping and/or killing pests, such as insects, comprising using magnetic particles to adhere to the cuticles of the pests.

*The second inventive concept*

- 88 I now need to consider whether this first inventive concept is a global concept, as Mr Alexander sought to persuade me, or whether there are other separate concepts as Mr St Ville maintained. I have already referred to Mr St Ville's closing skeleton in which he set out the further "Magnetic Zone", "Admixture and Coating" and "Particle Size and Mixture" inventive concepts. In the absence of an agreed position between the parties, I will consider each of the further concepts as identified by Mr St Ville.
- 89 Commenting on Mr St Ville's "Magnetic Zone" concept, Mr Alexander argued that it ignored what Mr Metcalfe had allegedly proposed. This was no more than a magnetic zone in the context of a cockroach trap of the kind described in "The Times" newspaper article. According to Mr Alexander, Mr Metcalfe did not come up with the generalised concept of providing any kind of magnetic zone of whatever shape, whether it be vertical, horizontal, sloping or whatever to adhere magnetic particles to. When addressing Mr Alexander's arguments, Mr St Ville took the view that the claims 21 through to 23 of the UK application (corresponding to claims 23 to 25 of the PCT application) came together as a package and in a sense claim 21 was an intermediate generalisation, because the only proposal that anyone says was ever put forward was a trap with a removable insert made of magnetised plastic. He went on to suggest that this proposal had been divided into three claims because what was needed in a patent was a broader claim, which embraced possible alternatives, not relying on the insert being removable or made of magnetised plastic. Mr St Ville's submission was that I should look at the concrete proposal put forward in the patent application to determine what the inventive concept was and that I should not just go to the generalisation of claim 21. To this end Mr St Ville drew my attention to what was allegedly put forward by Mr Metcalfe and reflected in the UK application by the

statement on page 8 lines 6 -9:

“The zone of the magnetically polarized material may be formed, for example, from a plastic material which is impregnated with a ferromagnetic oxide which is magnetically polarized.”

Mr St Ville also took me to passages describing the embodiment illustrated in the UK application, which he said also represented Mr Metcalfe’s contribution. These further passages on page 10 lines 16 - 18 and lines 27 - 32 state:

“ The bridging plate 6 is constructed from a plastic material containing a proportion of a ferromagnetic material to make it weakly magnetic.”

“The bridging plate has inwardly curved surfaces 8. When the cockroach walks on the surface of the plate 6 the magnetic powder with which the plate 6 is coated adheres to the cockroach’s feet, blocking the insect’s adhesive pads and causing it to slip down the curved surface 8 into the trapping area 2.”

If, as appeared to be the case, Mr St Ville was proposing that the “Magnetic Zone” concept is a combination of these features, this proposal, involving the shape of the bridging plate, was somewhat narrower than his submission as presented to me in his closing skeleton.

90 When addressing me on the “Magnetic Zone” concept, it appears to me that both Mr Alexander and Mr St Ville have put the cart before the horse by relying, at least in part, on what was allegedly proposed by Mr Metcalfe. If I am to follow the approach in *Norris’s Patent* I need to consider all aspects of the invention and then, and only then, consider who actually devised the relevant aspect or aspects. To this end I will start by considering claim 23 of the PCT application, which defines in generalised terms an insect trap having a housing and a zone of or within the housing comprising a magnetically polarized material coated with particles, containing or consisting of magnetic material. Although the earlier International patent application no. WO 94/00980, relating to Professor Howse’s work with electrostatically charged particles, disclosed using the electrostatic methods to coat a zone of the trap with the particles, there is no suggestion in that application that magnetic forces could be used for this purpose. Thus, in my view what the applications *in suit* put forward in the context of the trap is the general inventive concept of anchoring particles in the trap by utilising the magnetic properties of both the particles and a magnetic zone of the trap. Moreover, in my opinion this concept, based on a particle-trap interaction, is a completely different one from that based on the particle-insect interaction considered above, not the least because the problem it addresses, namely the loss of particles from bait stations or traps by wind currents, or by shaking, is not one that concerns the particle-insect interaction.

91 However, before I reach any firm conclusion on this matter, it is useful to consider the features introduced by claims 24 and 25 of the PCT application, which form part of the package mentioned by Mr St Ville, in addition to the curved shape of the bridging plate, which Mr St Ville seemed to identify in his oral submissions as an essential feature of the “Magnetic Zone” concept. Again going back to the earlier International patent

application no. WO 94/00980, this application discloses, in relation to an embodiment illustrated in Figure 2, a trap wherein the zone coated with particles is formed by a portion of a wall of the housing. A further embodiment, shown in Figures 1A and 1B, has an insert which is coated with particles and which is removably located within the housing. Finally, yet another embodiment, shown in Figure 4, includes a narrow plastic bridge which is coated along all or most of its upper surface with particles and which has downwardly sloping edges, giving it a shallow inverted U-shape in cross-section. Therefore, I do not believe that I need consider the features of claims 24 and 25 or the curved shape of the bridging plate further when determining the inventorship issue before me. What I do need to consider, based on claim 23 of the PCT application, is who devised the further concept of using a magnetic zone to anchor the magnetic particles.

92 Before I move on from what Mr St Ville characterised as the “Magnetic Zone” concept, I should consider whether the general concept of anchoring magnetic particles to a magnetic zone can be sub-divided into further, separate inventive concepts relating to a trap on the one hand and to a bait station on the other. In his closing statement to me Mr Alexander made the point that the applications *in suit* are not confined to a cockroach trap but extend, for example, to a bait station. Mr Alexander remarked that the applications could be filleted to separate the trap and bait station as different, specific concepts but he cautioned that when one gets down to the level of carving things up in this way, one has to exercise some care as to exactly what one is carving and the fineness of the grain. In his view one has to be sure that one is dividing things at a sufficient level of specificity. When addressing me on this issue Mr St Ville suggested that Ms Allard lifted the ideas associated with the bait station concept from another specification. I have already referred to Ms Allard’s evidence that the earlier International patent application WO 97/33472 was the source for the disclosure relating to composite particles in the UK application. This International patent application in turn was based on developments of the University’s International patent application WO 94/00980 which disclosed both the trap and bait station concepts.

93 Taking all these considerations together, I take the view that the second inventive concept I need to consider is that of using a magnetic zone to anchor magnetic particles, and that whether this concept is applied to a trap or to a bait does not give rise to separate inventive trap and bait station concepts.

*Further inventive concepts*

94 I turn now to Mr St Ville’s third inventive concept which he labelled “Admixture and Coating”. He explained that this concept stemmed from claim 15 of the UK application which reads as follows:

“15. A pesticidal composition in particulate form which comprises particles containing or consisting of a magnetic material in admixture with a pesticide or behaviour modifying chemical.”

Mr St Ville’s justification for including this “Admixture and Coating “ concept appeared to boil down to a submission that the concept came from the IDA side. As I have already indicated I do not consider it appropriate to identify an inventive concept for the

purpose of determining inventorship on the basis of what one party or another may have purported to devise. Mr Alexander's submission on this point was short. He merely described the concept of adding something extra to the magnetic particles, whether by way of coating or by way of admixture, as a kind of false re-characterisation of the relevant concept. Thus, once again I find that there is no agreement between the parties and that I must decide if there is a third inventive concept relating to the "Admixture and Coating" aspect of the invention, and if so what exactly it is.

95 Mr St Ville referred me to a passage on page 4 lines 8 - 21 of the UK application, which explains that the composition used in the invention may comprise a proportion of the magnetic material in admixture with one or more other components. From this passage it is clear that this may involve mixing the magnetic particles with one or more filler materials, such as talc. As Mr St Ville pointed out, this particular admixture is not the subject of claim 15, which requires an admixture comprising a pesticide or behaviour modifying chemical. The passage on page 4 goes on to describe an alternative admixture, in which the magnetic particles may be admixed with particles containing one or more pesticides or behaviour modifying chemicals. Thus, unlike the first described admixture, this alternative admixture can be read onto claim 15. Mr St Ville went on to suggest that this alternative admixture of particles boils down to coating which had been expressed in the specification in a general sense. On this point I do not agree with Mr St Ville. In my view claim 15 and the related description of the alternative admixture on page 4 lines 16 -18 do not suggest the concept of coating. An admixture is a mix of different things, for example, a mix of magnetic particles with particles containing an insecticide. It is not appropriate in my view to describe magnetic particles coated with, for example, an insecticide, as an admixture or mix, and I do not believe I should construe the application as though it does.

96 Thus, although in my view the UK application does not disclose or suggest coating, claim 15 of the PCT application, as it was filed, specifically refers to particles of a magnetic material coated with a pesticide or behaviour modifying chemical. This original claim 15 of the PCT application was subsequently renumbered as claim 17 before entry into the European regional phase. Although I have already quoted this claim, I will repeat it for the sake of convenience here:

“17. A pesticidal composition in particulate form which comprises particles containing or consisting of a magnetic material in admixture with a pesticide or behaviour modifying chemical or particles of a magnetic material coated with a pesticide or behaviour modifying chemical.”

97 The question I now have to answer is whether either or both of the concepts specified in this claim of the PCT application constitute an inventive concept for the purposes of inventorship. As before I will start by considering Professor Howse's earlier work with electrostatically charged particles and in particular the disclosure of this technology in the International patent application no. WO 94/00980. This published application describes and claims embodiments wherein a pesticide, for example an insecticide, or a behaviour modifying chemical are associated with electrostatically charged particles. In one particular embodiment, it is stated that the charged powder may be formulated with insecticide and that it has been shown that spores of pathogenic fungi will adhere to the surface of fine wax particles, probably electrostatically. Another of the University's



International patent applications already referred to in this decision, namely WO 97/33472, describes electrostatic particles with pesticide applied to their outer surfaces. It seems to me in the light of these disclosures that the coating aspect of claim 17 of the amended PCT application is another manifestation of the first inventive concept I identified, in that it substitutes magnetic particles for electrostatically charged ones. Therefore, I do not propose to consider this coating aspect of claim 17 as a separate inventive concept for purposes of inventorship.

98 I should consider now the concept of admixing a pesticide or behaviour modifying chemical with magnetic particles, which is claimed and described in both the UK and the PCT applications. Professor Howse's earlier work involved associating pesticides or behaviour modifying chemicals with electrostatically charged particles. However, I am unaware from the evidence of any prior suggestion in his earlier applications that particles, capable of adhering to pests, such as insects, may be admixed with one or more pesticides or behaviour modifying chemicals or with particles containing such substances. Thus, the question I am faced with is whether this admixture is an inventive concept in its own right or is it what Mr Alexander described as a sub-concept? In the absence of any submissions on this matter from Mr St Ville, it seems to me that this admixture concept is merely subsidiary to the first concept which I identified above and which concerns the control of pests by adhering magnetic particles to their cuticles.

99 I am therefore not persuaded that there is any aspect of Mr St Ville's "Admixture and Coating" concept, which can be regarded as an inventive concept in its own right and so needs to be considered for the purpose of determining inventorship.

100 I come finally to the fourth and last inventive concept proposed by Mr St Ville and labelled by him as the "Particle Size and Mixture" concept. After hearing Mr St Ville's submissions on this point, concerning a specific range of particle size diameters and specific proportions of strontium ferrite to ferrosilicate, I asked him if he was not elevating these details to a rather greater prominence than they have on a natural reading of the applications. In particular, I pressed Mr St Ville on whether these details could be identified as a separate concept from his first "Magnetic Powder" concept. Mr St Ville decided not to argue his point and he suggested that I need not be troubled with going into the detail in the way he originally suggested. He accepted that his "Particle Size and Mixture" concept could be dealt with at the same time as his "Magnetic Powder" concept. I was grateful for this concession and although I have only accepted Mr St Ville's "Magnetic Powder" concept in so far as it concerns the interaction between the magnetic particles and the cuticles of pests, I believe that this fourth concept is subsidiary, rather than an adjunct, to the first inventive concept I have identified.

101 Thus, I have identified two inventive concepts: one that I can label as the "pest / particle" concept and the other that I can label as the "particle anchoring" concept. More particularly, these inventive concepts respectively are:

(a) a method of trapping and/or killing pests, such as insects, comprising using magnetic particles to adhere to the cuticles of the pests; and

(b) an insect trap or bait station wherein magnetic particles are anchored to a magnetic zone.

*Who devised the “pest / particle” concept?*

102 It is common ground between the parties that Mr Metcalfe telephoned Professor Howse on 24 April 1998 to discuss the possibility of using magnetic powders instead of electrostatic powders in the trap which was described in “The Times” newspaper article on 2 April 1998. The defendants’ basic position is that Professor Howse had already conceived the idea of using magnetic particles to trap and/or kill insects before any contact was made between the University, Professor Howse or Mr Ashby and any of the claimants. Thus, in the defendants’ view, Professor Howse is rightly named as an inventor in the applications *in suit*. In order to decide who devised the “pest / particle” inventive concept, identified above, I will begin by considering the evidence concerning events before 24 April 1998. I should add that although I recognise the burden of proof initially rests with the claimants, I believe that the burden immediately shifts to the defendants to establish that on 24 April 1998 Mr Metcalfe did not tell Professor Howse anything the Professor had not already thought of.

103 In my summary of the alleged sequence of events, I have already referred to Professor Howse’s statement that it became clear to him in 1992, following his earlier research work with electrostatic powders, that particles with magnetic qualities could have a similar effect. He also alleges that he discussed the potential for using magnetic particles in trapping insects at a meeting with representatives of Reckitt & Colman in 1997. Mr Baxter, who was Professor Howse’s research assistant at the time, attended this meeting and states in his written evidence that he remembers Professor Howse discussing the idea of using magnetic material in pest control. In his written evidence Professor Howse further recalls that he had discussed his magnetics work with Mr Ashby prior to being contacted by Mr Metcalfe. Finally, Professor Howse states in his written evidence that when Dr Underwood took over Mr Baxter’s projects, he discussed his magnetics research work with her and the requirement for finer particles. Thus, I must look closely at what Professor Howse, Mr Baxter, Mr Ashby and Dr Underwood have said on these matters, particularly during their cross-examination.

*Professor Howse’s knowledge of the magnetic properties of insects*

104 In August 1965 an article, written by Professor Howse on the sensory world of animals, including insects, was published in the “Western Mail” newspaper. Professor Howse has exhibited this article to support a statement in his first witness statement that he was aware of the magnetic properties of insects as early as 1965. The article described experiments in which flies were suspended on fine threads or floated on little balsa wood rafts and exposed to a magnetic field about 600 times stronger than that of the earth. The result was that most of the flies rotated until they were in a N-S direction, or occasionally E-W. The article went on to state that anyone who was sceptical and had a strong magnet could try this for themselves and that dead flies were just as good provided they had not dried up. The explanation offered in the article for these observations was that there is a potential difference between the inner tissues and the outer cuticle, which apparently results in the continuous flow of a minute electric current within the fly. The electromagnetic field produced can then interact with any other magnetic field and cause a freely suspended fly to rotate. When cross-examined on this article Professor Howse rejected a suggestion that this earlier knowledge about the electrical and magnetic properties of the insect cuticle would not be of any assistance in

coming up with the idea of a magnetic trap. He went further by saying that at the time of this article, he had an idea that an interesting means of controlling ants, bees and wasps would be to get them to take something back to the nest, an insecticide on a suitable carrier, but that he did not pursue the idea for many years. When questioned on this article by Mr Alexander the Professor commented that when he was considering possible explanations for electrostatic adhesion in 1992, he went back to the original articles, on which his own "Western Mail" article was based, and realised that it would also be possible to attach magnetic particles to the insect cuticle.

- 105 Also exhibited with Professor Howse's first witness statement is a speech he delivered to the Central Association of Bee-Keepers in 1970 under the title "Brain and Behaviour in Bees". There is only one very brief mention of magnetism in this speech and this simply refers to the existence of evidence of a magnetic sense in flies, cockchafers and termites. When cross-examined on this, Professor Howse agreed that it was about sensing magnetic fields.
- 106 A further document exhibited with Professor Howse's first witness statement was published in 1997 and concerns the "Detection of Magnetism in the Red Imported Fire Ant (*Solenopsis invicta*) using Magnetic Resonance Imaging". During his cross-examination in connection with this document, Professor Howse explained that he had sought to find articles to illustrate that magnetism in insects was not unknown. He admitted that some of the references he had referred to were not concerned with the magnetic properties of the insect cuticle, but with the fact that some insects have magnetite in their brains.
- 107 I can find nothing in these exhibited documents to persuade me that at any time before 24 April 1998 Professor Howse had contemplated employing particles with magnetic qualities as an alternative to electrostatic powders. Moreover, in the absence of any credible corroborating evidence and in the light of his cross-examination, I believe I should be cautious about the weight I give to the Professor's statement that he realised in 1992 that it would be possible to attach magnetic particles to the cuticles of insects. I do though accept that prior to 1998 he was aware that some insects had magnetic properties and that these might be due to the creation of an electromagnetic field which is produced by a minute electric current created by a potential difference between the inner tissues and the outer cuticle.

*Did Professor Howse discuss the "pest / particle" concept with colleagues?*

- 108 I can now move on to the events of late 1997 when Professor Howse alleges that he discussed his thoughts on the use of magnetic powders at a meeting with representatives of an industrial sponsor, subsequently identified as Reckitt & Colman. Under cross-examination, Professor Howse was taken to the witness statement of Mr X, who was employed by Reckitt & Colman. I should perhaps explain that at the time of Professor Howse's cross-examination it was my understanding that this witness statement had been treated as withdrawn and was not open to public inspection. It was only later, as I have mentioned above, that I was informed by Mr Alexander that it had been agreed by consent that this witness statement should not be withdrawn. Even so, I was content for witnesses at the hearing before me to be cross-examined, in camera when necessary, on its contents.

109 In his witness statement, Mr X states he had many confidential discussions with Professor Howse and explains:

“Professor Howse and I had discussions in 1997 relating to the possibility of exploiting magnetic properties as a means of insect control. It was decided to perform some experiments which required magnetic particles. I informed Professor Howse that I could obtain some magnetic particles with which he could undertake the experiments. These experiments related to the use of the particles to repel mosquitoes from the vicinity of people with the ultimate aim of making a personal insect repellent preparation”.

Professor Howse seemed to me to be somewhat evasive when cross-examined on this statement. He tried to persuade me that it was ambiguous and that when Mr X referred to insect control and repelling mosquitoes, he was referring to separate matters. In other words, Mr X intended to distinguish between repelling insects on the one hand and insect control on the other. Professor Howse explained that he was involved in two projects with Reckitt & Colman. One of these projects concerned electrostatic technology solely and it was in this area that there was a project concerning repelling mosquitoes. According to Professor Howse the other project was not concerned with insect control. He went on to state that there was no need for him to discuss any new invention relating to magnetism or anything else outside the field of electrostatics with Reckitt & Colman. In my view this explanation does not clarify why Professor Howse considered Mr X’s statement to be ambiguous. Indeed, while there may not have been a need to discuss anything related to magnetism with Reckitt & Colman, it is part of the defendants’ case that such a topic was discussed during the meeting late in 1997. It seems to me that Mr X’s statement is clear and unambiguous. On this basis I am not persuaded that there was any discussion at the meeting in question about controlling insects by causing magnetic particles to adhere to them.

110 Whatever I make of Professor Howse’s recollection of his discussion with Mr X, it does seem that Mr X supplied some magnetic material for the purpose of experiments. In his written evidence Professor Howse states that these experiments involved ants and cockroaches walking across a substrate coated with magnetic powders and counting the numbers of particles adhering to the insect. He further states in this evidence that the particles were too large and very few remained on the insects. When cross-examined on this aspect of his evidence Professor Howse explained that when he received the sample from Mr X he thought that it was not really worth doing a test on the particles because they looked too large in relation to the size of the insect. At various times Professor Howse estimated the size of these particles as at least 100 microns, about 200 microns and several hundred microns. In his oral evidence he went on to state that since he had undertaken to test the particles, he thought of doing a brief test by immersing some leaf cutting ants in them to see if the particles stuck. It strikes me that the Professor’s recollection of the size of the particles supplied to him was hazy and that there are discrepancies between his written evidence and his oral evidence on the experiments he performed using the particles. For example, in his oral evidence he did not mention that the test with leaf cutting ants, which he described as brief and hardly worthwhile, was extended to cockroaches. He also referred in his oral evidence to immersing the leaf ants in the particles, whereas in his written evidence he described an experiment which involved the insects walking across a substrate coated with magnetic powder. Therefore,

once again I am reluctant to rely on Professor Howse's mixed recollection of events on this matter, particularly in the absence of any contemporary evidence, such as laboratory notes recording the experiments.

111 I will now turn to Mr Baxter's evidence of events prior to 24 April 1998. Recapping briefly, he states in his written evidence that he was present at a meeting in the autumn of 1997, which was also attended by Professor Howse and two representatives of Reckitt & Colman. He recalls Professor Howse discussing the idea of using magnetic material in pest control and one of the Reckitt & Colman representatives informing the Professor that he had access to magnetic materials. He further remembers the Reckitt & Colman representative undertaking to arrange for sample materials to be sent to Professor Howse for testing. On cross-examination Mr Baxter confirmed that he recalled the discussions between Professor Howse and Mr X at the meeting in 1997. However, Mr Baxter disagreed with the statement in Mr X's witness statement that:

“These experiments related to the use of the particles to repel mosquitoes from the vicinity of people with the ultimate aim of making a personal insect repellent preparation.”

In his oral evidence Mr Baxter stated that Mr X had confused the proposed experiments on mosquito repellency with another project. His recollection was that the magnetic particles were strictly for a trap, called the Pillar Trap, which he had made and which had been sent to the University of New South Wales. Mr Baxter explained that this trap had performed particularly well and the only problem was that during transit the powder did not stay in the trap. As a consequence, a way was needed to keep the powder inside the trap. Whether or not Mr Baxter's recollection of this matter is correct, it certainly does not support Professor Howse's view that the magnetic particles were supplied expressly for the purpose of experiments to see if they adhered to insects.

112 While dealing with Mr Baxter's evidence, I should consider the statement in his witness statement that he has read the patent application, which is the subject of the present proceedings, and that he has a clear recollection that the basic concept of the magnetic patent was discussed during the meeting with Mr X in 1997. The problem with this statement is that I cannot be sure what Mr Baxter considered to be the basic concept of the magnetic patent. There is no clear indication in his written or oral evidence that he considered this concept to reside in controlling insects by causing magnetic particles to adhere to their cuticles. Thus, overall Mr Baxter's evidence does not lend any support to Professor Howse's position that he recognised the possibility of using magnetic particles as an alternative to electrostatic particles for the control of insects.

113 I can now consider Mr Ashby's evidence in support of the defendants' case that Professor Howse had conceived the “pest / particle” inventive concept before 24 April 1998. In his written evidence Mr Ashby states that he discussed with Professor Howse prior to this date the possible use of magnetics instead of electrostatics in the Ecobiotic cockroach trap. In so far as this discussion focussed on what Mr Ashby claims to have contributed in relation to positioning and retaining magnetic particles on a magnetised bridge of the trap, I will deal with them later in this decision. For the moment I am concerned with Mr Ashby's evidence as it relates to the Professor's claim that he devised the concept of controlling pests by adhering magnetic particles to them.

On this narrower point, Mr Ashby states in his written evidence that having discussed with Professor Howse the concept of replacing the electrostatic powders by magnetic particles in the Ecobiotic trap, they investigated the availability of magnetic powders whilst at the British Pest Control Association Annual Exhibition in November 1997. When cross-examined on this matter Mr Ashby elaborated on his written evidence by explaining that he and Professor Howse divided up their efforts at the Exhibition and that the Professor had asked him to try and find suitable powder suppliers. When pressed under cross-examination, Mr Ashby was unable to recall whether he had actually found anyone who could supply suitable powders. He could only suggest that if he had found someone, he would have passed the relevant business card or cards to Professor Howse. I find Mr Ashby's written and oral evidence on this matter rather thin and uncertain. In particular, I am surprised that he recalls trawling for suppliers of magnetic powders at the Exhibition but that he cannot recollect if he found any. Moreover, no contemporaneous documents, such as any of the business cards which Mr Ashby might have collected, have been put forward in evidence. Therefore, in my view it would be unsafe to conclude from Mr Ashby's evidence that he and Professor Howse had discussed the "pest / particle" concept before the Professor was telephoned on 24 April 1998 by Mr Metcalfe.

114 Taking Dr Underwood's evidence next, in her witness statement she mentions that she took over Mr Baxter's research when he left the University in February 1998. She goes on to state that before then she discussed with him and Professor Howse, the Professor's earlier work on the magnetic properties of insects and the possibility of using magnetic powders in trapping devices. Dr Underwood was not cross-examined on this aspect of her evidence and so when considering what weight I should attach to it, I must do so without the advantage of any clarification she might have provided. On the basis of what I have before me, it is not clear whether there is a connection between her reference to the Professor's earlier work on the magnetic properties of insects and her subsequent reference about the use of magnetic powders in trapping devices. For example, it is unclear whether Dr Underwood's reference to the use of magnetic powders in trapping devices is directed at the "pest / particle" inventive concept since it could be a reference to the earlier work, which Mr Baxter described, relating to the use of magnetic particles in the so called Pillar Trap. Therefore, I do not find anything in Dr Underwood's evidence to substantiate on the balance of probabilities Professor Howse's claim that he conceived the "pest / particle" concept before 24 April 1998.

115 After careful consideration not only of Professor Howse's own evidence but also the evidence of his colleagues at the University, I am not persuaded that he conceived the "pest / particle" concept before Mr Metcalfe came to him with the idea of using of magnetic powder instead electrostatic powder. However, before I come to a final view on this, there are various other matters I should consider, which might have a bearing on my decision.

*The sensitivity of electrostatically charged particles to humidity and dampness*

116 The UK application makes a point of specifying that one disadvantage of using electrostatically charged particles to trap insects, is that the particles lose their charge rapidly in conditions of high humidity and when moisture films develop. Mr St Ville cross-examined both Professor Howse and Mr Ashby on this matter with a view to

establishing that despite the existence of a strong motivation for developing an alternative solution to the use of electrostatic particles, Professor Howse did not pursue the magnetic particle solution because it had not occurred to him before he spoke to Mr Metcalfe. It seems to me that this is an important point to consider.

117 When Professor Howse was confronted with this statement in the UK application, he explained that he was aware that when drafting a patent he had to point out any possible advantages of the new invention over previous applications, and that this was his attempt to do so. He described the problem identified in the application as a theoretical one or one that may or may not apply in certain circumstances. He denied that it had been a problem in practice due to factors which he could not explain for certain.

118 Earlier during his cross-examination, Professor Howse recalled how he had explained to Mr Metcalfe, when Mr Metcalfe first telephoned him, that he had not experienced any problems in field trials with high humidity. Later the Professor was questioned about a statement in a business plan, dated June 1999, for a company which was called XO2 Limited ("XO2") and in which the Professor had a financial interest. The statement in question was:

“A number of additional patents are about to be filed, including the use of powders with biomagnetic properties, a key technology that improves pest control performance under damp conditions.”

At this point, Professor Howse acknowledged that in extreme damp conditions there was problem but he stressed that no problem had been experienced in normal conditions of high humidity. The Professor continued by explaining that colleagues in California had reported problems with the Ecobiotic trap when people had gone into kitchens with a bucket and mop and sprayed water all over the place, including into the trap. This had prompted his Californian colleagues to ask if there was some better way of holding the powder on the trap or preventing water getting in. It was this, according to Professor Howse, that led to the above statement in the XO2 business plan. Having heard Professor Howse's explanation, Mr St Ville observed, not unreasonably in my view, that sloshing water over a magnetic trap would cause a bit of a mess as well and that this not what would be understood by "damp conditions".

119 During his cross-examination Professor Howse was also shown a confidential document, dated 23 April 1998, which was written by a Professor Aston and witnessed by Mr Ashby. I believe I can refer to this confidential document, so far as is necessary for my purposes here, without disclosing anything which is confidential. However, before I deal with the document itself, I should explain that Professor Aston was recruited by Mr Ashby to be his assistant at SIL and later became CEO of a company called "Exosect Limited" ("Exosect") which was spun out of the University to exploit intellectual property generated by Professor Howse. Professor Aston's document, which is dated the day before Mr Metcalfe first telephoned Professor Howse, claims:

“An alternative to the use of ‘electrostatic powders’ to facilitate the binding of insecticides to insects, ..... . This would be transferred between insects when they interact and have the advantage of not being moisture sensitive as with electrostatic powders.”

In the context of this document, which did not mention magnetics, Mr St Ville opined that if Professor Howse had come up with the magnetic idea in the UK application before any contact with Mr Metcalfe, Professor Aston's alternative, non-magnetic solution to a moisture problem would not have been put forward. Professor Howse stated that he had not seen Professor Aston's document prior to the hearing before me. In response to the suggestion by Mr St Ville that this document highlighted a moisture problem, the Professor observed that there was confusion between a frequently asked question and the reality of the situation, the frequently asked question being "Isn't the electrostatic powder going to lose its charge in high humidity and fall off?".

- 120 When Mr Ashby was asked by Mr St Ville to comment on the passages in the UK application, the XO2 business plan and Professor Aston's document, concerning high humidity, damp conditions and moisture, he accepted that it was a fundamental of science that electrostatically charged powders were moisture sensitive and that at certain times this would be a problem for Professor Howse's electrostatic solution to pest control. He explained that generally there was not a problem with using the electrostatic cockroach traps in hospitals and restaurants but that there could be a problem if the traps were placed in areas which were washed down with a hose. He also said that sometimes humidity could cause a problem but that it would not be a problem if the trap only had to be effective for a short period, for example, relative to the life cycles of flies. Nevertheless, Mr Ashby strongly resisted any suggestion that dampness and humidity were important to the business of Exosect, even though from a technical standpoint such conditions could be a problem in relation to electrostatically charged powders.
- 121 It seemed to me that when questioned about electrostatically charged particles losing their charge rapidly in damp or humid conditions, Professor Howse was once again very reluctant to say anything which he thought might weaken his case. For example, I was not persuaded by his attempt to characterise a situation where water was sloshed over a trap as "extreme damp conditions". I would describe such conditions as "wet" and not merely "damp" or "extremely damp". Even so, the XO2 business plan, which Mr St Ville referred to, was dated after the first telephone conversation between Professor Howse and Mr Metcalfe and I cannot read in to it the notion that the Professor was aware of the problems noted by his Californian colleagues at the time of this first telephone conversation. Moreover, I am not persuaded that the document produced by Professor Aston indicates that there was a significant problem with the electrostatic particle traps developed by Professor Howse. I also reject Mr St Ville's view that Professor Aston would not have put forward his alternative to the use of electrostatic powders, if Professor Howse had already come up with the idea of using magnetic particles. If Professor Howse had proposed the alternative use of magnetic particles, I see no reason why Professor Aston would have been discouraged from making a further, possibly better, alternative proposal.
- 122 Mr Ashby was less guarded than Professor Howse when questioned about the moisture sensitivity of electrostatically charged powders. Indeed, correctly in my view, he described this sensitivity as a fundamental of science. Nevertheless, Mr Ashby held to the view that moisture sensitivity was not an issue or something of importance to Exosect. In this respect his evidence was consistent with Professor Howse's view that the problem was a theoretical but not a practical one.



123 Whilst I am inclined to the view that the sensitivity of electrostatic powders to dampness or humidity might be an issue, I am less clear that there had been a problem in practice, possibly due to factors associated with the nature of the particular particles used. Only one instance of an actual problem was mentioned, that is the problem noted by Professor Howse's Californian colleagues, and I would not regard that problem as one caused by mere dampness or humidity. Thus, contrary to the proposition put forward by Mr St Ville, I am not prepared to accept on the evidence before me that there would have been a strong motivation to pursue the magnetic alternative if indeed it was in Professor Howse's hands before 24 April 1998.

*Professor Howse's knowledge of magnetism*

124 The UK application includes a passage on page 7 line 29 - page 8 line 1 which states (my emphasis):

“Furthermore, in a further embodiment of the present invention provides (*sic*) an insect trap which comprises a housing, a zone of the housing or a zone within the housing comprising a magnetically polarised material and the said zone being coated with a composition comprising particles **containing or consisting of a magnetic material of opposite polarity to that of the magnetically polarised material.**”

This passage originated from a statement in the note, which Professor Howse faxed to Ms Allard on 22 May 1998, that (again my emphasis):

“The interior of the bait station is coated with a magnetic powder composite (3) **of opposite polarity to the plastic.**”

On the basis of these statements Mr St Ville probed Professor Howse's understanding of magnetism and electromagnetism in an attempt to show that the Professor could not explain the thinking behind the invention in any convincing way.

125 When Professor Howse's attention was drawn to the above passage in the UK application by Mr St Ville, the Professor did not immediately recognise that the reference to materials of opposite polarity, although apt for electrostatics, was not apt for magnetics. At another point during his cross-examination Professor Howse was asked by Mr St Ville to explain how an electrical field across the cuticle of an insect can act upon soft magnetic material to turn it into an electromagnet. In response to this question the Professor began by explaining how an alarm bell works and that an electric current leads to a magnetic field. He then went on to state that he knew from work published in German literature since the 1960s that there is a potential difference between the outside of the cuticle and the insect, which is sufficient to produce a very weak current. As a result soft metal particles, coming within the range of this electric current and the electric field it produces, become very slightly magnetised.

126 From Professor Howse's explanations in response to these questions, it was apparent to me that his knowledge of magnetism and electro-magnetism was limited. However, I do not accept the stronger suggestion made by Mr St Ville at the hearing that the Professor did not know about or understand magnetism. I do not find it surprising that an

entomologist, such as the Professor, was unable to explain the science of electromagnetism more precisely and in terms which a physicist might have employed. From his exchanges with Mr St Ville on this matter, it is clear to me that the Professor had been aware long before any contact with Mr Metcalfe that a small electric current within insects produces a electromagnetic field. Indeed, this seems to be the effect that Professor Howse described in his article published in the “Western Mail” newspaper in August 1965. Thus, in my view Professor Howse’s knowledge of the magnetic properties of insects was such that it could have led him to devise the “particle / pest” concept and I do not believe that any lack of understanding of electromagnetics in general would have held him back. However, this knowledge does not in itself indicate that the Professor actually took the step of devising this concept. Thus, I do not consider Professor Howse’s limited ability to explain the principles of magnetism, in the terms a physicist might use, in any way lends support to the claimants’ case.

*The “will it work?” question*

127 Mr Metcalfe states in his written evidence (my emphasis):

“I remember clearly during our discussions on 29 April 1998 Dr Howse saying to me: “How do **I know** it will work?” Tony Abbott said that he thought my idea might work. I said I did not know but I thought it was worth giving it a go.”

In his first written statement Professor Howse states in relation to the same discussions (my emphasis):

“I may have questioned Colin Metcalfe about his being able to supply magnetic powders but I do not recall asking “How did **he know** it would work”. I cannot think why I should have asked this question.”;

and later in the same statement (my emphasis):

“I have no recollection of my asking “How do **I know** it will work?”. I cannot think of a reason why I should have said that.”

In his third witness statement Professor Howse corrects his earlier evidence and states (my emphasis again):

“At the time of filing my First Witness Statement I did not remember saying, as Colin Metcalfe claims, “How do **you know** that it will work? .....

..... I am now confident that I do remember asking such a question. It was not an ill-judged question, but I wanted to know whether Colin Metcalfe had indeed understood the precise nature of the inventive step that could lead to the magnetic patent.”

128 From this evidence, particularly the different ways the question is stated to have been framed, it seemed at first Mr Metcalfe and Professor Howse might have had different recollections of the actual question posed. If Mr Metcalfe’s recollection was correct, it seems that Professor Howse was asking a rhetorical question, but if Professor Howse

was correct, it seems that he was directing a question at Mr Metcalfe. Fortunately, this apparent inconsistency between the written evidence of Mr Metcalfe and Professor Howse was resolved during the cross-examination of Mr Metcalfe. Mr Metcalfe referred to his witness statement and stated that he was asked by Professor Howse how it worked. He quoted Professor Howse as saying “How do you know it works?” This is consistent with Professor Howse’s evidence in his third witness statement and I am confident this was the question the Professor actually asked. Thus, I do not accept the proposition, made by Mr St Ville in his closing skeleton, that the question asked by Professor Howse was “How do I know it will work?” and consequently I do not accept Mr St Ville’s conclusion that this question could not have been intended to probe Mr Metcalfe. However, even though I am satisfied that Professor Howse asked Mr Metcalfe “How do you know that it will work?”, this does not help me one way or other in deciding if the Professor had already conceived the idea of controlling insects by causing magnetic, instead of electrostatic, particles to adhere to them. I am not confident that the explanation for asking the question, given by Professor Howse in his third witness statement, is nothing other than a rationalising reconstruction of his thoughts at the time, since in his first witness statement he could not even recollect asking the question and could not think of a reason why he should have asked it.

- 129 In the light of all the evidence, both written and oral, presented to me and also in the absence of any pertinent contemporary documents, I am driven to conclude on the balance of probabilities that Professor Howse had not thought of controlling pests by causing magnetic particles to adhere to them, prior to his first contact with Mr Metcalfe on 24 April 1998. Therefore, I must now consider who contributed what to the “pest / particle” concept based on the evidence concerning events from 24 April 1998. I will start by considering Mr Metcalfe’s alleged contribution.

*Mr Metcalfe’s alleged contribution to the “pest / particle” concept*

- 130 According to Professor Howse’s written evidence, Mr Metcalfe explained during their first telephone conversation on 24 April 1998 that he was connected to a company that could supply fine magnetic powders. Moreover, Mr Metcalfe’s written evidence, concerning his meeting with Professor Howse on 29 April 1998, is that he did not know whether magnetic powder could be used to trap cockroaches but he nevertheless thought it was worth trying. Mr Metcalfe explains in his written evidence that he had discussed his thoughts beforehand with his colleague, Tony Abbott, and that Mr Abbott had thought the idea might work. Mr Abbott has since passed away and so there is no corroborating evidence from him. However, when examined by Mr St Ville, Mr Metcalfe explained that he consulted Mr Abbott before telephoning Professor Howse and at that time Mr Abbott had told him that he felt the powders had a good chance of working because it was a known fact that hard-shelled insects generate a magnetic field. From this it seems that Mr Abbott might have recognised that there may be some magnetic interaction between the powders and insects. Yet when cross-examined by Mr Alexander, Mr Metcalfe accepted that when he spoke to Professor Howse on the telephone, he was not aware that the magnetic powder had to stick to the insects because “The Times” newspaper article had made no mention of this in the context of electrostatic powder. Mr Metcalfe added that he only realised this when the Professor explained to him that the powder had to stick to the legs of the insect. Thus, on the basis this evidence, I can conclude that what Mr Metcalfe had in mind before he

telephoned Professor Howse on 24 April 1998 was the use of fine magnetic powder to dust a bridge in a trap so that when cockroaches alighted on the powder, they would slip and meet their end on a flypaper. I am satisfied that at this stage he did not appreciate the need for the powder to adhere to the cockroaches.

- 131 In his written evidence Professor Howse states that at the meeting on 29 April 1998 he explained to Mr Metcalfe his belief that the magnetic powders would work but only if they were very fine particles, much like the electrostatic powders. On cross-examination Mr Metcalfe acknowledged that he discussed particle sizes with Professor Howse at the meeting, although it was obvious to him that the powder must be fine because it was to be used with small insects. Mr Metcalfe stated that he suggested using sizes finer than 100 micron and this was agreed with Professor Howse. Mr Metcalfe also states in his first witness statement that he may have left samples of ferrosilicate with Professor Howse at the meeting. However, this is not something Professor Howse remembers, according to the evidence in his first witness statement. Mr Metcalfe goes on to state in his first witness statement that on 12 May 1998 he sent Professor Howse some strontium ferrite for mixing with the ferrosilicate he had left with him. In his closing submissions Mr Alexander accepted that it was likely that at least some samples were left by Mr Metcalfe when he attended the meeting on 29 April 1998 and I agree with him, largely on the basis of a contemporary note, dated 6 May 1998, from PSL to Mr Ashby, which refers to Pherobase powder left with Professor Howse by Mr Metcalfe “during his visit last Wednesday”. I am also satisfied on the basis of a diary entry produced at the hearing before me that Mr Metcalfe sent a quantity of hard magnetic material to Professor Howse on 12 May 1998. What, if anything, Professor Howse did with these samples of ferrosilicate powder and hard magnetic powder is less clear because it is not directly addressed in the evidence before me. Nevertheless, there is the evidence that Professor Howse telephoned Ms Allard on 13 May 1998 to inform her that he had a new invention relating to the use of magnetic materials in pest control. In Ms Allard’s contemporary note of this telephone conversation, she records Professor Howse saying “Experiment seems to work”. Thus, on the balance of probabilities I believe Professor Howse conducted some experiments or arranged for someone else to do some experiments using the material provided by Mr Metcalfe on or prior to 13 May 1998. There is no evidence on what these experiments might have involved and what exactly worked.
- 132 There is agreement between the parties that Professor Howse received further samples of powders sent to him by arrangement with Mr Metcalfe. During his cross-examination Mr Metcalfe stated that “people in IDA and the south” came up with the formulations which were then presented to Professor Howse. It is also common ground that the powders were supplied to Professor Howse blind and were only identified by the numbers 1 to 6. A laboratory notebook, exhibited with Dr Underwood’s witness statement, establishes that there were a series of experiments using these powders, beginning with powder no.1 on 15 May 1998. The last relevant entry in the laboratory notebook is dated 2 July 1998 and records that graphs relating to the experiments with powders 1, 3 and 5 were prepared and submitted. It is further accepted by both sides that Mr Metcalfe wrote to Professor Howse on 23 June 1998 to describe the characteristics of the samples that had been supplied although I note this letter did not correlate the described characteristics with specific sample numbers. In this letter Mr Metcalfe identified seven samples as follows:

“Ferrobases PB200 - recycled ferrosilicate which has soft magnetic properties. This is the standard sample.

Ferrobases PB200 magnetically separated - the smaller particulates which are less magnetic have been removed from a standard sample.

Ferrobases PB200 90% - consists of 90% standard material with 10% strontium ferrite added. Strontium ferrite particulate size is approx. 3 micron.

Ferrobases PB200 75% - consists of 75% standard material with 25% strontium ferrite added. Strontium ferrite particulate size is approx. 3 micron.

Ferrobases PB200 50% - consists of 50% standard material with 50% strontium ferrite added. Strontium ferrite particulate size is approx. 3 micron.

Ferrobases PB75 - consists of 75% standard material with 25% strontium ferrite added. Strontium ferrite particulate size is 50 to 100 microns and was supplied from the Bournemouth factory.

ASC 200 - Soft magnetic Iron powder.”

On the balance of probabilities I believe that Mr Metcalfe provided this information at the request of Professor Howse, possibly made during a telephone conversation on 23 June 1998, which Professor Howse mentions in his first witness statement. I also believe that Professor Howse sought this information so that he could provide the information on the technical make up of the magnetic powders, as requested by Ms Allard on 4 June 1998 when she sent the Professor the first draft of the patent specification. In a fax to Ms Allard on 2 July 1998 Professor Howse stated:

“The preferred materials are strontium ferrite, which I understand is hard magnetic. Apparently Neodymium barium salts can also be used, but barium ferrite is toxic. Soft magnetic materials, Fe, Fe<sub>2</sub>O<sub>3</sub> and ferrosilicates can be included if they have been magnetised, or are likely to be by virtue of admixture with hard magnetic powders.”

“The additional figures I am about to send show loss of powder from *Blattella germanica* (n=10). Fig. A is the powder in the present Fig. 1, consisting of 10% Sr ferrite + ferrosilicate (some - <10% ? - of the ferrosilicate will have been magnetised by the Sr). Fig. B ferrosilicate powder alone (unmagnetised), and Fig. C is Sr ferrite alone.”

This information was incorporated by Ms Allard in the UK application which was filed on 3 July 1998.

133 Thus, in summary it seems to me that Mr Metcalfe brought to Professor Howse the idea that it might be possible to trap cockroaches by replacing the electrostatic powder used in Professor Howse’s Ecobiotic trap with fine magnetic powder. I believe that Mr Metcalfe appreciated how fine the powder must be for this purpose, not the least because it seems likely that the powder, which he left with the Professor at their first

meeting, when mixed with the hard magnetic powder, supplied on 12 May 1998, worked in one or more preliminary experiments conducted by or on behalf of Professor Howse. Later Mr Metcalfe supplied other magnetic powders to the Professor for blind testing by Dr Underwood. It is not clear what, if any, input Mr Metcalfe had in the formulation of these samples by the “people in IDA and the south” but it appears that Professor Howse had no input whatsoever because he did not know the make up of the samples, even when he received them. The evidence also points to Professor Howse having no better idea than Mr Metcalfe which powders would be suitable until he received the results of Dr Underwood’s experiments. Nevertheless, I accept that Professor Howse realised from the outset, whereas in my view Mr Metcalfe did not, that the magnetic powders had to stick to the insects to be effective. I also accept that Professor Howse would have realised, once the suggestion of replacing electrostatic powders with magnetic powders had been made, that it was possible magnetic powder might adhere to the cuticles of insects. Taking account of all of these factors, my preliminary view is that Mr Metcalfe was solely responsible for devising the concept of trapping and/or killing pests by using magnetic particles to adhere to their cuticles and that Professor Howse’s contribution was to prove this concept. In reaching this preliminary view I am conscious that it might seem inconsistent with the fact that Mr Metcalfe was not aware initially that the particles had to adhere to the cuticles of the insects. However, in my view this is not a pre-requisite for devising the pest / particle concept since it is merely a consequence of exposing insects to the fine powders which were supplied by Mr Metcalfe. Looking at it another way, if Mr Metcalfe had tested his idea himself and allowed cockroaches to walk through the powders, he could have proved the concept and in the process he would have discovered that the powders stuck to the cuticles of the cockroaches. What is most important in my view is that Mr Metcalfe thought his idea of using magnetic powders was worth trying; indeed it seems to me that if this was not the case, there would have been no motivation for Mr Metcalfe to contact Professor Howse in the first place.

#### *Contemporary documents*

134 Before I reach a final view on this question, there is one further matter I must consider. In his closing statement to me Mr Alexander urged me to consider the contemporary documents to see what the claimants really thought the position was in relation to inventorship. One of these documents was a letter, dated 20 July 1998, from Mr Metcalfe to various parties about a proposed project involving the design, production, marketing and sale of a number of pest traps. The letter states that the traps in question are those which have been conceptually proven by SIL. The letter also identifies the parties and their proposed inputs to the project, for example:

“(a) Southampton Innovations Ltd - Philip Howse, Roger Ashby - concept inventors, marketing, sales and licencing.

(b) I.D.A. Limited - Colin Metcalfe, Simon Cowie - project management.

(c) Powder Services Limited - Terry Rowland, Ralph Brown - powder suppliers and licencing.”

When cross-examined Mr Metcalfe clarified that his letter addressed a range of

inventions relating to pest traps and that the only interest he had as a concept inventor was in the use of magnetics in traps. He also explained that he did not suggest at the time he was a concept inventor of any of the traps in question because it had been agreed to allow the University to patent the concept relating to magnetic technology. Moreover, he stated that he was concerned to maintain the confidentiality surrounding the use of this technology in insect traps.

135 I do not find Mr Metcalfe's explanation of this matter wholly convincing. It seems to me that he clearly had the magnetic insect trap concept in mind when he wrote this letter but nevertheless identified the role of "Southampton Innovations Ltd - Philip Howse, Roger Ashby" as "concept inventors" and the role of "I.D.A. Limited - Colin Metcalfe, Simon Cowie" simply as "project management". Moreover, as Mr Alexander rightly pointed out during his cross-examination of Mr Metcalfe, any agreement on who would patent the relevant technology seems to be a separate issue to the question of who devised the concept protected by the patent. Thus, I have some sympathy for the proposition, presented by Mr Alexander, that Mr Metcalfe regarded Professor Howse and Mr Ashby as the concept inventors in July 1998. However, I must also accept that the proposed project related to a number of pest traps in addition to any reliant on magnetic technology and it is plausible that, as Mr Metcalfe suggested, he took a broad view when he wrote this letter.

136 Mr St Ville referred to a further document when he was examining Mr Churchman. This document was a draft Heads of Agreement between IDA and the University and was attached to a fax dated 27 September 1999 from Mr Churchman to Mr Huggett. Mr Churchman was asked to explain a statement in the draft Heads of Agreement that:

"Whereas IDA has worked for an extensive period of time with Prof. Howse and Roger Ashby of Southampton Innovations to assist in production designs and additional technologies (namely magnetic powders and light/sound strobe attractants)."

Mr Churchman's response was that this statement states exactly what IDA was doing and he added that they had taken the magnetic powder technology to the University. If I am to give this document its appropriate weight, I must put Mr Churchman's additional comment to one side and consider the document as it stands. On this basis, all the statement above tells me is that IDA assisted in technology involving magnetic powders. This might involve, as Mr Churchman commented, IDA taking the technology to the University but equally it could be no more than an acknowledgement of the assistance IDA gave by providing samples of powders for Professor Howse to test. Thus, I can find nothing in this statement, which unequivocally points to IDA taking the magnetic powder technology to the University.

137 Another document put to Mr Churchman, this time by Mr Alexander, was a further draft Heads of Agreement but this one was sent to him under cover of a letter dated 9 November 1999 from SIL. This draft Heads of Agreement set out terms and conditions under which XO2 would grant licences to IDA for the commercialisation of XO2 insect pest control technology/products as defined in a Schedule. This Schedule identified a number of products which involved the use of electrostatic and magnetic powders. Mr Churchman was asked by Mr Alexander why there is no record of a

protest that those products involving magnetic powders should not be subject to license from the University or XO2 to IDA because the subject matter was in fact IDA's technology. The response Mr Churchman gave was that this one matter did not warrant a specific rebuttal because overall the proposed agreement was so diametrically opposite to anything that had been previously discussed.

138 Another contemporary document identified by Mr Alexander was a draft Licence Agreement which had been sent to Mr Churchman by Mr Huggett under cover of a letter dated 2 December 1999. Mr Churchman was cross-examined extensively about this draft, as well as about his response and that of Mr Metcalfe to it. Some of Mr Alexander's questions concerned a comment, which had been made by Mr Metcalfe in a manuscript note, about one clause in the draft Agreement. The comment in question was:

“14.1 - IDA will not accept any charges made by XO2 for the submission or maintenance of patents - This is considered to be part of providing the technology covered by the license.”

Mr Churchman was also asked by Mr Alexander to comment on a reference in a Schedule to the draft Agreement:

**“2. Licensed Products**

**Cockroach Trap**

Heavy duty trap with electrostatic powder (or magnetic powder subject to XO2's approval), also known as EcoBiotic and ExoRoach trap.

**Cockroach Bait Station**

Tubular bait station containing magnetic powder (such magnetic powder to be approved by XO2) formulated with slow-acting proprietary pesticides such product for exploitation at such time as it has been satisfactorily field tested by XO2 and XO2 inform IDA of such.”

Mr Churchman explained that the agreement, at the time of the initial work done by the University, was that the magnetic technology was invented by IDA, that the University would investigate it and that the University would take out a patent in due course to protect the technology. This meant that IDA would need a licence under the patent. Mr Churchman also maintained that at the time of this draft Agreement IDA were not aware that the University had applied for the patent, even though the unpublished UK and PCT applications were mentioned in a Schedule to the draft Agreement.

139 Mr Churchman accepted that Mr Metcalfe did not take issue in his manuscript note with the concept of IDA being licensed in respect of the products itemised under the sub-heading “Licensed products”. However, he drew attention to a statement in his own response, dated 6 December 1999:

“We were hoping that XO2's and our views on both the contractual and commercial



issues would be sufficiently close to allow us to conclude matters with our potential licensees in China. However I am afraid that this is not the case and I believe that there are fundamental issues that will need resolution if we are ever to move forward together.”

Moreover, although Mr Churchman did not specifically refer to it when cross-examined, I note that one of the fundamental concerns identified by him in his letter was (my emphasis):

“6) There seems to be the belief by XO2 that IDA are acting simply as “middlemen” and **there appears to be no recognition of the contribution made by IDA over the past 18 months to the technology, design and improvements that have been incorporated and then offered by XO2 to third parties e.g. magnetics.**”

140 Mr Alexander questioned Mr Metcalfe about a later version of the same draft Licence Agreement. This later version was faxed to Mr Metcalfe on 21 December 1999 by Mr Huggett. Mr Metcalfe was asked why he did not say, “Hey! What on earth are you doing applying for a patent and seeking to license IDA under a patent that *inter alia* would cover use of magnetic powders?” when, in Mr Alexander’s submission, it was obvious that one of the patents listed in the Schedule to the draft Agreement must have related to the magnetic technology. In reply Mr Metcalfe maintained that his understanding had been that any such patent would be shared. He did not realise at the time that any of the patents listed in the Schedule to the draft Agreement related to the magnetic technology because he did not know that such a patent had been applied for by the University. He added that it was hard to understand that they were going to have to pay a royalty for their own idea but it was not clear to me whether this statement represented his feelings in or around December 1999.

141 When considering the reaction of Mr Churchman and Mr Metcalfe to the draft Agreements sent to them in November and December 1999 it is important in my view not to lose sight of the fact that these Agreements related to the licensing of a range of technologies and traps besides those that relied on the use of magnetic powder. For example, these draft Agreements embraced the electrostatic technology developed by Professor Howse and which forms no part of the claimants’ claim in these proceedings. I can also sympathise with the positions of Mr Churchman and Mr Metcalfe at the relevant time since it is not immediately obvious from the references to the two unpublished patent applications, which are described as relating to a “Carrier System”, that these applications concern the magnetic technology. Moreover, I note that the number of the UK application is misquoted in both versions of the draft but this may be irrelevant because the application was never published and so was not available for consideration by Mr Churchman or Mr Metcalfe. I certainly do not accept that it was obvious at the time that these patent applications or any of the others, mentioned in the Schedule, related to magnetic technology. Thus, I would not regard it as reasonable to draw the conclusion that Mr Metcalfe was tacitly accepting that the magnetic technology had been provided by Professor Howse when he commented that “IDA will not accept any charges made by XO2 for the submission or maintenance of patents - This is considered to be part of providing the technology covered by the license”. Moreover, it seems to me that Mr Churchman did flag up in his letter dated 6 December 1999 the

concern that the draft Agreement did not recognise the contribution made by IDA in the area of magnetics. Indeed, it seems to me that this amounts to the protest that Mr Alexander was looking for.

*Conclusion on who devised the “pest / particle” concept*

142 I have given careful thought to each of the abovementioned contemporary documents and what they say about the claimants’ view at the relevant times. However, I find that they do not clearly indicate what this view was in relation to who devised the “pest / particle” inventive concept. Therefore, I am not persuaded that on the balance of probabilities they provide a sound basis for changing or modifying my preliminary view that Mr Metcalfe was the sole deviser of this particular inventive concept.

*Who devised the “particle anchoring” concept?*

143 I can now move on to consider who devised the second inventive concept comprising an insect trap or bait station wherein magnetic particles are anchored to a magnetic zone. The defendants’ claim that they were in possession of the invention before the first meeting between Mr Metcalfe and Mr Ashby at the end of April 1998. The claimants’ position is that Mr Metcalfe not only had the idea of replacing the electrostatic powder, as used in the trap described in “The Times” newspaper article, with magnetic powder, but he also had the idea that if parts of the trap were made magnetic, the magnetic nature of the powder could be used to stop it from blowing away.

*The evidence of Mr Ashby and Professor Howse*

144 I have already referred to Mr Ashby’s written evidence that in discussions with Professor Howse he suggested that by having a bridge made from magnetised plastic, a magnetic powder could be positioned on the bridge. He explains that his scientific background, as a metallurgist, led him to believe that the ideal anchoring mechanism for the magnetic particles used in the EcoBiotic Trap would be a polarised plastic bridge. He goes on to state that since the late sixties he had been aware that flexible magnet materials had existed as products. On the matter of what was discussed with Mr Metcalfe at the meeting on 29 April 1998, Mr Ashby states in his first witness statement that Mr Metcalfe introduced the idea that the cost of producing the EcoBiotic trap could be reduced by some \$US 2 per unit by replacing expensive magnets used at the four corners of the trap.

145 In his first witness statement Professor Howse states that prior to being contacted by Mr Metcalfe, he discussed his magnetic work with Mr Ashby. He recalls Mr Ashby suggesting that magnetic powders could combine well with magnets placed inside the trap housing or with traps made of magnetic plastics. In addition, when commenting on a statement in Mr Metcalfe’s first witness statement that the PPT Group was developing plastics impregnated with magnetic material and then magnetising the plastic, Professor Howse states in his own first witness statement that Mr Metcalfe had advised that this technology was new and belonged to IDA Limited. Professor Howse comments further that they later discovered that the technology was being used by many other companies.

146 On cross-examination Mr Ashby confirmed that he was aware that magnetised plastics

were freely available and that he had used magnetised plastics probably 30 years previously. He also confirmed that his scientific background had led him to believe that the ideal anchoring mechanism for the magnetic particles would be a polarised plastic bridge. He explained that although he had not gone out and bought any of this material, he had shared his idea with Professor Howse and told him that the material was readily available. In response to Mr Ashby's statements and explanations, Mr St Ville observed that Professor Howse would not have stated that he only discovered later that plastics impregnated with magnetised material was not new, if both Mr Ashby and Professor Howse knew about such impregnated plastics before 1998. When challenged further on this point, Mr Ashby stated that when he was told by IDA that they produced plastic material which had magnetic material impregnated into it, and that it was new and theirs, he did not tell them straightaway that he knew all about that because at the time it was not fundamental to what he and Professor Howse were thinking about. Recalling the first meeting with Mr Metcalfe on 29 April 1998, Mr Ashby stated under cross-examination that the first thing the people from IDA said was "Well we can cheapen those magnets for a start". This was a reference to separate magnets at the corners of the electrostatic cockroach trap, which served to hold two halves of the trap together.

147 When giving his oral evidence, Professor Howse explained that Mr Ashby had discussed his idea with him in general several months before the meeting at the end of April 1998 and at a time when they were interested among other things in how the particles would be able to stay on the trap. He stated that his first thought was that the bridge would have to be made of metal for the magnetic particles to stick onto it and he thought it was then that Mr Ashby suggested that some of the material of the trap, for example the bridge, could be made of a plastic material with polarised ferrous particles in it. He also said that Mr Ashby wanted to find ways of reducing the high cost of manufacturing "that particular trap" and was thinking about "other magnetic solutions". During the course of further cross-examination, Professor Howse said that he recalled Mr Ashby suggesting making parts or the whole of the trap of magnetic plastic so that separate corner magnets would not be required to hold the two halves of the trap together. However, he stated that he did not remember Mr Ashby discussing the idea of making the bridge alone out of magnetic plastic.

148 Professor Howse was later questioned about a statement in the draft patent application , which was faxed to Ms Allard on 22 May 1998, that:

"They [the magnetic particles] can be anchored to conducting or magnet materials in traps and bait stations and will remain in position for long periods without losing their attraction and therefore remaining resistant to loss by air currents or shaking."

The Professor said that he remembered these details deriving from Mr Ashby and that Mr Ashby came out with them at the meeting on 29 April 1998 with Mr Metcalfe. However, he did not know whether Mr Ashby came out with them for the first time at this meeting. Later still, when questioned about a reference in the draft patent application concerning a particular bait station for moths, Professor Howse stated that his understanding was that the idea of using plastic material impregnated with ferromagnetic material came first from Mr Ashby and not Mr Metcalfe but he could not remember if Mr Ashby had discussed it with him before he, Professor Howse, had talked to Mr Metcalfe. He remembered clearly Mr Ashby coming up with the idea of

anchoring particles onto cockroach traps with magnetic plastic and that Mr Ashby may have discussed it with him before he met Mr Metcalfe but this was something he could not remember.

149 In relation to a statement, already mentioned above, in Professor Howse's first witness statement that:

“We had been advised by Colin Metcalfe that the technology described [in paragraph 25 of Mr Metcalfe's first witness statement] for impregnating plastics with magnetic material was new and belonged to IDA Limited. We later discovered that the technology was being used by many other companies.”

Professor Howse explained in his oral evidence that what he was trying to say was (my emphasis):

“Colin Metcalfe made **a claim which I believed to be true** at the time, that IDA were the only people who had the technology for making magnetic plastic of the type that could be used in traps. Mr Ashby told me that he did not believe **this was true** because he was aware of the technology in general and knew that sheets of plastic magnetised material could be obtained for certain office uses and so forth.”

150 I have already mentioned that annexed to Mr St Ville's skeleton was an internal University memorandum, dated 3 July 1998. This memorandum was from Professor Howse to Mr Don Fox, who was Director of the Office of Innovation and Research Support at the University at the relevant time. The memorandum states:

“BWT have just filed a patent based on magnetic powders. Roger, who suggested we investigate the performance of the magnetic powders supplied by Powder Coatings Ltd, is claiming part inventorship, which is OK by me. However, I suppose we should apportion the claims, bearing in mind that Roger was not the first to suggest this and also taking into account that I have rolled into the application another design for a cockroach trap which I was intending to patent separately. I would be thinking of between 70 and 90% in my favour.

Would you like to sound Roger out on this independently?”

This memorandum is annotated twice in manuscript. The writing is not very clear but Professor Howse seemed to accept that these annotations state:

“PS I have sorted the issue out with Rob, but Chris Jackson is not happy about his contribution to the patent concept being ignored. 10/7/98”

“..... I have negotiated a 60% PEH : 40% REA split in inventorship with Phil & Roger. Could you confirm in writing to the 2 of them? Don”

When Professor Howse was shown this memorandum he confirmed that he had written it on the day the UK application was filed with a view to settling the question of the inventorship in relation to the application. He also explained that by the statement “Roger was not the first to suggest this” he meant that Roger Ashby was not the first to

suggest using magnetic particles to stick to the cuticles of insects since he (in his view) was the first to suggest this idea.

- 151 The drawings included in the UK application show a trap in plan view and two transverse cross-sections taken at different points along its length. When cross-examining Professor Howse, Mr St Ville suggested, on the basis of way the drawings had been labelled partly in type and partly in manuscript, that the plan view and one of the cross-sections, indicated A-A', were drawn together but the other cross-section, indicated B-B', had been drawn later. Professor Howse eventually accepted that the cross-section at B-B' may not have been produced at the same time as the plan view and the first cross-section. He recalled that the plan view and the first section had been prepared in 1997 for other purposes but suggested that the section B-B' may have been added later to make the design features clearer for Ms Allard. However, the Professor denied Mr St Ville's suggestion that the section B-B' was taken from a design produced by Mr Metcalfe. Indeed, he took the view that it was much more likely that Mr Metcalfe's design was taken from his drawing.

*Mr Metcalfe's evidence*

- 152 I can now turn to Mr Metcalfe's evidence concerning the "particle anchoring" inventive concept. In his second witness statement he states that he proposed having a magnetised zone, which would retain magnetic powder, since he believed Professor Howse's electrostatically retained powder trap to be impractical in the field. He alleges that is why he approached the Professor in the first place and why the Professor agreed to meet him. Mr Metcalfe's first witness statement contains further detail and in it he states that he disclosed to Professor Howse the idea of using magnetised plastic material, which was under development by the PPT Group, for the bridge of the cockroach trap so that magnetic powder would stick to it. He refers specifically to the statement in the UK application that:

"We have now developed a method and apparatus for controlling pests which involves the use of particles which are permanently magnetised and are not affected by moisture or humidity and which, when anchored on ..... magnetic surfaces, will remain in position for long periods of time without loosing (*sic*) their effectiveness."

and he claims that this was the basic idea he explained at the first meeting.

- 153 When giving his oral evidence Mr Metcalfe explained that on speaking to Professor Howse about the article he had read in "The Times" newspaper, the Professor mentioned that the trap depended on the powder not only being on the trap side but also on the cuticles of the insects. Mr Metcalfe stated that he referred this information back to the late Mr Abbott and they had the idea that the magnetic powder would be suitable for sticking on the walls or sides of the trap as well as for putting on the insects. He also confirmed that during the meeting on 29 April 1998 one of the matters discussed was the possibility of finding a less expensive alternative to the magnets which were at that time used to hold the parts of the existing electrostatic cockroach trap together. Mr Alexander suggested to Mr Metcalfe that the idea of making the trap body magnetic so that the two parts would adhere together without the need for the separate magnets,

was discussed at the meeting. Mr Metcalfe did not deny this but commented that such a construction would not be a practical solution because it would make the trap very expensive. However, throughout his cross-examination Mr Metcalfe maintained that it was his suggestion, and not Mr Ashby's, to have a removable tray with a magnetic surface in order to hold the magnetic powder in place, and that this was discussed at the meeting on 29 April 1998.

- 154 Mr Alexander questioned Mr Metcalfe about a drawing of a trap, which Mr Metcalfe exhibits as CTM 12 with his second witness statement and which he claims he prepared for Professor Howse at an early stage of their discussions. However, it was accepted by Mr Metcalfe that there is no indication on the drawing of when it was made. This drawing illustrates in essence the same design feature as that shown in the UK application as cross-section B-B'. It is annotated at the top left hand corner "Magnetic Tray" and Mr Alexander suggested that this was a reference to making the body of the trap magnetic. Mr Metcalfe resisted this suggestion strongly by pointing out that the reference to a magnetic tray was a reference to a detachable tray which was shown in plan view alongside the annotation and which was intended to fit on the top of the main base. Helpfully Mr Metcalfe was able to mark the tray with a highlighter in a cross-sectional view of the trap to show how it fitted on the base of the trap. He also explained that the design of this tray was different from that used in Professor Howse's existing trap and that curved surfaces of the tray, best shown in the cross sectional view, were the surfaces to be coated with magnetic powder.

*Assessment of the evidence*

- 155 In assessing the evidence presented to me concerning the "particle anchoring" concept, I should start by examining the defendants' case that they were in possession of the invention before the first meeting with Mr Metcalfe. There is at least an implication in the written evidence filed by the defendants that prior to this meeting Mr Ashby had suggested to Professor Howse that a magnetised plastic could be used to position magnetic powder on the bridge of a trap. Unfortunately, the evidence Mr Ashby gave when cross-examined by Mr St Ville did not give me any clearer idea about when he made this alleged suggestion to Professor Howse. For his part Professor Howse held to the position during his cross-examination that the suggestion of anchoring magnetic particles to magnetic materials in traps came from Mr Ashby but he eventually admitted that he could not remember if Mr Ashby had discussed this with him before the first meeting with Mr Metcalfe. On the other hand, Professor Howse apparently had no trouble in recalling that some months before the first meeting with Mr Metcalfe, Mr Ashby had suggested making parts or the whole of the trap of magnetic plastic so that the separate corner magnets could be dispensed with. I am therefore inclined to the view that if Mr Ashby had discussed with Professor Howse the idea of anchoring magnetic particles to a partly or wholly magnetic trap before the first meeting with Mr Metcalfe, the Professor would have remembered it.
- 156 I should now consider why Professor Howse thought that the technology involved in impregnating plastics with magnetic material was new and belonged to IDA, if Mr Ashby had told him several months before that magnetised plastics material was readily available. As I have already pointed out above, Professor Howse could not remember Mr Ashby suggesting before the first meeting with Mr Metcalfe that

magnetised plastic could be used to anchor magnetic particles. Nevertheless, he did recall Mr Ashby suggesting the use of magnetised plastic material as an alternative to the existing corner magnets. For the purposes of this decision I do not need to decide whether Mr Ashby did in fact suggest to Professor Howse the alternative of using magnetised plastic instead of the corner magnets, and I have already indicated that I am not persuaded that Mr Ashby and Professor Howse discussed anchoring magnetic particles to a magnetic zone in a trap before meeting Mr Metcalfe. However, I find it surprising that if Mr Ashby had told Professor Howse, in whatever context, that magnetised plastic was readily available, the Professor did not recall and react on this when he understood Mr Metcalfe to say that impregnating plastics with magnetic material was new. The explanation for this seems to come from Professor Howse's oral evidence that Mr Ashby told him that he did not believe the claim made by Mr Metcalfe was true because he was aware of the technology in general and knew that sheets of plastic magnetised material could be obtained for certain office uses and so forth. In other words, it seems that Mr Ashby told Professor Howse after and not before the meeting with Mr Metcalfe that such materials were generally available. If I am correct in this, I cannot give any weight to a suggestion made by Mr St Ville that both Mr Ashby and Professor Howse did not know about plastics material impregnated with magnetised material before 1998. Mr Ashby may have known this but in my view the evidence as a whole presented on this matter casts further doubt on the reliability of his evidence.

- 157 Overall and on the balance of probabilities I do not believe that Mr Ashby discussed the “particle anchoring” concept with Professor Howse before the first meeting with Mr Metcalfe. It seems that my finding on this matter is consistent with my conclusion above in relation to who devised the “pest / particle” concept. If I am correct in that finding, that is Professor Howse had not considered the “pest / particle” concept before Mr Metcalfe telephoned him, it follows that he would not have discussed this concept with Mr Ashby during this period. What then would have been the reason for Mr Ashby to discuss with Professor Howse the idea of anchoring magnetic particles to a magnetic zone of a trap? None that I can envisage. The defendants' case is based on Mr Ashby learning from Professor Howse that insects could be trapped and/or killed by causing magnetic particles to adhere to their cuticles. Armed with this knowledge, it is alleged that Mr Ashby then went on to propose that these particles could be anchored in a trap by providing the trap with a magnetic zone. In my view if he was the deviser of the “particle anchoring” concept, as he and Professor Howse allege, he did not devise this concept before Mr Metcalfe suggested using magnetic powder as an alternative to electrostatic powder in the Professor's cockroach trap.
- 158 Of course this does not mean that Mr Ashby could not have devised the “particle anchoring” concept after Mr Metcalfe came forward with the idea of using magnetic powder to trap cockroaches. Although this sequence of events has not been specifically put to me by the defendants in their evidence, I should consider it nonetheless. In doing so I will need to resolve the conflicting evidence of Mr Ashby and Professor Howse on the one hand and that of Mr Metcalfe on the other about who devised the “particle anchoring” concept.
- 159 There is very little in the way of contemporaneous documents to help me on this matter. One such document is the internal University memorandum written by Professor Howse

to Mr Fox with a view to settling the question of inventorship in relation to the UK application. In this memorandum the Professor seeks to apportion a share to Mr Ashby, seemingly on the basis that Mr Ashby suggested that they investigate the performance of the magnetic powders supplied by Powder Coatings Ltd. There is no suggestion in this memorandum that Mr Ashby's contribution concerned the "particle anchoring" concept. I find this omission most surprising, if in fact Mr Ashby had devised this concept.

- 160 Then there are the drawings of the trap bridge or tray, which Mr Metcalfe claims he produced for Professor Howse and which the Professor claims Mr Metcalfe took from him. The drawing, produced by Mr Metcalfe, is undated and when Mr Metcalfe was cross-examined, he did not seek to claim that it had been produced before he met Professor Howse at their first meeting. Similarly, the Professor could not put a date to his drawing of essentially the same design and he seemed to accept that he might have produced it subsequent to the meeting on 29 April 1998. Moreover, the design, that is the shape, of the trap bridge or tray does not have a direct bearing on who devised the "particle anchoring" concept. Therefore, I do not believe that resolving the disputed evidence concerning these drawings would help me to decide who brought the "particle anchoring" concept to the meeting on 29 April 1998, and I do not propose to consider this matter further
- 161 Another contemporaneous document is the letter, dated 20 July 1998, from Mr Metcalfe to various parties to a proposed project involving the design, production, marketing and sale of pest traps. I have already considered this letter in relation to the "pest / particle" concept. In that context I found that the references in this letter to "Southampton Innovations Ltd - Philip Howse, Roger Ashby - concept inventors" and "I.D.A. Limited - Colin Metcalfe, Simon Cowies - project management" did not help me to decide who devised the "pest / particle" concept. For the same reasons I have given above, it does not help me to decide who devised the "particle anchoring" concept. Similarly, there is nothing in the series of draft Agreements which were produced over the period from September 1999 to December 1999 and which I have already considered above in relation to the "pest / particle" concept, to help me to decide who devised the "particle anchoring" concept.

*Conclusion on who devised the "particle anchoring" concept*

- 162 I am conscious that the onus rests with the claimants to establish that Mr Metcalfe devised the "particle anchoring" concept and that on this point in this case my decision turns largely on the credibility of the witnesses. I have found that I cannot attach consistent and persuasive weight to the evidence given by Mr Ashby and Professor Howse in support of the defendants' case that they were in possession of the invention before the first meeting with Mr Metcalfe. On the other hand I found Mr Metcalfe a credible witness on the matter of the "particle anchoring" concept. There is just the one piece of contemporaneous evidence which seems relevant and helpful, and that is the memorandum Professor Howse wrote to Mr Fox. If Mr Ashby had devised the concept of anchoring magnetic particles to a magnetic zone of a trap or bait station, I would have expected Professor Howse to acknowledge this contribution to the patent in his memorandum but he did not. Taking all these elements together, I am persuaded that on the balance of probabilities Mr Metcalfe devised the "particle anchoring" concept either before or after he telephoned Professor Howse on the 24 April 1998 but certainly very



soon after he realised that it was necessary for the magnetic particles to stick to the trap. I also believe that Mr Metcalfe and not Mr Ashby introduced this concept into the discussions during the meeting held on 29 April 1998. I do not accept the defendants' suggestion that Mr Metcalfe was only interested in designing a less expensive trap by finding an alternative solution to the existing, expensive corner magnets. On the contrary it seems much more likely to me that this issue was the focus of the defendants at the relevant time and that they hoped Mr Metcalfe would be able to provide a cheaper solution. Thus, I find that the claimants have discharged the onus on them of establishing that Mr Metcalfe was the sole deviser of the concept of anchoring magnetic particles to a magnetic zone of an insect trap or bait station.

### ***Dr Lax's contribution***

163 I have already dealt with Mr St Ville's submission that there is a further inventive concept comprising the use of a pesticidal composition made up of magnetic material in admixture with (for instance coated with) a pesticide or behaviour modifying chemical. Mr St Ville labelled this concept as the "Admixture and Coating" concept. I decided that this did not constitute an inventive concept in its own right. Thus, I do not believe I need to address the claim that Dr Lax contributed to the subject matter of the UK application by conceiving matter related to the encapsulation of magnetic powders. However, for the avoidance of doubt I should make it clear that after considering the evidence as it relates to the alleged contribution made by Dr Lax, I find that it has no bearing on who devised either of the two inventive concepts I identified above. I therefore reject the claimants' claim that Dr Lax devised any invention included in the applications *in suit*.

### **Entitlement**

164 Earlier in this decision I referred to the three limbs of the claimants' case concerning entitlement in these proceedings. To recap briefly they involve entitlement resulting from inventorship, entitlement based on an agreement concerning ownership of intellectual property and entitlement as the result of the misuse of confidential information. I will consider each of these aspects of the claimants' case in turn.

#### ***Entitlement resulting from inventorship***

165 By an assignment, dated 14 September 2001, Mr Metcalfe assigned to IDA all rights in and to the patent applications *in suit*, the inventions referred to therein, the right to apply for and obtain patents or similar forms of protection in respect of the inventions throughout the world and all rights, privileges and advantages associated with them. Accordingly and based on my finding that Mr Metcalfe was the sole deviser of the inventive concepts contained in the applications, I find that IDA is entitled to be granted each of the patents in question.

#### ***Entitlement arising from an agreement between SIL and PPTL***

166 Having determined, on the basis of inventorship, that IDA stands to be entitled in the relevant patents and patent applications, it seems to me that my inquiry into any entitlement arising from a separate agreement is principally to establish whether that

earlier determination is to be disturbed.

*The issue*

167 It is common ground between the parties that Mr Ashby sent a draft Heads of Agreement to Mr Brown on 30 June 1998 after various discussions, including a meeting on 16 June 1998 between Mr Ashby and Mr Brown. The actual draft is preceded by a note from Mr Ashby to Mr Brown stating:

“Dear Ralph,

Here is draft of outline heads of agreement. We do not have a standard format but quite happy to discuss (*sic*) any views you might have. Truthfully, it is a statement of goodwill which I hope we can apply for many years to come. I would be happy to make any changes or additions you wish. Would you mind forwarding a copy to Colin.

I have got an exciting programme for next week and look forward to seeing you then.

With best regards

Roger Ashby”

The draft Agreement between SIL and PPTL, which follows, states (my emphasis):

“DRAFT  
Heads of Agreement

Southampton Innovations Limited (a wholly owned subsidiary of The University of Southampton) and PPT (Licensing) limited (*sic*) would like to form an alliance to advance the commercial potential of both parties’ know how and expertise.

A Confidentiality Agreement dated 15<sup>th</sup> June 1998 exists between the parties.

SIL will make available from the University such research and development resources and information which is unencumbered towards developing products, processes or new technology arising from the use of products and / or know how supplied by PPTL. The University will introduce the project to all faculties including Medicine, Engineering and Science. With the prior agreement of PPTL, the University may wish to discuss the project with other academic institutions or industrial organisations. In each and every case any such discussions would be under a formal non disclosure agreement.

PPTL will provide to the University sample materials and such technical information as is necessary to investigate commercial uses and applications for the materials.

It is envisaged that the University will jointly with PPTL make a review of potential applications.

Following the review, the parties will decide on a programme of development and strategy which may involve setting up a formal joint venture. The scope of such an entity would be structured at the time and would depend on the degree of intended contributions and participation of the founders.

**It is agreed that any arising intellectual property discovered during the evaluation stage shall be owned equally between the parties. Any expenditure required to secure such issues shall be shared equally. There may be certain benefits to the University by having title to patents. In which case The University shall be the owner of the patent and grant a royalty free licence to PPTL for the life of the patent and have all other rights *pari passu* with The University.**

In the event of either party failing to reach agreement for the commercial development of any arising intellectual property then the parties agree each to take royalty free cross licences with rights to sub licence. Any sub licence agreements must have minimum royalties which are acceptable to both parties.

This agreement shall take effect from ..... and remain in forces (*sic*) for a minimum of [three] years. Thereafter to be continuous (*sic*) until either party gives 12 months notice of termination.

Arising ventures shall be governed by separate agreements which in the event of dispute will take precedence over this agreement.”

- 168 The evidence given by Mr Ashby in his witness statement indicates that Mr Brown returned this draft to Mr Ashby with annotated comments. The Agreement was never signed. In their statement the claimants allege that Mr Ashby explained that SIL did not want to sign any written agreement until a High Court action involving them had been resolved but that the parties should continue their relationship on the basis of the terms set out in the Heads of Agreement. Ms Allard provides some background to this High Court action in a letter, dated 19 February 2002, which is exhibited with Mr Churchman’s first witness statement:

“W. J. Aston and R. Fuller were shareholders in Exosect Limited ( a University of Southampton spin out company) and were also engaged by the company to seek potential investors. The relationship between Southampton Innovations Limited, the University and Exosect Limited and Messrs. Aston and Fuller deteriorated during 1998 and in June 1999 Southampton Innovations Limited instituted proceedings in the High Court naming them as defendants. In view of this litigation it was proposed that any unencumbered Intellectual Property held by Exosect Limited or which was intended to be exploited by the company, (of which the invention the subject of the current proceedings before the Patent Office was included) would be transferred to a newly formed company XO2 Limited. The Shares in XO2 Limited (Registered Company Number 3762870) were held by Southampton Innovations Limited and Professor P. Howse.”

The claimants maintain that although the draft Agreement was not signed, the parties subsequently conducted their relationship on the basis that the Agreement was binding. Thus, in the claimants' view SIL had entered into a contract with PPTL on the terms set in the Agreement and/or the terms set out in this Agreement were accepted by conduct.

169 For their part, the defendants adopt the position that the draft Agreement was neither finalised nor entered into. They refer to numerous other draft Heads of Agreement or draft Licence Agreements between the parties, or between other interests associated with the parties, none of which were entered into. For example, there was another draft Heads of Agreement which was produced by Mr Terry Rowland of PPT (Ventures) Limited and faxed to Mr Ashby on 8 August 1998. In the fax covering sheet Mr Rowland states:

“I have attempted to refine the intended general working relationships between the University, Southampton Innovations and PPT. I would welcome your comments on both the approach and the substance.”

Therefore, in the defendants' view the Heads of Agreement, dated 30 June 1998, was not binding upon SIL and there was no contract between PPTL and SIL, either actual or implied. Before I can form any view on this matter I must consider the evidence.

*Mr Ashby's evidence*

170 I will begin by considering Mr Ashby's evidence since he was the originator of the draft Agreement sent to Mr Brown. In his first witness statement Mr Ashby states that the joint ownership of intellectual property, under the draft Agreement, was conditional on IDA providing suitable funding. Moreover, he believed that he made it clear that SIL would enter into an agreement only if funding was provided. According to Mr Ashby, on the return of the draft Agreement with Mr Brown's annotations, the negotiations continued and the further draft Heads of Agreement, dated 8 August 1998, was proposed. Furthermore, Mr Ashby states that at the time of the first draft there was nothing, including the High Court action involving SIL, to prevent SIL entering into an agreement with IDA, provided satisfactory terms could be agreed.

171 On cross-examination Mr Ashby confirmed his view that there was nothing to prevent SIL from entering into an agreement with IDA. However, when questioned about a Shareholders' Agreement, dated 2 May 1998, between Exosect, SIL, Professor Howse and Messrs Aston and Fuller, Mr Ashby stated that although he could not recall disclosing the magnetic trap technology to Messrs Aston and Fuller, the Shareholders' Agreement covered this technology. Thus, the magnetic trap technology was not unencumbered for the purposes of the Draft Heads of Agreement. He also admitted that he had not told Mr Brown that the Heads of Agreement was intended to exclude this technology. Mr Ashby also could not recall if he had made it clear to Mr Brown at the meeting on 7 July 1998 that although there could not be an agreement in writing, the draft Heads of Agreement would be the basis for the continued relationship with IDA. Nevertheless, he described the subsequent Draft Heads of Agreement, sent to him for comment on 8 August 1998, as an attempt to apply a detailed framework to an on-going relationship.

*Professor Howse's evidence*

- 172 It seems Professor Howse did not play a central role in the discussions about establishing a Heads of Agreement. In his first witness statement he refers to attempts made by Mr Ashby to secure outside investment in Exosect and to various Heads of Agreement that were proposed. Professor Howse notes that early in 1999 Mr Metcalfe informed Mr Ashby and him that Mr Brown and Mr Rowland had been unable to raise any investment monies through PPT and that discussions with PPT then came to a close. On the matter of the High Court action involving SIL, Professor Howse states that it was felt appropriate for all unencumbered intellectual property, including the UK application, to be transferred to the new company, XO2. He also states that this litigation did not prevent an agreement being signed with IDA.
- 173 Under cross-examination Professor Howse recalled that in April, May and June 1998 Mr Ashby was seeking funding to get Exosect off the ground and that IDA was thought to be a possible source. Professor Howse rejected a suggestion by Mr St Ville that the Heads of Agreement sought with PPTL would have been contrary to the Exosect Shareholders' Agreement because the magnetic trap developed on the basis proposed in the draft Heads of Agreement would be in direct competition with the electrostatic traps developed by Exosect. The Professor's response was that Exosect was set up as an R&D company and that it needed to collaborate with manufacturing companies to exploit its intellectual property rights.

*Mr Donald Fox's evidence*

- 174 Around the time of Mr Ashby's retirement from the University on 1 October 1999, Donald Fox became involved in discussions with IDA on behalf of the University. In his witness statement Mr Fox states that no agreement had been reached on any of the draft agreements exchanged prior to September 1999 and that a further draft Heads of Agreement between the University and IDA was forwarded to Mr Huggett by Mr Churchman on 27 September 1999. Mr Fox also refers to further draft Heads of Agreements between XO2 and IDA (Holdings) Limited, which were sent to Mr Churchman and Mr Metcalfe, respectively, in November 1999 but adds that the terms of these agreements were never finalised. When describing the background to XO2 Mr Fox states that the company had been incorporated at the time of the litigation between the University and Messrs Aston and Fuller and that it held certain intellectual property rights relating to Professor Howse's pest control technology, including the invention which is the subject of these proceedings. Mr Fox was not cross-examined during the course of the hearing before me.

*Mr Huggett's evidence*

- 175 Mr Huggett states in his witness statement that he advised SIL on the court proceedings which were issued around March 1999 against Messrs Aston and Fuller. He explains that the commencement of this litigation meant that the Intellectual Property Rights, which had been licensed and assigned to Exosect, could not be exploited by SIL until the dispute was resolved. Therefore, SIL incorporated a second company called XO2 to exploit the further technologies, developed by Professor Howse and including that of the UK application. Mr Huggett also mentions that his first dealings with IDA were in

April 1999 and that it is not feasible SIL and IDA could have agreed to operate on an unwritten statement of intent without him knowing. He states that at no time was this ever mentioned to him or discussed or referred to. Mr Huggett continues in his written evidence by stating that it was not until late September 1999 that he had a full commercial meeting with IDA when IDA unveiled a plan to absorb XO2 and Professor Howse's technologies into an IDA subsidiary company. He states that this plan was rejected as not being in the best interests of SIL or XO2.

- 176 On cross-examination Mr Huggett confirmed his view that although he did not begin working for the University until February 1999, Mr Ashby would have told him if there had been a verbal agreement in place between SIL and IDA.

*The evidence of Professor Willoughby and Professor Watson*

- 177 In so far as it may be relevant to the scope of the draft Heads of Agreement proposed by SIL, I should briefly deal with written evidence provided by Arthur Frank Wesley Willoughby, who was Professor of Electronic Materials at the University at the relevant time, and by James Henry Peter Watson, who was Professor of Physics. Both Professor Willoughby and Professor Watson state that they were contacted by Mr Ashby to talk with Mr Metcalfe and others on 7 July 1998 about the possibility of joint development programmes in their respective fields. Indeed, Professor Watson exhibited a letter dated 9 July 1998 from IDA stating that they were prepared to set aside resources and/or seek other partners to develop his technology.

*Mr Brown's evidence*

- 178 I can now turn to the claimants' evidence concerning the alleged agreement between SIL and PPTL. I will begin by considering Mr Brown's evidence. In his first witness statement, Mr Brown describes a discussion he had with Mr Ashby on 16 June 1998 about the structure of future joint ventures between SIL and PPTI/IDA and an agreement in principle that all the technology resulting from the on-going SIL/PPTI/IDA collaboration should be put into one or more jointly owned patents. Mr Brown claims that over the following weeks there were a number of telephone conversations to finalise details of the agreement, which culminated in a Letter of Understanding sent to him on 30 June 1998 by Mr Ashby. As exhibited this Letter of Understanding is the first draft Heads of Agreement mentioned above. Mr Brown states that he later discovered from Mr Ashby that SIL did not want to sign any written agreement until the court action involving SIL had been determined. He alleges that Mr Ashby explained that the agreement should stand on the terms set out in the draft even though Mr Ashby had been advised not to sign any written agreement. On this basis Mr Brown recalls that he understood the agreement to be binding and that there was no question in his mind at the time that they should not proceed as if the agreement were signed. Mr Brown exhibits with his first witness statement a letter to him from Mr Rowland on 5 October 1998, in which Mr Rowland raises his concern about Mr Ashby's failure to follow up on a draft Heads of Agreement. In this letter Mr Rowland states:

“ ..... I also understand Roger to have said that there is sufficient trust between the parties to proceed without getting involved in the legal niceties. I believe it was expressed in terms that a gentleman's agreement exists between us.

Not having reached any gentleman's agreement with Roger, I can't answer for the substance of what may or may not have been agreed. ....

A Heads of agreement was drawn up and sent to Roger some while ago for his comment. To date there has been no response from him. I do not believe in entering into open ended situations where business ids (*sic*) concerned. I think we should insist on at least some documentation outlining the intended relationship, irrespective f (*sic*) achieving the full legal contract. ....”

Finally, Mr Brown notes in both his first and second witness statements that it was not until January 1999 that Professor Howse and Mr Ashby first sought funding from IDA/PPT Group or Warba, a Kuwaiti company with which Mr Brown was associated.

- 179 When cross-examined Mr Brown stated that during his meeting with Mr Ashby on 16 June 1998 he learnt that SIL was already in other discussions, and he recognised that this created an obstacle to SIL entering into an agreement with PPTL. He also confirmed that Mr Ashby had explained right from the beginning that the whole purpose of SIL was to take the technology developed in the University and find backers for it. However, Mr Brown denied that Mr Ashby had made it apparent at that time that he would not be prepared to go ahead with any agreement unless substantial funds were forthcoming. Moreover, he considered that he and Mr Ashby had reached a Gentleman's agreement on 16 June 1998 and that this was later crystallised in the draft Heads of Agreement.
- 180 On the matter of this first draft Heads of Agreement Mr Brown stated in his oral evidence that he had annotated it and then sent it to Mr Metcalfe and Mr Rowland, among others. He described some of his annotations as highlighting matters, which could be more specific or sharper or which were unclear, but he accepted that one annotation about sub-licensing was fundamental. He also acknowledged that at that time there was no agreement about the duration of the Agreement. Mr Brown's recollection of what happened to the draft Agreement subsequently was dim. He could not recall sending the annotated draft to Mr Ashby but he did remember discussing it with him about a week later. He thought he discussed the sub-licensing point with Mr Ashby but he could not recall how it was resolved. He explained that his annotations were merely an aide-memoire of things to discuss. In his view the Agreement sent to him on 30 June 1998 was being treated as a working agreement by the time of the meeting on 7 July 1998. He stated that PPTL had agreed with the really essential terms and he thought that agreement on the actual signature date and the duration of the Agreement would have been reached pretty quickly and easily. When questioned about the technical scope of the draft Agreement, Mr Brown asserted that cockroach traps were the essence of the Agreement although he did admit, somewhat reluctantly, that it made no mention of them. He also told me that he assumed the Agreement had become binding from 30 June 1998 which was the date he received it.
- 181 When questioned about Mr Rowland's involvement in reaching an agreement with SIL, Mr Brown stated that it had been explained to Mr Rowland that the University felt they were unable to sign the Agreement but a deal had been reached. Thus, in Mr Brown's view the draft Heads of Agreement sent by Mr Rowland to Mr Ashby on 8 August 1998 was merely an expansion of what had already been agreed and did not indicate that there

were ongoing negotiations about the terms of the draft Agreement produced by Mr Ashby.

*Mr Churchman's evidence*

- 182 Mr Churchman also gave evidence on the matter of the alleged agreement between SIL and PPTL. In his written evidence he states that throughout the period 1998/9 SIL repeatedly stated that they were unable to sign any commercial agreement because of legal action being taken against parties involved with Exosect. When cross-examined Mr Churchman was asked about the various draft agreements exchanged and he agreed that no agreement had been entered into between the University and the IDA and PPT group because there was a legal situation preventing it. On the matter of the specific draft Heads of Agreement prepared by Mr Ashby, Mr Churchman commented that he did not understand it to be a final binding agreement and that he had spent 18 months of his time trying to turn that draft agreement into an agreement.

*Mr Metcalfe's evidence*

- 183 Finally, I need to consider Mr Metcalfe's evidence concerning the claimants' claim that there existed a binding agreement between SIL and PPTL. In his first witness statement Mr Metcalfe states that on more than one occasion in 1998 he was told by Mr Ashby that a "Gentleman's agreement" existed between the parties and that legal niceties should not prevent the joint venture going ahead. He adds that at the time this did not seem unusual and they continued supplying samples and technical advice. On the question of finance, Mr Metcalfe states in his second witness statement that he was unaware of any request for money by SIL on or about 30 June 1998 and the only request came much later in January 1999. When cross-examined Mr Metcalfe said that initially there was no definite reason given for SIL not signing the agreement but the names of Messrs Aston and Fuller were mentioned later.

*The arguments*

- 184 When opening Mr St Ville started from the premise that there was an agreement with the University to carry on on the basis of the draft Heads of Agreement, dated 30 June 1998, even though it was not possible to conclude a written agreement. If this was a contract between SIL and PPTL, in his view it followed from the terms of the draft written Agreement that an invention, discovered as the result of the evaluation that took place from the beginning of the relationship between the parties, should be owned equally between the parties. In his closing statement Mr St Ville dissected this draft Agreement and the accompanying note from Mr Ashby in the light of the evidence before me.
- 185 Starting with Mr Ashby's accompanying note, he recognised that the reference to "a statement of goodwill, which I hope can apply for many years to come" was two sided in that it uses the word "goodwill" but it also says that it is going to apply for many years to come. Turning to the draft Agreement itself, Mr St Ville addressed the provision stating that SIL would make available unencumbered research and development resources and information. He noted Mr Ashby's evidence that the magnetic technology was excluded because it was encumbered under the Exosect Shareholders' Agreement,



but he submitted that when the draft Heads of Agreement is construed objectively, it had to include this technology because PPTL could not have known that it was encumbered. Moving on to PPTL's obligation to provide the University with sample materials and technical information, Mr St Ville remarked that these sample materials are of the kind that had already been provided. Mr St Ville went on to opine that the possible formal joint venture, envisaged in the draft Agreement, makes it clear that the Agreement was an overarching one that was going to involve later agreement on other matters. On the matter of the ownership of any arising intellectual property, Mr St Ville took the view that this included things discovered as a result of evaluating the materials provided. Mr St Ville then dealt with the annotations made by Mr Brown on the draft Agreement and the matter of the minimum duration of the Agreement, which had been left in square brackets. On the particular annotation concerning sub-licensing, Mr St Ville drew my attention to the subsequent provision in the draft Agreement, which mentions rights to sub-license if there is no agreement on the commercial development of any arising IP. He suggested that this strongly implies the same right to sub-license when the University had title to patents under the Agreement. Thus, in Mr St Ville's view the specific point concerning sub-licensing did not give rise to a fatal uncertainty in the terms of the Agreement. More generally he relied on Mr Brown's statement that he thought there was an agreement by 7 July 1998 to proceed on the basis of Mr Ashby's draft and he considered that this was the basis on which the parties had worked from 30 June 1998.

- 186 Mr St Ville also questioned why an organisation like the University would have ended up in a position of not being able to sign a written agreement and instead having to proceed on the basis of a Gentleman's agreement? In his opinion it was not the University that put itself in this position, rather it was Professor Howse and Mr Ashby because they knew that they had to get out of the Exosect situation and they knew that documents setting up a new alliance were going to cause a problem. Nevertheless, they were prepared to say "Trust us. We will go forward on this basis". As a result IDA placed reliance on this promise and committed substantial resources to onward development.
- 187 As for events subsequent to 7 July 1998 and in particular the various documents produced, Mr St Ville submitted that they are perfectly consistent with Mr Brown thinking he had a binding agreement and the parties needing to negotiate an onward commercial relationship. In his view it was completely wrong to suggest that the subsequent documents provided a clear admission that SIL and PPTL did not have a binding agreement.
- 188 Mr Alexander's submission in his closing statement was that there was insufficient contractual certainty in relation to the terms of the alleged Gentleman's agreement for it to be said there was a meeting of minds in relation to those terms. By way of example, he argued that the question of sub-licensing and the term of the agreement had not been agreed. Mr Alexander also made the point that I must be able to identify the date when the agreement was made and became binding. He referred to Mr Brown thinking that the agreement was made when he received it on 30 June 1998 and to Mr Ashby not being certain whether he told Mr Brown on 7 July 1998 that the draft Agreement provided the basis for the relationship with IDA. Mr Alexander sought to persuade me that this uncertainty indicated that there was no certain point at which the agreement became binding and was accepted by both parties as binding.

189 Mr Alexander went on to state that the subsequent events were quite inconsistent with there having been a binding agreement which came into effect on 30 June 1998, 7 July 1998 or any other date. He drew my attention to Mr Rowland's attempt to refine the intended general working relationship between the University, SIL and PPT by sending Mr Ashby a further draft Heads of Agreement on 8 August 1998. In Mr Alexander's view it was inconceivable that Mr Rowland would have written in those terms, if just a few weeks earlier there was a recognition of a definitive binding agreement establishing a general working relationship with the University. He countered any suggestion that a recital in this later draft Agreement, which referred to principles of future business co-operation agreed between the parties following a meeting, indicated that an agreement had already been reached. In his submission what the draft Agreement sought to do was to acknowledge a meeting between the parties and embody the principles of future business co-operation. Moreover, highlighting a further statement in the draft of 8 August 1998 that:

“The above parties, in consideration of the mutual covenants, promises, benefits and terms to be embodied in a future formal contractual relationship agree the principles underlying the relationship as follows:”

Mr Alexander said that the draft was in a sense a counter proposal for a Heads of Agreement. In his view it did not purport to be a formalisation, by way of a formal contractual relationship, of the previous Heads of Agreement. In his submission the true position was that the parties thought there was sufficient trust to proceed effectively without an agreement, as reflected in the letter of 5 October 1998 from Mr Rowland to Mr Brown. Moreover, in Mr Alexander's opinion, the statement in this letter from Mr Rowland that:

“I do not believe in entering into open ended situations where business ids (*sic*) concerned. I think we should insist on at least some documentation outlining the intended relationship, irrespective f (*sic*) achieving the full legal contract.”

was also inconsistent with there having been a final and binding contract in place. Mr Alexander went on to refer to later letters sent by Mr Rowland to Mr Metcalfe and Mr Brown, among others, in October 1998 and February 1999. These letters mention, respectively, a proposed commercial relationship and a draft agreement with SIL and Mr Alexander made the point that they do not suggest that matters had already been finalised at that stage.

190 Mr Alexander also drew my attention to Mr Churchman's evidence that he did not regard a deal as having been done. He suggested that if a contract had been made, Mr Churchman would have been told when he took up the reins at IDA, whereas Mr Churchman's complaint was that no contract had been reached.

191 Finally on the reasons why no contract was possible at the relevant time, Mr Alexander opined that they are not of direct relevance to the matter I must decide. Nevertheless, in his view, the fact that the parties both understood there were potential difficulties on SIL's part, is a relevant factor in determining whether an agreement was regarded as having been made and points strongly against this.

## Assessment

- 192 In his opening skeleton Mr St Ville drew my attention to paragraph 37.06 of the *CIPA Guide*, referring to the principles of contract law which must be satisfied when there is an assertion that entitlement is based on some contractual obligation. These principles include, of course, the need to show that there has been an offer which has subsequently been accepted. There must have been an intention for the parties to the agreement to create a legal relationship between themselves and the terms of the agreement made must be tolerably clear and free from ambiguity.
- 193 Mr St Ville also referred me to *Chitty on Contracts* (28<sup>th</sup> Edition) at paragraphs 2-001, 2-024 and 2-026. Paragraph 2-001 refers to an objective test for determining whether the parties have reached agreement. Under this test, once the parties have to all outward appearances agreed to the same terms on the same subject matter, then neither can generally rely on some unexpressed qualification or reservation to show that he had not in fact agreed to the terms to which he had appeared to agree. Paragraph 2-024 defines “acceptance” as the final and unqualified expression of assent to the terms of an offer. On the matter of negotiations after apparent agreement, *Chitty* notes in paragraph 2-026 that business men do not find it easy to say precisely when they have reached agreement, and may sometimes continue to negotiate after they appear to have agreed to the same terms. It states that it is then necessary to look at the entire course of negotiations to decide whether an apparently qualified acceptance did in fact conclude the agreement. If it did, the fact that the parties continued negotiations after this point does not affect the existence of the contract between them, unless the continued correspondence can be construed as an agreement to rescind the contract. *A fortiori*, the binding force of an oral contract is not affected or altered merely by the fact that, after its conclusion, one party sends to the other a document significantly different from those which had been orally agreed.
- 194 Before I move on to assess the evidence on whether or not there was a binding agreement between SIL and PPTL, I should also mention an authority drawn to my attention by Mr Alexander. This authority is a very old one, *Licenses Insurance Corporation and Guarantee Fund (Limited) v. Lawson* [1896] 12 Times Law Reports 501. The defendant, Mr Lawson, in that case was a director of the claimant. As a consequence of an alleged statement made by Mr Lawson that he would pay any loss resulting from the retention by the claimant of certain shares, a resolution to reduce the holding in the shares was rescinded. It was held on the facts that there was no contract making the defendant liable to make good a loss which the claimant subsequently sustained in respect of the shares. In its judgment the court thought that Mr Lawson did state that he would make good any loss but thought that this statement was regarded and treated at the time only as an indication or representation of what Mr Lawson then intended to do. Therefore, the court found that Mr Lawson’s statement, being one of intention only, even though it was relied on, would not as a matter of law enable the claimant to hold him legally liable to perform his intention or carry out his statement. The court recognised that some of the defendant’s fellow directors might have thought that the effect of what he said was more a matter of honour than of contract but it did not think anyone regarded Mr Lawson as being under a legal obligation.
- 195 Mr Alexander saw analogies between the circumstances underlying this authority and

those underlying the present proceedings and suggested that it was illustrative of a scenario where a distinction can be drawn between effectively a Gentleman's agreement and something that is properly to be regarded as binding. For his part Mr St Ville did not think it helped going back to a case from 1896 where the judge made it absolutely clear that on the facts he did not think there was an agreement. In Mr St Ville's opinion we were now in a very different world and when somebody said in 1998 "Trust me. We do not need a written agreement" that did not mean that the mutual exchange of promises did not have legal effect. He took the view that on the evidence before me it was clear that IDA were going to place reliance on the promise made and in the event committed substantial resources to onward development, thus the exchange of promises must be binding.

- 196 I do not think I am helped by the judgment in *Licenses Insurance Corporation and Guarantee Fund (Limited) v. Lawson*. In that case the defendant's statement or promise was in relation to a contingency should the worst happen and the court thought that when it was made, it would have been regarded as one of intention only. In the present case there was an ongoing relationship between the parties, which continued even after it became apparent that SIL were not prepared to sign a formal Heads of Agreement. Although the provision concerning the ownership of intellectual property might be regarded as a contingency provision, it was only one aspect of a wider agreement. It seems to me that a Gentleman's agreement to continue on the basis of an ongoing relationship cannot be characterised as a statement of intent in the same way as it was in *Licenses Insurance Corporation and Guarantee Fund (Limited) v. Lawson*.
- 197 As I have noted above it is common ground between the parties that Mr Ashby sent a draft Heads of Agreement to Mr Brown on 30 June 1998. Although Mr Ashby described this draft as a statement of goodwill, I am prepared to accept that it constituted an offer on the part of SIL. Therefore, the question I must decide is whether PPTL gave a final and unqualified expression of assent to the terms of this offer and whether the terms of the agreement were tolerably clear.
- 198 Before I consider this I should deal with Mr Ashby's evidence that SIL would enter into the Agreement only if funding were provided. If this were the case, I would have expected it to be mentioned in the draft Agreement but the only reference to funding is in relation to securing any arising intellectual property and the draft states that this should be shared equally. The evidence of Mr Brown and Mr Metcalfe was that it was not until January 1999 that Professor Howse and Mr Ashby sought funding from the IDA/PPT Group or Warba. Professor Howse's evidence that Mr Metcalfe informed him early in 1999 that it had not been possible to raise any investment monies through PPT is consistent with but not conclusive of the evidence given by Messrs Brown and Metcalfe. Overall I am not persuaded that the offer, made by SIL in June 1998, was conditional on PPTL providing funding for anything other than securing any intellectual property that might arise.
- 199 Mr Alexander's starting point seemed to be what he described as the true picture, as reflected in the letter dated 5 October 1998 from Mr Rowland to Mr Brown. From this I take it that Mr Alexander accepted that at the relevant time there was "sufficient trust between the parties to proceed without getting involved in the legal niceties" or as Mr Alexander put it "to proceed effectively without an agreement". There is no doubt in

my mind that Professor Howse and Mr Metcalfe, among others, continued to work together after 30 June 1998 despite the fact that no agreement had been signed. Mr Brown characterised this arrangement as one based a Gentleman's agreement, which was none the less binding. The claimants also allege that the terms of this Gentleman's agreement were those contained in the draft Heads of Agreement sent to Mr Brown on 30 June 1998. I therefore need to consider the evidence before me to see if it is consistent with this allegation.

- 200 The draft Agreement refers to the University introducing the project to all faculties including Medicine, Engineering and Science and so seems to cover a very wide area of technology. Indeed, the evidence points to Mr Ashby making arrangements for Mr Metcalfe and others to meet Professor Willoughby and Professor Watson to explore the possibility of joint development programmes in their respective fields. In his submissions to me, Mr Alexander did not seek to persuade me that the magnetic insect control technology was excluded from the scope of the Heads of Agreement, as Mr Ashby had maintained when he was cross-examined by Mr St Ville. Moreover, the evidence given by Professor Howse, Mr Fox and Mr Huggett seemed to indicate, contrary to Mr Ashby's view, that this technology was unencumbered at the time. I also have some sympathy for Mr St Ville's position that even if this technology were encumbered, when construed objectively the draft Heads of Agreement had to include it because Mr Ashby did not mention this to Mr Brown and without this information PPTL could not have known that it was excluded. Thus, I am prepared to accept that the draft Heads of Agreement covered a wide range of technology, including the magnetic insect control technology. However, Mr Brown stated in his evidence that the Agreement was specifically about cockroach traps even though it did not mention such traps at all. It seems to me that although the draft Agreement would embrace cockroach trap technology, including the magnetic trap technology, there is a suggestion here that Mr Brown considered the scope of the Gentleman's agreement between PPTL and SIL to be considerably more specific than that of the draft Agreement proposed by Mr Ashby.
- 201 I should now turn to consider the implications of Mr Brown's annotations on the draft Agreement sent to him by Mr Ashby. One of the annotations concerned sub-licensing, which Mr Brown accepted as fundamental. In his evidence Mr Brown thought he discussed this fundamental matter with Mr Ashby but he could not recall how it was resolved. Mr St Ville offered an explanation why this question of sub-licensing may not have been fundamental and he may be right but what I consider important is that Mr Brown thought it was fundamental at the time and that he did not know how it had been resolved. On the balance of probabilities it seems to me that this matter was never resolved.
- 202 In my view the duration of the agreement was never settled either. Mr Brown stated that he thought agreement on this would have been reached pretty quickly and easily but there is no clear indication that it ever was. Furthermore, in his submissions to me Mr Alexander argued that I must be able to identify the date when the agreement was made and became binding. The draft Heads of Agreement, as produced by Mr Ashby, did not suggest a starting date but Mr Brown assumed the Gentleman's agreement became binding from 30 June 1998. In my view a mere assumption on Mr Brown's part does not indicate that he had a clear idea of when the Gentleman's agreement with SIL

took effect and I do not believe I can deduce from his assumption that this date was one that had been agreed with SIL.

203 To summarise, in the light of the above evidence I do not consider that SIL and PPTL shared a common understanding on the scope of the Gentleman's agreement nor do I believe that there was ever agreement about the starting date or the duration of this agreement. Furthermore, I do not believe that PPTL gave their final and unqualified assent to all the terms of the first draft Heads of Agreement, which allegedly formed the basis for the subsequent Gentleman's agreement. Thus, in my view there was never a meeting of minds in relation to the terms of the Gentleman's agreement and as a result it did not constitute a binding agreement.

204 I consider this view is consistent with the subsequent events, particularly Mr Rowland's attempt to refine the intended general working relationship between SIL and PPTL on the basis of the draft Heads of Agreement which he sent to Mr Ashby on 8 August 1998. I share Mr Alexander's view that Mr Rowland's draft was a counter proposal to Mr Ashby's earlier draft and it was not a formalisation of an existing and binding Gentleman's agreement. I also share Mr Alexander's opinion that Mr Rowland's letter, dated 5 October 1998, is inconsistent with the view that there was already a final and binding agreement in place. There is also the evidence of Mr Fox, Mr Huggett and, in particular, Mr Churchman that they did not understand there to be a final binding agreement in place at the time they became involved in trying to reach such an agreement.

205 Finally, from the evidence given by Mr Brown and Mr Metcalfe it is clear that they believed there was something that prevented SIL from entering into the written Heads of Agreement sent to Mr Brown on 30 June 1998. Mr Ashby's evidence was that there was nothing to prevent SIL entering into this Agreement provided satisfactory terms could be agreed. Mr St Ville sought to get to the bottom of this, particularly during his cross-examination of Mr Ashby, but I do not think that I need to come to a conclusion here on whether there was any impediment to SIL signing the Agreement and if so what it was. I believe it is sufficient for my purposes simply to recognise that Mr Brown and Mr Metcalfe thought that there was some impediment. On this basis it seems strange to me that Mr Brown and Mr Metcalfe believed that SIL could enter into a binding Gentleman's agreement when they thought there was something that prevented a binding, written agreement. Once again I agree with Mr Alexander that this points strongly against the Gentleman's agreement being binding.

#### *Conclusion*

206 Thus, I find that there was never a binding agreement between SIL and PPTL concerning the ownership of intellectual property discovered during the evaluation of the claimants' materials and technical information. As a consequence PPTL does not have any rights in the applications *in suit*.

#### ***Entitlement arising from the misuse of confidential information***

207 As I have already noted, Mr Alexander voiced concern that the question of confidentiality, raised in these proceedings, has the potential to impact on the validity of

the patent in due course and on breach of confidence proceedings which have been commenced in the High Court. Even so, I have heard both sides' evidence and submissions to the extent they thought appropriate on the matter of the alleged misuse of confidential information. I have also accepted that the comptroller enjoys in entitlement proceedings a jurisdiction which is broad enough to entertain such submissions.

208 In the circumstances of the present case, however, I do not believe it is necessary for me to exercise that jurisdiction. This is because the argument about entitlement on the basis of allegations of misuse of confidential information is being run by the claimants, and I have already concluded that the claimants have made their case on other grounds. It is therefore not necessary for me to make a determination on this ground. More than that, I can appreciate from Mr Alexander's submissions that it is not desirable in this case that I should do what is often done, that is to say to consider every ground for the sake of completeness.

209 In short then, having already found that IDA is entitled to be granted each of the patents *in suit*, I do not consider it necessary or desirable to consider the claimants' arguments concerning entitlement as the result of the alleged misuse of confidential information by the defendants.

### **Summary**

210 In this decision I identified two separate inventive concepts for the purposes of determining inventorship of and the resulting entitlement in the inventions disclosed in the applications which are the subject of this dispute. These concepts were:

(a) a method of trapping and/or killing pests, such as insects, comprising using magnetic particles to adhere to the cuticles of the pests; and

(b) an insect trap or bait station wherein magnetic particles are anchored to a magnetic zone.

I have found that Mr Metcalfe was the sole deviser of both concepts and as a consequence IDA is entitled to be granted each of the patents in question.

211 I also found that there was no written or other binding agreement between SIL and PPTL concerning the ownership of intellectual property discovered during the evaluation of material and information supplied by the claimants. Therefore, my conclusion as to entitlement based on inventorship is undisturbed.

212 I did not consider the claimants' case based on entitlement as the result of an alleged misuse of confidential information in view of my finding that IDA is entitled to be granted the patents in question.

### **Order**

213 It was agreed at the hearing that if I found in favour of the claimants, I would provide the parties with an opportunity to make submissions relating to what the appropriate order might be. Accordingly I allow the parties six weeks from the date of this decision

in which to make such submissions.

### **Costs**

- 214 At the hearing Mr St Ville and Mr Alexander both agreed that in the time remaining there was no possibility of making submissions to me on costs without running the risk that it could be disproportionate. I therefore left it that I would invite written submissions on costs in my decision. Accordingly I allow the parties six weeks from the date of this decision in which to make such submissions.

### **Appeal**

- 215 Although at the hearing submissions were made on the period for appeal, it has since become clear that under the Practice Direction to Part 52 of the Civil Procedure Rules, any appeal must be lodged within 28 days and that there is no discretion for the comptroller to direct a different period.
- 216 Therefore, any appeal against this decision must be filed within 28 days after the date of the decision.

**S N DENNEHEY**

Divisional Director acting for the Comptroller