Species of Obviousness

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Introduction

Ironically, it is not so obvious as to how to apply the Canadian law of obviousness.

For example, the UK’s *Windsurfing/Pozzoli*[1] analytical approach to obviousness, expressly adopted by the Supreme Court of Canada in 2008 in *Sanofi*,[2] asks that one identify “the relevant common general knowledge” of the notional person skilled in the art. Having identified it, neither *Windsurfing/Pozzoli nor Sanofi* explained what is to be done with it, leaving unclear its use in determining obviousness.

This paper suggests that the obviousness case law reveals two distinct species of obviousness:

1. Common General Knowledge (“CGK”) Obviousness; and
2. Prior Art Mosaicking Obviousness.

Each specie of obviousness requires a slightly different analytical approach under Canadian case law. Prior art mosaicking obviousness must explain why a particular piece of public prior art is selected to be used or combined with a starting point piece of prior art; CGK obviousness does not, since only CGK is used or combined with any individual piece of prior art.

Both species of obviousness use CGK to apply obvious, common generally known combinations or uses to render a new combination or use obvious.

Obviousness 101

The subject-matter defined by a claim in a Canadian patent must not have been obvious to a person skilled in the art or science to which it pertains, having regard to (among other things) information that became available to the public in Canada or elsewhere before the claim date.[3] The onus is on the party attacking a patent to establish that a claim is obvious.[4] The best question to ask in cross-examination of an expert witness who has stated that the invention would have been obvious, is: “If it was so obvious, then why didn’t you think of it?”[5] Thus, the expert for the party attacking the claim for obviousness must explain why it would have been obvious to the skilled person. The question “Why?” seeks a reason for the combination (or use together) of prior art elements.

Motivation

One aspect of the “Why?” question is to ask “Why would the skilled person have been motivated to combine or use together those particular pieces of prior art to come up with what is claimed?”

Canadian courts have recognized at least two types of motivation: that of the industry in general (“the climate in the field”[6]); and that of the notional skilled person and/or the inventor(s) themselves (“...the reason why the claimed inventor made the claimed invention, or ... the reason why one might reasonably expect the hypothetical person of ordinary skill in the art to combine elements of the prior art to come up with the claimed invention[7].” With respect to the motivation of the industry, the motivation to combine (or not combine) the prior art necessarily includes the attitudes, trends, prejudices and expectations that existed in the industry at the time[8] (both towards and away from that kind of combination or use of prior art).

Likewise, under US law, the need for a reason for the combination or use has been recognized. The US Court of Appeal for
the Federal Circuit developed the TSM ("teaching, suggestion or motivation") test, under which a patent claim is considered obvious only if there was "some motivation or suggestion to combine the prior art" in the prior art, the nature of the problem, or the [common general] knowledge of a person having ordinary skill in the art. In KSR however, the US Supreme Court held that this test is merely a "helpful insight" and not a rigid and mandatory requirement for proving obviousness. Nevertheless, KSR requires there to be some "reason" for making the combination of elements:

Often, it will be necessary for a court to look to interrelated teachings of multiple patents; the effects of demands known to the design community or present in the marketplace; and the background knowledge possessed by a person having ordinary skill in the art, all in order to determine whether there was an apparent reason to combine the known elements in the fashion claimed by the patent at issue.

Many other aspects of "motivation" are arguably neutral towards deciding whether the combination would have been obvious and depend heavily on the facts of the case. For example:

- The desire to find a cure for cancer does not make a resulting cure obvious. If no one else found the cure, this suggests that the cure was inventive.
- If everyone was looking in the same area or in the same direction for the solution, perhaps the invention was obvious if only the timing of addressing the problem resulted in the solution being found first by one group.
- If only the inventor was seeking the solution, the solution found is not necessarily inventive. The solution may have been the application of a previously known solution within the relevant CGK.

Specie #1: CGK (Common General Knowledge) Obviousness

The notional skilled person (who is the subject of the obviousness question) is imbued with the CGK in the field of art of the patent: what that person may reasonably be expected to know and be able to look up in a generally accepted reference, or discern from a routine analysis of a material. CGK is merely a subset of the prior art – includes known solutions or improvements to common problems, as well as the motivations described above: the attitudes, trends, prejudices and expectations that existed in the industry.

CGK is the skilled person's toolbox, acquired through academic and practical training, ready and available to be applied in all circumstances. It is trite law that no one is entitled to get a patent on an obvious improvement to any existing, publicly known article or method ("the prior art"). Justice Locke summarized the law succinctly:

"[I]n order to obtain a valid patent, it is not enough for a skilled person simply to make an obvious change to what is known in the art. This principle should apply to any information that was available to the public, even if it would not have been located in a diligent search. For example, should a skilled person be able to obtain a valid patent by simply searching a dusty corner of a public library for a document that describes a forgotten invention and making an obvious change to it?"

The obvious answer to Justice Locke’s rhetorical question is, “No”.

All inventions start somewhere. For convenience, any publicly available piece of prior art will be referred to as the "starting point prior art". Any starting point prior art can be improved inventively or obviously. As pointed out by Justice Locke, an obvious change to the starting point prior art is not patentable.

When solutions or improvements are found "directly and without difficulty", they are obvious. One form of obvious improvement is to re-use common, predictable, already known solutions or combinations in the field of the invention or from a closely related field. Courts have recognized that recycling a known predictable solution is not inventive.

This suggests a generalized proposition: if the difference between the prior art and the invention can be bridged by the [obvious] application of CGK, then such invention is obvious and unpatentable. This species of obviousness is what I refer to as "CGK obviousness".

For example, if a structural beam bends too much under a loading force, to a civil or mechanical engineer, it is obvious to make the beam thicker to increase its stiffness (perhaps to the degree recommended by an accepted, available structural reference text) or to use stiffer material.

Likely, it is (at least) such an obvious application of the CGK to a piece of starting point prior art that was contemplated (but not articulated) in the Windsurfing/Pozzoli approach of Sanofi.
A sunspot[21] provides a useful analogy for the “CGK obviousness” landscape: The dark region of a sunspot (the umbra) represents an individual piece of prior art. The shaded region around each umbra (the penumbra) is the area occupied by obvious improvements made by applying obvious CGK solutions or improvements to that particular piece of prior art. Anything within a penumbra would be a “non-inventive step” away from the prior art (the umbra). That which lies beyond the penumbra (in the yellow region) would be an inventive step away from the prior art and thus would not be obvious. Note that penumbras exist around all individual sunspots, in different sizes and shapes (just as obvious CGK improvements exist around all public prior art). Some penumbras intersect. In this depiction, these intersecting areas represent an obvious improvement that is within an obvious CGK step from two different pieces of prior art.

Specie #2: Prior Art Mosaicking Obviousness

Sometimes it is obvious to combine the starting point prior art with one or more other pieces of public prior art that are not in the CGK (what I refer to as “the other prior art”). This specie of obviousness is referred to here as “prior art mosaicking obviousness”.

Unlike CGK obviousness, where previously known solutions or combinations are readily “at hand” in the toolbox of the notional skilled person to re-use to make obvious improvements, for mosaicking obviousness, one must ask:

Why would it have been obvious for the notional skilled person to have combined (or mosaicked) the starting point prior art with that particular piece (or pieces) of other prior art amongst all the rest of the available prior art?

The case law shows that there are two necessary conditions that must occur for using that piece (or those pieces) of other prior art in a prior art mosaicking obviousness analysis:

1. An “obvious reason to select”: The other piece(s) of prior art (the needle, or the tree) must, for some reason, obviously stand out from the rest of the prior art (in the haystack, or the forest) in order to be selected to combine with the starting point prior art; and
2. An “obvious combination”: It must be obvious to the skilled person to combine the starting point prior art with the other piece(s) of prior art using only an obvious application of CGK.

Condition 1: An “Obvious Reason to Select”: Why this other prior art?

To put two things together in our physical world, they have to be near each other. To put two pieces of non-CGK prior art together in the inventive landscape, they need to come together in the mind of the skilled person apart from, but amidst the clutter and noise of, all other prior art deemed to be in that notional person’s brain.

The Canadian Patent Act s. 28.3 explicitly makes available for obviousness considerations “… information … available to
the public in Canada or elsewhere”. As pointed out by MacOdrum, this includes all such prior art.[22]

Assuming the skilled person is omniscient, it is suggested that an appropriate general question would be:

“Why would this particular piece (or these pieces) of other prior art stand out amongst the others to be obviously combined with the starting prior art?”, or

“Why would this particular piece of other prior art have been the needle found in the prior art haystack?”

There must be at least some factor present that differentiates this particular piece of prior art from the other prior art in order for it to have been selected from the rest. The party asserting obviousness “… must be able to demonstrate … how the person of ordinary skill in the art would have been led to combine the relevant components from the mosaic of prior art.”[23]

The General Tire line of case law provides that, in determining obviousness, one can combine only other prior art[25] that would have been located as a result of a diligent search.[26] A diligent search simulates what the skilled person would have done and provides one reason why certain other prior art would have stood out from the rest of the other prior art. Certainly, if that other prior art would not have been found in a diligent search, it would have been less likely to have been selected by the omniscient skilled person unless it could have, somehow, otherwise have been distinguished from the entire universe of prior art.

The other piece (or pieces) of prior art may have stood out for reasons other than a General Tire-type diligent search. Perhaps the other piece of prior art was referred to in the starting point prior art. Perhaps that other piece of prior art was public, but not searchable. For example, someone may announce a technological advance (e.g., a plastic found to have been resistant to acid) at a public conference.[27] Such information may not yet be in a searchable database. It may never be in a database if only made orally or shown physically. Such information is, on its face, “… available to the public in Canada or elsewhere” and would be available for consideration under the plain language of s. 28.3, to make it obvious to any skilled notional person who was a conference attendee that such plastic could be used to make a thinner-walled car battery.

**Condition 2: An obvious combination: Why combine them?**

Once the other prior art becomes “selected” by the skilled person, it must then be obvious to combine it (or use it) with the starting point prior art to create the obvious combination or solution:

“The inquiry at step 4 [of the Sanofi/Windsurfing/Pozzoli approach] is whether… the difference between the inventive concept (or the claim as construed) and the prior art can be bridged by the Skilled Person using only their common general knowledge and other information which they could have found by making a reasonably diligent search. If it can, then the claimed invention is obvious.”[29] [emphasis in original]

But what makes the combination or the solution obvious?

Nothing is more obvious than doing again what you did before, or doing something close to it. The reason for doing so is that because it worked beforehand, it will obviously work again in the same or similar circumstances.

It is suggested that, here again, CGK plays an integral part: the obvious reason to combine or use the starting point prior art with the other prior art should be found in the CGK. The combination or use should require only the non-inventive application of a commonly, generally known (CGK) solution or combination, similar to the Sanofi[30]/KSR “identified, predictable solutions”:

When there is a design need or market pressure to solve a problem and there are a finite number of identified, predictable solutions, a person of ordinary skill has good reason to pursue the known options within his or her technical grasp. If this leads to the anticipated success, it is likely the product not of innovation but of ordinary skill and common sense.”[31]
Returning to the sunspot analogy, combining starting point prior art A with other prior art B would be obvious because they are connected by the penumbra of the obvious application of common general knowledge. However, combining starting point prior art A with other prior art C would not be obvious because they are not connected by an obvious application of the CGK and would thus require an inventive step to connect them.

Conclusions

Recognizing the existence of two species of obviousness (CGK and prior art mosaicking) adds to the Windsurfing/Pozzoli analytical approach adopted in Sanofi to understand how and when the obvious application of common general knowledge results in obvious combinations and uses. This analysis further suggests that the General Tire requirement for the other prior art to be available as a result of a diligent search is merely one (but perhaps the most common) reason why a particular piece of other prior art would be obvious to select to combine or use out of all the other prior art “available to the public” under s. 28.3.


[17] **Pollard Banknote Limited v. BABN Technologies Corp.,** 2016 FC 883 (F.C. per Locke J.) at para. 194


[21] photo credit: By NASA Goddard Space Flight Center from Greenbelt, MD, USA (Solar Archipelago) [CC BY 2.0 (https://creativecommons.org/licenses/by/2.0) or Public domain], via Wikimedia Commons https://commons.wikimedia.org/wiki/File:Solar_Archipelago_-_Flickr_-_NASA_Goddard_Photo_and_Video.jpg


[23] **Laboratoires Servier et al v. Apotex Inc. et al,** 2008 FC 825 (F.C. per Snider J.) at para. 254. Here, Justice Snider was using the term "mosaic of prior art" to refer to the forest or haystack of prior art, not the mosaic of prior art forming the invention.


[25] By this term, I mean prior art other than the starting point prior art and the CGK.

[26] Such prior art should not be confused with CGK that can be "looked up", as discussed above. It should be noted that the Sanofi decision did not incorporate (nor comment on) the General Tire requirement for a diligent search.

[27] or otherwise publicly disclosed in a manner that is not readily searchable: e.g. a speech, a YouTube video or a poster at a medical conference.

[28] In **Globe-Union Inc. v. Varta Batteries Ltd.,** (1981) 57 C.P.R. 132 (F.C.T.D. per Mahoney J.), at p. 140; aff'd **Johnson Controls, Inc. v. Varta Batteries Ltd.**, (1984) 80 C.P.R. (2d) 1 at p. 16, the court held it to be obvious to use a newly discovered plastic that was resistant to car battery acid to make an improved, thinner-walled car battery case, holding "...all that was needed was the right plastic to become available at a cost that would render the obvious economically attractive." Had such plastic been unveiled at a public conference, should it not have been available to render the patent invalid?

[29] **Ciba Specialty Chemicals Water Treatments Limited v SNF Inc.,** 2017 FCA 225 (FCA per Pelletier J.A., Rennie & Woods J.J.A. concurring) at para. 68.


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