Inventive step in the common law (UK, US) and in the civil law (EPO)

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Hans Holbein
Sir Thomas Elyot

The Boke named the Governour
1531

“undoubtedly they that write of the firste inuentions of thinges, haue good cause to suppose Lucifer, prince of deuilles, to be the first inuentour of dise playinge, and helle the place where it was founden.”
Comments on Elyot

- Lucifer’s dice playing was a creative concept
- The dice were a technical product, and hence potentially patent-eligible under current EPC rules
- The rules of the dice game(s) were excluded

CLAIM CONSTRUCTION AND INTERPRETATION

Issues to be considered

- Unnecessary features?
- Non-technical features?
  - Actavis v Novartis [2010] EWCA Civ 82 (5¼” plate paradox)
  - T 154/04 DUN’S LICENSING/Estimating Sales Activity
  - T 258/03 HITACHI/Auction method
  - G 3/08 PRESIDENT’S REFERENCE/Program for Computers
- Collocation/Combination?
  - Sabaf SpA v MFI Furniture Centres Limited [2004] UKHL 45
- Construction of claim language
- Features defining field and features essential to result
Characteristics of a patent claim

• A set of features
• A set of relationships between those features
• A (new) result from providing those features and establishing those relationships

Dolland’s Case (1776) 1 WPC 42

• Refracting telescope - Hans Lippershay (1608), Galileo (1611)
• Problem – Chromatic aberration (coloured fringes)

Work around I – long focal length e.g. 45 metres (Hevelius 1673)
Work-around II
Newtonian reflector (1668)

Newtonian reflector

Achromatic doublet (Dolland, 1758)

Achromatic doublet

Analysis of features

- Elements
  - Convex lens
  - Crown glass
  - Concave lens
  - Flint glass
- Relationships
  - Strong convex lens
  - Weaker concave lens
  - Curvatures adjusted to bring different colours to a common focus
- Result
  - No chromatic aberration; sharp images in a refracting telescope
US and UK decisions showing that patentable differences are those that give a new result.

- **Huddard v Grimshaw** 1 Web. P.C. 85 (1803)
  - Lord Ellenborough: “I suppose it will not now be disputed that a new combination of old materials, so as to produce a new effect, may be the subject of a patent.”

- **Webster Loom v Higgins** 105 U.S. 580 (1881)
  - “It may be laid down as a general rule, though perhaps not an invariable one, that if a new combination and arrangement of known elements produce a new and beneficial result, never attained before, it is evidence of invention.”

  - (of US v Adams (1966); the Adams Battery case): “The fact that the elements worked together in an unexpected and fruitful manner supported the conclusion that Adams’s design was not obvious to those skilled in the art.”

George Ticknor Curtis (1848)
Textbook author: clients included Samuel Morse, Charles Goodyear and Cyrus McCormick

“It is evident, therefore, that the whole of the act of invention, in the department of useful arts, embraces more than the new arrangement of particles of matter in new relations. The purpose of such new arrangements is to produce some new effect or result, by calling into activity some latent law, or force, or property, by means of which, in a new application, the new effect or result may be accomplished. In every form in which matter is used, in every production of the ingenuity of man. He relies on the laws of nature and the properties of matter, and seeks for new effects and results through their agency and aid.”

FROM: IPMall Antique Rare IP library (Franklin Pierce law school; available online)

James Watt (1765)

- Newcomen atmospheric engine for pumping mines water from mines was fuel-inefficient
- Insight: Water injection into the working cylinder to condense steam, followed by re-heating wasted fuel
- New feature: Separate condenser for condensing the steam outside the working cylinder
- Result: Fuel consumption reduced to one third.
Winans v Denmead 56 U.S. 330 (1853) – railroad car with frustoconical body
- frustoconical body shape
- body extending down between axles
- twice its own weight of coal carried

Washburn & Moen Mfg Co v Beat’Em All Barbed-Wire Co 143 U.S. 275 (1892)

- Features held to support patentability:
  - (a) the introduction of a coiled barb, and
  - (b) its combination with the twisted wire so that the barb was held rigidly in place and held against either turning relative to the wire or moving along the wire.
- “A most valuable contribution to the art of wire fencing”.

Rolls-Royce v United Technologies Federal Circuit 2010
- US Patent 6071077 (Paul Rowlands)
US6071077 – Main claim

1. A fan stage of a ducted fan gas turbine engine, comprising
   a fan casing having an inner duct wall which in a fan rotor region is
   convergent in the downstream direction; and
   a fan rotor including a multiplicity of swept fan blades spaced apart
   around a hub mounted concentrically with respect to the fan duct,
   each of said swept fan blades having
   a tip profile which in revolution is convergent so as to substantially
   correspond to the convergent duct wall,
   a leading edge of variable sweep angle which varies with increasing
   blade height or distance from the axis of rotation, said sweep angle having a
   forward sweep angle in a first height region between the root and a first
   intermediate radius, a rearward sweep angle in an intermediate height
   region between the first intermediate radius and a second intermediate
   radius, a forward sweep angle in a third height region between the second
   intermediate radius and the tip of the blade, a stagger angle which increases
   progressively with blade height.

BENEFITS: 1.8% gain in efficiency
           Improved stability

Combination/collocation

- If features combine to produce a new result, then
  they form a combination
  - Features must be evaluated as a group
  - Technical evidence of invention
  - Result defines objective technical problem (EPO)
- If features do not combine to produce a result, then
  they form a collocation
  - Features evaluated individually or in sub-groups
  - No technical evidence of the new result type
  - Objective technical problem (EPO) difficult to define
  - Invention looses credibility, especially in court.

Pickering v McCullough
194 US 310 (1881)

“In a patentable combination of old elements, all the
constituents must so enter into it so that each qualifies every
other; to draw an illustration from another branch of the law,
they must be joint tenants of the domain of the invention,
seized of every part per my et per tout, and not mere tenants in
common with separate interests and estates. It must form either
a new machine of a distinct character and function or produce
a result due to the joint and cooperating action of all the
elements, and which is not the mere adding together of the
separate contributions. Otherwise it is only a mechanical
juxtaposition and not a vital union.”
British Celanese v Courtaulds
(1935) 52 RPC 171 p, 187 and p. 193-194

Lord Tomlin:
"It is accepted as sound law that the mere placing side-by-side of old integers so that each performs its own proper function independently of any of the others is not a patentable combination, but where the old integers when placed together have some working relation producing a new or improved result, then there is patentable subject matter in the working relationship brought about by the collocation (sic) of the integers."

USPTO Examination Guidelines (2007) following the decision in KSR v Teleflex

(A) Combining prior art elements according to known methods to yield predictable results;
(B) Simple substitution of one known element for another to obtain predictable results;
(C) Use of known technique to improve similar devices (methods, or products) in the same way;
(D) Applying a known technique to a known device (method, or product) ready for improvement to yield predictable results;
(E) “Obvious to try”—choosing from a finite number of identified, predictable solutions, with a reasonable expectation of success;
(F) Known work in one field of endeavour may prompt variations of it for use in either the same field or a different one based on design incentives or other market forces if the variations would have been predictable to one of ordinary skill in the art;
(G) Some teaching, suggestion, or motivation in the prior art that would have led one of ordinary skill to modify the prior art reference or to combine prior art reference teachings to arrive at the claimed invention.

OBJECTIONS (A) – (F) all depend on new result and predictability of that result

Sabaf SpA v MFI Furniture Centres Limited [2004] UKHL 45

Lord Hoffmann
"I quite agree that there is no law of collocation in the sense of a qualification of, or gloss upon, or exception to, the test for obviousness stated in section 3 of the Act. Before you can apply section 3 and ask whether the invention involves an inventive step, you first have to decide what the invention is. In particular, you have to decide whether you are dealing with one invention or two or more inventions. Two inventions will not become one invention because they are included in the same hardware. A compact motor car may contain many inventions, each operating independently of each other but all designed to contribute to the overall goal of having a compact car. That does not make the car a single invention...

The EPO guidelines say that ‘the invention claimed must normally be considered as a whole’. But equally, one must not try to consider as a whole what are in fact two separate inventions. What the Guidelines do is to state the principle upon which you decide whether you are dealing with a single invention or not. If the two integers interact upon each other, if there is synergy between them, they constitute a single invention having a combined effect and not applies section 3 to the idea of combining them. If each integer ‘performs its own proper function independently of any of the others’, then each is for the purposes of section 3 a separate invention and it has to be applied to each one separately."
Schlumberger v Electromagnetic Geoservices (recent UK example)

- Finding oil-bearing strata by refraction seismics
- In one of the three patents in issue the two elements of refraction seismics and CSEM were held not to achieve a new technical effect but only the aggregate of their individual effects, so that, following Sabaf v MFI Furniture Centres [2005] R.P.C. 209 there was no invention in combining them.
- No appeal concerning the decision as to the invalidity of that patent, see [2010] EWCA Civ 819.

Comments on Lord Hoffmann’s approach:

- Identifies the collocation/combination issue as one of construction.
- Objective.
- Free of emotive rhetoric. An inventor in the mechanical engineering field does not need or deserve the put-down of being told how difficult it is to find invention in his field of endeavour or how long the path that the inventor of a better mousetrap has to tread before reaching the Patent Office. Instead he simply needs a straightforward decision on the facts of his case firstly whether or not there is indeed a new function that enables the features that he has claimed to be identified as a true combination and provides evidence in support of patentability and secondly whether patentability can be established on the basis of that evidence or whether there is some reason why that evidence should not be decisive e.g. “obvious to try”, “one way street” or “mere bonus effect”.

Basis for EPO problem/solution analysis (PSA)
PCT r.5.1; EPC 2000 r. 42 corresponds

- Title of the invention
- Technical field to which the invention relates
- Background art and cited documents reflecting such art
- Description in such terms that the technical problem and its solution can be understood
- Statement of advantageous effects, if any, with reference to background art
- Brief description of drawings (if any)
- Description of preferred embodiments/best mode
- Describe how the invention can be made and used, and where that is not obvious how it can be exploited in industry
Technical problem and new result

- Opposite sides of the same coin
- Example I Dolland’s case
  - Real world technical problem un-solved for 150 years – chromatic aberration in a refracting telescope
  - New result – a refracting telescope without chromatic aberration
- Example II James Watt
  - Technical problem unsolved for 50 years; fuel consumption in Newcomen engines
  - Not perceived to be a problem until James Watt identified it; Newcomen engines drained coal mines where there was no shortage of fuel
  - New result: large fuel saving

Under PSA, objective technical problem is a hindsight reconstruction from an achieved new effect

- EPO Examination Guidelines: “In the second stage one establishes in an objective way the technical problem to be solved. To do this one studies the application (or the patent), the closest prior art and the difference in terms of technical features (either structural or functional) between the invention and the closest prior art and then formulates the technical problem. In this context the technical problem means the aim and task of modifying or adapting the closest prior art to provide the technical effects that the invention provides over the closest prior art.”

- T 939/92 Tricazole/AGREVO: “... the boards of appeal consistently decide the issue of obviousness on the basis of an objective assessment of the results achieved by the claimed subject matter, compared with the results achieved according to the state of the art. It is then assumed that the inventor did in fact seek to achieve these results and therefore these results are taken to be the basis for defining the technical problem ...”

Decisions confirming the EPO view that if there is an inventive step there must have been a technical problem (i.e. there must have been a new effect providing basis for the reconstructed problem):

(1) Case T 01/80 BAYER/Carbonless copying paper (the first decision ever published by a Technical Board of Appeal). The headnote states that:

“Assessment of the inventive step ... has to be preceded by determination of the technical problem based on objective criteria.”
(2) T 26/81 ICI/Containers, discussing r. 27(1)(c) EPC (requirements for description)

- Inventive step is a step from a technical problem to its solution.
- If no technical problem can be identified either from the original or from the amended specification, then it is apparent that there is no invention.
- If the subject matter of an independent claim, for which there is a sufficient disclosure, is to be considered as inventive, it must always be possible to derive a technical problem.

Importance of technical field

- One of the TWO independent variables (field and scope of other features) that defines the scope of a claim.
- Relevant to
  - enablement and “technical contribution”
  - novelty.
  - inventive step:
    - In Europe, the starting point prior art should be within the specified field.
    - Whether secondary references are admissible depends on their distance from the specified field.

Relationship between available claim scope and width of technical field

- Definition A - narrow field – most prior art excluded – Other technical features can be widely defined
- Definition B - wide field – more prior art citable – Other technical features must be defined relatively narrowly
What determines technical field?

- **Nature of the invention:**
  - May be a pioneering invention useful over a wide field of applications e.g. the laser.
  - May be a specific improvement in an established field e.g. an improved liquid crystal material or OLED material for flat panel displays.

- **Client’s present and future business interests.**
  - Usually client will be concerned to protect invention in his own business field.
  - Usually lesser priority to protect spin-offs in unrelated fields.
  - Important to know client’s business objectives.

Technical field – approach adopted by the EPO Appeal Boards

Primary reference for considering novelty/inventive step MUST be within claimed technical field.

**Case T 570/91 AE PLC/Pistons:**

- If a skilled person decides to start from a particular compressor piston, he may further develop that piston but his development will normally produce a compressor piston rather than internal combustion engine piston.

- The prior art selected as closest must be capable, perhaps with further development, of producing the same effects as those produced by the invention. If not, such starting point prior art could not lead a skilled person in an obvious way to the invention.”

From starting point prior art to the invention
Narrowing technical field to distinguish primary reference is often better than limiting other technical features

Example 1 - *Windsurfer* patent - litigated in the UK [1985] RPC 59 and elsewhere

Windsurfer invention – technical fields mentioned in specification

- Wind propelled vehicles
  - Watercraft
    - Surfboards with sails
    - Sailing dinghies
    - Large sailing yachts stabilised by heavy keels e.g. yachts with transatlantic capacity.
  - Iceboats
  - Land vehicles with sail propulsion
- Inventive concept and inventors’ business interests extended no further than surfboards with sails.
Known sailing craft with “wishbone rig” – “SINTRA” built 1959

- If field of endeavour is watercraft then SINTRA can be primary reference.
- If field of endeavour is single-person board-like craft then SINTRA is at most a secondary reference.
- Field is definable in the description and claims and is not simply a matter to be decided by an examiner or judge.


- Use of polypropylene to make battery cases for vehicles that were thinner walled than previous cases of hard rubber.
- Claim: “A case for a storage battery having partitions defining a plurality of cells for cell groups, the bottom, side walls, end walls and partitions of said case having a thickness not in excess of 0.100 of an inch.”
- Prior art 1: Polypropylene, then a new polymer, for injection moulding.
- Prior art 2: Thin walled battery for motorbikes (6V was then standard for motorbikes), polyethylene case.
- Strong objections as to lack of novelty and lack of inventive step.

Lucas v Gaedor - II

- Field of use amendment: “batteries of the kind suitable for use in moving vehicles such as cars, lorries and vans.” (implicitly 12V circuitry)
- Further amendment to specify polypropylene in claim 1.
- Polypropylene case had unexpected and favourable mechanical properties.
- Patent held valid and infringed.
Field-defining attributes of a storage battery

- Cell reaction
- Capacity (ampere-hours)
- Weight (range; representative values)
- Physical dimensions (range; representative values)
- Voltage
- Charge/discharge rate
- Field of use (as in Lucas v Gaedor)

SUMMARY SO FAR

- Patent claims define a set of elements, a set of relationships and a new result.
- Presence or absence of a new result determines the collocation/combination issue.
- New result is evidence of inventive step.
- Collocation/combination is an issue of construction, not inventiveness: many collocations are not obvious but also not inventive.
- Claimed features may be classified as field-defining and effect-defining.
- Citable prior art may depend on the defined scope of the field of endeavour, especially starting point prior art for PSA before the EPO.

The uncertain test for inventive step and the consequences of that uncertainty.
Differences in prior art used to assess inventive step

- **UK**: A single item of prior art plus the common general knowledge of the skilled person. Mosaics of references only when it is obvious to create the mosaic.

- **Australia**: UK position has statutory basis in s.7 of the Patents Act, 1990; see also *Lockwood Security Products Pty Ltd v Doric Products Pty Ltd (No.2)* [2007] HCA 21

- **US Courts, USPTO, EPO, JPO, Chinese Patent Office** – mosaics of references relied on as a matter of routine. Mosaics specifically approved by US Supreme Court in *KSR v Teleflex*

Can a reference be disregarded?

- In *Red Spider Technology v Omega Completions Corporation* [2010] EWHC 59 (Pat) disclosure in a US patent published in 1944 was not dismissed as irrelevant on account of its age. It was a detailed and apparently thought through design to which a skilled addressee would give attention irrespective of age. The assumption was that this item of prior art was put before a skilled person, not that he was sifting through many pieces of prior art with the risk that an old item might get overlooked.

- An allegation that a skilled person would not have taken forward the teaching of a primary reference so that the case was “anticipation or nothing” was rejected, see *Wake Forest University v Smith & Nephew* [2009] EWCA Civ 848. The reasons for disregarding that reference did not stand up to examination, a skilled reader would have seen the reported 100% success in relation to 170 patients and would have sound reasons for thinking that the method worked.

Combining references – UK law

- *Dow Chemical (Mildura’s Patent)* 1973 R.P.C 894 it is necessary to consider whether a seeker after information would come across the documents and consider them together

- *Scinopharm Taiwan v Eli Lilly* [2009] EWHC 631 (Pat) it was held that whether it was obvious to read two documents together was a question to be considered in the light of the particular circumstances of each case. Relevant factors included
  - whether one document referred to the other or
  - whether one or both documents would be found on a literature search of the kind the skilled person would routinely have carried out before attempting to find a solution to the problem the patent addressed [84]

- *Schutz (UK) Ltd v Werit (UK) Ltd* [210] EWHC 660 (Pat) : No doubt that an obviousness attack could be maintained even if it required two documents to be read together e.g. the second document being found by a suitable search, but that the obviousness attack failed on the facts and was driven by impermissible hindsight.

- *Nampak Cartons v Rapid Action Packaging* 0/342/09 (UK IPO): The hearing officer observed that although it may be tempting to put together a combination of the cited prior art to show how the inventive concept may have been arrived at, this involved hindsight both in selecting the relevant disclosures and also in disregarding the irrelevant or unhelpful teaching in them, and there was no evidence that any of them had been put into use.
Questions for assessing inventive step under the EPC

• What is the field of the invention?
• What is the most relevant prior art in that field?
• Starting from that prior art, what was the technical problem to be solved?
• Does the claimed subject matter indeed provide a solution?
• Was it inventive to identify the technical problem? If not:-
• Was it inventive to find the particular solution provided by the claimed subject matter?

UK courts dislike the Technical Problem test
Symbian, Ltd, v Comptroller Gen. of Patents, [2008] All E.R. 75 (Eng.) Jacob L.J.
“Tribunals not infrequently suggest a specific staged approach to resolve issues in patent cases; obvious examples include the problem/solution approach recommended in the Guidelines for Examination in the European Patent Office (‘the EPO Guidelines’), and the approaches proposed in Windsurfing v. Tabar Marine [1985] RPC 59 as updated in Pozzoli v. BDMO [2007] EWHC Civ. 588, [2007] F.S.R. 37 and Improver v Remington [1990] F.S.R. 81. While such staged approaches are often very valuable, they should not necessarily be followed blindly in every case. Thus, as Mr. Prescott said, the problem/solution approach is scarcely appropriate where at least part of the originality involves appreciating the existence of a problem or the opportunity for an unexpected improvement. In such a case, one can risk creating an artificial problem before going on to consider the solution.”

US inventive step test –
Graham v John Deere (1966)

• Determine the scope and content of the prior art.
• Ascertain the differences between the prior art and the claims at issue.
• Resolve the level of ordinary skill in the pertinent art.
• Against this background, determine the obviousness or nonobviousness of the subject matter claimed.
• Evaluate secondary considerations that provide indicia of obviousness or nonobviousness, e.g.
  – commercial success,
  – long-felt but unresolved needs,
  – failure of others etc.
UK inventive step test – *Windsurfing, modified by Jacob J. in Pozzoli [2007] EWCA Civ 588*

(o) identify the field of endeavour in which the invention arises;
(i) identify the notional “person skilled in the art”;
(ii) identify his/her common general knowledge;
(iii) identify the inventive concept of the claim in question or if that cannot readily be done, construe it;
(iv) identify what, if any, differences exist between the matter cited as forming part of the "state of the art" and the inventive concept of the claim or the claim as construed;
(v) viewed without any knowledge of the alleged invention as claimed, decide whether those differences constitute steps which would have been obvious to the person skilled in the art or whether they require any degree of invention.

Common law tests - features in common

- Test identifies preliminary enquiries that should be made and about which evidence is normally given.
- Further evidence may be and routinely is adduced.
- Due process requires the decision to be made on the totality of the evidence.
- No test or algorithm prescribed for making the final determination, and no apparent room for such a test.
- Set of “evidential weights” to be put into the judicial balance, but their relative importance varies from case to case.

Inventive step – evidential weights

- New or improved result flowing from a claimed combination of features.
- Pre-existing technical problem.
- Events about the time when the invention was made.
- Delay in making the invention - “If obvious, why was it not done before?”
- Allegedly trivial differences and materials readily to hand.
- Obvious to try/reasonable expectation of success?
- Commercial success.
- Peer acknowledgement of the merit of the invention.
Need for expert evidence

- The significance of evidence, or lack of evidence, in relation to pleaded prior art was considered in *KCI Licensing v Smith & Nephew* [2010] EWHC 1487. A reference originally relied on as supporting a case based on common general knowledge was appreciated during the trial itself to be directly relevant prior art against one of the patents in issue. Amendment of the grounds of invalidity to cover that patent was permitted, but with restrictions on the further evidence that could be adduced in relation to that reference and on the cross-examination that would be permitted in relation to it.
- **Holdings:**
  - Although the reference might seem a promising starting point for an obviousness attack, there was no evidence that the relevant difference would have been obvious to a skilled person.
  - Despite what might have seemed obvious to a lay person with the benefit of hindsight, the law was clear that expert evidence was almost invariably required to establish that an invention was obvious.
  - The dangers of making a finding not based on expert evidence were illustrated by the fact that counsel for the patentees had submitted in his closing argument that there were clinical reasons why the difference was not obvious, although for procedural reasons there had not been an opportunity to cover this point in the evidence. The case against the patent had not been proved.

Laying the Ghost of the Invention Requirement
Hon Giles S Rich AIPLA J. Vol 1, No. 1 (1972) pp. 26-45

“Secondary or circumstantial considerations”

If a man is observed coming away from the scene of a murder with a bloody knife or a smoking pistol, the evidence thereof may be more convincing than what he says. So it is if a competitor suddenly gives up his way of doing things and switches to the invention or, as in the case of the *Adams case of the trilogy* [US Supreme Court, 1966], after pooh-poohing the invention and reporting that it won’t work, the defendant adopts it and uses it successfully on a large scale … I suggest that in thinking about those “considerations” they be looked on for what they factually are, circumstantial evidence of unobviousness of the highest probative value, unless there is some other explanation for the action (emphasis in the original)

Haberman v Jackel [1999] FSR 685

- Leak-proof trainer cup
- Overcame the long-standing problem of leakage
- Self-closing slit valve well known, so strong *prima facie* case of lack of inventive step
- Offered for license to 18 companies who all rejected it
- Commercialised by inventor
- Great commercial success
- Patent held valid and infringed
- Circumstantial evidence was decisive
Haberman v Jackel – the Pumfrey questions

(a) What was the problem that the patented development addressed?
(b) How long had that problem existed?
(c) How significant was the problem seen to be?
(d) How widely known was the problem and how many were likely to be seeking a solution?
(e) What prior art would have been likely to be known to all or most of those who would have been expected to be involved in finding a solution?
(f) What other solutions were put forward in the period leading up to the patentee’s development?
(g) Were there factors that would have held back the exploitation of the solution, even if it was technically obvious?
(h) How well has the patentee’s development been received? Once the product or process was commercialized was it a commercial success?
(i) Was all or much of the commercial success due to the technical merit of the development – i.e. because it solves the problem?


Circumstantial evidence should be limited

The primary evidence will be that of properly qualified expert witnesses who will say whether or not in their opinions the relevant step would have been obvious to a skilled man having all the information which he would reasonably be expected to know, including all information which was publicly known or available at the relevant date and all relevant information which was possessed by the patentee. In the nature of things, the expert witnesses and the court are considering the question of obviousness in the light of hindsight. It is this which may make the court’s task difficult. What with hindsight seems plain and obvious, often was not so seen at the time. It is for this reason that contemporary events can be of evidential assistance when testing the expert’s primary evidence. For instance, many people may have been industriously searching for a solution to the problem for some years without hitting upon the allegedly obvious invention. When this type of evidence is adduced, the court can quickly find itself caught up in an investigation of what was or was not obvious to a skilled individual at certain dates during the history of the invention. It is important to distinguish between the state of the knowledge of such individuals, though skilled, may not correspond to the statutory definition of the state of the art. A particular inventor may have been unaware of some aspect of the state of the art as defined in section 2(1), and may therefore have genuinely taken what was actually an inventive step, but nevertheless be unable to claim a patentable invention since he step was, in the terms of the statute, obvious. Further, this type of evidence invites the court to speculate whether particular individuals were of an inventive disposition, because the earlier making of the same invention by another or others does not necessarily mean that at the later date the invention was obvious. Yet again, evidence of the commercial success of the invention can lead into an investigation of the reasons for the success; there may be commercial reasons for this success unrelated to whether the invention was or was not obvious in the past.

Secondary evidence of this type has its place and the importance, or weight, to be attached to it will vary from case to case. However, such evidence must be kept firmly in its place. It must not be permitted, by reason of its volume and complexity, to obscure the fact that it is no more than an aid in assessing the primary evidence.

Schlumberger Holdings v Electromagnetic Geoservices (CA)

• Court of appeal reaffirmed the important role of secondary evidence, usually in relation to the question: why was it not done before?
• In the present case the evidence of the defendant’s expert was a mere assertion of opinion without supporting reasons, and his view should not be accepted in the face of compelling secondary evidence of inventiveness.
### T 24/81 BASF/Metal refining - Circumstantial evidence is usually irrelevant before the EPO:

- Novelty and inventive step are objective concepts.
- Objective assessment of inventive step requires
  - (i) starting from the prevailing state of the art,
  - (ii) identifying the problem that the invention solves and then
  - (iii) considering whether the solution was obvious to a person in the art who had an objectively expected level of skill.

### BASF/Metal refining - decision

- An in-house case history showing how the invention had actually been made represented the subjective achievement of the inventor as an individual and was irrelevant.
- The fact that the industry had overlooked the invention despite its economic advantages was not persuasive. That fact was a mere indicator of inventive step and could not provide a substitute for a technically skilled assessment of the invention vis-a-vis the state of the art.

### Contemporary documents providing peer review

- *Schlumberger Holdings v Electromagnetic Geoservices* - writings of an academic expert conveying enthusiasm for a new and valuable idea
- The contemporaneous real reactions of real experts in the field was admissible evidence which would not have been tailored or selected for the trial, often many years later, involved no or little reconstruction and for that reason had always been treated as of real value in deciding a patent case.
- The absence of cross-examination was not relevant because hindsight cross-examination years later could not have demonstrated that the expert did not mean what he wrote at the time.
- There was similar evidence from other experts who had subsequently applied for a related patent themselves.
- Furthermore the non-existence of any pre-patent documents of Schlumberger was telling: accounts of Schlumberger had, pre-patent, even contemplated the use of CSEM for detection of hydrocarbons, and their post-patent documents referred to CSEM as somewhat fringe geophysical methods of use only as regional exploration tools of low resolution and that only suitable for applications in certain more difficult geological provinces, whereas as now modified these methods had undergone a metamorphosis.
Delay

- Schlumberger Holdings v Electrogeomagnetic Geoservices (CA) (above) If a useful development was, in hindsight, seemingly obvious for years and the apparently straightforward technical step from the prior art simply was not taken, then there was likely to have been an invention. The CSEM technique had been available for 20 years, the closest prior art had been available for 9 years and various reasons why the invention had not been made earlier were put forward, none of which answered the question why the invention had not been made before, when the facts really called for a good explanation.

  "The simplest explanation – indeed the only one that fits the known facts – is that the inventors hit upon something which others had missed. Occam's razor points to invention."

  The invention had been “obvious” for too long for it really to have been obvious.

- Fosroc International v W R Grace [2010] EWHC 1762 (Pat): The skilled person would have assumed that the commercialised compound was the best compound, that there was no expectation that superior or even equivalent compounds would be found amongst those already disclosed, and the failure of the art to come up with the invention was particularly telling.