**Intellectual property notes for the T-Level in Laboratory Science**

**What do we mean by intellectual property?**

“Intellectual property” is a loose term which means different things to different people.

To a lawyer it is a collective term for a set of legal rights. Those legal rights share some broad features but cover different things – for example, patents are rights in technical inventions, copyrights are rights in written works [among other things] and trade marks are rights in business names, logos, and other indicia.

What these all have in common is that they are property rights because the owner of the right gets to control who uses the thing covered by the right. If I own a patent to an invention then it is my right to say whether you can use the invention or not, in exactly the same way that if I own a bicycle it is my right to say whether you can borrow it or not (and I might say you can borrow it, but only if you pay a fee!).

Unlike a bicycle, an “invention” is not a physical object. So my right in an invention is called “intellectual” property to reflect the fact that it is ownership of an intangible legal right and not a tangible item which you can touch or keep locked in a shed.

This is the meaning of “intellectual property rights” in A7.5 of the T-level specification:

*A7.5 How intellectual property (IP) rights apply to scientific settings:*

*• patents*

*• trademarks*

*• copyrights*

There are lots of other legal rights which fall into this category as well, for example, registered designs, plant variety rights, rights in performances… but the T-level specification just mentions patents, trade marks and copyrights.

In A7.6 there seems to be a somewhat different meaning of “IP”:

*A7.6 What may be considered as IP within the science sector:*

*• theories/ideas*

*• papers/research*

*• experimental results and design*

*• bespoke equipment*

*•anything with a potentially commercial application (for example, product/formulation/recipe, software, apps)*

And this reflects a broader meaning of “IP” often used by journalists, politicians, businesspeople, and it seems exam specification writers. It could be summed up as:

***“anything intangible which a business has and sees value in, and wants to control and/or stop its competitors getting at, whether or not it is protected by a specific legal right”***

Thus some “theories/ideas” might be protected by patents, but regardless the originator of the idea might regard the idea as “my intellectual property”. “Experimental results and design” may well not be protected by any intellectual property rights [in the A7.5 / legal sense] at all, but no doubt the experimenters will want to control how the results are released and used.

As for the “legal rights” types of IP you have to know about patents, trade marks and copyrights:

**Patents**

Patents protect technical inventions. Interestingly the word “invention” is not defined in the law but a good working definition might be “a technical solution to a technical problem”. Methods of doing business and rules for games are examples of things which cannot be protected by patents because they are “not technical”.

To be protected an invention must:

* Be novel, i.e. new. In the UK and Europe this means that the invention must never have been disclosed to the public, anywhere in the world, before the patent was applied for. **This means it is very important that inventions are kept confidential until after patent applications have been filed.**
  + Some countries, notably the USA, have a grace period after disclosure when a patent can still be filed, i.e. the novelty requirement is not absolute. However this is not the case in the UK or Europe.
* Involve an inventive step, that is to say the invention must not be obvious to a person skilled in the relevant art. Inventive step / non-obviousness is inherently arguable and often contentious but over the years courts and patent offices have developed structured tests for answering the question “is it obvious?”.

Patent offices are government agencies which examine applications to determine whether the inventions are novel and inventive, and meet certain other requirements. The patent application process can take several years.

* Each year the UK Intellectual Property Office gets about 20,000 applications for patents and each year about 5000-6000 patents are granted.
* [An infographic from the European Patent Office](https://documents.epo.org/projects/babylon/eponet.nsf/0/837DBDFC91C99042C12586950032FDBD/$FILE/epo_patent_index_2020_infographic_en.pdf) has some numbers from them.
* Note that after Brexit the UK is still a member of the European Patent Convention and so a European Patent can still cover the UK.

Some examples of granted patents are attached. The patent takes the form of a published document which describes the invention in detail. At the end of the patent you will find the “claims”. The claims are there to define the extent of protection – i.e. what is covered by the patent. The claims need to be drafted carefully and are often amended during the examination process.

* [EP3154557](https://db.patworld.com/static-pdf/EP3154557B1?key=cmVwOmVjZGMzZDM5LWQxMDktNDBmOS1hMzZjLTAxM2U3YWYxNjJiMzpiZmVmOGU2NS02ZDM5LTQ0NDEtYmFhYy1jNDE2NzEwMDU4YzM=) is a European Patent for a composition made from processed amniotic membrane and amniotic fluid. The claims start at column 17 (page 10 of the PDF). Note that the claims of a European patent are published in the three official languages of the European Patent Office – English, French and German.
* [GB2551755](https://db.patworld.com/static-pdf/GB2551755B?key=cmVwOmI1MTY3YmVjLTU0MDMtNGFjZS04YjExLTM0MGRhZmMyNmMyNzpiZmVmOGU2NS02ZDM5LTQ0NDEtYmFhYy1jNDE2NzEwMDU4YzM=) is a UK Patent covering a method of manufacturing a precursor which is used to make porous metal foams used for heat sinks. The claims start on page 36 of the PDF. [This data sheet has some pictures of the finished heat sink product.](https://www.mouser.co.uk/pdfDocs/VTL-LowProfileHeatsink-DATASHEET-MARCH2015fv.pdf)
* [GB2565426](https://db.patworld.com/static-pdf/GB2565426B?key=cmVwOmVjZGMzZDM5LWQxMDktNDBmOS1hMzZjLTAxM2U3YWYxNjJiMzpiZmVmOGU2NS02ZDM5LTQ0NDEtYmFhYy1jNDE2NzEwMDU4YzM%3D) is a UK Patent for a method of analysing received signals – used for “spectrum surveillance”. The claims start on page 33 of the PDF.
* [GB2536294](https://db.patworld.com/static-pdf/GB2536294B?key=cmVwOmI1MTY3YmVjLTU0MDMtNGFjZS04YjExLTM0MGRhZmMyNmMyNzpiZmVmOGU2NS02ZDM5LTQ0NDEtYmFhYy1jNDE2NzEwMDU4YzM%3D) is a UK Patent for a simple mechanical device used to indicate whether wheel nuts have been tightened correctly. **Although not really “laboratory science”, this may be the simplest and best one to read just to get a sense of what a patent is.** The claims start on page 11 of the PDF.

In broad terms the owner of a patent can stop others from using the patented invention. Where the invention is a product (e.g. a therapeutic composition or a wheel nut indicator) that means nobody else can make or sell the product. Where the invention is a method (for manufacturing heat sinks or for analysing received signals) that means nobody else can use the method.

**Trade marks**

A trade mark is a brand. It is a “badge of origin” – i.e. it tells customers *where goods and services come from.* Trade marks allow customers to tell the difference between goods provided by one business and goods provided by another business. They allow satisfied customers to find the same business again when they have repeat custom.

There is some legal protection for brands whether or not a trade mark is registered – in particular *passing off* goods and services is against the law. However the strongest protection is obtained by applying for a registered trade mark for the brand.

The main requirements to register a mark is that it has to be:

* Distinctive, i.e. capable of distinguishing the goods and services of one undertaking from those of other undertakings.
  + For example an application to register “TRANSPARENT HOME BUYING” for estate agency services was refused[[1]](#footnote-1).
* Not too close to an existing mark – there are various of what are known as “relative grounds for refusal”. In brief, a mark can be successfully opposed if its use would be confusing in relation to an existing mark, take unfair advantage of the existing mark’s reputation or be detrimental to the distinctiveness of the existing mark.
  + For example a registration of “hairbnb” for pet boarding services was invalidated on a successful challenge by Airbnb Inc[[2]](#footnote-2).

The vast majority of trade marks are words or logos, although in theory any sign can be registered if it meets the criteria (musical jingles and colours have been successfully registered on occasion).

A trade mark is registered for a specification of goods and services.

You can see the specification of our registered trade mark for the word “Albright” at the following link: <https://trademarks.ipo.gov.uk/ipo-tmcase/page/Results/1/UK00002436697>

In broad terms a trade mark is infringed by using the trade mark, or a similar trade mark which is “too close”, in the course of trade, and for goods and services which are the same or “too similar” to the goods and services for which the mark is registered. Owners of very famous marks are likely to be able to prevent use for a broad range of goods and services.

A trade mark as we have said indicates the origin of goods or services and so correct use to do that will normally be allowed. So there is nothing wrong with advertising, say, “replacement brake pads for a Ford Transit” as long as the seller is honest as to whether or not Ford have anything to do with the replacement pads.

**Copyright**

In this country copyright is an unregistered right. Unlike patents and trade marks you will find no official register of copyright works. Instead copyright arises automatically in any eligible work.

* This is the case now throughout most of the world, though there are exceptions. The USA has a system of registering copyright works and it is common to see the term “copyrighted” used in relation to the US system. Most UK lawyers would say “copyright” rather than “copyrighted” reflecting the fact that the right arises out of the nature of the work rather than a registration action which has taken place.
* There are unofficial “copyright registration” services which at best are of dubious value for money and at worst are complete scams. Beware!

Copyright protects among other things:

* Original literary works
  + Don’t be fooled by the word “literary”. It includes any written work - any work which is made up of words. An ordinary business letter, a quick email or text message, your notes of a lecture – they are all likely to be literary works according to copyright law, even if your English teacher would disagree.
  + In particular, and relevant to the scientific context, a “table or compilation” is expressly included. A “computer program” is also protected as a literary work.
* Original artistic works
  + Again this doesn’t mean “art” in the sense that you would expect to find it in a gallery. A photograph (or micrograph) is protected as an artistic work. A sketch or diagram will be protected as well.
* Films – “a recording on any medium from which a moving image may by any means be produced”
* Sound recordings – “a recording of sounds, from which the sounds may be reproduced”.

The requirement for protection, in the case of literary and artistic works, is that the work is original. Historically UK law has treated this as a rather low bar – something is original if it originated from the author who did not copy it from somewhere else. In some continental European countries and in the EU courts originality has perhaps been given a bit more substance. This is a developing area and it remains to be seen how UK copyright law will develop after Brexit. A cautious lawyer would assume that anything with more to it than a straight line is likely to be protected as an original work.

Copyright protects works from copying, i.e. in simple terms it is illegal to copy a copyright work, or part of a copyright work. However there are exceptions to this known as “permitted acts”. In this country the approach taken is that there are a reasonably large number of closely defined and individually quite narrow permitted acts. These are set out in Chapter III of the Copyright Designs and Patents Act 1988 (go to <https://www.legislation.gov.uk/ukpga/1988/48/contents> and scroll down).

* You are likely to come across the term “fair use”, but this refers primarily to the law in the USA. The UK does not have a general purpose doctrine of “fair use” but instead has all the numerous statutory exceptions you can find in Chapter III of the Act.

Many of the permitted acts are subject to the requirement of “fair dealing”, and many are subject to the condition that acknowledgement is given.

Some examples of permitted acts:

s. 30(1)

*Fair dealing with a work for the purpose of criticism or review, of that or another work or of a performance of a work, does not infringe any copyright in the work provided that it is accompanied by a sufficient acknowledgement (unless this would be impossible for reasons of practicality or otherwise) and provided that the work has been made available to the public.*

s. 31A

*(1) This section applies if—*

*(a) a disabled person has lawful access to a copy of the whole or part of a work, and*

*(b) the person’s disability prevents the person from enjoying the work to substantially the same degree as a person who does not have that disability.*

*(2) The making of an accessible copy of the copy of the work referred to in subsection (1)(a) does not infringe copyright if—*

*(a) the copy is made by the disabled person and or by a person acting on behalf of the disabled person,*

*(b) the copy is made for the disabled person’s personal use*

s. 50A

*It is not an infringement of copyright for a lawful user of a copy of a computer program to make any back up copy of it which it is necessary for him to have for the purposes of his lawful use.*

Freddie Noble

Albright IP Limited

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1. O/135/21 - <https://www.ipo.gov.uk/t-challenge-decision-results/o13521.pdf> [↑](#footnote-ref-1)
2. O/236/21 - <https://www.ipo.gov.uk/t-challenge-decision-results/o23621.pdf> [↑](#footnote-ref-2)