



# **New horizons for the Bar in the age of technology**

**The Honourable Justice Peter Vickery**

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## **Introduction**

Welcome to the future and “**New Horizons for the Bar in the Age of Technology**”.

I commence with the following maxim which was attributed to Abraham Lincoln in the film ‘Lincoln’:

*“Prophesying is one of life’s less profitable occupations.”*

In defiance of this edict, let me tell you a little about how courts are responding to the technology tsunami which is upon us, and venture some prophecies as to future direction.

The opportunities for exploring and participating in the new fields for the Bar and positioning to provide up to-the-minute advice to clients will become obvious.

### **First Prophecy – ‘Paper will always be there’ (at least for the foreseeable future)**

That may be a relief to many.

The age of technology has spawned many a technical ‘buzz’ word. We have Meta Data (to provide information about other data); PetaFLOPS (which measure computer speed) and Terabytes, Exabytes, Zettabytes and Yottabytes (which are units of data storage).



Beyond a Yottabyte is a black hole of the known unknown, or extinction by information overload.

To give you an idea as to where computer technology is heading, A petaFLOP is a quadrillion (one thousand trillion) floating point calculations per second. Although it is impossible to precisely calculate, it is postulated that the human brain operates at 1 exaFLOP, which is equivalent to a billion billion calculations per second (although, it is conceded, High Court Judges may be credited with at least a few more Flops). In supercomputing terms, achieving an exaFLOP of computer speed has been regarded as the Mount Everest of achievement. On present predictions, it is likely to be attained this year by the Tianhe-3 super computer in China, when we will have a system in place which should match (or even exceed) the computing power of the human brain.

In litigation we have the more down to earth concept of a 'Paperless Court'. Let me venture a controversial observation. There is no such thing as a 'Paperless Court'. A more accurate description is a 'Technology Assisted Court', at least for the foreseeable future.

A number of factors point in this direction.

### **Factor 1 – user comfort with technology is an important consideration**

A good many of us grew up in an age before there was television. When I mentioned this to a grandchild some years ago she said, in a very perceptive social comment, 'Granddad' were you poor?' 'No, they just hadn't invented it then'.



The same grand-child, after the death of an aged aunt, when told she had gone to Heaven, asked her mother, “Mommy, is there an APP for Heaven?”

She is growing up in a world where the PC and the iPhone are second nature.

That grand-child is bound to become a lawyer, and when she does, no doubt will bring with her and her generation familiarity with computer screens which will be second nature.

The point is that we have within our present ranks of lawyers a hugely varied range of skill sets and comfort with technology. A ‘one size fits all’ won’t necessarily work. Many levels of skill and comfort need to be accommodated.

This has profound implications for the design of workable systems for Courts. There are some fundamental design parameters which I like to call the ‘SURFER’ principles:

- **Simplicity** in operation;
- **User Consultation** (It is critical to have a strong involvement of the end user in the design of the system as it is being developed. Computer experts are usually very good at just that – but they don’t usually have a detailed knowledge of the requirements and needs of the end user in the litigation process – ie. the Judges, counsel and solicitors. At the same time, lawyers do not usually know of the latest capabilities of computer software. Accordingly, it is a matter of bringing the two skill sets together in an iterative design process in which the design is progressively developed in consultation, rather than by commencing with a



proposed complete design from the outset, which can be unwieldy and expensive to change, and will not necessarily suit the ultimate needs of the end user <sup>1</sup>);

- Reliability
- Flexibility (to accommodate different work habits and skill sets of the end user);
- Efficiency;
- Robust security and back-up systems to guard against catastrophic system failure.

## **Factor 2 – In this context Judicious Case Management by Individual Judges Points to Elimination of paper being beneficial in some (but not all) aspects of a trial**

A case study is the bushfire litigation conducted by Justice Jack Forrest. In the Kilmore case he is reported to have issued a commandment banning trollies from the Court.

I may stand to be corrected by His Honour and others, but something of an Irish myth has developed from this edict.

It did not translate to an entirely paperless trial.

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<sup>1</sup> For example, the traditional waterfall design model which is a [sequential](#) (non-iterative) [design](#) process, used in [software development processes](#), in which progress is seen as flowing steadily downwards (like a [waterfall](#)) through the phases of conception, initiation, [analysis](#), [design](#), construction, [testing](#), [production/implementation](#) and [maintenance](#). Contrast: the Agile Methodology which is an iterative, team-based approach to software development.



What it did do was develop an extremely effective electronic court book for exhibits for use at the trial.

With the use of this electronic court book, all documents put to witnesses being examined were put via the electronic system. No paper document was put to a witness.

Each document on the system was assigned a document code. Examining counsel would prepare their examinations in advance by reference to the documents and the document codes to be examined upon.

In the course of the examination, counsel would call upon the independent court book operator to produce the relevant document. This would be displayed virtually instantaneously on all Court computer screens.

These screens displayed the selected document put to the Witness. All Counsel; the Judge; the Clients and all attending members of the public were able to follow the examination simultaneously.

Counsel at the Bar table were able to be remotely instructed by clients on the documents by email.

**There is a warning to be given, however.** Critical to the efficient conduct of an electronic trial of this kind is the skill and experience of the Court Book operator. Care in the selection of the most appropriate third party operator is essential.

### **Factor 3 – Cost**

These days we are all conscious of containing the cost of litigation and applying Lord Jackson's principle of proportionality.

It is perhaps stating the obvious, but not every case will justify the time, effort and infrastructure



required for an electronic trial.

An enormous volume of information is now created, exchanged and stored electronically, as 'electronically stored information' or ESI.

Nevertheless, the economy still runs on paper and to a very large extent. In many cases, the cost of conversion of paper documents into a useable electronic form will simply not stack up on Lord Jackson's proportionality test.

**Second Prophecy – The appointment of technical assistants for the Judge or 'human primers' are likely to become increasingly important in the administration of justice in the technical age.**

In one of his 47 learned rulings in the bushfire cases Justice Jack Forrest appointed two experts as assessors to sit with him with the technical evidence being presented.

In the future, Judges and Arbitrators in technical cases will become increasingly dependent on input from specialised and highly qualified experts to determine critical issues of fact in the technical sphere.

In this respect, we may be witnessing an increasing convergence between common law and civil law systems.

Australia can claim the invention of the 'hot tubbing' of experts and the calling of expert witnesses to be examined concurrently. This process necessarily calls for the Judge to actively participate in the marshalling of expert evidence.

But in highly technical cases, it is always open for the Court to signal a 'cry for help', throw the towel



into the hot tub and call for specialist assistance.

### ***Engagement of Experts by the Court not new***

Engagement of experts by the Court is not a new phenomenon. It was invented centuries before the micro-chip and the world –wide web.

‘It represents nothing less than a judicial cry for help for informed opinion on matters pertaining to all manner of specialist knowledge.’

The observation is made that, if this was the case centuries ago, how much greater is the need in the present age of technology.

Let me take you back in a time machine.

In the United States of America, it was over one century ago in 1901 that Justice Learned Hand<sup>2</sup> considered the importance of the use of expert knowledge to the administration of justice in his celebrated essay (of which there were many and oft quoted by the Supreme Court of the United States) ‘Historical and Practical Considerations Regarding Expert Testimony’ (1901) 15 *Harvard Law Review* 40. His Honour commented:

‘[T]he law should in some way effectively use expert knowledge wherever it will air in settling disputes. The only question is as to how it can do so best.’<sup>3</sup>

One of the methods considered is –

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<sup>2</sup> Chief Judge on the [United States Court of Appeals for the Second Circuit](#).

<sup>3</sup> The Hon Justice Learned Hand, ‘Historical and Practical Considerations Regarding Expert Testimony’ (1901) 15 *Harvard Law Review* 40, 40.



‘to summon to the advice of the court certain skilled persons to help it out of its difficulties. (...) [T]he court, having no rule of law to administer and not intending to establish any ...summoned experts to help it where its knowledge was lacking.’<sup>4</sup>

Learned Hand J noted in his essay (at 42-43) that the earliest recorded case was in 1345.<sup>5</sup> This was in an appeal from a charge of mayhem to decide whether the appellant should go to trial. To aid it, the court summoned surgeons from London to assist with expert opinion as to whether the wound was fresh. ‘Mayhem’ was the medieval offence of maiming a person in a fight. The removal of limbs and the dismemberment of sensory organs constituted the offence of mayhem.<sup>6</sup> This was regarded as profoundly unfair – ‘simply not cricket.’ A sword fight was acceptable, but maiming was out of bounds.

Calling in aid experts did not stop at mayhem. In a commercial context, in construing a bond in 1494,<sup>7</sup> which contained certain doubtful words, the court called for its assistance “masters of grammar” to assist with the construction (who according to the report of the case, incidentally did not help it much).

Again in 1555,<sup>8</sup> we find a case where the court said it was accustomed to call upon grammarians to help it interpret pleas before it written in Latin when the court faced difficulty.

In 1753 in *Ekins v. Macklish*<sup>9</sup> Lord Hardwicke also ruled on a commercial document in accordance with the views of the reputable merchants whom he summoned.

We then leap to 1854. Accounting, as it is today, was regarded as well beyond the skill set of

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<sup>4</sup> At 42.

<sup>5</sup> Anonymous, Lib. Ass. 28, pl. 5 (28 Ed. III.).

<sup>6</sup> Peter E Nyagh and Peter Butt (eds), *Butterworths Australian Legal Dictionary* (LexisNexis Butterworths, 1997) 734.

<sup>7</sup> Anonymous, 9 H. VII. 16, pl. 8.

<sup>8</sup> *Buckley v. Thomas*, 1 Plow. 118.





common law Judges. The power of a Judge to order that a matter before the court relating to **'Matters of mere account'** be referred to a referee and decided by the referee was set out in procedural rules of the Court in the *Common Law Procedure Act* of 1854. The statute provided that the referee could be either an **'Officer of the Court'** or a private **'Arbitrator appointed by the Parties'** and the **'Award or Certificate of such Referee, shall be enforceable by the same Process as the Finding of a Jury upon the Matter referred.'**

A central question on the jurisprudence of references is whether or not a reference amounts to an unlawful abrogation of the court's power and duty to determine the disputes which come before it.

The High Court has assisted with the answer in *Buckley v Bennel Design & Constructions Pty Ltd*<sup>10</sup>, where the question of a reference by a court was considered. The leading judgments were those of Stephen and Jacobs JJ. Stephen J said (at p. 15) that in a reference (whether to an arbitrator or a referee) *"the court's procedures of adjudication are not abandoned in favour of extra-curial settlement of the dispute by arbitration. Instead the court directs that, for the better resolution of the particular proceedings initiated before it, resort should be had to this special mode of trial ..."*.

This approach is reinforced by Rules of Court and common law in Australia to the effect that the opinion of a referee on questions referred has no legal status until adopted by the referring court. As Gillard J said in *Kilpatrick Green Pty Ltd v Leading Synthetics Pty Ltd*<sup>11</sup> : *"Until adopted, the report is of no effect"*.

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<sup>9</sup> *Ekins v. Macklish*, Ambler, 184 (1753), and *Kruger v. Wilcox*, Ambler, 252 (1755).

<sup>10</sup> (1978) 140 CLR 1.

<sup>11</sup> Unreported) 5 June 1998 (BC 9802331) at p. 2.



### **Victoria - Civil Procedure Act 2010 (Vic) (CPA)**

In Victoria reference powers may be exercised by the Court under the *Civil Procedure Act 2010* (Vic) which provides a facility for the Court to direct the 'mode of trial' consistently with the overarching purpose of the CPA. Section 7(1) provides:

The overarching purpose of this Act and the rules of [court](#) in relation to [civil proceedings](#) is to facilitate the just, efficient, timely and cost-effective resolution of the real issues in dispute.

Section 49(3)(i) of the CPA provides for the Court's power to order and direct trial procedures, including "(i) the place, time and mode of trial;" .

### **Victoria – County Court**

Section 48(1) *County Court Act 1958* provides a facility for the whole of a proceeding to be referred to a special referee for inquiry and report.

### **NSW – UNIFORM CIVIL PROCEDURE RULES 2005**

The rules of the NSW Supreme Court provide for the reference to a referee of "the whole of the proceedings to a referee. These rules are set out below:

#### **UNIFORM CIVIL PROCEDURE RULES 2005 - REG 20.14**

##### **Orders of referral**

##### **20.14 Orders of referral**

(1) At any stage of the proceedings, the court may make orders for reference to a referee appointed by the court for inquiry and report by the referee on the whole of the proceedings or on any question arising in the proceedings.



(2) The court must not make an order under subrule (1) in respect of a question to be tried with a jury. [Emphasis added]

Giles CJ (Comm D) reported in a paper published in 1996<sup>12</sup> that *“There is no doubt that references have most frequently been ordered in the Construction List of the Supreme Court of New South Wales”*. His Honour reported that in the years 1992 and 1993, some 6 - 7 years after the introduction of references into the NSW Supreme Court Rules in 1986, orders for references were made in some 28% of construction cases. Of the 66 construction cases referred in that period, in 31 cases the whole of the case was referred (or 13%) and in 35 cases part of the case was referred (or 15%). The referees were engineers in 29 of the cases, architects in 13, builders in 6, lawyers in 20 and ‘other’ in 2 cases (the total greater than 66 is due to joint references between engineers and engineers and lawyers). His Honour further observed that: *“These figures do not seem out of place given the nature of proceedings in the Construction List.”*

Inquiries made of Hammerschlag J, Judge-in –Charge of the Technology and Construction List (NSW), indicate that, although he did not have statistics at hand, reference orders were estimated to be made in some 20% of cases in his T&C List.

### ***Federal Court Rule***

Similarly the Rules of the Federal Court of Australia provide a facility to refer “a proceeding in the Court to a referee for inquiry and report in the following provision:

#### **FEDERAL COURT OF AUSTRALIA ACT 1976 - SECT 54A**

##### **Referral of questions to a referee**

(1) Subject to the Rules of Court, the Court may by order refer:

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<sup>12</sup> Giles CJ (Comm D), “The Supreme Court Reference Out System”, paper delivered at a seminar conducted by The Institute of Arbitrators Australia, April 1996, 12 Building and Construction Law 85.



- (a) a proceeding in the Court; or
- (b) one or more questions arising in a proceeding in the Court;

to a referee for inquiry and report in accordance with the Rules of Court. [Emphasis added]

In all jurisdictions, provision is made for the adoption of a referee's report by the Court similar to the procedure found in the Victorian Rule O. 50.04.

### ***Victoria Rules of Court***

Order 50.01 of the *Supreme Court (General Civil Procedure) Rules 2015* presently provides in relation to references to a special referee:

- (1) In any proceeding the Court may, subject to any right to a trial with a jury, refer any question to a special referee for the referee to—
  - (a) decide the question; or
  - (b) give the referee's opinion with respect to it.
  
- (2) Where an order is made under paragraph (1), the Court—
  - (a) shall state the question referred;
  - (b) shall direct that the special referee make a report in writing to the Court on the question referred to the referee stating, with reasons, the referee's decision or opinion;
  - (c) may direct that the special referee give such further information in the referee's report as it thinks fit.
  
- (3) The Court may upon application by a party or by the special referee set aside or vary an order made under this Rule.



### ***Special Circumstances no longer Necessary to Order a Reference ‘without consent’***

In Victoria, signalling a potential expansion of the use of references, special circumstances have been held to be no longer necessary in ordering a reference without the consent of all parties.

In the case of a relatively impecunious party, a special relief order as to the costs of a reference may be made in favour of that party under the discretionary general costs power

In *Matthews v SPI Electricity & Ors (Ruling No 19)*<sup>13</sup> (“*Matthews*”), J Forrest J considered the position determined by Beach JA in *AT and NR Taylor & Sons Pty Ltd v Brival Pty Ltd*<sup>14</sup> where his Honour held that where a party does not consent, only cases of an “exceptional nature” should have a referee appointed (at [19]).

However, in *Matthews*, J Forrest J considered that “[t]imes have changed, particularly with the introduction of the *Civil Procedure Act 2010* (the “CPA”). The Court is now obliged to consider far more than a party’s tactical or forensic position”.<sup>15</sup> His Honour made reference to the decision of Kyrou J (as he then was) in *Talacko v Talacko*<sup>16</sup>, a case determined prior to the introduction of the CPA. Kyrou J held that a special referee can be appointed where a party opposes it. Kyrou J said:

Although the absence of consent by a party and the reasons given for withholding consent are clearly relevant to the exercise of the court’s power under O 50 of the Rules to appoint a special referee, I am not persuaded that the power to appoint a special referee over the objection of a party can only be exercised in special circumstances as suggested by *AT & NR Taylor & Sons Pty Ltd v Brival Pty Ltd* and *Abigroup Contractors Pty Ltd v BPB Pty Ltd*. O 50 does not contain such a

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<sup>13</sup> [2013] VSC 180.

<sup>14</sup> [1982] VR 762.

<sup>15</sup> Above at [20].



requirement and one should not be read into it, so that the discretion conferred by the Rules is not unduly constrained.<sup>17</sup>

In *Matthews*, all of the parties were against the referral of questions to a special referee. However, J Forrest J held that, consistent with the provisions of the CPA and O 50 of the Rules, this opposition alone would not, preclude a court from taking that step. His Honour noted:

Nothing in s 65M of the CPA requires that a party demonstrate special circumstances for the appointment of a special referee. Nor does Order 50, as Kyrou J has explained.<sup>18</sup>

### ***Reform of the reference rules in Victoria***

Presently under consideration in Victoria are new rules for the use of reference procedures in the appropriate case:

### ***Court Practice in Appointments***

One matter emphasised by the practitioners in the reform consultation process has been something which is critical to the successful operation of the referee process - that is that the appointed referee have the necessary qualifications and experience.

Appointing Judges need to be alive to this, and where a candidate for appointment is not familiar to the Judge, a request to the parties to provide at least a CV of the proposed appointee, should be made.

There are some excellent practitioners available to act as special referees, both drawn from the Victorian Bar and experts in various fields from Victoria and elsewhere in Australia, and

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<sup>16</sup> [2009] VSC 98.

<sup>17</sup> Above [27].



internationally.

### ***Specialist Referees in Aid of Discovery***

It has become a practice of the Court including the TEC List, in the appropriate case, to appoint specialist referees, particularly those drawn from the Bar, to deal with discovery.

This facility may be availed of to assist the parties and the Court resolve questions arising from large volume discovery in particular, involving a determination of such questions as: identification of relevant documents or groups of documents; questions of privilege; and use of electronic computer aids such as de-duplication technology and TAR (or predictive coding review).

For example, in *McConnell Dowell Constructors (Aust) Pty Ltd v Santam Ltd & Ors (No 1)*<sup>19</sup> the Court in the TEC List appointed a special referee to give his opinion as to questions arising from discovery of documents and inspection of documents in a large document case, and in particular the use of electronic discovery processes such as TAR or predictive coding review. The reference was conducted as a facilitation process rather than an adversarial process. This was done, as described by the Court:<sup>20</sup>

A positive outcome was that the parties were able to agree on various protocols and procedures for discovery facilitated by the Special Referee.

The reference has served to bring to the attention of the parties and their legal advisors the use of predictive coding technology (TAR or Technology Assisted Review) and provide an opportunity for them to gain an understanding of and assess the process. It

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<sup>18</sup> Above at [21].

<sup>19</sup> [2016] VSC 734.

<sup>20</sup> Ibid [11-14].



has also served to provide an opportunity for the parties to undertake a 'due diligence' exercise to estimate the cost benefit of using the technology. This has assisted the parties to make the commercial decision to invest in the process.

Implementation of these protocols and procedures will, more than likely, be an ongoing process which may call for further case management. By way of examples it is likely that implementation of the predictive coding protocol ('TAR' or 'Technology Assisted Review')<sup>21</sup> may take several months, and the determination of privilege issues, unless resolved by agreement, may require further management.

Croft J sitting in the Commercial Court has made use of referees in aid of discovery in the *Great Southern* litigation and in the *Banksia* class action.

### ***Other facilities for Input from Experts to Assist the Court***

#### *Assessors*

Under s.77 *Supreme Court Act 1986 (Vic)* may in any [proceeding](#) call in the assistance of one or more specially qualified assessors and hear the [proceeding](#) wholly or partially with their assistance but shall not be bound by their opinion or findings.

### ***Court Appointed Experts – s.65M Civil Procedure Act 2010 (Vic) (CPA)***

#### 65M Court appointed experts

(1) A court may make an order appointing an expert—

- (a) to assist the court; and
- (b) to inquire into and report on any issue in a proceeding.

The full terms of s.65 M of the CPA are set out as **Annexure A**.





### ***Use Court Appointed Experts by the Courts***

In *Matthews v SPI Electricity & Ors (Ruling No 19)*<sup>22</sup> J Forrest J instituted a process for the appointment of an assessor or assessors to assist the Court to determine conflicting expert opinion as to the cause of a bushfire alleged to have been triggered by the failure of the conductor on the Valley Span electrical transmission system. The cause of that failure was of critical importance in determining the legal liability of SPI to Mrs Matthews and the group members.

His Honour observed that: There are many complex scientific and engineering issues that must be understood for a just determination of this question.

It was noted that in *Genetic Institute Inc v Kirin-Amgen Inc (No 2)*,<sup>23</sup> Heerey J decided to sit with an assessor in a patents infringement hearing concerning scientific areas including the glycol protein in red blood cells, the nature of proteins, gene expression, messenger RNA technology, molecular cloning, DNA cloning and screening techniques. His Honour Heerey J described the role of the assessor prescribed by [s 217](#) as follows:

An assessor is appointed to assist the judge, both in hearing and trial and/or in determination of any proceeding. The judgment in the case, the exercise of the judicial power, remains that of the judge. In exercising judicial power, a judge is routinely assisted by persons who are not judges: counsel, solicitors, witnesses, the judge's associate and secretary and other Court staff.<sup>24</sup>

Heerey J also recognised the added difficulty that arises when the scientific issues are in dispute:

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<sup>21</sup> Predictive coding ('TAR' or 'Technology Assisted Review') is described briefly below.

<sup>22</sup> [\[2013\] VSC 180](#).

<sup>23</sup> [\(1997\) 78 FCR 368](#).



It can be said of many disciplines that the basic concepts can be readily explained to intelligent lay people, including schoolchildren, but that does not prevent the disputes arising between experts, who can contest issues with the enormous advantage of a lifetime of experience in the discipline. The resolution of such disputes by a non-expert judge is likely to be aided by expert assistance such as that provided by an assessor. No doubt the judge could reach a decision without such assistance, but that is not the point; [s 217](#) does not posit a criterion of total judicial inadequacy as a pre-condition of appointment of an assessor. It is simply a question whether the judicial task can be better performed. <sup>25</sup>

His Honour J Forrest J also noted the decision in *F Hoffman-La Roche AG v New England Biolabs Inc*,<sup>26</sup> where Emmett J also considered the appointment of an assessor under [s 217](#) of the [Patents Act 1990](#) (Cth). His Honour described the role of an assessor in the following terms:

An assessor for that purpose would not necessarily require the qualifications or standing that may be desirable for an expert witness who is to give evidence in the proceedings. An apt description of an assessor might be that he or she is a "*human primer*" whose function is to assist the court in understanding the complex scientific material that is likely to be before the court in connection with the hearing. <sup>27</sup>

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<sup>24</sup> *Ibid* 371.

<sup>25</sup> *Ibid* 373.

<sup>26</sup> [\[1999\] FCA 1424](#); [\(1999\) 47 IPR 105](#).

<sup>27</sup> *Ibid* [8].



J Forrest J concluded in *Mathews (Ruling No 19)* that:

The appointment of an assessor will enable me to seek advice and guidance on scientific and engineering points which are beyond my ken, notwithstanding the assistance of the experts and the parties. I do not have Heerey J's confidence that I could reach a decision without such assistance but I am sure of one thing – the judicial task can be better performed with such assistance and the likelihood of a fair determination enhanced.

I anticipate that I will need that assistance both before and during the expert witness concurrent evidence sessions as well as subsequently when reviewing the evidence given. I apprehend no restriction imposed by either s 65M of the CPA “to assist the Court” or [s 77](#) of the SCA to “hear the proceeding...with their assistance” in the scope of the assistance provided by an assessor. However, it must be borne firmly in mind that the decision and the exercise of the judicial power is that of the judge and the judge alone.

Accordingly, I propose to sit and hear the evidence relevant to the topics addressed by conclaves 1, 3, and 4 with the assistance of an assessor, or perhaps two assessors.

It is my intention to request Zammit AsJ (who has managed conclaves 1, 3, and 4) to initially consult with Dr Barter and Professor Gates and a nominee of USC to endeavour to identify a suitable person or persons. If that proves too difficult then I shall ask all members of conclaves 1, 3 and 4 to nominate suitable candidates. I will discuss the process further with the parties.<sup>28</sup>

The Supreme Court in the TEC list has also made use of the facility for court appointed assessors to assist in in technical matters.



One such example is *Construction Engineering (Aust) Pty Ltd v Adams Consulting Engineering Pty Ltd (Ruling No 2)*<sup>29</sup> where the court appointed an experienced expert civil engineer to assist it determine the adequacy of some 165 structural engineering drawings provided by a consultant engineer in the course of a project.

### ***The Trend in Arbitration – Arbitral Tribunal Appointed Experts***

Arbitration is moving in the same direction as the courts in providing facilities for the appointment of experts to assist an arbitral tribunal undertake its work.

Reference is made to the very useful article by John K Arthur entitled "An overview of the rules and procedures relating to experts in international arbitration", it was originally published in the *Australian Alternative Dispute Resolution Bulletin*, Lexis Nexis, March 2017, pp 18-22 and subsequently (slightly revised) in the ACICA June 2017 Review (pp 32-36):

<https://acica.org.au/wpcontent/uploads/2017/06/ACICA-Review-June-2017.pdf>.

The following rules of arbitration in particular are referred to:

### ***UNCITRAL Arbitration Rules 2013 (Article 29)***

The UNCITRAL Arbitration Rules 2013 provide a comprehensive set of procedural rules enabling an arbitral tribunal to appoint an independent expert to assist it in the conduct of an arbitration.

Article 29 makes specific provision for the appointment of experts to assist the arbitral tribunal, and at the behest of the tribunal, together with provisions to safeguard the transparency and fairness of

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<sup>28</sup> *Ibid* [34-38].

<sup>29</sup> [2016] VSC 209.



the process.

Article 29 of the UNCITRAL Arbitration Rules 2013 is **Annexure B**.

The revised Article 29 in its current form was introduced by the 2010 revision (“Experts appointed by the arbitral tribunal”), which in turn replaced and substantially amended and expanded Article 27 (“Experts”) of the 1976 Rules.

This process of revision and expansion of the “Appointment of Experts” provisions of the UNCITRAL Rules was in response to and underscores the clear need in the present age for experts to assist arbitration tribunals and courts, particularly in complex technical matters.

### ***UNCITRAL Model Law***

The UNCITRAL Model Law on International Commercial Arbitration was adopted by the United Nations Commission on International Trade Law on 21 June 1985 (the “Model Law”).

The relevant provision of the Model law relating to an expert appointed by an arbitral tribunal (Article 26), is given effect in Australia by operation of the *International Arbitration Act 1974* (Cth), and in New Zealand by operation of *Arbitration Act 1996* (NZ).

Article 26 of the Model Law is **Annexure C**.



## **Conclusion**

Let me conclude this section of the paper with a celebrated but tragic story. It will serve to starkly illustrate the importance for the Court gaining a sufficiently accurate understanding of technical issues in a case to administer justice.

Recall the case of poor Alfred Arthur Rouse.

In 1931 a celebrated counsel of the day, Norman Birkett KC, prosecuted Mr Rouse. His junior was Richard Elwes.

Mr Rouse was charged with the murder of an unknown passenger in his car by setting it alight. The defence was that the fire was an accident.

On the fifth day of the trial, the defence called his expert witness, Mr Arthur Isaacs, who was critical to the defence. He said that he was an engineer with 'very vast experience as regards fires in motor cars.' He confidently advanced the critical case theory of the defence that the junction in the fuel line had become loose, in the course of the fire, and *not before*.

The cross-examination of Mr Isaacs by Birkett proceeded with legendary vigour and style: What is the coefficient of the expansion of brass? — I beg your pardon. Did you not catch the question? — I did not hear you. What is the coefficient of the expansion of brass? — I am afraid I cannot answer that question off hand. What is it? If you do not know, say so. What is the coefficient of the expansion of brass? What do I mean by that term? — You want to know, what is the expansion of the metal under heat? I asked you: What is the coefficient of the expansion of brass? Do you know what it means? — Put that way, probably I do not. You are an engineer? — I dare say I am. Let me understand what you are. You are not a doctor? — No. Not a crime investigator? — No. Nor an amateur detective? — No. But an engineer? — Yes. What is the coefficient of the expansion of



brass? You do not know? — No; not put that way.

This examination of an expert by Birkett has been regarded as an exemplar of a brilliant and devastatingly effective cross-examination, delivered with great flourish and theatre.

It was no doubt successful in ridiculing and denigrating the defence expert witness before the jury.

However, it is not one which might be expected of a modern prosecutor.

Birkett's question contained technical flaws.

In the first place, brass, like most other materials, has two coefficients of expansion which are quite different – one for linear expansion, which is generally accepted as having the value 19, the other for volumetric expansion, which is generally accepted as 57. The Birkett question did not differentiate between the two, and in this respect was not capable of the single answer which he pressed for.

Secondly, brass is an alloy comprised of copper and zinc, the proportions of which can be varied to create a range of brasses with different properties. Copper has a coefficient of linear expansion of 16.5, whereas that of zinc is 39.7. Consequently, no two types of brass behave in precisely the same way under heat and a range of values is possible, depending on the composition.

For example, red brass has a linear coefficient of 18.7, whereas that of naval brass is 21.2.

Birkett probably did not have a sufficient grasp of metallurgical science to understand that his question was founded on these fundamental misconceptions.



Defence counsel D.L. Finnemore sat mute, dumb struck by ignorance and the theatre. He did not re-examine.

The trial judge, no doubt sharing the ignorance, did not lift a finger to rule the question unfair or seek clarification from the witness as to his difficulty in answering the question.

The expert in fact provided an accurate answer to the question as it was put.

Birkett's advocacy secured the conviction of Rouse for murder. The appeal argued by another celebrated counsel of his day, Sir Patrick Hastings KC, failed.

Mr Rouse suffered the indignity of being labelled in the tabloid press of the day as the 'Blazing Car Murderer'. He suffered a great deal more than indignity when he was hanged at Bedford gaol on 10 March 1931.

A lesson from this story: If mistakes of this magnitude could occur in 1931, given the advances in science and technology since that time, how much more vulnerable to error are the fact finders in court processes of this century in cases involving sophisticated technical evidence?

Having said that, in criminal trials before a jury there appears to be no call to return to the approach adopted by the court in the mayhem criminal case of 1345. A modern jury managed by a competent criminal Judge appears to be well equipped to assess well explained technical evidence presented by qualified experts in technical issues such as DNA.

It is to be noted that even in civil cases, the Victorian Order 50 reference rule is specifically subject to any [right](#) to a trial with a jury, which is rendered exempt from the reference process, except with the consent of the parties who may of course waive exercise of the right.





Nevertheless, in Judge alone cases, where single Judges are regarded as a good deal less competent than juries to decide technical issues unaided by court appointed experts, the appointment of technical assistants or 'human primers' are likely to become increasingly important in the administration of justice in the technical age.

### **Third Prophecy – in two parts:**

**(a) Technology Aided Review will become a standard means of conducting discovery in large document cases; and**

**(b) driven by the 'mother of invention', necessity, technologies in this area will continue to evolve and become even more efficient than they are today.**

### **Introduction**

Engagement of new technologies by the Court in managing the growing volume of electronically stored information (or ESI) is increasingly becoming a necessity.

### **The Problem at Hand**

What then is the problem? With the commonplace use of ever more powerful computers in commerce and industry, the collection and storage of electronic data is growing at an exponential rate.

My central thesis may be shortly stated - Business as usual is not an option.

If the age of technology has produced the problem – it also can also assist in providing the answer.



The birth of the digital age has exponentially increased the quantum of material before the court.<sup>30</sup>

We are now dealing with very large numbers. A major commercial bank in the world today produces some 2 terabytes of Electronically Stored Information (ESI) every minute, and some as much as 2.5 TB per minute.

To put this in perspective: A terabyte (TB) is a multiple of the unit 'byte' for digital information. One terabyte is one trillion bytes or 1,000 gigabytes.

It is estimated that over 85 million pages of *Word* documents would fill one terabyte.

It would contain electronic information equivalent to an 8 foot stack of CD's or about 150 DVD's. A single TB would hold all 350 episodes of *The Simpsons* or a pile of 80,000 telephone books.

Terrifying indeed.

A terabyte of ESI in litigation is not all that unusual these days as a starting point for the pool of potentially discoverable material.

The legal profession, the courts and arbitrators will continue to be driven to confront and deal with the syndrome of ESI overload, or risk becoming impotent and irrelevant in dispensing their core service - the administration of justice.

In this context, a problem for courts and arbitrators is to contain the costs of discovery within reasonable bounds of proportionality and set limits on the scope of the searches and retrieval of ESI. Containing costs is of direct relevance to access to justice.

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<sup>30</sup> See: The Hon Justice Peter Vickery, 'Managing the paper: Taming the Leviathan' (2012) 22 *Journal of Judicial*



One way to manage this issue of discovery of ESI, is by ‘*Using the computer to beat it at its own game.*’

A working knowledge of e-discovery is increasingly viewed as part of a lawyer's duty to provide competent representation.

I venture to say that the practice of law in the future will increasingly include e-discovery as an essential competency.

A whole industry of e-discovery professionals has mushroomed in the field. One large firm of solicitors in Australia has no less than 50 IT staff members devoted to the area.

Yet e-discovery is barely addressed at all in most law schools, and rarely adequately dealt with in professional training courses, or through continuing legal education programs (CLE).

So in the main, legal professionals are forced to learn it on the job, or rely increasingly on a younger generation of computer savvy juniors.

### **What’s In a Name?**

I turn to Technology Assisted Review of discoverable documents (TAR) and its implementation in courts.

The only problem I can see with it is that it can’t decide what to call itself.

TAR is commonly referred to synonymously as Predictive Coding Review, Predictive Ranking, and



sometimes as Computer Aided Review (CAR).<sup>31</sup>

“Predictive coding” or “Predictive Ranking” has an image problem. It does not inspire confidence. It immediately conjures up images of crystal ball gazing or tea leaf reading or other forms of wizardry. TAR has therefore gained currency as the most common descriptor.

However, TAR is rarely used on its own in electronic review documents. Rather it is almost invariably used as part of a suite of technologies in combination.

The following technologies are included in the total suite of technologies which I will call ‘ESI Review Technology’:

De-duplication technology;

Near duplication technology;

Email threading technology;

(these first three are often used at the outset of a review program to filter out unnecessary material, before embarking on TAR)

Automated Privilege Detection; and

Technology Aided Review (TAR). I will briefly deal with these technical buzz words in turn:

### **De-duplication technology**

De-duplication technology has become central to e-discovery processing in the initial stages.

In even medium size commercial construction project litigation discovery of some 14,000 – 15,000 emails is not uncommon.

Many are duplicate emails which add nothing to the case other than the accumulation of costs of

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<sup>31</sup> Technology assisted review is discussed in *Pyrrho Investments Ltd v MWB Business Exchange Ltd* [2016]



manual review.

De-duplication technology is a recognised method of using technology to eliminate duplicate documents from an initial discovery pool of documents. It applies particularly to multiple emails.

There is no point in producing copies of documents to the other side or to the Court.

The parties may be directed by the Court in Victoria to use data de-duplication of emails and other documents.

This may be based on an approach under a discovery plan agreed upon by the parties during a discovery conference<sup>32</sup> or as subsequently ordered by the Court.<sup>33</sup>

An advantage of De-duplication technology is the relative simplicity of the process (and hence relative cheapness of the system).

The limitation of De-duplication technology is that only exact copies are filtered out. A slight and immaterial change is enough to include like documents in the discoverable group of documents.

Examples of the use of De-duplication technology are found in recent case law, with excellent results.

De-Duplication Technology was used, for example by the High Court of Justice (UK) in *Pyrro*

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EWHC 256 (Ch), [17], [19]-[24].

<sup>32</sup> Pursuant to para. 8.3 of the Supreme Court of Victoria Practice Note SC Gen 5 Technology in Civil Litigation, in any matter where the discovery exercise is likely to be significant (more than 500 documents), parties are expected to agree upon a practical and cost effective discovery plan incorporating the use of technology.

<sup>33</sup> A discovery conference may be ordered by the Supreme Court of Victoria under Practice Note SC Gen 5 Technology in Civil Litigation, para. 8.6 in the event that the parties cannot agree on a discovery plan.



*Investments Ltd v MWB Business Exchange and Ors* [2016] EWHC 256 (Ch) where at [5] it is noted an initial 17.6 million potentially discoverable documents were reduced to 3.1 million by de-duplication technology. In *McConnell Dowell Constructors (Aust) Pty Ltd v Santam Ltd & Ors (No 1)* [2016] VSC 734 at [5], a reduction from some 4 million documents to 1,400,000 documents, was noted as being achieved by use of de-duplication technology.

### **Near duplication technology**

Now near duplicates of documents are able to be filtered out using the more recently developed (and developing) near duplication technology.

‘Near duplicates’ are documents that differ slightly, and not materially. Examples are differences in formatting and document type (eg. a PDF document cf. a Word document; and differences involving only a few words or paragraphs eg. earlier drafts of a final document, when earlier drafts are not relevant).

Near duplicates may be only a few bytes different from each other but would fall outside any standard de-duplication process and not be filtered out.

The system is only likely to be of use where no issue is likely to arise from differences in wording between particular documents produced in the proceeding.

### **Email Threading Technology**

Email threading (or de-threading) technology deals with an email chain, known as an email thread or an email family.

An email thread can contain hundreds of emails. Grouping these emails as a single thread can



reduce the volume of documents to be reviewed manually and thereby speed up the review process and contribute to the cost – benefit of the e-discovery process.

With this tool, parties can review fewer documents yet still produce the same amount of substantive content, while significantly saving costs. Instead of wasting time repetitively reviewing all the separate pieces of an email chain, over and over again, lawyers can focus on the entire chain in one document to get the full picture of the conversation.

Email threading is becoming increasingly common the world of e-discovery. It can be a valuable tool for cost-saving and efficiency in document review and production.

### **Automated Privilege Detection**

Besides assessing relevancy, a large part of the document review process involves identifying documents that contain privileged information.

Typically, Automated Privilege Detection software follows a set of predefined rules to determine whether or not a document is likely to be privileged. The technology sifts out a core of documents which can then be manually reviewed to finalize the privilege status of the selected core of documents.

Determinations for privilege rules may include, for example:

- Solicitor-Client communications
- Solicitor – Third Party communications
- Counsel Work Product.



Automated Privilege Detection automatically flags potentially privileged documents. This can save hours of manual review time.

A further advantage is to limit the risk of inadvertent disclosure. If privileged material exists within the proposed documents for discovery, these can be identified.

## **TAR (Technology Assisted Review or Predictive Coding)**

### ***Description***

TAR can be explained in a sentence or in a book.

TAR is a computer document review process which is well beyond a word search or time period search. It involves training a computer to recognise concepts which are relevant to the case at hand. As you train the system it gets smarter about the documents which are relevant.

The process may be likened to dog training.

Imagine a dog called 'FETCH' and a bucket of coloured balls. One ball in the bucket is green and the rest are multi coloured. FETCH is asked to retrieve the green ball. At first, unless luck works its magic, FETCH is likely to retrieve balls other than the green target ball.

Eventually FETCH will select the green target ball. FETCH receives a reward.

Other balls of different colours are then added to the bucket and another target ball is selected. FETCH is asked to go for it until he has selected the original green ball and the new target ball – and so on through a number of rounds until FETCH proves his accuracy.





Then a whole pile of different coloured balls including additional pre-selected target balls is added. FETCH is trained to select only the target balls.

TAR works in the same way. Training of the computer involves progressive development of an algorithm specific to documents in the case.

The TAR process is far more sophisticated than a word search facility or a period of time facility. Remarkably, the software enables a computer to be trained to read recognise pre-determined 'concepts' and 'issues' which are relevant to the issues in the proceeding.

The process does involve a substantial up-front cost. In this context, clients need to be satisfied of the cost benefit of using the technology. An independent expert or a Court appointed expert referee may assist the parties to undertake the necessary 'due diligence' exercise.

For an excellent and readable description of the TAR system see: *TAR For Smart People*, John Tredennick, with Mark Noel, Jeremy Pickens PhD & Robert Ambrogi (2015) Catalyst.<sup>34</sup>  
[https://www.law.ufl.edu/pdf/academics/centers/Catalyst\\_TAR\\_for\\_Smart\\_People.pdf](https://www.law.ufl.edu/pdf/academics/centers/Catalyst_TAR_for_Smart_People.pdf)

First some other familiar references in the international sphere, which I will mention for completeness and then pass over:

### ***The Pyrho Case – Description of the System***

*Pyrho Investments Limited v MWB Property Limited*<sup>35</sup> was a case decided in the High Court of the

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<sup>34</sup> See too: *Evaluation of Machine-Learning Protocols for Technology-Assisted Review in Electronic Discovery* Gordon V. Cormack University of Waterloo and Maura R. Grossman Wachtell, Lipton, Rosen & Katz.

<sup>35</sup> [2016] EWHC 256 (Ch) (*'Pyrho'*).



United Kingdom. Initially, the case involved some 17.6 million documents. This number was reduced to approximately 3.1 million by the use of de-duplication technology.<sup>36</sup>

TAR was then applied to the reduced number to further limit the number of documents to be produced.

### **Accuracy**

As to accuracy of the TAR process, reference is made to *Irish Bank Resolution Corporation Ltd & Ors v Quinn & Ors*.<sup>37</sup>

In *Irish Bank*, the High Court of Ireland dealt with another case involving large scale discovery. The initial keyword search resulted in 1.7 million documents of potential relevance and after de-duplication that number reduced to 680,809 documents.<sup>38</sup> The plaintiff sought orders from the court that the defendants make discovery with the assistance of predictive coding. Fullam J described the process in detail and made the following findings as to the accuracy of the system on the expert evidence before the court<sup>39</sup> observing:

66. The evidence establishes, that in discovery of large data sets, technology assisted review using predictive coding is at least as accurate as, and, probably more accurate than, the manual or linear method in identifying relevant documents.

67. If one were to assume that TAR [TAR] will only be equally as effective, but no more effective, than a manual review, the fact remains that using TAR will still allow for a more expeditious and economical discovery process ...

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<sup>36</sup> Ibid [5].

<sup>37</sup> [2015] IEHC 175 (*Irish Bank*).

<sup>38</sup> Ibid [12].



### **Judge Peck – the ‘Father of TAR’**

In *Rio Tinto v Vale*,<sup>40</sup> Judge Peck of the United States District Court (Southern District of New York), a pioneer in the use of TAR technology,<sup>41</sup> following upon his first decision in the area *Da Silva Moore*, discussed the use of Computer Assisted Review in American Courts and highlighted that it was now accepted as ‘*black letter law*’ in the United States.<sup>42</sup>

### **Other International Cases**

Other international cases dealing with TAR include: *Global Areospace v Landow Aviation*<sup>43</sup>, *Re Bionet M2a Magnum Hip Implant Products Liability Litigation*<sup>44</sup> and *Dynamo Holdings v Commissioner of Internet Review*.<sup>45</sup>

### **The Australian Experience**

In Australia, there are a number of major providers of litigation support that now offer TAR software and supporting services to assist parties in the discovery process. The number of providers is growing.

The *McConnell Dowell Constructors v Santam Ltd* case is a first reported decision in Australia

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<sup>39</sup> Ibid [19-30].

<sup>40</sup> 14 Civ. 3042 (RMP)(AJP) (2 March 2015).

<sup>41</sup> The first judicial decision concerning the use of predictive coding was made by Judge Peck in the United States decision of *Da Silva Moore v Publicis Groupe et al* (2012) 287 F.R.D 182 (‘Da Silva Moore’). In that case, Judge Peck held that predictive coding was better able to process the three million electronically stored documents than any of the available alternatives. Statistical evidence examined during the trial revealed that the concept of manual review as the ‘gold standard’ was a myth and computerised searches were ‘at least as accurate, if not more so.’

<sup>42</sup> *Rio Tinto v Vale* 14 Civ 3042 (RMP)(AJP) (2 March 2015) 2.

<sup>43</sup> CL 61040, 2012 WL 1431215.

<sup>44</sup> MDL 2391.

<sup>45</sup> 143 T.C. 9, 2014 WL 463 6526.



where TAR has been employed and the system described.<sup>46</sup>

A new Practice Note of the Supreme Court of Victoria was issued on 1 January 2017, known as the 'Technology in Civil Litigation Practice Note SC Gen 5'.<sup>47</sup> This Practice Note is designed for general application within the Commercial Court and the Court generally.

The new Practice Note includes protocols for the use of TAR in commercial litigation.

### ***The 'Magic Silver Bullet'***

In every discovery process what lives to haunt the litigator is the prospect of missing the 'silver bullet' document which can win the case for the client.

Although this is an inherently unlikely event, it cannot be discounted as a possibility, however small the odds.

Using TAR won't guarantee it will be found, if it exists. But compared with traditional manual review, the prospects of finding any such key document will be increased, based on the present learning and experience of practitioners and analysts in the area.

Further, a realistic assessment has to be made applying the principles of proportionality. What level of investment is worth the cost and effort of searching for a document like a needle in haystack which may never exist, or if it does exist, turns out to be not a silver bullet, but a very inaccurate musket ball at best.

If a case depends for success on a 'magic silver bullet' appearing, which is not available to a party at the outset of the proceeding, a real question arises as to whether the proceeding or defence

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<sup>46</sup> [2016] VSC 734.



should be commenced at all. Can or should a ‘proper basis certification’ be provided in these circumstances?

### **Measures of TAR**

Two measures—“recall” and “precision”— are commonly used to assess effectiveness of any electronic document review process.

Recall measures what you need to produce to ensure compliance with discovery obligations. Recall measures how many of the relevant documents in a collection have been found. For example, a 40 percent recall rate means that 40 percent of all relevant documents in a discovery collection have been found, and 60 percent have been missed.

Precision measures the level of non-relevant documents found in a discovery collection. Precision measures how many of the documents retrieved are actually relevant. For example, a 65 percent precision rate means that 65 percent of the documents retrieved are relevant, while 35 percent of those documents have been misidentified as relevant.

### **The Recall-Precision Tradeoff<sup>48</sup>**

Any document review process can achieve either high recall or high precision, but rarely both simultaneously. An effort to improve the performance of one factor generally causes the performance of the other to drop. This is often referred to as the “Recall-Precision tradeoff.”

The diagram below illustrates how this happens.

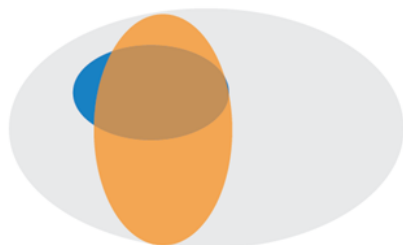
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<sup>47</sup> Technology in Civil Litigation Practice Note SC Gen 5, paragraphs 8.7–8.9.

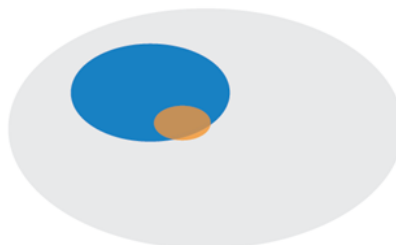
<sup>48</sup> Document Review Accuracy: The Recall-Precision Tradeoff, 1999 - 2017 H5  
37



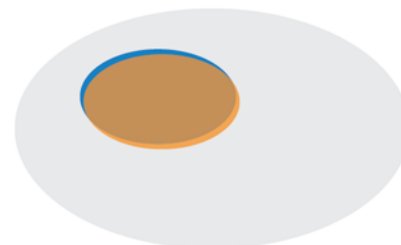
The gray oval represents all documents in the discovery collection; the blue oval is the set of relevant documents; the orange oval represents the documents retrieved and assessed as relevant by the review process.<sup>49</sup>



High recall with low precision is easy to achieve. You can retrieve most of the relevant documents if you cast a net wide enough. But you will also retrieve a lot of what is not relevant.



High precision with low recall is easy to achieve. If you keep your searches few and narrow, most of what you retrieve will be relevant. But many relevant documents will be missed.



The optimal result—high recall with high precision—is difficult to achieve.

○ All documents in the collection   ● Relevant documents in the collection   ● Documents retrieved by the review process

## TAR Protocol Standards

A typical TAR protocol would provide for 80% minimum recall and a precision level at least greater than 50%, and ideally at about 70%, would be regarded as satisfactory.

The reality is however, measures exist to provide quality assurance as to the TAR algorithm as it is developed for a particular case, at the outset, it is not possible to accurately predict in advance the level of accuracy to be achieved using TAR for a particular case.

Nor is it possible to accurately predict how many training reviews (hence the cost) will be required for a particular case before the TAR algorithm has passed muster and achieved the necessary accuracy to enable the full document collection to be subjected to analysis using the system.

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<https://www.h5.com/document-review-accuracy-the-recall-precision-tradeoff/> last observed: 8 June 2017.

<sup>49</sup> Derived from: *TAR For Smart People*, John Tredennick, with Mark Noel, Jeremy Pickens PhD & Robert Ambrogio (2015) Catalyst.

[https://www.law.ufl.edu/\\_pdf/academics/centers/Catalyst\\_TAR\\_for\\_Smart\\_People.pdf](https://www.law.ufl.edu/_pdf/academics/centers/Catalyst_TAR_for_Smart_People.pdf)



Experience in usage over time will no doubt establish the bench marks.

### **TAR Protocols (SPL, SAL & CAL)**

TAR is under constant development. This calls upon practitioners to be alert to progress in this area.

Three basic protocols have been developed so far: Simple Passive Learning (SPL); Simple Active Learning (SAL); and the latest iteration, Continuous Active Learning (CAL).

CAL has demonstrated superior performance over SPL and SAL, while avoiding certain other problems associated with the earlier protocols. Specifically, CAL is capable of reaching higher levels of recall (finding relevant documents) more quickly and with less effort than the SPL or SAL protocols.<sup>50</sup>

### ***Practitioner Steps in Implementing TAR***

#### ***Does the Case Warrant TAR?***

The first step is to consider whether TAR should be used. The general rule of thumb is that TAR is of cost benefit when 100,000 documents or more are in the initial document pool for review of one or all parties to the litigation. However, TAR has been used successfully in cases where the figure is in the order of 20,000.

#### ***Scoping Exercise***

Having established that the size of the document pool is likely to justify the use of TAR, the next step is to undertake an initial scoping exercise.

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<sup>50</sup> Based on the findings of Maura R. Grossman and Gordon V. Cormack (2014), who presented a peer-reviewed study on continuous active learning to the annual conference of the Special Interest Group on Information Retrieval, part of the Association for Computing Machinery (ACM), "Evaluation of Machine-Learning Protocols for Technology-Assisted Review in Electronic Discovery."



This will involve broadly the following steps:

- gaining a thorough acquaintance with the case and the issues;
- identifying in broad terms the evidence which is needed; identifying with the client where in the world the documents are likely to be situated and for this purpose identifying and engaging with the key custodians of the document resource of the client;
- narrowing down as far as possible the document pool for review;
- determining and appointing the most appropriate IT expert to assist in the review (whether an in-house expert; or a third party specialist). Note: in scrutinising the qualifications and experience of the short list of IT expert candidates, this is best done by reference to the actual experience of the candidate in undertaking e-discovery rather than his or her apparent competence in the theory;
- identifying which technologies are likely to be the most cost effective in conducting the review;
- engaging with the client ESI manager (or equivalent) in preparation of a forensic document collection plan;
- nominating members of the TAR legal review team;
- selecting the appropriate e-discovery service provider which has the necessary TAR software (rarely will a law firm be likely to have its own TAR software)

### ***TAR Protocol Formulation***

Once the scoping process has been completed and the pool for document review has been obtained, the TAR review process can begin.

The first step in the TAR process is to settle upon the TAR protocol. This should preferably be done in consultation with the other parties to avoid later disputation and potentially unnecessary costs.





Settling the protocol can be undertaken with the assistance of an independent facilitator appointed by the parties or by the Court.

### ***Approaches in Administering TAR***

Broadly, two approaches can be undertaken to TAR: the collaborative approach and the Standard TAR Approach.

### ***Role of a Special Referee***

Mention has already been made of the role of a special referee to assist in the TAR process.

A Special Referee was appointed in the *McConnell Dowell Constructors v Santam Ltd* case. I have found this to be a particularly useful practice, not only from the perspective of the managing Judge, but also for the parties.

A similar outcome could be expected with alternative appointments – that of an expert assessor pursuant to s 77 *Supreme Court Act 1986* (Vic) or a court appointed expert under s 65M of the *Civil Procedure Act 2010* (Vic).

### ***Collaborative Approach***

The collaborative approach taken by the parties is a different paradigm to the standard discovery processes.

The collaborative approach involves each firm of solicitors reviewing the documents generated in the training rounds in order to collaboratively train and develop the case algorithm.

The parties may engage their own IT experts to assist them in the process.

The process typically involves input from senior solicitors engaged in the case.



It can be expected that some 1000 sample documents per round will be manually selected to train the system.

A downside is the potential for solicitors for the opposite parties to have a different view of the case and therefore a different view as to the relevance of documents.

Although solicitors ought to take the views of opposite parties into account when considering the relevance of documents in the TAR process, in a litigious context, solicitors may not be able to arrive at any meaningful consensus as to the relevance.

In the in the *McConnell Dowell Constructors v Santam Ltd* case, TAR was applied initially in a collaborative approach. This achieved the current reduction of the plaintiff's documents from 1.4 million to 300,000 which has been a worthwhile exercise. I understand that of those 300,000 documents approximately 210,000 are likely to be irrelevant, thereby reducing the discovery pool to some 100,000 documents.

### ***Standard TAR Approach***

A standard TAR process is where a party undertakes all steps including review of the training rounds without input from the other parties. The other parties are not involved in each training round.

In such a case, a single party may employ the TAR technology in conducting a review of its own documents, similar to conventional discovery processes.

The standard TAR approach, involving separate rather than collaborative processes, are preferred by some clients.

This may call for an additional process to satisfy the Court and other parties as to the adequacy of the discovery which has been undertaken by a single party using TAR.



For example, on 7 November 2016, an order was made in the Federal Court in *Money Max Pty Ltd v QBE Insurance Group Ltd*,<sup>51</sup> ordering the Respondent, which had used technology assisted review (TAR) for the purposes of giving discovery to the Applicant, to provide a report to the Applicant describing the manner in which the Respondent had applied the technology for the purposes of giving discovery to the Applicant and the results of the application of TAR.

### ***Morphing of a Collaborative Approach into a Standard TAR Approach***

There is no reason why what may be commenced as a Collaborative Approach may not evolve into a Standard TAR Approach in the course of developing a TAR algorithm, if the circumstances warrant this process.

Such is under contemplation in the *McConnell Dowell Constructors v Santam Ltd* case.

### ***Cost Savings of TAR***

How much will I save? – A question at the forefront of every client's concerns.

The savings in review time and costs achieved by a successful TAR process are substantial. TAR enables removal of a huge volume of documents from the manual review process.<sup>52</sup>

There is no doubt that research as to cost savings occasioned by the use of TAR would be a considerable aid in giving comfort to clients in the course of adopting the process in litigation.

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<sup>51</sup> Federal Court of Australia (Murphy J) VID 513/2015.

<sup>52</sup> *TAR For Smart People*, John Tredennick, with Mark Noel, Jeremy Pickens PhD & Robert Ambrogi (2015) Catalyst. [https://www.law.ufl.edu/\\_pdf/academics/centers/Catalyst\\_TAR\\_for\\_Smart\\_People.pdf](https://www.law.ufl.edu/_pdf/academics/centers/Catalyst_TAR_for_Smart_People.pdf) at page 12.



At present, there is no formal study on the issue and no credible body of research on the subject.

There is a pressing need for such research, as a welcome complement to our learning.

Until then, we have to fall back upon unstructured anecdotal evidence and practical experience.

In this context, TAR has to be assessed against the alternatives:

- In house manual review;
- Professional third party document review;
- Off-shore manual review.

TAR reduces costs by simply reducing the number of hours needed to review documents.

It has been said that, using standard rates, it would take over 1,000 hours and cost over \$250,000 for a human to review 100,000 documents, at a high rate of review of 100 documents an hour. The same review completed using TAR would cost only \$50,000 or one fifth of a human manual review.

In many cases, even greater savings may be achieved.<sup>53</sup>

A working figure of savings in the document review process of somewhere between 75- 80% or more may be achieved using TAR. This takes on particular significance, in a context where it is estimated that document review accounts for 70 per cent of all discovery costs.<sup>54</sup>

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<sup>53</sup> "Predictive Coding: Machine Learning Disrupts Discovery", [Associate Professor Michael Legg](#) and Thomas Davey (UNSW Alumni), The Law Society Journal, April 2017.

<sup>54</sup> "Predictive Coding: Machine Learning Disrupts Discovery", [Associate Professor Michael Legg](#) and Thomas Davey (UNSW Alumni), The Law Society Journal, April 2017.



### ***Court Powers and Costs Orders - ESI Review***

The Courts in Australia now have ample legislation supported by Court Rules and Practice Notes to implement TAR and direct its use in appropriate cases.

### ***Victorian Supreme Court Procedure***

The parties may be directed by the Court in Victoria to use ESI Review processes.

Section 55 of the *Civil Procedure Act 2010 (Vic)* may be called in aid to provide such power. The section provides:

- (i) CIVIL PROCEDURE ACT 2010 - SECT 55

#### **Court orders for discovery**

(1) A court may make any order or give any directions in relation to discovery that it considers necessary or appropriate.

(2) Without limiting subsection (1), a court may make any order or give any directions—

.....

(k) modifying or regulating discovery of documents in any other way the court thinks fit.

The s 55 power may be used in conjunction with the new Practice Notes, which supplement the statutory powers, and provide guidance as to the procedures to be adopted by consent or ordered by the Court in relation to ESI Review processes.

ESI Review processes in Victoria are guided by of the new Supreme Court of Victoria *Practice Note SC Gen 5 Technology in Civil Litigation*, which commenced on 30 January 2017.

This Practice Note performs a number of functions under the general principle, expressed as: <sup>55</sup>

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<sup>55</sup> Para. 4.1.



The use of technology in civil litigation facilitates the just, efficient, timely and cost-effective resolution of the real issues in dispute. The Court expects parties to acquit their obligation to ensure costs are reasonable and proportionate by employing technology to save time and costs wherever possible. The Court also expects parties to cooperate in the use of technology in civil litigation consistent with their obligations under the *Civil Procedure Act 2010* (Vic).

The Practice Note also recognises that across the broad spectrum of proceedings before the Court, different uses of technology will be appropriate. This will change over time as technologies develop and evolve. It is therefore incumbent on the parties to consider which use of technology will best serve the needs of an individual proceeding in terms of efficiency and cost.

For that reason the Practice Note does not seek to mandate a single approach to the use of technology in every civil proceeding. Flexibility and the capacity for future development are keynote elements.

Another purpose of the Practice Note is to provide an educative function by the provision of such things as protocol checklists of matters which may need to be considered for example in settling upon a TAR protocol.

Within the general parameters, the Court is to be guided by the following general principles which reflect the following assumptions:

<b>Principle</b>	<b>Assumptions</b>
Dealings in hard copy are to be the exception rather than the rule in all	Communications and dealings in modern society are predominantly conducted



<p>aspects of civil litigation in the Court.</p> <p>Converting Electronic Documents into hard copy requires justification.</p>	<p>electronically.</p> <p>A large number of discoverable documents are stored by parties electronically.</p>
<p>The inability or reluctance of a lawyer to use common technologies should not occasion additional costs for other parties.</p> <p>Sourcing technology services through a third party provider is accepted practice.</p>	<p>The use of common technologies is a core skill for lawyers and a basic component of all legal practice, whether provided in house or through a third party provider.</p>
<p>Wherever possible, parties are to exchange documents in a useable, searchable format or in the format in which the documents are ordinarily maintained. The exchange format should allow the party receiving the documents the same ability to access, search, review and display the documents as the party producing the documents.</p>	<p>A document in electronic form offers greater functionality and efficiency in dealing with information.</p>
<p>An unreasonable failure to cooperate in the use of technology which occasions additional costs will constitute a breach of the overarching obligations of the parties.</p>	<p>Cooperation between the parties in the use of technology reduces costs.</p>
<p>Parties should be prepared to address the court on the use of technology at an early</p>	<p>The early and consistent use of technology in a proceeding may produce</p>



stage of a proceeding.	efficiencies for both the parties and the Court.
The increased capability to store, search and access a large volume of documents through the use of technology does not relieve parties of the obligation to limit the presentation of documentary evidence to that which is necessary and proportionate to the conduct of the case.	Parties will refine the documents to be presented to the court to those which are necessary for the conduct of the proceeding.

The Practice Note also makes provision for particular procedures to be adopted to give effect to these objectives.

For example, ESI Review processes may be implemented under a discovery plan agreed upon by the parties<sup>56</sup> or during a discovery conference as subsequently ordered by the Court.<sup>57</sup>

Guidelines for the use of TAR is accommodated in the Practice Note are set out in **Annexure A**.<sup>58</sup>

### **Federal Court Procedure**

On 25 October 2016 the Federal Court of Australia introduced its *Technology and the Court Practice Note (GPN-TECH)*.

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<sup>56</sup> Pursuant to para. 8.3 of the Supreme Court of Victoria Practice Note SC Gen 5 Technology in Civil Litigation, in any matter where the discovery exercise is likely to be significant (more than 500 documents), parties are expected to agree upon a practical and cost effective discovery plan incorporating the use of technology.

<sup>57</sup> A discovery conference may be ordered by the Supreme Court of Victoria under Practice Note SC Gen 5 Technology in Civil Litigation, para. 8.6 in the event that the parties cannot agree on a discovery plan.





The central themes of the Federal Court Practice Note are set out in the introduction,<sup>59</sup> and are not dissimilar to the Victorian Practice note on the subject.

The Federal Court embraces the use of technology in proceedings and in its wider operations. Some ways in which the Court uses technology includes through the use of the electronic court file ("ECF") which commenced in July 2014, the Court's electronic lodgment of documents system ("eLodgment"), eTrials, electronic discovery, eCourtroom and videoconferences.

The practice note provides guidance on:

- (a) the Court's expectations about how technology should be used in the conduct of proceedings before it;
- (b) electronic discovery in the Federal Court; and
- (c) the types of technology available and how those technologies should be used in the Federal Court, including: the use of technology in the preparation and lodgement of Court documents, the use of technology during a hearing and the use of technology to access Court documents.

As an important accompaniment to the practice note, the Court has developed a range of informative protocols, guides and checklists ("Technology Resources") to assist any person utilising technology within the Court.

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<sup>58</sup> Paragraphs 8.7-8.9.

<sup>59</sup> See: 1. Introduction.



Given the dynamic and constantly evolving nature of technology, The Federal Court recognizes that it is not practical to set out and update all technology-related information in the practice note. Rather the Technology Resources will be maintained on the Court's website so they can be reviewed and updated from time to time to allow for the continual changes occurring in technology and the law.

This looks to be a very useful tool for practitioners to keep abreast of the latest developments in this fast moving area.

The relevant practice notes of both the Federal Court of Australia and the Supreme Court of NSW both appear to be broad enough to permit the use of TAR and allied ESI Review technologies.<sup>60</sup>

### **Costs**

Costs are in the discretion of the court.

Today, there is little discord among judges that TAR and associated ESI Review technologies have a place in e-discovery.

There is no reason why the fact that the use of TAR and associated ESI Review technologies have not been used by a party, when in all then circumstances it would have been reasonable to use one or other of the technologies available, either individually or in combination, may not be taken into account in the award of costs either against that party or in disallowing a proportion of costs awarded in favour of that party.

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<sup>60</sup> *Practice Note SC Gen 7* of the NSW Supreme Court and the *Technology and the Court Practice Note* of the Federal Court of Australia.



### **Conclusions as to TAR**

May I draw together some conclusions on TAR.

- It is likely that TAR technology and allied ESI Review technologies will receive judicial recognition in other Australian jurisdictions in the not too distant future. <sup>61</sup>
- Indeed, it may be that lawyers are now under a duty to the Court and to their clients to consider the use of these technologies in cases where large quantities of ESI exist.
- It is now well established that the quality of TAR in cases producing large setsof documents is superior to that of manual review. <sup>62</sup>
- Further, with the reductions in human review, TAR and associated ESI Review technologies are able to significantly reduce the time, and hence the cost, of the discovery process.
- For the core business of Courts, that of dispensing justice, it is inescapable that the use of technologies such as TAR and associated ESI Review technologies can play a significant part in promoting the just resolution of a dispute according to law.
- In cases involving large volumes of ESI, the very large number of documents involved calls for special management. The cost of traditional discovery processes in such cases dictates that they are not appropriate and places the cost-benefit of conducting litigation at all in such cases at serious risk.

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<sup>61</sup> "Predictive Coding: Machine Learning Disrupts Discovery", [Associate Professor Michael Legg](#) and Thomas Davey (UNSW Alumni), The Law Society Journal, April 2017.

<sup>62</sup> For example: A study by Grossman and Cormack shows that two TAR methods can be both more effective and more efficient than traditional e-discovery practice, which typically consists of keyword or Boolean search, followed by manual review of the search results. Richmond Journal of Law and Technology, 17(3):1-48, 2011.



- While the mechanisms and efficacy of TAR and associated ESI Review technologies are well known to the information retrieval community, the legal community has been relatively slow to adopt the technologies.

To my mind, in large scale ESI cases, we have no choice.

It is a case of either surfing with the technology or risk being mauled by a very nasty Yottabyte while you are paddling in the shallows.

~~With a Trumpian flourish I will decline to answer questions.~~



## Annexure 'A'

### TAR - Supreme Court of Victoria Practice Note [*Practice Note SC Gen 5 Technology in Civil Litigation*]

#### ***Technology assisted review***

8.7 In larger cases, technology assisted review will ordinarily be an accepted method of conducting a reasonable search in accordance with the Rules of Court.<sup>63</sup> It will often be an effective method of conducting discovery where there are a large number of Electronic Documents to be searched and the costs of manually searching the documents may not be reasonable and proportionate. In such cases, the Court may order discovery by technology assisted review, whether or not it is consented to by the parties.

8.8 As part of cooperating in the conduct of the proceeding, and to avoid later disputation, parties may agree on a protocol for technology assisted review as part of the discovery process and inclusion in a discovery plan.

8.9 The protocol may include:

- The appointment of a Joint Operator; or
- The appointment by each party of a Party Operator;
- A general description of the system to be used, either by a Joint Operator or a Party Operator, in undertaking the technology assisted review process, including, but not limited to:
  - A continuous active learning protocol (using a constantly changing body of documents which are used to train the technology assisted review algorithm);
  - A simple active learning protocol (using statistical samples, including control sets, or random samples and the like);

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<sup>63</sup> Technology assisted review is discussed in *Pyrrho Investments Ltd v MWB Business Exchange Ltd* [2016]



- A simple passive learning protocol (using other recognised statistical methods); and
- Any other appropriate system.
- A general description of the method to be used, including where relevant:
  - An outline of the steps to be undertaken as part of the protocol;
  - Where statistical measures are adopted for quality assurance purposes, details of the statistical measures;
  - Proposed members of the review team;
  - The management of non-text based documents;
  - The treatment of foreign language documents;
  - Any procedures proposed for high level culling and the elimination of repeated or duplicate content;
  - The method for determining the scale of relevance;
  - Any necessary manual review of the results produced by the system;
  - Any document or groups of documents a party proposes to exclude from the process; and
  - Any other matters relevant to the method adopted.
- Arrangements for the clawback of privileged or confidential information which may have been inadvertently exchanged or disclosed as part of the technology assisted review process; and
- Provision for the exchange of relevant documents that have not been disclosed as part of the technology assisted review process.



## **Annexure 'B'**

### UNCITRAL Arbitration Rules 2013 – Article 29

#### ***Experts appointed by the arbitral tribunal***

##### *Article 29*

1. After consultation with the parties, the arbitral tribunal may appoint one or more independent experts to report in writing, on specific issues to be determined by the arbitral tribunal. A copy of the expert's terms of reference, established by the arbitral tribunal, shall be communicated to the parties.
2. The expert shall, in principle before accepting appointment, submit to the arbitral tribunal and to the parties a description of his or her qualifications and a statement of his or her impartiality and independence. Within the time ordered by the arbitral tribunal, the parties shall inform the arbitral tribunal whether they have any objections as to the expert's qualifications, impartiality or independence. The arbitral tribunal shall decide promptly whether to accept any such objections. After an expert's appointment, a party may object to the expert's qualifications, impartiality or independence only if the objection is for reasons of which the party becomes aware after the appointment has been made. The arbitral tribunal shall decide promptly what, if any, action to take.
3. The parties shall give the expert any relevant information or produce for his or her inspection any relevant documents or goods that he or she may require of them. Any dispute between a party and such expert as to the relevance of the required information or production shall be referred to the arbitral tribunal for decision.
4. Upon receipt of the expert's report, the arbitral tribunal shall communicate a copy of the report to the parties, which shall be given the opportunity to express, in writing, their opinion



on the report. A party shall be entitled to examine any document on which the expert has relied in his or her report.

5. At the request of any party, the expert, after delivery of the report, may be heard at a hearing where the parties shall have the opportunity to be present and to interrogate the expert. At this hearing, any party may present expert witnesses in order to testify on the points at issue. The provisions of article 28 [*as to hearings*] shall be applicable to such proceedings.





## **Annexure 'C'**

### UNCITRAL Model Law on International Commercial Arbitration – Article 26

#### *Article 26 . Expert appointed by arbitral tribunal*

- (1) Unless otherwise agreed by the parties, the arbitral tribunal
  - (a) may appoint one or more experts to report to it on specific issues to be determined by the arbitral tribunal;
  - (b) may require a party to give the expert any relevant information or to produce, or to provide access to, any relevant documents, goods or other property for his inspection.
- (2) Unless otherwise agreed by the parties, if a party so requests or if the arbitral tribunal considers it necessary, the expert shall, after delivery of his written or oral report, participate in a hearing where the parties have the opportunity to put questions to him and to present expert witnesses in order to testify on the points at issue.