

Playing the weighting game: “duty of care”, “clinical negligence” and other revitalised queries

When courts consider the weight of evidence and the weight of an argument, discretion and subjective judgment are matters of course. When selecting precedential authority, ascribing weight to all the possible citations at one’s disposal is similarly painstaking and time-consuming, as well as frustratingly iterative. But does it have to be? From speaking to two of the technical brains behind the re-engineered JustCite citator, we can shed some light under the bonnet and discover how the recent refinements will help practitioners assimilate at a glance how strong – and relevant – their authorities are.

By **Alistair King** of Justis Publishing

“Of course almost all cases never get cited,” says Robin Chesterman.

“So it’s a major challenge to deal effectively with the skewed distribution of the significant few that do,” his colleague Andrew Twidle adds.

Chesterman and Twidle are two of the in-house developers behind the large-scale redesign of JustCite, a year-long project that came about through a desire to improve the citator and search engine’s searching, results handling and information pages.

Though the scope of the now expanded project is enormous and multifaceted, their zeal seems at its most potent when discussing just two of the many areas of improvement: enhancing “relevance” in searches, particularly those that use subject terms; and the related concept of precedent mapping – or, to give it the name they’ve coined, JustCite mapping – which evolved from the original brief.

The first area can only really be appreciated when comparing the old JustCite with the new; while the second, though more visually demonstrable, is equally underpinned by what Chesterman describes as the “smarts” behind JustCite.

So how do these elements of the service work and why has such import been placed on them? Answers to these questions should demonstrate how barristers’ research will be affected, particularly when considering the typical searches one might perform when starting out on a new case.

Let’s first consider “relevance”, the default criterion by which search results have been displayed on JustCite since its first incarnation a decade ago, and by which its sister service Justis sorts its records.

Name-checking Justis here serves as more than a cynical plug for the online legal library; it helps illustrate the limitations of the old JustCite because, unlike on the full-text Justis database, queries run across JustCite are confined to metadata.

Searching by citation, party name, series or year presents few problems. The same is true for the similarly unambiguous fields on JustCite’s legislation and article search screens. But the starting point for most speculative case searches is the specification of keywords.

Make no mistake, on the old version of JustCite, anecdotal evidence suggests that users did find what they were after by this method. But scrolling through results pages was often needed, relevance being determined somewhat arbitrarily by the number of times the keywords appeared in a particular document’s metadata.

Twidle explains that in contrast, much of the logic behind the new JustCite keyword search is analogous to the method Google once used to determine internet page ranking. Now too open to abuse on the internet’s high seas to remain viable for the search engine giant (and others like it), the position of a webpage was based in part on the number of links from other sites to the page.

But on the new JustCite, one of the crucial components of the new algorithm for relevance can relate to how many other cases a case cites and how many it is cited by, Twidle says, because the citator’s content is controlled in-house.

JustCite has always contained the necessary information for these computations to be made, so implementing the codes to do so was far less onerous a task than it could have been. But what impresses me is the leap of insight the team made in deciding to do this

in the first place.

Comparing typical queries on the Quick Search screens of the old and new JustCite should provide a suitable acid test for the practitioner.

James Mulholland, an outgoing customer trainer at Justis Publishing, who takes up a pupillage at a chambers in Middle Temple this year, suggests “duty of care” and “clinical negligence”.

Looking at his first example, the top five records in the results table of the old JustCite are: “[2006] PL 404, No duty of care in care proceedings” (0, 0); “159 NLJ 579, Do thy duty (2009)” (4, 0); “(2009) 54(4) J Law Soc Sc 64, Duty within bounds” (5, 0); “2000 c. 29 s. 2, Trustee Act 2000” (N/A); and “2000 c. 29 sch. 1, Trustee Act 2000” (N/A).

While these are perfectly valid examples of appropriate documents (the hyperlinks from some of them providing useful supplementary reading on the third-party sites users can click through to), none of them could be described as being among the most relevant examples of cases concerning duty of care; a point reinforced by the numbers I’ve added in brackets after each item, which indicate the number of cases each cited and the number of subsequent cases that have cited them.

However, an equivalent search on the new JustCite offers: “[1932] AC 562, McAlister (or Donoghue) v Stevenson” (34, 363); “[1990] 2 AC 605, Caparo Industries Plc v Dickman” (54, 237); “[1964] AC 465, Hedley Byrne & Co. Ltd v Heller & Partners Ltd” (47, 258); “[1995] 2 AC 633, X (Minors) v Bedfordshire County Council” (87, 124); and “[1977] 2 WLR 1024, Anns v Merton London Borough Council” (27, 190).

Even to a non-lawyer like me, Donoghue and Stevenson, and Hedley Byrne look

reassuringly familiar, as do the cases from the second of Mulholland's examples; and true enough, he confirms that the five highly-cited cases for "duty of care" would be likely contenders for inclusion in tort law textbook lists.

But, Mulholland reminds me, the added advantage of JustCite over textbook references is that the citator's records are updated more frequently, and it also provides at-a-glance information on very recent cases that might have an effect on another case's authority.

This information is displayed in what Chesterman and Twidle call JustCite's "profile cards". Acting as links to the full set of data for each record, profile cards appear on the new results page, and include in that view a snapshot of the citation-count numbers I've added to my two sets of results above.

These references are coded by the JustCite in-house editorial team, who assign a colour to indicate the tally of cited or subsequent cases that broadly support or broadly undermine the case in question. There's also a colour for neutral. But some information can only be viewed after clicking through to a document – after all, Twidle is wont to point out, knowing what information to leave out is as important a task for a developer as deciding what to leave in.

This point should neatly segue into our discussion of precedent mapping. But before we look at that, I should acknowledge the observations of the arithmetically astute: the numbers in my top-five-cases list don't quite add up. Why, for example, does Hedley Byrne follow Caparo, even though its combined count of associated cases is higher than the latter's?

Chesterman explains that although there's clearly a strong correlation between these numbers and relevance, there's more to the algorithm than that. Citation stats carry most weight but other factors, some of them tweaked manually in the coding, play an important part in determining a case's relevance or, for that matter, the relevance of an Act or article.

And speaking of Acts and articles, Chesterman points out that the new JustCite has been programmed to deduce the likely document type that someone entering a vague query might be after. This is achieved, he says, by the search engine cross-referencing the terms of the query against a number of terms that have been manually added by the development team. Alongside the more obvious words "act" and "case", these

include "v" and "vs", hundreds of recognised citations and several other hand-selected indicators.

But back to precedent mapping.

Due for a slightly later release than the core components of the citator's redesign, the new JustCite mapping function is arguably its most innovative element.

Outside the initial scope of the project, the idea sprung up from an observation the team made during their development work: when hopping for long enough between cases that have cited each other, a pattern of repeatedly cited cases will emerge in one's mind.

From such a pursuit, one eventually gets a feel of the strongest, most relevant cases to investigate further. But it's time-consuming.

So, asked the team, could we programme JustCite to generate that pattern of relationships automatically and dynamically?

The team started by researching the concept of citation mapping. The idea isn't new – numerous academic papers discuss methodologies and approaches for the visualisation of citation networks – but, according to Chesterman, there appear to be "few if any tools brought to market," a state of affairs that exists in part due to the great difficulty in determining how these networks are displayed so that they convey enough but not too much information.

So they set to work themselves on bringing such a device to market as a component of JustCite.

Chesterman began by mocking up a few schematics based on manually plotting the relationships between sample cases; while Twidle looked into the maths and graph theory behind generating the chosen schematic automatically.

At the time of writing, the plan is to provide an additional link on all case records to an auto-generated diagram, which in turn becomes a navigable map between documents.

These maps will provide the sort of information that could only otherwise be gleaned iteratively and imprecisely from one's own observations of cited cases (using JustCite or by any other process). Chesterman describes their basic design.

The case name in focus appears in the centre of the screen as a circle containing information similar to the case's profile card.

This case is orbited by information on all the cases that it cited and that cited it; the former appearing as satellites on the left, ordered by case age; the latter, satellites on the right, also ordered by case age.

The relative size of these orbiting circles will be determined automatically by the number of case citations shared with the central case. And the lines linking the orbiting case to the central case will be directionally and colour coded to indicate the positive or negative effect of one case on the other.

Another dynamic component to the design will be the auto-generation of new line links between the cases in view if the user's mouse hovers over one of the outer cases. And, as with information links in the profile cards, if one clicks on one of the outer case circles, the user is taken not only to the record for that case but to the equivalent diagram, with that case in focus.

Clearly it would take a very long time to do this by hand. So on one level the team has succeeded by programming JustCite to do it automatically – or they will have by the time the project is finished.

But will they succeed in providing something that's actually useful for busy barristers?

"As one of the developers behind it, it's impossible to assess how effective the visualisation is if you know what you're looking at," says Twidle. "So we constantly get people to look afresh at each prototype diagram we produce to see whether they can see what we're trying to display, without our explaining beforehand what it represents."

It's a sensible approach. From my exposure to one such prototype, I can see the immense time-saving benefits. And I'm bowled over by some of the other areas of JustCite's development that my interviewees mentioned in passing but which I haven't had the space to cover in depth, such as its increased jurisdictional control.

But I'm never faced with the daunting task of finding reliable, up-to-date precedents for court at the eleventh hour. If you are, why not follow Mulholland's lead by testing the new JustCite with a line of enquiry typical to your practice?

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