A Model for Proof of Facts

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Christopher Enright is a barrister, solicitor and chartered accountant. Chris has a Master of Commerce (Management) degree from the University of New England. In a former life Chris lectured in law and management at various universities. Much of his research time as an academic was working in the much-neglected field of legal skills. This research was directed to the major tasks with law that involved reasoning. These tasks are organising law, making law, interpreting law, applying law to facts, proving facts and exercising a discretion. The aim was to simplify and systematise these tasks by developing a step-by-step guide to performing them. The ideal was that this guide was as close as possible to an algorithm. The ultimate goal was to enable law schools to train lawyers so that they could understand these tasks and, when required, perform them effectively and efficiently.
## Contents

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Author</td>
<td>ii</td>
</tr>
<tr>
<td>Contents</td>
<td>iii</td>
</tr>
<tr>
<td>Table of Legislation</td>
<td>v</td>
</tr>
<tr>
<td>Table of Cases</td>
<td>vii</td>
</tr>
<tr>
<td>Table of Latin Phrases</td>
<td>ix</td>
</tr>
<tr>
<td>Table of Diagrams</td>
<td>xi</td>
</tr>
<tr>
<td>Summary</td>
<td>xiii</td>
</tr>
<tr>
<td>Labels</td>
<td>xv</td>
</tr>
</tbody>
</table>

### Introduction
- Facts .................................................. 1
- Parties ................................................. 4
- Model for Litigation ................................. 4
- Model for Proof of Facts ............................ 8
- Using Probability ..................................... 10
- Scale of Proof ........................................ 10

### Step 1. Starting Point: Burden of Proof
- Burden of Proof ........................................ 13
- Legal Rules ............................................. 13
- Presumption of Innocence ............................. 14

### Step 2. Versions of Truth
- Introduction .......................................... 14
- Presenting Facts ...................................... 14
- Observation ........................................... 15
- Real Evidence ......................................... 16
- Representational Evidence ............................ 17
- Submissions by Parties ................................ 17
- Presenting a Prima Facie Case ...................... 17
- Presenting a Probative Case ......................... 17

### Step 3. Probability of Truth
- Introduction .......................................... 18
- Stage 1. Specific Facts ............................... 19
- Method 2. Induction ................................... 26
- Method 3. Deduction .................................... 27
# Table of Legislation

## Table

<table>
<thead>
<tr>
<th>Section</th>
<th>Description</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>s140(1)</td>
<td>In a civil proceeding, the court must find the case of a party proved if it is satisfied that the case has been proved on the balance of probabilities.</td>
<td>39</td>
</tr>
<tr>
<td>s140(2)</td>
<td>Without limiting the matters that the court may take into account in deciding whether it is so satisfied, it is to take into account: (a) the nature of the cause of action or defence; and (b) the nature of the subject-matter of the proceeding; and (c) the gravity of the matters alleged.</td>
<td>39</td>
</tr>
<tr>
<td>s141(1)</td>
<td>In a criminal proceeding, the court is not to find the case of the prosecution proved unless it is satisfied that it has been proved beyond reasonable doubt.</td>
<td>39</td>
</tr>
<tr>
<td>s141(2)</td>
<td>In a criminal proceeding, the court is to find the case of a defendant proved if it is satisfied that the case has been proved on the balance of probabilities.</td>
<td>39</td>
</tr>
</tbody>
</table>

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**Uniform Evidence Act 1995 (Cth)**

**140 Civil proceedings: standard of proof**

(1) In a civil proceeding, the court must find the case of a party proved if it is satisfied that the case has been proved on the balance of probabilities.

(2) Without limiting the matters that the court may take into account in deciding whether it is so satisfied, it is to take into account:

(a) the nature of the cause of action or defence; and

(b) the nature of the subject-matter of the proceeding; and

(c) the gravity of the matters alleged.

**141 Criminal proceedings: standard of proof**

(1) In a criminal proceeding, the court is not to find the case of the prosecution proved unless it is satisfied that it has been proved beyond reasonable doubt.

(2) In a criminal proceeding, the court is to find the case of a defendant proved if it is satisfied that the case has been proved on the balance of probabilities.
# Table of Cases

<table>
<thead>
<tr>
<th>Case</th>
<th>Year</th>
<th>Volume</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Abalos v Australian Postal Commission</td>
<td>1960</td>
<td>171</td>
<td>167</td>
</tr>
<tr>
<td>Addington v Texas</td>
<td>1978</td>
<td>441</td>
<td>418</td>
</tr>
<tr>
<td>Agbata v Witter</td>
<td>1977</td>
<td>14</td>
<td>187</td>
</tr>
<tr>
<td>Apprendi v New Jersey</td>
<td>2000</td>
<td>530</td>
<td>466</td>
</tr>
<tr>
<td>Australian Trade Commission v Solarex</td>
<td>1987</td>
<td>78</td>
<td>439</td>
</tr>
<tr>
<td>Bater v Bater</td>
<td>1951</td>
<td>P</td>
<td>35</td>
</tr>
<tr>
<td>Bradshaw v McEwans</td>
<td>1951</td>
<td></td>
<td>37</td>
</tr>
<tr>
<td>Brisbane City Council v Attorney General</td>
<td>1978</td>
<td>19</td>
<td>681</td>
</tr>
<tr>
<td>Coffin v United States</td>
<td>1895</td>
<td>156</td>
<td>432</td>
</tr>
<tr>
<td>Daniels v White</td>
<td>1938</td>
<td>4</td>
<td>All ER 258</td>
</tr>
<tr>
<td>Davies v Taylor</td>
<td>1974</td>
<td>AC</td>
<td>207</td>
</tr>
<tr>
<td>Edmunds v Edmunds and Ayscough</td>
<td>1935</td>
<td></td>
<td>VL 177</td>
</tr>
<tr>
<td>FTC v Morton Salt</td>
<td>1948</td>
<td>334</td>
<td>US 37, 44-45</td>
</tr>
<tr>
<td>Green v The Queen</td>
<td>1971</td>
<td>126</td>
<td>CLR 28</td>
</tr>
<tr>
<td>Grogan v Garner</td>
<td>1990</td>
<td>498</td>
<td>US 279</td>
</tr>
<tr>
<td>H, Re [1996]</td>
<td></td>
<td>AC</td>
<td>563</td>
</tr>
<tr>
<td>HL Bolton v TJ Graham</td>
<td>1957</td>
<td>1 QB</td>
<td>159</td>
</tr>
<tr>
<td>Holloway v McFeeters</td>
<td>1956</td>
<td>94</td>
<td>CLR 470</td>
</tr>
<tr>
<td>Jackson v Delaware L&amp;W RR</td>
<td>1933</td>
<td>170</td>
<td>Atl 22</td>
</tr>
<tr>
<td>Jegatheeswaran v Minister for Immigration</td>
<td>2001</td>
<td>FCA</td>
<td>865</td>
</tr>
<tr>
<td>Jones v Hyde</td>
<td>1989</td>
<td>85</td>
<td>ALR 23</td>
</tr>
<tr>
<td>Khawaja v Secretary of State</td>
<td>1984</td>
<td>AC</td>
<td>74</td>
</tr>
<tr>
<td>Larson v Jo Ann Cab Corp</td>
<td>1954</td>
<td>209</td>
<td>F2d 929</td>
</tr>
<tr>
<td>Lennard’s Carrying Co v Asiatic Petroleum Co</td>
<td>1915</td>
<td>AC</td>
<td>705</td>
</tr>
<tr>
<td>Longman v The Queen</td>
<td>1989</td>
<td>168</td>
<td>CLR 79</td>
</tr>
<tr>
<td>Miller v Minister of Pensions</td>
<td>1947</td>
<td>2</td>
<td>All ER 372</td>
</tr>
<tr>
<td>Neat Holdings v Karajan Holdings</td>
<td>1992</td>
<td>67</td>
<td>ALJR 170</td>
</tr>
<tr>
<td>Prasad v Minister for Immigration</td>
<td>1991</td>
<td>101</td>
<td>ALR 109</td>
</tr>
<tr>
<td>R v Hepworth</td>
<td>1955</td>
<td>2 QB</td>
<td>600</td>
</tr>
<tr>
<td>R v Law</td>
<td>1961</td>
<td>Crim LR</td>
<td>52</td>
</tr>
<tr>
<td>R v Woods</td>
<td>1961</td>
<td>Crim LR</td>
<td>324</td>
</tr>
<tr>
<td>Re H [1996]</td>
<td></td>
<td>AC</td>
<td>563</td>
</tr>
<tr>
<td>Rejfev v McElroy</td>
<td>1965</td>
<td>112</td>
<td>CLR 517</td>
</tr>
<tr>
<td>Rose v Abbey Orchard Property Investment</td>
<td>1987</td>
<td></td>
<td>Aust Torts Reports 80-121 32</td>
</tr>
<tr>
<td>Ryan v Carstensz Properties</td>
<td>1979</td>
<td>26</td>
<td>ALR 543</td>
</tr>
<tr>
<td>Santosky v Kramer</td>
<td>1982</td>
<td>455</td>
<td>US 745</td>
</tr>
<tr>
<td>Schaffer; Ex rel Schaffer v Weast</td>
<td>2005</td>
<td>546</td>
<td>US 49</td>
</tr>
<tr>
<td>Schup v Delo</td>
<td>1995</td>
<td>513</td>
<td>US 298</td>
</tr>
<tr>
<td>State Superannuation Board v FCT</td>
<td>1988</td>
<td>82</td>
<td>ALR 63</td>
</tr>
<tr>
<td>Sullivan v Louisiana</td>
<td>1993</td>
<td>508</td>
<td>US 275</td>
</tr>
<tr>
<td>Trawl Industries v Effem Foods</td>
<td>1992</td>
<td>27</td>
<td>NSWLR 326</td>
</tr>
<tr>
<td>US v Feinberg</td>
<td>1944</td>
<td>140</td>
<td>F2d 952</td>
</tr>
</tbody>
</table>

vii
<table>
<thead>
<tr>
<th>Case</th>
<th>Reference</th>
<th>Page(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Van der Meer v The Queen</td>
<td>(1988) 82 ALR 10</td>
<td>38</td>
</tr>
<tr>
<td>Victor v Nebraska</td>
<td>114 S Ct 1239, 511 US 1 (1994)</td>
<td>10, 18</td>
</tr>
<tr>
<td>Wilsher v Essex Area Health Authority</td>
<td>[1988] AC 1074</td>
<td>2</td>
</tr>
<tr>
<td>Winship, Re</td>
<td>397 US 358 (1970)</td>
<td>10, 18, 37, 38</td>
</tr>
<tr>
<td>Woolmington v DPP</td>
<td>[1935] AC 462</td>
<td>14</td>
</tr>
</tbody>
</table>
# Table of Latin Phrases

<table>
<thead>
<tr>
<th>Phrase</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>doli incapax</td>
<td>31</td>
</tr>
<tr>
<td>omnia praesumuntur rite et solemniter esse acta</td>
<td>31</td>
</tr>
<tr>
<td>onus probandi</td>
<td>13</td>
</tr>
<tr>
<td>reddendo singula singulis</td>
<td>xvii</td>
</tr>
</tbody>
</table>
# Table of Diagrams

<table>
<thead>
<tr>
<th>Diagram</th>
<th>Description</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Model for Litigation: Basic Version</td>
<td>6</td>
</tr>
<tr>
<td>2</td>
<td>Issues of Facts</td>
<td>8</td>
</tr>
<tr>
<td>3</td>
<td>Model for Proving Facts</td>
<td>9</td>
</tr>
<tr>
<td>4</td>
<td>Complementarity Rule</td>
<td>11</td>
</tr>
<tr>
<td>5</td>
<td>Initiator’s Scale of Proof</td>
<td>12</td>
</tr>
<tr>
<td>6</td>
<td>Initiator’s and Responder’s Scale of Proof</td>
<td>13</td>
</tr>
<tr>
<td>7</td>
<td>Syllogism: X Always Causes Y</td>
<td>28</td>
</tr>
<tr>
<td>8</td>
<td>Syllogism: X Is the Sole Cause of Y</td>
<td>29</td>
</tr>
<tr>
<td>9</td>
<td>Independent Facts</td>
<td>33</td>
</tr>
<tr>
<td>10</td>
<td>Independent Facts: Calculations</td>
<td>33</td>
</tr>
<tr>
<td>11</td>
<td>Two of More Overall Versions</td>
<td>34</td>
</tr>
<tr>
<td>12</td>
<td>Several Overall Versions of Facts</td>
<td>35</td>
</tr>
<tr>
<td>13</td>
<td>Scales of Proof</td>
<td>40</td>
</tr>
<tr>
<td>14</td>
<td>Significant Points on the Initiator’s Scale of Proof</td>
<td>42</td>
</tr>
<tr>
<td>15</td>
<td>Initiator’s Finishing Point</td>
<td>43</td>
</tr>
<tr>
<td>16</td>
<td>Responder’s Finishing Point</td>
<td>43</td>
</tr>
</tbody>
</table>
Summary

Proving facts in court is an uncertain business. This article describes a model for proof of facts to throw some light on the subject and to make the task more systematic. This model for finding facts consists of four steps –

1. Starting point: burden of proof
2. Versions of truth
3. Probability of truth
4. Finishing point: standard of proof

### Step 1. Starting Point: Burden of Proof

At the outset the legal system has to determine who is responsible for proving a case or parts of it. This covers the rule of law known either as the burden of proof or the onus of proof. This rule is also referred to in this article as the starting point rule.

### Step 2. Versions of Truth

Parties present their versions of truth to the court. They present what they assert are the true facts of their case.

### Step 3. Probability of Truth

The court assesses how probable it is that each version is true. In this it is potentially aided by submissions from parties.

### Step 4. Finishing Point: Standard of Proof

Previously in Step 3 the court has determined the probability that each party’s version of the facts is true. Here in Step 4 it measures that probability against the probability depicted by the standard of truth required by law. This standard is referred to in law as the standard of proof. This text also refers to it as the finishing point rule. If an initiating party (such as a plaintiff or prosecutor) has made out the required standard of proof they win their case. If they have not made it up to the standard, they lose. This is why the standard of proof is called a standard – it tells a party how probable their case must be for them to win.
Introduction
Discussion in this publication refers to items such as a statute or a meaning of an ambiguous provision. Often these are part of a collection, list, range or set of items. Frequently the text puts them in a diagram where they represent a model or a step on the way to explaining a model. The purpose here is to explain the labelling system used to refer to these items.

Describing Items
Labelling Items
There are several aspects to labelling the items in a set, range, list or collection. These are name, number, letter and designating a set of items.

Name
The name of an item commences with a capital letter. Some examples are Element, Statute and Meaning.

Number
Items in a set, range, list or collection are generally numbered. For example, the elements of a legal rule are labelled Element 1, Element 2, Element 3 and so on. These numbers are ways of identifying elements and distinguishing one from another. They are generally not intended to create any list according to preferences or values.

Letter
Items in a set, range, list or collection can be lettered. For example a list of statutes can be Statute A, Statute B and so on.

Designating a Set of Items
It is useful to designate a set of items with a single and simple tag. Here is an outline. The basic proposition is that a simple and obvious tag has two aspects: 1. Description. Use a written label on the items as a tag or description. Put it in plural form. Thus a tag for a set of statutes would be ‘Elements’.
2. Numbers. After the tag add a space then a compound numerical tag consisting of three items:

2.1 The number of the first item in the set.
2.2 A hyphen.
2.3 The number of the last item in the set.

Here are two illustrations:
1. A set of six elements would be Elements 1-6.
2. A set of elements where the number can vary from situation to situation is written as Elements 1-n.

1. Naming the Items
The item has a name, which is usually obvious. For example each statute in a set of statutes would bear the name ‘Statute’, and each elements in a set of elements would be ‘Element’.

2. Numbering the Items
There are two possibilities for the numbering of a set, list or range of items:
1. There can be a fixed number in the set.
2. There can be a variable number in the set.

2.1 Fixed Number in the Set
In a particular instance there may be a specific number of items in a set. For example a particular legal rule might be composed of five elements. In this case the first and last numbers designate the number of items in the set or range. In this example of a set of five elements, one would designate the set as ‘Elements 1-5’.

2.2 Variable Number in the Set
Sometimes the text refers to a set or a list in general terms in cases where the number of items in the set can vary from situation to situation. In this event, the way to go is to number the last item with the symbol ‘n’. To refresh readers, ‘n’ stands for however many there are on a particular occasion. An example would be a general discussion about elements of a legal rule. In this case the possibilities vary from legal rule to legal rule. Thus the designation of this set of items is Elements 1-n.

Null Option
There is a special case with options where one of the options is to do nothing and leave things as they are. This occurs, for example, with the proposed making of a statute where one option is just not to enact a statute. In a case such as this the option is labelled with the symbol for nought, namely ‘0’. Thus the option not to enact a statute is designated as Statute 0. Statute 0 represents the null option – it is the option for a legislature not to enact a statute on a topic
whereas Statutes 1, 2, 3 and so on are options for different versions of a statute on a topic (on the basis that there is no form of a statute that can better present conditions). Given this the full set or range of possible statutes for a legislature to enact consists of Statutes 0-n.

**Corresponding Items**

Sometimes there are sets with corresponding items. This can occur for a number of reasons. Here are two examples:
1. For making and interpreting law, items correspond because of causation. Each version of a statute on a subject and each meaning of an ambiguous provision will cause an effect if a legislature enacts the statute or if a court declares the meaning to be legally correct.
2. In the model for litigation, elements and facts correspond because each element delineates a category of facts so that in a particular case the element is satisfied by a fact that falls within that category. Similarly, facts and evidence correspond because each fact is proved or potentially provable by some evidence.

**Single Relationships**

Corresponding items are labelled with the same number or letter. Here are some illustrations:
1. Statutes, Meanings and their Predicted Effects. Statute 0 is predicted to cause Effect 0, Statute 1 is predicted to cause Effect 1, Statute 2 is predicted to cause Effect 2 and so on. Meaning 1 is predicted to causes Effect 1, Meaning 2 is predicted to cause Effect 2 and so on. Similarly, Statute X (or Meaning X) is predicted to cause Effect X while Statute Y (or Meaning Y) is predicted to cause Effect Y.
2. Facts Satisfying Elements. Fact 1 is the label given to a fact that fits within or satisfies Element 1, Fact 2 is the label given to a fact that fits within or satisfies Element 2 and so on.
3. Evidence Proving Facts. Evidence 1 is the label given to evidence that might prove or has proved Fact 1, Evidence 2 is the label given to evidence that might prove or has proved Fact 2, and so on.

**Collective Relationships**

It is possible to use labels of correspondence to make collective statements. Here are some examples: Statutes 0-n are predicted to cause Effects 0-n, while Evidence 1-n is capable of proving Facts 1-n. To construe these collective statements properly it is necessary to apply the maxim *reddendo singula singulis*. Literally this says that each is rendered on their own. In plainer language, the items are to be taken singularly so the each item in the first list is paired with the corresponding item in the second list. The adverb ‘respectively’ captures this notion.
Labels

Two or More Version of an Item
There may be two or more versions of an item. Additional letters or numbers can distinguish the different versions. For example:

1. If Element 2 is ambiguous because it has two meanings, the versions of Element 2 can be designated Element 2A and Element 2B.
2. There can be two versions of a fact. There are two major possibilities:
   2.1 In a case there may be two versions of Fact 2 because the plaintiff propounds one and the defendant propounds the other. These can be designated ‘P’ and ‘D’ to signify the plaintiff and defendant’s version. Thus the two versions are Fact 2P and Fact 2D.
   2.2 After investigating the facts of a case the defendant may find that there is evidence to support two versions of one of the facts in their case. These are facts that the defendant could use to rebut the plaintiff’s satisfying Element 3. The defendant or the court could designate these as Fact 3D.1 and Fact 3D.2.

Subdivisions of Items
It is possible to designate subdivisions of an item with a numbering system that invokes the form but not the meaning of decimal points. Thus if Element 2 has three sub-elements, one can designate them as Element 2.1, Element 2.2, and Element 2.3. If Element 2.2 has three sub-elements we can designate these as Element 2.2.1, Element 2.2.2 and Element 2.2.3. Obviously this form of numbering adapts to any number of levels of subdivision.

Possibilities: ‘X’, ‘Y’, Etc
Sometimes the text needs to refer to any option, that is, to an option in general terms. Conveniently this is labelled with a capital letter. Commonly, this is the letter X, so that a general option for a legislature wishing to pass a statute is Statute X. Naturally, if there is a need to refer to more than one option additional letters may be used. For example, there could be reference to Statute X and Statute Y; in this case Statute X is one possible statute and Statute Y is another possible statute.

Signifying Relationships
Sometimes it is necessary to signify a relationship between two items. This can be done using standard symbols. This table sets out the major possibilities:

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Relationship</th>
<th>Illustration</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;</td>
<td>Less than</td>
<td>X&lt;Y. X is less than Y.</td>
</tr>
<tr>
<td>&gt;</td>
<td>Greater than</td>
<td>X&gt;Y. X is greater than Y.</td>
</tr>
<tr>
<td>=</td>
<td>Equals</td>
<td>X=Y. X equals Y,</td>
</tr>
<tr>
<td>≠</td>
<td>Not Equals</td>
<td>X≠Y. X does not equal Y.</td>
</tr>
<tr>
<td>≈</td>
<td>Approximately Equals</td>
<td>X≈Y. X is approximately equal to Y.</td>
</tr>
</tbody>
</table>
$\equiv$  Congruence Relationship  $X \equiv Y$.  $X$ is congruent with $Y$.

$\cong$  Isomorphic  $X \cong Y$.  $X$ is structurally identical to $Y$.

*Labels Diagram 1. Symbols for Relationships*

**Listing Items**

Where there is a list, for example a list of the meanings of an ambiguous provision, we can set these out in the text as a series – Meaning 1, Meaning 2 ... Meaning n. In the text, as we have noted, the range can be efficiently represented as Meanings 1-n. In a table they are set out as a list in the following way:

<table>
<thead>
<tr>
<th>Meanings</th>
<th>1</th>
<th>2</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Meaning 1</td>
<td>Effect 1</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Meaning 2</td>
<td>Effect 2</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Meaning n</td>
<td>Effect n</td>
<td>4</td>
<td></td>
</tr>
</tbody>
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*Labels Diagram 2. List of Meanings*

In this presentation it is not strictly necessary to include Meaning 2. Indeed, it is actually redundant, when n=2. However, it usefully emphasises the sense of a list that sets out the range of options or possibilities.

**Diagrams**

Lists in a table can be connected to become a diagram or figure. This can involve corresponding items. A useful illustration consists of a diagram that has two major columns that match corresponding items. One column sets out the meanings of an ambiguous provision in a statute in Statute X and the other sets out the effect for the whole statute that each meaning is predicted to cause.

Here is the illustration:

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Meanings → Effects</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Meaning 1</td>
<td>Effect 1</td>
<td>2</td>
</tr>
<tr>
<td>Meaning 2</td>
<td>Effect 2</td>
<td>3</td>
</tr>
<tr>
<td>Meaning n</td>
<td>Effect n</td>
<td>4</td>
</tr>
</tbody>
</table>

*Labels Diagram 3. Meanings and Effects*

This diagram functions in the following way:

* Column 1 shows the meanings of the ambiguous provision, being Meanings 1-n.
* Column 3 shows the effect of the statute that each meaning is predicted to cause if a court chooses them as the legally correct meaning of the ambiguous provision. Let us flesh this out. Every statute that is enacted causes a number of outcomes. The author refers to the full collection of outcomes that a statute is predicted to cause as an effect. When a court interprets a statute it is faced with the basic options in terms of the range of meanings of the ambiguous provision that gives rise to the need to interpret the statute. The diagram labels these meanings as Meanings 1-n. If a court decides that Meaning 1 is the legally correct meaning of the ambiguous provision that decision is likely to have an impact on the effect that the whole statute will cause. Column 3, as stated, sets out this effect, the effect of the whole statute, for Meaning 1. In a similar way it sets out the effect for each other meaning of the ambiguous provision. This method of identifying the effects of each meaning caters for the constitutional rule in each Australian jurisdiction that requires a court to interpret a statute in the way that will ‘best achieve’ the purpose and object for which the legislature enacted the statute. Now the purpose or object of a statute is to cause some effect or outcome. Hence the term ‘Effect’ aligns directly with purpose and object (which of course is why the table includes it).

* Column 2 contains an arrow pointing from the Column 1 to Column 3, thereby indicating that each meaning in Column 1 is predicted to cause the statute to have the corresponding effect in Column 3.

* Columns 1-3 indicate meanings and their predicted effects. Assume for the purposes of the explanation that a court is interpreting an ambiguous provision in Statute X that has Meanings 1-3:
  1. If a court chooses Meaning 1 as the legally correct meaning the prediction is that Statute X will cause Effect 1.
  2. If a court chooses Meaning 2 as the legally correct meaning the prediction is that Statute X will cause Effect 2.
  3. If a court chooses Meaning 3 as the legally correct meaning the prediction is that Statute X will cause Effect 3.

**Probability**

A number of symbols are used for probability. This diagram shows the common symbols and their meanings:

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>P(A)</td>
<td>probability that event A occurs</td>
</tr>
<tr>
<td>P(B)</td>
<td>probability that event B occurs</td>
</tr>
<tr>
<td>P(A ∪ B)</td>
<td>probability that event A or event B occurs (A union B)</td>
</tr>
<tr>
<td>P(A ∩ B)</td>
<td>probability that event A and event B both occur (A intersection B)</td>
</tr>
<tr>
<td>P(A')</td>
<td>probability that event A does not occur</td>
</tr>
<tr>
<td>P(A</td>
<td>B)</td>
</tr>
<tr>
<td>Label</td>
<td>Description</td>
</tr>
<tr>
<td>-------</td>
<td>-------------</td>
</tr>
<tr>
<td>$P(B \mid A)$</td>
<td>probability that event $B$ occurs given that event $A$ has occurred</td>
</tr>
<tr>
<td>$P(B \mid A')$</td>
<td>probability that event $B$ occurs given that event $A$ has not occurred</td>
</tr>
<tr>
<td>$\phi$</td>
<td>the empty set = an impossible event</td>
</tr>
<tr>
<td>$S$</td>
<td>the sample space = an event that is certain to occur</td>
</tr>
</tbody>
</table>

*Labels Diagram 4. Symbols Used for Probability*
Fact-finding is labour on the factory floor of the judicial system. It is not glamorous work. Judgments on fact go unreported; they have no enduring fame. Nevertheless, justice depends on correct factual findings, and a fundamental measure of a legal system is the accuracy and skill with which facts are found.¹

Introduction

Facts

Disputes of Facts
Litigation arises because of disputes over law, discretions or facts, or some combination of these. In a dispute over facts parties proffer different and competing versions of one or more of the material facts of a cause of action. This text explains the basic reasoning processes involved in determining disputes of fact.²

Nature of Facts
Each law or legal rule is made to apply to a class of facts that it defines. Facts have three defining qualities – character, time and positivity or negativity:
1. Character. Facts are constituted by something that happens or exists such as an act, an action, an event, an incident, a state of affairs, a condition (including a state of mind)³, a quality of an item, or something else of this kind.⁴
2. Time. Potentially a fact can be past, present or future.⁵
3. Positivity or Negativity. A fact can be positive or negative. In the obvious case a fact is positive, for example something happened, something exists or some item possessed some quality; but it can also be negative in that the event did not happen, the thing does not exist or the item did not possess the quality in question.⁶

Levels of Facts
We can conveniently conceive three levels of facts:
1. Specific Facts. Facts can be specific facts, that is facts about a specific thing, event, incident or detail. We refer to these as specific versions of the facts. We also refer to them just as specific facts.

¹. Ipp (2006)
². This text sketches the key concepts and fits them into a framework. For a fuller discussion see Christopher Enright Proof of Facts www.legalskills.com.au. There is fuller consideration of the method of reasoning in Christopher Enright Legal Reasoning www.legalskills.com.au.
³. Bohlen (1924)
⁴. Jegatheeswaran v Minister for Immigration [2001] FCA 865 (9 July 2001), per Finkelstein J, par [52]
⁵. Jegatheeswaran v Minister for Immigration [2001] FCA 865 (9 July 2001), per Finkelstein J, par [52]
⁶. Bentham (1827) pp 49-50
2. Overall Version. Facts can refer to a complete or overall version of the facts. This version covers all of the facts that make out a party’s case.

3. Several Overall Versions. In some cases a party may indicate alternative overall versions of the facts. A party may do this because each version makes out the party’s case. Typically they do this when there are gaps in the evidence and they have to infer from the facts in evidence how these gaps can be filled—and sometimes there may be two or more plausible stories that fill the gaps. To illustrate, assume that there are three versions, which we can call X, Y and Z. It may be that Versions X and Y favour one party while Version Z favours the other party.

**Uncertainty of Proof**

Disputes over facts are the most common type of dispute. One party says that a fact is X, the other says that it is Y, and the court must resolve the issue by making a finding of facts. This is a finding that one version or another has been proved to the satisfaction of the court. When the court does so, the facts are conclusively established for the purposes of the legal system. However, there is no general guarantee, and there never can be, that facts have been correctly established as true in any absolute sense.

Nevertheless, in practice lawyers loosely but conveniently speak of a court making a finding of facts. This terminology, although justified by common usage, covers over an important truth, namely that there is an inherent uncertainty with proof of facts. This has three basic propositions.

First, no one can know for certain the truth of an event that they have not personally observed. Second, even if a witness has observed an event they may still not know the full or accurate truth about the event. For example, they did not observe it carefully. Or, even if they know the truth, totally or partially, they may not give accurate, honest or unbiased testimony. Third, there is no comprehensive cut and dried science that enables any one, including a judge or jury, to determine accurately whether evidence conveys the truth.

Because of these uncertainties a litigant faces the ‘the unpredictable hazards of the forensic process’. A trial is a forensic lottery, which means that going to

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A Model for the Proof of Facts

court is an uncertain business. So too is any legal advice about the prospects of success in litigation.

Obviously the justice system would benefit if research could make fact finding more accurate and more predictable. Unfortunately much of the desirable research is bedevilled by a fundamental problem. To appreciate this problem, assume that sometime after a trial it was possible to know where the truth lay. This would enable social scientists to analyse the cases where courts got it right and where courts got it wrong to identify any differentiating factors – these might provide a clue as to how courts should approach fact finding. In this way courts could engage in trial and error learning.

Learning by trial and error is common in fields such as management and medicine where it is possible to learn by trial and error. Experience shows that some things work and some things do not work. This, for example is the basis of performance review as in strategic management or an M and M (morbidity and mortality) conference of surgeons.

However, trial and error is possible in these fields because they possess a requisite characteristic – one can observe and to a reasonable extent measure outcomes. One can observe the error and seek to correct it by trying an alternative method. Putting it bluntly, learning by trial and error is possible only when one can identify an outcome where the performer ‘got it right’ (they made a correct decision) and an outcome where the performer ‘got it wrong’ (they made an error). This, however, is not possible in litigation because generally even once a case is concluded it is not possible to know the truth, so it is not possible to know if the court was right or wrong. Put simply, the ‘underlying problem’ is ‘the absence of a ‘criterion’ or ‘gold standard’ for checking postdictions’ and unfortunately this ‘is intractable’.

Methodical Approach

Broadly, a court can accept any version of the facts reasonably available to it from the evidence. Thus when faced with conflicting evidence it has a wide discretion to take one view of the evidence or another, or a composite version based on both sets of evidence.

So far, though, lawyers have failed to articulate a method for finding facts. This is despite the reality that dispute of fact are the major concern of litigation

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8. For discussion of how a litigant might make the decision whether to litigate see Shavell (1982).
lawyers. Instead litigation lawyers tend to learn fact finding by some sort of osmosis. Consequently, they possess an internalised knowledge and understanding but cannot always articulate it in any full and structured way. This probably explains why there are few basic accounts of the process by which lawyers and courts prove facts in litigation. This also explains Professor William Twining’s famous lament. Twining has lamented in at least two journal articles that investigating and proving facts are two of the most basic functions of a legal system yet they have been severely and sorely neglected in legal literature.\textsuperscript{12}

This text seeks to redress this problem to some extent by providing a basic model for proving facts. It sets out an account of the reasoning that underlies the process whereby a court finds facts in order to determine the outcome of a case.\textsuperscript{13}

**Parties**

For convenience, the author uses two generic terms, initiator and responder:

1. Initiator. The initiator refers to a party who commences a case.
2. Responder. The responder refers to the party against whom the case is commenced.

**Model for Litigation**

**Nature of the Model**

There is a model for litigation. It explains the basic function of litigation that involves a dispute of facts (which is by far the most common form of dispute). It rests, as will be explained below, on the simple but vital relationship between four items:

1. Elements. The elements of the cause of action define the material facts, which in turn identify when the legal rule applies.
2. Material Facts. The material facts of the case are so called because a plaintiff must establish each one of them to win the case.
3. Evidence. When a material fact is in dispute a plaintiff needs evidence in order to prove it.
4. Consequences. When a plaintiff makes out their case by establishing each material fact the legal consequences provided by the cause of action then follow. Generally these involve a court’s granting some sort of remedy to the plaintiff.

**Foundations of the Model**

Essentially the model for litigation is built on foundations located within the

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13. There is a fuller account in Christopher Enright *Legal Method* 2008.
structure of the provisions that create a cause of action and enable a court to hear it. These foundations are created by structures that legal rules naturally possess. Subject to limited exceptions that are of no concern here, each legal rule possesses a standard structure, which consists of three components – elements, consequences and a conditional statement:

1. Elements. Elements of a legal rule delineate that part of the world, the facts, to which the legal rule applies and which it therefore regulates. To perform this task, an element delineates a category or type of fact, so that the relationship of an element to a fact that fits or satisfies the element is that of the general to the particular. In short, each element describes a required type of fact for the rule to apply. Elements are labelled Element 1, Element 2 and so on. The elements in a rule are collectively designated Elements 1–n.

2. Consequences. While elements identify the part of the world that the rule seeks to change, the way in which the rule directly and legally changes the world is through the consequences it imposes on the parties when it applies to a set of facts. This is why a legal rule must also state the consequences it visits upon the parties. Consequences are designated Consequences 1–n or just Consequences for short. There are two other things to note about consequences:

2.1 Consequences can be divided into components for either or both of two reasons – there are two or more legal consequences to a cause of action or a consequence has components.

2.2 Consequences often need to be matched with facts that need to be established by evidence. For example a plaintiff who claims damages needs to prove the amount of their loss for each category of loss for which damages provides compensation. Facts for Consequence are labelled ‘ConFacts’ while evidence that might prove those facts is labelled ‘ConEvidence’.

3. Conditional Statement. So far the legal rule has two components, elements that identify the facts to which it applies and consequences that prescribe how it will change the position of the parties to a case when the rule applies to them. To ensure the operation of the rule, something has to impose these consequences on the facts. Legislators do this by framing a legal rule as a conditional statement. It takes the following form: ‘If facts occur that fall within the classes of facts delineated by the elements, the consequences designated by the rule apply to those facts’.

To develop the model for litigation we build on these structures in a logical way. Each rule consists of elements, labelled Elements 1–n. A legal rule is so structured that the consequences designated by the rule apply in litigation when each element of the rule is satisfied by a fact. These facts are labelled Facts 1–n to correspond with Elements 1–n. Thus Fact 1 fits within and satisfies Element
A Model for the Proof of Facts

1, Fact 2 fits within and satisfies Element 2, and so on to Element n, which fits within and is satisfied by Fact n.

In litigation Facts 1-n occurred in past time and need to be proved to the court. Parties have two options. First, parties may agree that some facts are accepted as proved. Second, where parties do not agree on facts they seek to prove them by evidence. Evidence is labelled in a manner that corresponds with the labelling of the facts. Thus Evidence 1 proves (meaning it is capable of proving) Fact 1, Evidence 2 proves Fact 2, and so on to Evidence n that proves Fact n. Collectively Evidence 1-n can prove Facts 1-n.

Diagram of the Model
Here is the diagram that sets out the basic version of the model for litigation:

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Law</td>
<td>←</td>
<td>Facts</td>
<td>←</td>
<td>Evidence</td>
</tr>
<tr>
<td>Element 1</td>
<td>Fact 1</td>
<td>Evidence 1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Element 2</td>
<td>Fact 2</td>
<td>Evidence 2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Element n</td>
<td>Fact n</td>
<td>Evidence n</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Consequence 1</td>
<td>ConFact 1</td>
<td>ConEvidence 1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Consequence 2</td>
<td>ConFact 2</td>
<td>ConEvidence 2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Consequence n</td>
<td>ConFact n</td>
<td>ConEvidence n</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Diagram 1. Model for Litigation: Basic Version

This model combines the several functions that are involved in using law in litigation. When all of this happens the legal consequences apply to the parties.

Explanation of the Model
Column 1: Cause of Action
Column 1 sets out the cause of action, the law or the legal rule that is involved. It consists of elements and consequences. These are Elements 1-n and Consequences 1-n.

Column 3: Facts
Column 3 in the top part sets out the facts that satisfy the elements of the legal rule. These are Facts 1-n. The right facts (commonly called the material facts, relevant facts or the essential facts) satisfy each element of the legal rule. The diagram signifies this by the arrow at the head of Column 2 linking Column 3
(Facts) to Column 1 (Law). This arrow represents the process of applying law to facts. This is a deductive process based on a syllogism.  

Column 5: Evidence  
Column 5 contains the evidence that can establish the facts. The evidence is labelled Evidence 1-n such that Evidence 1 is the evidence that might prove Fact 1, Evidence 2 is the evidence that might prove Fact 2 and so on. Thus Evidence 1-n is the evidence that might prove Facts 1–n. The diagram signifies this by the arrow in Column 4 linking Column 5 (Evidence) to Column 3 (Facts).

Achieving the Consequences  
To win a case a plaintiff needs to satisfy each element of the legal rule that constitutes the cause of action. These are labelled Elements 1-n. A plaintiff satisfies an element by producing or proving (if there is a dispute) the relevant material fact for that element. These facts are labelled Facts 1-n. The evidence for proving these facts is labelled Evidence 1-n.

Nature of the Consequences  
1. Components. Consequences may have components. These are labelled Consequences 1-n. There are two obvious ways in which consequences can have components:
   1.1 A remedy may have components. For example, the remedy of damages is made up of a number of components or types of damages.
   1.2 There may be two or more remedies for a wrongful act.
2. ConFacts. To obtain a designated legal consequence it may be necessary to establish some relevant facts. ConFacts 1-n are set out in the bottom half of Column 3. ConFacts 1-n are the facts that support Consequences 1-n. For example in personal injury case a plaintiff who claims loss of wages has to assert the loss of wages through being off work and has to prove being off work and the amount of those wages.
3. ConEvidence. To prove ConFacts a party needs evidence. Diagram 1 labels the evidence to prove ConFacts 1-n as ConEvidence 1-n. ConEvidence 1-n is located in the bottom half of Column 5.

Issues of Fact  
Let us use Element 3 of some cause of action to illustrate an issue of fact in a hypothetical case. As set up for this illustration, there are two versions of Fact 3, Fact 3P alleged by the plaintiff and Fact 3D alleged by the defendant. Fact 3P satisfies Element 3. Fact 3D, however, does not satisfy Element 3. Instead it

establishes the absence of Element 3, namely Non Element 3. These can be set out in an extract from the model in the following way:

<table>
<thead>
<tr>
<th>Element 3</th>
<th>←</th>
<th>Fact 3</th>
<th>←</th>
<th>Evidence 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Element 3</td>
<td></td>
<td>Fact 3P</td>
<td></td>
<td>Evidence 3P</td>
</tr>
<tr>
<td>Non Element 3</td>
<td></td>
<td>Fact 3D</td>
<td></td>
<td>Evidence 3D</td>
</tr>
</tbody>
</table>

Diagram 2. Issues of Facts

In this hypothetical case the plaintiff has Evidence 3P which might prove Fact 3P while the defendant has Evidence 3D which might prove Fact 3D. This shows how an issue of fact is a contest between two sets of evidence. One set of evidence might establish a fact that satisfies an element of the cause of action, while another set might establish a fact that will not satisfy this element. Thus, the question here, in simple terms, is whether the court accepts Evidence 3P rather than Evidence 3D. More precisely, factoring in the standard of proof, the question is whether the court is sufficiently satisfied of the existence of Fact 3P by Evidence 3P to discharge the relevant standard of proof.

Model for Proof of Facts

Discussion of proving facts in this text is based on a model for proving facts developed for the purpose. There is a need for such a model because the task of fact-finding so far has typically been something that lawyers learn as they go along. While there are numerous accounts that present the rules of evidence in a systematic way a simple account of the overall process by which lawyers and courts prove facts has been lacking. This text provides a brief description of this model.16

The model here seeks to describe the processes, rules and reasoning that are entailed in proving facts. It seeks to present these in a structured and coherent framework that portrays the overall process. This framework should explain the task to a student and furnish a guide for performing the task in practice. This framework consists of model for finding facts that possesses four steps:

<table>
<thead>
<tr>
<th>Step 1. Starting Point: Burden of Proof</th>
</tr>
</thead>
<tbody>
<tr>
<td>At the outset the legal system has to determine who is responsible for proving a case or parts of it. The rule of law known either as the burden of proof or the onus of proof determines this question. This rule is also referred to in this text as the starting point rule.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Step 2. Versions of Truth</th>
</tr>
</thead>
<tbody>
<tr>
<td>Parties present their versions of truth to the court. They present what they assert are the true facts of the case.</td>
</tr>
</tbody>
</table>

16. There is a fuller account in Christopher Enright *Proof of Facts*. 
**Step 3. Probability of Truth**
The court assesses how probable it is that each version is true. In this it is generally aided by submissions from parties.

**Step 4. Finishing Point: Standard of Proof**
Previously in Step 3 the court has determined the probability that each party’s version of the facts is true (although it generally does not determine the probability numerically). Here in Step 4 the court measures that probability against the probability depicted by the standard of truth required by law. This standard is referred to in law as the standard of proof. This text also refers to it as the finishing point rule. If an initiating party (such as a plaintiff or prosecutor) has made out the required standard of proof they win their case. If they have not made it up to the standard, they lose. This is why the standard of proof is called a standard – it tells a party how probable their case must be for them to win.

*Diagram 3. Model for Proving Facts*

This model describes the steps that a court uses when it determines the facts of a case. Moreover, a lawyer should also use these steps when they seek to estimate their client’s chances of success. The lawyer needs to trace out the steps that the court will take for two reasons – to predict as best as can be done how the court will make its finding of facts and to enable the lawyer to make appropriate submissions to the court on fact finding.

Before commencing explanation of how a court finds that facts to be proved, it is necessary to emphasise that finding fact is a mysterious process. At the present stages of neurological science, there is no comprehensive way in which anyone, including a judge or jury, can accurately determine the facts from evidence. In some types of circumstances, experience can, by silent induction, confer a superior facility. However, while judges have experience in fact finding, they generally do not have any way of determining whether their finding is correct. By contrast, a doctor who treats patients in difficult circumstances can see the outcome of working from hunch or intuition because they see whether and how much the patient improves as a result of the treatment.

Moreover, even the great care, commitment and devotion to the task that so many judges show to the task is not a guarantee of success. All of us, whether judge, jury, lawyer of layman, view the world with selective attention, differing emphasis, and diverse world views. What wisdom there may be is dispersed on these factors. Given this uncertainty, the interests of justice demand more funded research into fact finding.
Using Probability

In theory the legal system could insist that the relevant party proved a case with absolute certainty. However, to do this would be impractical so in law proof is a question of degree. It is based on probability and there are cases where courts have acknowledged the obviously and inherently probabilistic nature of fact-finding. Courts need to use probability in the process of finding facts because fact finding is an uncertain task. There are two aspects to this. First, there is no guarantee that a court or other fact finder can always ascertain the truth. So probability comes to the rescue because it is a way of encapsulating uncertainty surrounding past events. This is why it can be used for describing the likelihood that a witness is now telling the truth about events in the past that they observed. This is also why the ‘logical rules for thinking about facts in legal cases are those of probability.’ Second, the legal rules for proof do not require absolute certainty but only a degree or probability of certainty. A court has to measure the probability of truth of a prosecutor or plaintiff’s case against the standard of truth required by law for the party to win their case. Step 3 in the model measures the actual probability that a party’s case is true, then Step 4 determines whether this measure satisfies the requisite standard of truth, or standard of proof as lawyers call it.

Ideally when a court estimates a probability it would give it a numerical measure. However, in most situations there are problems in putting a figure on a probability with any sort of confidence because considerations ‘for and against particular findings of fact’ generally involve ‘a global assessment of a whole complex array of matters.’ Moreover, when allocating a numerical probability in saying there can be ‘indefinite gradations of certainty’ that the facts portrayed by evidence are true. Problems such as these have, not surprisingly, led to the view that in deciding a case it is generally misleading to try to give these probabilities ‘numerical expression.’

Scale of Proof

Because fact finding is based on probability it is both possible and enlightening to construct a scale of proof showing the range of probabilities or degrees of certainty between 0% and 100%. This scale of proof ranges between two natural extremes and, obviously, has points in between:

17. See, for example, Victor v Nebraska 511 US 1 (1994) 14, 22 per O’Connor J; Ginsburg J concurred at p 25 while Blackmun J dissented at p 36. See also Re Winship 397 US 358 (1970), p 370 per Harlan J.
18. Robertson and Vignaux (1993A) p 478
20. Briginshaw v Briginshaw (1938) 60 CLR 336, 361-362
A Model for the Proof of Facts

1. Beginning. One extreme is the 0% mark. At this point nothing has been proved.
2. End. The other extreme is the 100% mark. At this point everything has been proved to be absolutely true beyond all shadow of a doubt.
3. Between Beginning and End. The ‘between’ consists of any point that is greater than the 0% mark and less than the 100% mark. In the ‘between’ range on the scale the fact in question is proved to some degree but not proved absolutely.

While courts only occasionally make numerical measure of probability (because it is nearly always impossible to do so with even reasonable accuracy) this scale of proof is still a useful analytical tool for describing and understanding proof of facts.

Complementarity Rule
Conventionally lawyers view proof of facts through the eyes of the initiating party, the plaintiff or prosecution, but one can also view it from the perspective of the responder. This is possible because of a rule called the complementarity rule.

The complementarity rule of probability states the axiomatic proposition that the sum of the probabilities of each possible outcome for an event equals 1 or 100%. To illustrate this, take the simple case where there are only two possible outcomes. For example when a person draws a card from a standard deck of 52 cards, the probability of drawing one of the four aces is 4/52. This is a probability of 1/13. Under the complementarity rule, the probability of not drawing an ace is 1 minus 1/13, which equals 12/13.

The following table will highlight the complementary relationship:

| Probability of drawing an ace | 1/13 |
| Probability of not drawing an ace | 12/13 |
| Probability of either drawing or not drawing an ace | 13/13 = 1 |

Diagram 4. Complementarity Rule

This rule has an obvious application to proof of facts. To explain this, consider two stages in a two party case where a plaintiff and a defendant are disputing an issue of fact:
1. If a plaintiff has proved their case to the extent that it is 65% probable, then the probability of the defendant’s case being true at this point is (100 – 65)%, namely 35%.
2. Assume now that the defendant obtains the leave of the court to bring in fresh evidence. As a result they increase the probability of their case being true by 20%. This means that their case is now 55% certain because the defendant has
‘gained’ 20%. This also means that the plaintiff ‘loses’ 20%. Their case is now only 45%. This can be explained in two ways:

2.1 Direct Application of the Complementarity Rule. If the defendant’s case is now 55% certain the plaintiff’s case is (100 – 55)% certain, namely 45%.

2.2 Derivative Application of the Complementarity Rule. There is a rule that is derived from the complementarity rule. In a case with two competing versions of fact put by the plaintiff and defendant the rule says as follows. Any increase in the percentage of certainty by one party causes an equivalent decrease in the percentage of certainty of the other party. In this case by bringing in fresh evidence the defendant has increased the certainty of their case by 20% – it has gone from 35% to 55%. This means that the certainty of the plaintiff’s case must go down by the same amount, 20%. It is now (65 – 20)% namely 45%.

Because of the complementarity rule, the scale of proof takes three forms. There is a version for the initiator, a version for the responder and a version that combines the position of both parties.

**One Party Scale**
This scale of proof is set out for an initiating party in the diagram below. The diagram does the following:
1. It contains the numbers 0%, 25%, 50%, 75%, and 100% to represent the scale of proof running from 0% to 100%.
2. It includes two specific percentages, 51% and 99%. These represent the general standard or degree of proof for a civil case (51%) and a criminal case (99%). The civil standard is officially 51%. The criminal standard is proof beyond reasonable doubt. There is no official figure for this. This text, however, represents it as 99%, partly because this is plausible and partly because it makes the explanation simpler if we can use a numerical percentage.
3. It highlights the key percentages in bold. These are 0%, 51% and 99%.

Here now is the diagram:

<table>
<thead>
<tr>
<th>0%</th>
<th>←→</th>
<th>25%</th>
<th>←→</th>
<th>50%</th>
<th>←→</th>
<th>51%</th>
<th>←→</th>
<th>75%</th>
<th>←→</th>
<th>99%</th>
<th>←→</th>
<th>100%</th>
</tr>
</thead>
</table>

*Diagram 5. Initiator’s Scale of Proof*

**Two Party Scale**
Because of the complementarity rule the scale of proof can be viewed from the perspective of the responder as well as that of the initiator. Although lawyers do not generally think and talk in this way it assists understanding to appreciate it. To illustrate this, we can expand the scale above in a diagram where both scales are shown, the initiator’s and the responder’s. This diagram also shows the relationship between the two scales. At the same time it illustrates the
complementarity rule since at any point on the scale the probability that the
initiator has made out their case and the probability that the responder has made
out their case add up to 100%. Put another way, every point on the initiator’s
scale is the complement of the corresponding point on the responder’s scale.

<table>
<thead>
<tr>
<th>Initiator</th>
<th>0%</th>
<th>←→</th>
<th>25%</th>
<th>←→</th>
<th>50%</th>
<th>←→</th>
<th>75%</th>
<th>←→</th>
<th>100%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Responder</td>
<td>100%</td>
<td>←→</td>
<td>75%</td>
<td>←→</td>
<td>50%</td>
<td>←→</td>
<td>25%</td>
<td>←→</td>
<td>0%</td>
</tr>
<tr>
<td>Total</td>
<td>100%</td>
<td>←→</td>
<td>100%</td>
<td>←→</td>
<td>100%</td>
<td>←→</td>
<td>100%</td>
<td>←→</td>
<td>100%</td>
</tr>
</tbody>
</table>

Diagram 6. Initiator’s and Responder’s Scale of Proof

### Step 1. Starting Point: Burden of Proof

#### Burden of Proof
In cases involving issues of fact a major task for the legal system is to determine
which party is responsible for proving a case or parts of it and in which way.
This is the function of the rule of law known generally as the burden of proof or
the onus of proof. The Latin version is *onus probandi*. In our analysis we
rename it and call it the starting point rule to reflect that it determines the point
on the scale of proof where the initiator is located at the commencement of the
case.

#### Legal Rules
In both civil and criminal cases the basic common law rule is that the party
seeking relief, which in our terminology is the initiator (commonly the plaintiff
or prosecutor), must prove the positive elements of the case. This means that at
the commencement the initiator is located at 0% (they have everything to prove)
and the responder is located at 100% (nothing has yet been proved against
them). There are, however, some special rules for the defences in both civil and
criminal cases that qualify these general statements.

While this rule originated in common law, some jurisdictions have enacted the
rule in legislation. The aim of this may be just to give the rule a statutory base or
it may be to alter the common law rule either totally or in relation to specified
types of cases.

When a statute creates a civil action but does not explicitly provide for the onus
of proof the question arises as to whether the common law rules for the burden
of proof apply. The answer is that they do apply unless there is some implicit
but clear intention in the statute that would modify or displace them.

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22. *FTC v Morton Salt Co* 334 US 37, 44-45 (1948)
Presumption of Innocence
In criminal cases, this rule, that the onus or burden of proof rests on the prosecutor (the initiating party) is the source of the much-vaulted presumption of innocence. Sankey LC famously described it as the ‘golden thread’ running throughout ‘the web of the English criminal law’. 

Step 2. Versions of Truth

Introduction
When parties disagree on the facts they will allege competing versions of the facts which amount to competing versions of truth. Obviously this disagreement is the cause of their dispute. Thus to commence the process of resolving the dispute parties need to put their versions of truth to the court.

Two Processes
Conveniently we can identify two processes as the initiating party presents their case:
1. Prima Facie Case: Satisfying the Burden of Proof. At the very least the initiating party must make out a prima facie case. To do this they allege facts, backed by evidence, that are capable of satisfying each element of the cause of action. If a party presents a prima facie case they satisfy the burden of proof. If, on the other hand, they fail to present a prima facie case the judge can dismiss their action.
2. Probative Case: Satisfying the Standard of Proof. While an initiating party must present a prima facie case they do not present the case in isolation; instead they incorporate it within a larger endeavour. This entails presenting their fullest possible probative case. This case aims to satisfy the requisite standard of proof.

Overlap Between Step 2 and Step 3
Step 2 Versions of Truth involves presenting evidence while Step 3 Probability of Truth involves the court’s assessing how probative this evidence is. There is an inevitable overlap between Steps 2 and 3 because a party can make their case more probative by the quantity and quality of the evidence they put forward.

Presenting Facts
There are four major methods for presenting versions of facts to a court. These are observation, real evidence, representational evidence and submissions by parties.

24. Woolmington v DPP [1935] AC 462, 481-482
**Observation**

Observation takes several forms. It can be observation by a witness, by equipment, by the judge or observation stored in records.

**Witness**

In the common case a witness gives oral or written evidence of what they have observed. A witness can observe facts with any of their five senses namely sight, sound, taste, touch and smell. This observation can be either of two kinds. (i) It can be direct and unaided observation by the witness. (ii) It can be observation that is assisted by some device. For example the witness uses spectacles or a telescope.

There is something about the nature of observational evidence that may cause uncertainty in using this model if it is not explained at the outset. With oral evidence, the processes of presenting versions of truth to the court (Step 2) and the basis on which the court can assess the probability that a version of the facts is true (Step 3) run together to some extent. To illustrate this, assume that Mary White is a plaintiff in an action for trespass to land against Derek Blackguard. In her evidence Mary says: ‘I saw Derek Blackguard do it. He opened the gate of my meadow known as Whiteacre, walked onto it and took an apple from the tree.’ This simple example indicates the nature of observational evidence from a witness. It has two parts:

1. **Account of Facts.** It is an account or version of some facts. Mary’s own words are: ‘He [Derek Blackguard] opened the gate of my meadow known as Whiteacre, walked onto it and took an apple from the tree.’ This is the version of the truth that Mary White puts to the court in her evidence.
2. **Cognitive Claim to Truth.** In her evidence Mary also makes a cognitive claim that these facts are true. In effect, Mary asks the court to believe the facts that she recounts because Mary ‘saw’ Derek Blackguard do these things.

**Equipment**

Some machines, such as security cameras, observe and record their observations. This record can be admitted in evidence. The reasoning behind this is encapsulated in the proposition that a camera does not lie. Proof of facts by use of equipment depends mainly on the reliability of the equipment (a question of science) and the absence of interference (a question of fact).

**Observation by the Court**

A court can observe some facts for itself. In this case the court judges its own capacity to observe the facts. The operative reasoning is capture in the phrase ‘I know what I saw’. Observation by a court has two aspects:

1. When real evidence (an object, a document or a place) is tendered in evidence the judge can directly observe it because they have the real thing.
2. A judge observes some things in court that happen or are apparent in court. For example, they can observe the height of a witness.

**Records**

Most organisations keep records of their activities. Official records of an organisation represent observations that have been made and recorded in the course of business. An obvious example is a business firm, which keeps books of account. Proof of facts by reference to official records depends on two things – the accuracy of the record when made and the absence of interference (both questions of fact). The strength of records as evidence is that records do not forget, only humans do. However, evidence in the form of recorded observation may also be open to interpretation, especially in the light of other evidence.\(^\text{25}\)

The accepted wisdom is that these records are hearsay although there is an exception to the hearsay rule that allows courts to access them. There is, however, an argument that these records are not really hearsay so they are admissible as official records of the organisation. This argument is based on the organic theory of the corporation, which logically applies to any organisation. According to this theory, people are acting as the organisation itself when they create and maintain these records for the organisation.\(^\text{26}\) Just as a body has organs that perform various functions, so does an organisation.\(^\text{27}\) Hence the person performing those functions does so for and on behalf of the institution. Thus the records constitute the memory bank of the organisation.

**Experts**

An expert typically gives evidence of their observations and supplements it with inference of fact based on this observation and their expert knowledge.

**Real Evidence**

Real evidence consists of the thing itself. Real evidence consists of such things as an object, a document, a gun used in a robbery or a place (such as the scene of the crime). Obviously where the evidence consists of location the court may need to visit the relevant place. Or the court needs to have before it an accurate map or proper photographs of the place. These constitute representational evidence, which is discussed next.

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\(^{25}\) *Agbaba v Witter* (1977) 14 ALR 187

\(^{26}\) It was initiated by Lord Haldane LC in *Lennard’s Carrying Co v Asiatic Petroleum Co* [1915] AC 705, 713-714.

\(^{27}\) *HL Bolton v TJ Graham* [1957] 1 QB 159 per Denning LJ
Representational Evidence

Representational evidence is a representation of the real thing. This consists of things such as maps and photographs. These can be used in court as convenient substitutes for real evidence provided that they are authenticated.

Submissions by Parties

Parties, usually through their lawyers, may describe alleged facts to the court. Parties do this where they are seeking to prove facts by means such as deeming provisions, judicial notice or induction. Parties may state facts to the court by submitting a written statement of alleged facts, by an oral presentation, or even by diagrams. They may do this in pre-trial procedures, in the opening address, in the course of trial and in the closing address.

Presenting a Prima Facie Case

When an initiating party presents a probative case it will commonly incorporate a prima facie case. A prima facie case in this context consists of evidence of facts that are capable of proving material facts that will satisfy each disputed element of the cause of action. In other words, the party presents evidence that is needed to establish the civil cause of action or criminal offence on which the case rests.

This is significant for our analysis. When an initiating party has presented a prima facie case they have satisfied the burden or onus of proof. They can now move off 0% on the scale of proof. They can now seek to move further up the scale by presenting a probative case, which they hope will take them to the point on the scale of proof where they will have satisfied the standard of proof required for them to win the case.

Presenting a Probative Case

A party clearly has to present all the versions of all the facts that constitute their case. However, it is not enough just to present the versions by making out a prima facie case. Where facts are in dispute a party will wish to present their case in a way that enhances the chance that the court will accept their version or versions of the facts as proved to a degree to satisfy the standard of proof that applies to the party. In other words, they seek to present a probative case. In practice, this usually incorporates the prima facie case.

There are two ways in which a party seeks to make their case probative:

1. Quantum of Evidence. Parties rely on the quantum of evidence. This depends on how much evidence there is for a fact. For example, did one person observe the event or two or three people or lots of people? This aspect of presenting a
probative case falls directly within Step 2 of the model, even though it has consequences for Step 3.

2. Quality of Evidence. Parties rely on the quality of evidence. Some evidence is manifestly or potentially more probative than other evidence:

   2.1 Observation. Some of the probative quality comes from the nature of the observation that generated the evidence. Evidence from a disinterested observer tends to carry more weight than evidence from a partisan observer. Evidence from someone who viewed the facts carefully is generally better than evidence from someone who made just a passing observation.

   2.2 Induction. Some of the probative quality comes from how inherently plausible the evidence is based on the method of reasoning known as induction.

   2.3 Submissions. While a party presents their evidence in Step 2, a party’s submissions to the court before it assesses the probative quality of the evidence in Step 3 will seek to demonstrate the ways in which the evidence is probative.

Step 3. Probability of Truth

‘Write that down’ the King said to the jury, and the jury eagerly wrote down all three dates on their slates, and then added them up, and reduced the answers to shillings and pence. 28

Introduction

Probability

In Step 2 the parties presented their case to the court, putting before it their versions of the truth. Here in Step 3 the court assesses how probable it is that each version of the facts is true. The point to this is to enable the court to determine in Step 4 whether the initiating party has attained the degree or level or ‘standard’ of proof that the legal system requires.

Courts reason with probability in the process of finding facts because fact-finding is an uncertain task and because an initiator is required to prove their case to a specified level of probability as prescribed by the standard of truth. Probability is a way of encapsulating this uncertainty surrounding past events. This is relevant here because probability can be used when describing the likelihood that a witness is now telling the truth about events in the past that they observed. 29 To put it simply, Step 3 is obviously and inherently probabilistic. 30

28. Lewis Carroll Alice in Wonderland Chapter 11
29. The part of the fact-finding based on observation is discussed in Christopher Enright Legal Reasoning Chapter 26 Observing Facts.
30. See, for example, Victor v Nebraska 511 US 1 (1994) 14, 22 per O’Connor J; Ginsburg J concurred at p 25 while Blackmun J dissented at p 36. See also Re Winship 397 US 358 (1970), p 370 per Harlan J.
Two Stages
Step 3 has two stages:
1. Stage 1. Specific Facts. Here the court assesses the probability that each specific piece of fact given in evidence is true.
2. Stage 2. Overall Facts. Here the court assesses the probability that the overall version of the facts, representing a party’s complete case, is true.

Stage 1. Specific Facts
Facts tend to be presented to a court in bits and pieces. These constitute specific facts under the terminology used here. The question now discussed is how a court can assess the probability that specific facts are true.

Typically particular pieces of evidence seek to prove some of the specific facts that make up a party’s case. The court needs to estimate the probability that these specific facts are true. How a court assesses the probability that specific pieces of facts are true depends on the means by which parties seek to prove facts. These means are observation, deeming provisions, induction and deduction. As a matter of terminology lawyers often refer to induction (in particular) and also deduction as inference, since each is a form of logical inference.

A court can use any of a combination of four methods for assessing the probability of specific facts:

<table>
<thead>
<tr>
<th></th>
<th>Cognitive Science</th>
<th></th>
<th>Deduction</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td></td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Induction</td>
<td>4</td>
<td>Deeming Provisions</td>
</tr>
</tbody>
</table>

Method 1. Cognitive Science
Introduction
Courts use cognitive science to assess the truth of observational evidence. This may be science in the pure sense or popular understanding that is treated as science.

To start it is necessary to consider observation. There are several types of observation:
1. A witness gives evidence of what they observed. In this case the underlying reasoning is captured in the notion, subject of courses to qualifications, that seeing is believing. A witness give evidence of what they observed. A witness can give testimony of what they observed by their five senses namely sight, sound, taste, touch and smell. Their senses are taken to be potentially reliable but not always so. This evidence has two constituents. First, the witness relates an account of the facts. Second, this account includes some claim by the witness that the facts recounted are true because the witness knows of the fact through
observation based on their sense of sight, sound, taste, smell or touch. In the process of deciding the facts of a case a court will, implicitly at least, assign a probability to these claims that evidence is a true account of the facts.

2. Some equipment, such as security cameras, observes and records their observations. Where evidence is based on observation by equipment the question is how accurate they are in observing and recording and whether anyone or anything has interfered with the equipment.

3. A judge observes every day facts (referred to as judicial notice), observes some things in court, for example, the height of a witness, and observes real evidence that is put before the court. Where evidence is based on observation by the judge, the judge must assess the quality of their own observation.

4. An organisation may contain files and data banks constituting the records of its business.

5. An expert witness can give evidence of their observations. However, they typically build on this to infer further facts based on their expert knowledge.

With observation the major area of difficulty consists of observation by a witness. This is the most common form of evidence and one of the most disputed. For evidence that is based on observation by a witness, a court can use two methods to assess its truth on their own or in combination:

1. A court can assess the evidence by reference to three things – the quality of observation (the popular phrase is ‘seeing is believing’), the reliability of the memory or of the recording of the facts, and the truthfulness of the witness. For human observation these are matters of cognitive science. However, there are two reasons that courts do not use pure cognitive science and have to resort to popular science such as common sense. First, cognitive science is not yet totally comprehensive so it cannot explain everything. Second, in any event, most lawyers and judges are not trained in cognitive science. For this reason courts and lawyers may rely on a human understanding of cognitive processes that has not been scientifically validated. Often this is referred to as common sense. Two Evidentiary Theorems help explain what courts can do in practice to determine the probability that evidence is true. These are discussed below.

2. Evidence based on observation can be tested by induction, which is explained below in Method 2. Induction. In plain terms induction assesses how well the alleged facts conform to the way that things usually happen in the world. One asks: does the evidence describe things happening in the way one would normally expect them to happen?

**Evidentiary Theorems**

It would take a very complicated model to explain the process of estimating the probability that specific facts are true based on observation. Therefore in this

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section the best that can be done is to sketch in outline the form that such a model might take. This model is based on two theorems, Evidentiary Theorem 1 and Evidentiary Theorem 2. These present a framework for the process. They enable us better to see how and where cognitive science is relevant.

**Evidentiary Theorem 1**
A witness giving evidence can be usefully compared to a person going to a well to fill up a two litre jug of water and bring it back to the kitchen for the cooking pot. To do this task successfully they have to satisfy three conditions:

# Condition 1: They fill the jug to the two litre mark.
# Condition 2: They carry the jug back to the kitchen without spilling a drop.
# Condition 3: They pour the entire content into the pot.

These steps bear a close analogy to the conditions inherent in Theorem 1. Theorem 1 proclaims that a witness is telling the truth, that is, the full (or complete or whole) truth and the totally accurate truth, when the witness satisfies three conditions:

# Condition 1: The witness has fully observed the facts.
# Condition 2: The witness has accuratelyremembered the facts.
# Condition 3: The witness has truthfully recounted the facts.

When the conditions of truth are satisfied the witness must be telling the truth. The only other reason that a witness is telling the truth is a pure fluke that is so highly unlikely that we can dismiss it for the purposes of this simple model.

**Condition 1: Fully Observing Facts**
A person who witnesses an event can know the truth about the event if they have fully observed the event. This happens when the following requirements are met:

1. The observational faculties of the witness must function properly. Faculties to observe are sight, hearing, touch, taste and smell.
2. The witness was present at the events.
3. The witness was in a position to observe these events fully and properly. So for each witness there will be variations on probability according to the quality of the observation (for example, how long, how good, how far away and so on).
4. The witness in fact observed everything.
5. If the facts involve interpretation, the witness must have correctly interpreted what they observed. For example, circumstances of a case may make it

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32. Some of the issues involved here are discussed in Re (1984).
33. In this regard it will be obvious that evidence by a witness based on another person’s observation is generally weak. Witness A says that Fact X is true because Person B saw X and B told A. This is hearsay, and because of its weakness in this regard it is generally inadmissible.
necessary for the court to determine whether a look on a person’s face is a look of fear or of pain.

**Condition 2: Accurately Remembering Facts**
Condition 2 is that the witness has accurately remembered the facts. When a person who witnesses an event, especially one that has occurred a long time ago, comes to tell their account they may have forgotten some parts of what they observed. As a result any evidence that they give on the forgotten parts of the events is mere guesswork. This, of course, is why a lawyer will try to have witnesses make a written statement of what they observed as soon as possible after the event. When the case comes on for trial some time later, at least the witness can refresh their memory from this near contemporaneous statement.

**Condition 3: Truthfully Recounting Facts**
Condition 3 is that the witness has truthfully recounted the facts. Since this is a condition for truth, a witness may be attacked on the basis that they are biased or untruthful. A witness may deliberately not tell the truth for some reason. Or there may be some matter that causes the person to be biased so that for subconscious reasons they do not tell the total truth. For example, the person may have witnessed an accident and be concerned that the victim obtains compensation.

Cases often involve unpleasant even traumatising events. Cases also tend to be heard a considerable time after the events of the case occurred. Both of these factors contribute to the ‘fallibility of human recollection’. ³⁴

**Using Theorem 1**
This proposition that the presence of these conditions leads to the truth can be used in two ways. First, when we know for certain that this causal law applies we know for certain that a witness is telling the truth. In other words, if the causal law applies for certain there is certain truth. In the real world, however, it is unlikely that we would be in this position since it is difficult to be sure that all of the conditions for truth have been satisfied.

Second, it helps us in the case where we do not know for certain that this causal law applies. How Theorem 1 can help in this situation is covered by Theorem 2, which we now consider.

**Evidentiary Theorem 2**
Evidentiary Theorem 2 is derived from Theorem 1. Theorem 1 proclaims that a witness is telling the truth when the three conditions of truth are satisfied. Since

³⁴ Longman v The Queen (1989) 168 CLR 79, 107-108 per McHugh J
there is certain truth when the three conditions certainly apply, the probability that they apply is also the probability that the witness is telling the truth. This is Theorem 2. Theorem 2 says that the probability that a witness is telling the truth is the probability that all three conditions of truth are satisfied.

Theorem 2 yields a highly useful consequence. It means that, in principle, a court can assess the probability that evidence is true by considering the factors that affect how fully each condition is satisfied. For example, an independent witness who chances to come on the scene of a crime being committed has, in general terms, less motive to be untruthful than the husband of the criminal who may be strongly tempted to lie to protect the woman he loves. (This example shows the two sides of the task. On the one hand, it is not scientific. On the other hand, there is common wisdom and common sense that is a good guide, even if it is not infallible and not capable of quantitative measurement.)

Using Cognitive Science

From a cognitive perspective the veracity of evidence from a witness of their observation depends on the accuracy of their observation, the correctness of their memory, their freedom from bias and their willingness to tell the truth (as they believe it to be). These activities are the subject of the field of study known as cognitive science. In a formal sense it is the key to assessing the probability that evidence from a witness is true. It assesses the veracity of evidence directly. There are three aspects, each of which can potentially be used by counsel and courts in arguing and assessing truthfulness namely rules of behaviour that relate to workings of the mind, rules of behaviour that relate to body language and testing procedures.

Rules of Behaviour: Workings of the Mind

Some rules of behaviour focus on cognitive behaviour by reference to the rules that explain the inner workings of the mind. There are two classes of rules, scientific and non scientific.

Scientific Rules

Some of these rules are rules in the proper sense in that they are based on scientific observation and testing. Some of the scientific rules for cognitive behaviour describe basic functions. In this regard they explain how the mind works when any of the five senses is used. In the forensic field the focus is on ways in which these rules explain when and why a witness does or does not tell the truth.

Non Scientific Rules

Some rules that a court uses, albeit in an ad hoc fashion, are not scientifically established. Instead they are mere assumptions even if they are widely believed
to be true. These assumptions can come, directly or indirectly, from a number of sources. They may be conventional perception, experience, hunch, intuition, folklore, folk psychology, received wisdom and everyday sense that is variously labelled ‘common sense’, ‘situation sense’, ‘horse sense’ and ‘practical reason’.

Rules of Behaviour: Body Language
Some rules focus on the outward manifestation of the inner workings of the mind. These outward manifestations are referred to as body language. In the forensic context this is sometimes referred to as demeanour.

Body Language: General Aspects
There are cases from times past where courts make a claim that they can assess the credibility of a witness by reference to their body language, including appearance and demeanour. So much was this the case that appellate courts would often justify their not upsetting a finding of fact unless it was palpably wrong because it was the trial judge and not the appellate justices who had the advantage, even the ‘inestimable advantage’ of observing the witness’s demeanour as they heard them give their evidence. This advantage, the appellate court said, enabled the lower court better to determine if a witness was telling the truth. The problem is that the claim to read body language was not scientifically based. For this reason it has now largely fallen into disuse. Guess work is not a good basis for justice.

Body Language: Special Aspects
There are two specialised aspects of body language, micro-expressions and the Facial Action Coding System. These may have a greater capacity to distinguish truth from falsity than other types of body language.

Body Language: Micro-Expressions
A micro-expression is a facial expression that is both brief and involuntary. It is not necessarily long lasting and can be as brief as 1/25 of a second. It shows on the face of humans when they are trying to conceal or repress any of the seven universal emotions namely disgust, anger, fear, sadness, happiness, surprise, and contempt. Micro-expressions occur more in situations where much is at stake.

36. For discussion of this type of reasoning see Meyer (1998).
40. Ryan v Carstensz Properties (1979) 26 ALR 543, 562
41. Trawl Industries v Effem Foods (1992) 27 NSWLR 326, 348
rather than more casual or less directed conversations. One advantage for the body language expert is that it is hard to fake a micro-expression. Thus the person might lie as they speak but their micro-expression does not lie. That said, while a micro-expression indicates a specific emotion, it does not indicate the reason for this emotion.

**Body Language: Facial Action Coding System (FACS)**

Facial Action Coding System (FACS) is a system that classifies human facial expressions.\(^{42}\) Such a system is possible because most humans use common forms of facial expression for each emotion. The system is useful for analysing the state of mind of a person. It can also distinguish between the real and the fake emotion. Thus it can help one distinguish an insincere and voluntary ‘Pan American smile’ (based on contraction of the zygomatic major alone) from a sincere and involuntary Duchenne smile (based on a contraction of both zygomatic major and the inferior part of orbicularis oculi).\(^{43}\)

**Testing Procedures**

There are some procedures that seek to test whether a person is telling the truth. Two major ones are the polygraph and magnetic resonance imaging (MRI).

**Polygraph**

A polygraph is a device designed to detect when a person is telling a lie. The rationale is that when a person says something that is deliberately false, concomitant with their telling the untruth there will be some detectable physiological response. Examples could be changes to their breathing, their heart rate, their galvanic skin response and their blood pressure. Certainly there is some science here in that telling a lie may cause some bodily response that is detectible. The problem is that the test is not accurate enough. On the one hand, people can be trained to avoid giving the tell-tale signs of lying. On the other hand, the stress response attributed to a person telling a lie may be the stress response of a person accused of a crime that they did not commit. The problem with the polygraph is that it is insufficiently accurate to be relied on to establish guilt or innocence.

\(^{42}\) The system was based on work by Silvan Tomkins. Paul Ekman and Wallace Friesen developed it.

\(^{43}\) There is a television show called *Lie to Me* that is based on reading this kind of body language. It premiered on the Fox network on 21 January 2009. Dr. Cal Lightman is the central character. He has a firm called The Lightman Group. They accept assignments from clients (frequently but not always law enforcement agencies) to determine where the truth lies in difficult or special cases.
Magnetic Resonance Imaging (MRI)

Magnetic resonance imaging (MRI), or nuclear magnetic resonance imaging (NMRI), is medical technology dating from the 1970s. It is used to create images of the inner body. One of its benefits is that it provides detailed images of the body in any plane. A second advantage is that the pictures it provides of the inner body provide much greater contrast between the different soft tissues than computed tomography (CT) technology. In short, it enables doctors to see more about the inner state of the body than they could before.

MRI may have some future in detecting lies because it can detect which part of the brain is activated when it performs some activity. If a person tells a lie in reply to a question when they are being viewed with an MRI one part of the brain is seen to be active, whereas when they tell the truth another part of the brain is activated. On this basis MRI technology could become the lie detectors of the future.

Method 2. Induction

Introduction

First, there is a matter of terminology. Lawyers frequently refer to proof by induction as proof by inference. Inference is a general term for proof by some form of reasoning. This account uses the term ‘induction’ because it is concerned to explain the nature of the process. Second, there is a point about use of induction. Induction can be used on its own, where there is no observational evidence of facts (no one saw or heard anything), or where there is observational evidence it can be used in conjunction with cognitive science.

Proof by induction is based on patterns of behaviour. To illustrate, assume that a court finds that Fact A occurred and Fact C occurred. Assume that something happened between the occurrence of Fact A and the occurrence of Fact C. Assume also that it is common enough that Fact A, Fact B and Fact C happen in sequence. In this case the court may conclude, relying on induction, that the missing fact is Fact B. Facts A, B and C often happened together in the past and they are happening together now.

There are two extreme possibilities for determining the existence of patterns of behaviour. There may have been a careful gathering of data that indicates the frequency of relevant events. In this case there may be a good measure of the existence of the pattern. The other extreme is that the data and the process of inference are matters of assumption or guesswork. Here any estimate of the probability is potentially unreliable. In practice induction often rests on something between the extremes namely patterns of behaviour that are commonly known and observed but have not been scientifically recorded.
Observation
Patterns of behaviour can be based on carefully made observation. This can establish the empirical probability of an event happening. This is their relative frequency in a frequency distribution based upon observation. Some good illustrations are the statistics used by actuaries for the purposes of writing life insurance policies and the epidemiological data used by health workers for planning purposes.

Commonsense
It is not often the methods of estimating probability that are broadly scientific can be invoked. In this case it falls to common sense to decide the issue, however reliable or unreliable it may be. While common sense is a generic method that can always be used, there are several standard situations that lawyers have identified as suggesting some probability that facts will tend to be true or not true.

Some major examples are the following:
1. A party might put forward a persuasive theory, or a case theory as lawyers also call, it that is (i) plausible overall, (ii) consistent with the undisputed facts and (iii) incorporates the party’s version of the disputed facts.
2. A single fact may be just inherently implausibility. For example, a sick person walked 20 kilometres in an hour.
3. Two facts may be implausible in combination. The proverb ‘there is no smoke without a fire’ captures this implausibility.
4. A fact may be inconsistent with facts that are undisputed in the particular case.
5. A fact that is corroborated by two independent witnesses who had no communication with each other is highly likely to be true – it is only by pure fluke that they would both tell the same untrue story.
6. Certain types of evidence are potentially very reliable. One example is real evidence. Another example is evidence recorded by equipment such as a video surveillance camera.

Method 3. Deduction
Introduction
Deduction (like induction) is a form of logical inference so lawyers commonly refer to deduction as inference. Deductive reasoning involves reasoning by means of a syllogism from two premises. If both of these premises are unquestionably true the conclusion logically follows. So, in this pure form

44. Neat Holdings v Karajan Holdings (1992) 67 ALJR 170, 170-171; Briginshaw v Briginshaw (1938) 60 CLR 336, 361-362
A Model for the Proof of Facts

deduction produces certain knowledge. Deduction underlies several forms of
proof:
1. Proof by scientific evidence.
2. Proof by real evidence.
3. Proof by recorded evidence.
The situation with real evidence and recorded evidence is simple in principle. If
the real evidence is the real thing or the recording is a true representation as
observed by the device then the court has the truth before it (although it may
have to interpret what it sees or hears on the recording). Thus the main item to
examine is scientific evidence.

Scientific Evidence
There is a common tendency to think that evidence based on scientific processes
is highly reliable or even foolproof. This is not, however, always the case. There
are two sources of problems. There are problems in principle. There can be
major problems with it in practice.45

Syllogisms
In principle a syllogism yields incontrovertible truth when both the major and
minor premise are true in fact and the reasoning process is sound. But when
these conditions are not satisfied the outcome at best has only qualified truth.
For example, deductive reasoning is often used on facts observed by some
expert and there may be doubts as to the reliability of their observation.
Scientific evidence is based on deduction in that deduction lies at the core of its
operation.46 This deduction depends on one of two types of causal rules – ‘X
always causes Y’ and ‘X is the sole cause of Y’.

X Always Causes Y
One type of causal law takes the following form: ‘X always causes Y’. This sets
up a syllogism in the following form:

<table>
<thead>
<tr>
<th>Components</th>
<th>Relationships</th>
</tr>
</thead>
<tbody>
<tr>
<td>Major Premise</td>
<td>X always causes Y.</td>
</tr>
<tr>
<td>Minor Premise</td>
<td>X has occurred.</td>
</tr>
<tr>
<td>Conclusion</td>
<td>Therefore Y has occurred.</td>
</tr>
</tbody>
</table>

Diagram 7. Syllogism: X Always Causes Y

X Is the Sole Cause of Y
The second type of causal law takes the following form: ‘X is the sole cause of
Y’. This sets up a syllogism in the following form:

45. Christopher Enright Legal Reasoning Chapter 22 Observation
46. Christopher Enright Legal Reasoning Chapter 4 Deduction
A Model for the Proof of Facts

<table>
<thead>
<tr>
<th>Components</th>
<th>Relationships</th>
</tr>
</thead>
<tbody>
<tr>
<td>Major Premise</td>
<td>X is the sole cause of Y.</td>
</tr>
<tr>
<td>Minor Premise</td>
<td>Y has occurred.</td>
</tr>
<tr>
<td>Conclusion</td>
<td>Therefore X occurred beforehand.</td>
</tr>
</tbody>
</table>

**Diagram 8. Syllogism: X Is the Sole Cause of Y**

**Summary**

Let us summarise this and highlight the possibilities:
1. 'X always causes Y'. This means that when X occurs, Y will occur after.
2. 'X is the sole cause of Y'. This means that when Y occurs, X will have occurred beforehand.

**Estimating Probability**

In principle the method of deduction yields incontrovertible truth. This occurs when each of the premises is true in fact and the reasoning process is sound. In the form of deduction above, the reasoning process is sound, but the truth of the premises is not always beyond question. There are three places where doubt can occur:

1. **Major Premise.** The major premise says that a designated scientific rule is true. This rule can be in the form ‘X always causes Y’ or ‘X is the sole cause of Y.’ In some cases this rule will be, for practical purposes at least, established to a certainty that at least is very near 100%. But in other cases it is not established to this high extent.

2. **Minor Premise.** The minor premise of the syllogism involves a claim that a fact, Fact X or Fact Y, is true. Let us call this the foundational fact. The truth of Fact X or Fact Y can be established by any of the means for proof. In many cases it will be established by observation, for example, it is observed at the scene of a crime. However, there is no guarantee that this fact is established to a 100% certainty even though in many cases its existence is beyond doubt.

3. **Testing Procedure.** Often there is some testing procedure that is needed to apply the scientific rule. Even if the science underlying the procedure is 100% certain (or near enough) the testing procedure may not be anywhere near as certain as this. This happens because sometimes the technology is not sufficiently developed.

Thus while this method of estimating the probability that facts are true possesses a deductive form it may not always yield deductive certainty. Having laid out the process for truth it is possible now to see how to estimate the probability that the fact derived by the process (the derived fact, DF) is true. It depends on three probabilities:

1. The probability that the foundational fact (FF) is true: \( P(FF) \).
2. The probability that the relevant scientific rule (SR) is true: \( P(SR) \).
3. The probability that the scientific process (SP) utilised to establish the truth of the derived fact, given the truth of the foundational fact, is truly scientific: P(SP).
Given this, the probability that the derived fact is true, P(DF), is the multiple of the other three probabilities. That is P(DF) = P(FF) x P(SR) x P(SP).

**Method 4. Deeming Provisions**
There are legal rules that deem some facts to be true. Since they are taken to be true no active proof is necessary. The effect of a deeming provision is that the court is legally obliged to treat the relevant fact as true. Consequently the court does not have to make any independent assessment of the facts. It just accepts them as true. There are four classes – agreement, admissions, common knowledge and presumptions.

**Agreement**
Parties may agree that some facts are true. In Australia there is now a lot of pressure from courts and from statutory requirements for parties to agree that facts are true if they have no reasonable basis to dispute them.

**Admissions**
One party admits that a fact is true.

**Common Knowledge: Judicial Notice**
Some facts are so well-known that they do not need to be proved. An example is that Christmas Day falls on 25 December. This method of proof is formally referred to as judicial notice. The reasoning behind judicial notice is that it is wasting time for parties and the court to prove something that is already widely known. Hence the test under common law as to whether a fact can be subject to judicial notice is that it is ‘sufficiently notorious’ or so commonly known that it is part of the ‘knowledge of the ordinary man’ or woman. Some examples are that a fortnight is too short a period for human gestation, that cats are kept for domestic purposes, and that Christmas falls on 25 December.

**Presumptions**
Provisions in common law and statute can require that certain facts are to be treated as true. To this end they can create a presumption that may be either rebuttable by evidence or not so rebuttable. Some examples of presumptions are: 1. Children. At common law there is an irrebuttable presumption that a child of age seven years or under is incapable of forming the criminal intent necessary to

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47. *State Superannuation Board v FCT* (1988) 82 ALR 63, 75
be guilty of a crime. This is referred to as *doli incapax*, that is, incapacity to do wrong. 49

2. There is a rebuttable presumption that a letter is delivered in the ordinary course of post. 50

3. There is a rebuttable presumption that standard procedures have been followed. 51 This is the presumption of regularity. The presumption of regularity is expressed in the maxim *omnia praesumuntur rite et solemniter esse acta*. This says that it is presumed that everything that has been done has been done properly and carefully. It means that it is not necessary to prove common routines and standard practices, so it is up to the other side in a case to query them and provide evidence the things were not done properly and carefully.

**Combinations**

It is possible for a court to deploy a combination of means of truth to establish a fact. A good example is where a witness gives evidence of things that they have observed. Obviously the direct response for a court is to measure the reliability of the witness’s observation. In addition, courts can and do frequently examine the strength of inferences about the truth of facts to which the witness attests. For example, a witness might ‘swear black and blue’ that they saw something but what they saw might be inherently improbable.

**Stage 2. Overall Facts**

Once the court has assessed the probability that specific pieces of facts are true it then assembles the pieces that make up each overall version of the facts. Having done this, the court seeks to assess the probability that each overall version of the facts is true. To do this the court should deploy the rules of probability. 52 There are two possibilities when one is assessing the probability that overall facts are true. There may be one overall version of the facts or several overall versions.

**One Version of the Facts**

An overall version of the facts constitutes a full account of the relevant events as contended by a party. It is potentially sufficient, therefore, to establish the party’s case. Generally this overall version is based on an amalgamation of the specific facts given in evidence by two or more witnesses. The court needs to estimate the probability that this overall version of facts is true. This probability

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49.  *C v DPP* [1966] AC 1
52.  For a basic account how the rules of probability are deployed in fact finding see Christopher Enright *Legal Reasoning* www.legalskills.com.au Chapter 11-13 and Appendix: Probability.
Two Contrasting Situations
There are two contrasting situations to consider:
1. Independent Facts. Here the truth of a specific fact is independent of the truth of any other fact.
2. Dependent Facts. Here the truth of a specific fact is dependent on other specific facts. (This is akin to the proverb: ‘A rising tide lifts all boats.’) Consequently, the truth of these facts tends to rise and fall together. Dependent facts are far more common than independent facts.  

To explain these we will first set out an illustration. This illustration will help explain how we calculate the overall probability for the two kinds of facts that can be involved – independent facts and dependent facts. For this we will consider a case where there is a cause of action, which has four elements, namely Elements 1-4. An overall version of the facts, therefore, consists of Facts 1-4 because these satisfy Elements 1-4 of the plaintiff or prosecutor’s cause of action. For convenience in the discussion which follows we refer to a plaintiff, but this is just a way of referring to whatever party is bringing the case be they a plaintiff in a civil case or a prosecutor in a criminal case.

Dependent and Independent Facts
Dependent Facts
Facts A and B are dependent when the truth of Fact A has a bearing on the truth of Fact B. In the extreme case they rise and fall together – if Fact A is true Fact B is true, and if Fact A is false Fact B is false.

Independent Facts
Facts A and B are independent when what happens to one of them has no bearing on what happens to the other. Thus facts are independent for the purposes of proof when the truth of Fact A has no bearing on the truth of Fact B.

Dependent Facts More Prevalent
Justice David Hodgson of the New South Wales Supreme Court has commented that in reality facts in a case as presented by counsel are more likely to be dependent than independent. Obviously the major reason for this arises from the real world phenomenon that facts have patterns. This is reflected in the common practice of each party to a case proposing a persuasive theory based on a hypothesis as to the overall facts. His Honour, however, perceptively points

out that because it is still a possibility that facts are independent ‘courts should generally be aware of the underlying mathematical rules’. A possible explanation of why facts are more commonly dependent than independent is that, by their nature, facts establishing a cause of action will be linked.

**Independent Facts**

For this illustration the facts consist of Facts 1-4. Here we assume that they are independent. When the court hears the case it then finds the probability of truth for each fact. Assume that it finds the following probabilities:

<table>
<thead>
<tr>
<th>Fact</th>
<th>True</th>
<th>False</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fact 1</td>
<td>60%</td>
<td>40%</td>
<td>100%</td>
</tr>
<tr>
<td>Fact 2</td>
<td>80%</td>
<td>20%</td>
<td>100%</td>
</tr>
<tr>
<td>Fact 3</td>
<td>75%</td>
<td>25%</td>
<td>100%</td>
</tr>
<tr>
<td>Fact 4</td>
<td>60%</td>
<td>40%</td>
<td>100%</td>
</tr>
</tbody>
</table>

Diagram 9. Independent Facts

Where the facts are independent it is possible to apply the product rule of probability to calculate the overall probability by multiplying together the probability for each specific fact, Facts 1-4 in the illustration, to obtain the probability that all of the facts are true:

\[
\text{Probability} = P(\text{Fact 1}) \times P(\text{Fact 2}) \times P(\text{Fact 3}) \times P(\text{Fact 4}) = (0.60) \times (0.80) \times (0.75) \times (0.60) = 0.216 = 21.6\%
\]

Diagram 10. Independent Facts: Calculations

These calculations show that the probability that Facts 1-4 are all true is 21.6%.

**Dependent Facts**

Facts are dependent when the probability that one fact, Fact A, is true, is dependent on the probability that another fact, Fact B, is true. In the simple case this means that the facts go together. Then the probability that any specific fact is true, for example Fact A, is the same as the probability for any other specific fact, for example Fact B. This is also the probability that the facts, taken together as an overall version of the facts (in the example Facts A and B), are true.

To illustrate this using the example above (where the plaintiff has to prove Facts 1-4 to satisfy Elements 1-4 of a cause of action) we assume that Facts 1-4 are independent.

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dependent. Thus, if the probability of one fact being true is 35%, that is also the probability that all the facts are true.

**Two or More Versions of the Facts**

Generally a party’s case consists of just one overall version. However, it can also be made up of two or more overall versions of the facts. This happens when there are two or more versions of one or more of the material facts that favour the same party. Here the court has to assess the probability that each overall version of the facts is true in order to derive mathematically the probability that a party has made out their case to the required degree of certainty.

**Introduction**

Here we consider the case where there are two or more versions of the overall facts in a case. For example, there is a plaintiff and a defendant, and there are seven overall versions of the facts, Versions 1-7. Assume, for the sake of illustration, that these overall versions support the parties in the following way:

<table>
<thead>
<tr>
<th>Plaintiff</th>
<th>Versions 1-3 support the Plaintiff</th>
</tr>
</thead>
<tbody>
<tr>
<td>Defendant</td>
<td>Versions 4-7 supports the Defendant</td>
</tr>
</tbody>
</table>

*Diagram 11. Two of More Overall Versions*

In this situation, for any party with more than one overall version of the facts in their favour the court has to take the probability that each version of the facts is true and work out from these the probability that the party has made out their case.

The basis of the reasoning here is the complementarity rule, which says that the probabilities of all possible outcomes should total 100%. The foreground consists of the addition rule. To calculate the probability that a party has made out their case the court should use the addition rule. It takes the probability for each overall version for the plaintiff or defendant and adds them. So, if there are three versions and the probabilities are X%, Y%, and Z% the probability for that party’s case is (X+Y+Z)%.

Let us illustrate this using a very extreme but illuminating case, where there are seven versions. Here, Versions 1-3 favour the plaintiff and Versions 4-7 favour the defendant. The probabilities of Versions 1, 2 and 3 are 30%, 5% and 20%, and the probabilities of Versions 4, 5, 6 and 7 are 15%, 10%, 15% and 5%.

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56. With regard to two or more overall versions it is necessary to note that it is always possible that there is a ‘missing’ version of the facts. Not all versions will necessarily be raised in court so a court has to take this possibility into account when estimating probabilities that versions of the facts are true.
We can set out the calculations in the following table:

<table>
<thead>
<tr>
<th>Plaintiff’s Versions</th>
<th>Probability</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Version 1</td>
<td>30%</td>
<td></td>
</tr>
<tr>
<td>Version 2</td>
<td>5%</td>
<td></td>
</tr>
<tr>
<td>Version 3</td>
<td>20%</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>55%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Defendant’s Versions</th>
<th>Probability</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Version 4</td>
<td>15%</td>
<td></td>
</tr>
<tr>
<td>Version 5</td>
<td>10%</td>
<td></td>
</tr>
<tr>
<td>Version 6</td>
<td>15%</td>
<td></td>
</tr>
<tr>
<td>Version 7</td>
<td>5%</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>45%</td>
</tr>
</tbody>
</table>

| Overall Total        | 100%        |

*Diagram 12. Several Overall Versions of Facts*

In this case we can add together the probabilities of all the versions favouring each party to give the probability that the party has made out their case. Here the plaintiff’s case is 55% probable and the defendant’s case is 45% probable. Let us see what this means in practical terms. Assume that the plaintiff is suing the defendant for negligence. The plaintiff claims that the defendant sold her a car and the car leaks oil. Subsequent to the sale the defendant has also serviced the plaintiff’s car. It was after this service that the leaking of the oil was first observed.

The issue then is whether the leak was caused through the fault of the defendant. To show this, there could be the following possibilities:
1. The leak was caused by the defendant’s putting a defective part in the car while servicing it. This has a probability of X%.
2. The leak was caused by the defendant’s not properly tightening certain nuts while servicing the car. This has a probability of Y%.
3. The leak was deliberately caused during a service of the car by a disaffected employee of the defendant who did it to spite the defendant. This has a probability of Z%.

Any of these versions of the facts provides an explanation for how the defendant was responsible for the leak. Hence the probability of the plaintiff’s case being true is the probability that any one of these versions happened. The probability of this is the sum of the individual probabilities, that is, \((X + Y + Z)\)%. Thus, if \(X = 25\), \(Y = 15\) and \(Z = 12\), the probability that the plaintiff’s case is true is \((25 + 15 + 12)\)%, namely 52%.
Nature of Step 3
Step 3 requires the court to assess the probability that a version of facts is true. It is rational to require a court to do this. However, two of the rational means of proof – observation and induction – are not scientific processes but involve a substantial amount of human judgment or common sense. In principle the third means of proof, deduction, is perfectly logical but it is typically founded on observation, which itself is not based on perfect logic. Consequently, while Step 3 is logically necessary there is no general guarantee that a court can perform it accurately.

Of course in some cases most people would be satisfied that a court has obtained the right result. However, the point still stands. There is no general guarantee that the system provides certainty even if it does so in a practical sense in some cases.

Step 4. Finishing Point: Standard of Proof

Introduction
Step 4 is labelled ‘standard of proof” because this neatly encapsulates the central focus of this step. It is also the final step, the finishing point, in the process of proof. There is a simple connection between these two labels. In order to win a case, and thus finish the case, an initiating party must achieve the standard of proof that the law determines.

In context the standard of proof in Step 4 is located in a process consisting of four phases, that commences in Step 3:
Phase 1. Ascertaining the Standard Achieved
Phase 2. Identifying the Standard Required
Phase 3. Comparing the Two Standards
Phase 4. Determining the Case

Phase 1. The Standard Achieved
The initiating party will have achieved some standard or probability of proof. The court ascertained this in Step 3 Probability of Truth.

Phase 2. The Standard Required
Phase 2 is the core or the foundation of Step 4. It entails identifying the standard of proof or probability of truth required for the type of case before the court. This standard stipulates the probability that an initiating party must achieve to enable a court to judge that they have proved their case.

There are two kinds of legal rules that determine the standard of proof:
1. General and Special Rules. There are general rules that apply to most cases. There are special rules that determine the standard for specific issues or specific types of cases.

2. Criminal and Civil Cases. There is one set of rules for criminal cases and another set for civil cases. For example, with both criminal and civil cases there is a set of rules for positive elements and another set of rules for defences.

Conventionally lawyers consider the required standard of proof from the perspective of the initiating party. However, because of the complementarity rule it is possible to view the standard from the perspective of the responding party. Consequently the statement of the required standard of proof that now follows explains it from both perspectives.

Phase 2 is the core of Step 4. It focuses on identifying the legal rule that determines the standard of proof for the initiator to win the case. The rules as to standard of proof determine the probability to which a party who initiates litigation must make out their case to the court.

**Initiating Party**

There are two common standards, one for civil matters and the other for criminal matters. The relevant rules originated as common law rules although, as explained above, in some jurisdictions there may be legislation to put the standard of proof on a statutory footing.

**Civil Matters**

In civil matters the standard of proof at common law is framed in various ways that amount to the same thing. The United States legal provision refers to proof on the preponderance of evidence or proof on the preponderance of probabilities.57 The laws of United Kingdom and other Commonwealth jurisdictions, including of course Australia, use the phrase ‘proof on the balance of probabilities.’58 These formulas are taken to mean that the plaintiff’s case is more likely to be true than not true or ‘more probable than not’.59 Its mathematical measure is 51%.60

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57. See, for example, Grogan v Garner 498 US 279 (1990) 286.
60. Some cases upholding this proposition are Re Winship 397 US 358 (1970), 371-372 (Harlan J); Bradshaw v McEvans (unreported, High Court of Australia, Dixon, Williams, Webb, Fullager and Kitto JJ, 27 April 1951), quoted in Holloway v McFeeters.
Criminal Cases

Standard of Proof

In criminal cases the setting of the level for the standard of proof is dominated by the notion that convicting an innocent person of a crime is a high order of injustice. A number of cases have indorsed this value judgment.61

For criminal cases the law does not specify the standard of proof as a precise percentage. Instead it uses a verbal formula, to wit proof beyond all reasonable doubt.62 For this discussion that author suggests and uses a figure of 99% suggested as a plausible numerical representation of ‘beyond reasonable doubt’.63

Since ‘beyond reasonable doubt’ provides considerable but not total protection against convicting the innocent it is held in high regard. It plays a vital role because it is a prime instrument for reducing the risk of convictions resting on factual error. The standard provides concrete substance for the presumption of innocence – that bedrock ‘axiomatic and elementary’ principle whose ‘enforcement lies at the foundation of the administration of our criminal law’.64

Meaning of Standard of Proof

There are two views on the meaning of beyond reasonable doubt, a now discarded view and the current view. The now discarded view was that the words ‘beyond reasonable doubt’ did not differ from the civil standard of ‘more probable than not’.65 The current and official view is that the difference in wording is indeed ‘a matter of critical substance’.66 This means that the phrase

62. Some illustrative cases supporting this proposition are Re Winship 397 US 358 (1970); Green v The Queen (1971) 126 CLR 28; R v Hepworth [1955] 2 QB 600.
65. Some cases that supported or recorded this view are Edmunds v Edmunds and Ayscough (1935) VLR 177, 183. This was quoted with apparent approval in Briginshaw v Briginshaw (1938) 60 CLR 336, 353 (Starke J); see also 368 (Dixon J); R v Hepworth & Fearnley [1955] 2 QB 600, 603 (Lord Goddard); Khawaja v Secretary of State [1984] AC 74, 112 (Lord Scarman); US v Feinberg 140 F2d 952 (1944) (Learned Hand J); Larson v Jo Ann Cab Corp 209 F2d 929 (1954).
66. Some cases supporting this view are Respek v McElroy (1965) 112 CLR 517, 521; see also Briginshaw v Briginshaw (1938) 60 CLR 336, 344 (Latham CJ); Bater v Bater [1951] P 35, 36 (Denning LJ); Addington v Texas 441 US 418 (1978), 424-425, 426-427.
‘beyond reasonable doubt’ creates a higher standard than the phrase ‘balance of probabilities’.

Statutory Rules
Sometimes there is a statute that determines. The aim of this statute may be to achieve either of two goals:
1. Statutory Base for the Standard. The aim may be to give the rule a statutory base.
2. Alteration of the Standard. The aim may be to alter the standard set by common law rule either totally or in relation to specified types of cases.67

Explaining the Standard
A court can be at risk if it tries to explain the standard, especially proof beyond reasonable doubt. This entails explaining one expression by reference to another and the problem is that the two expressions may not be exact equivalents. This can produce problems for a trial judge in a criminal case who has to explain the law to the jury. If the words of explanation are not close enough in meaning to the original there will be a misdirection, which can be a ground for appeal. Thus an appellate court found that there was error when the jury were told that ‘beyond reasonable doubt’ meant that they must be ‘satisfied’ with regard to the prisoner’s guilt,68 ‘pretty certain’,69 or ‘pretty sure’.70

Responding Party
To commence it is necessary to refresh the complementarity rule. An event can either happen or not happen. Its probability of happening can be anywhere on the spectrum from 0% to 100%. If its probability of happening is 44%, its probability of not happening is 56% simply because an event can only happen or not happen. This is the complementarity rule. Put another way, the probability of an event’s happening is the complement of the probability of the event not happening because the two total 100%.

Civil Case
In a civil case the plaintiff must prove their case to a level of satisfaction of 51%. Applying the complementarity rule, if the plaintiff proves their case exactly to the level of 51%, the defendant proves their case to a level of 49%. Thus for a defendant to win their case, the standard of proof is 50%. If they

67. In Australia the Uniform Evidence Act puts the standard of proof for both civil matters and criminal matters on a statutory basis, although the statutory provisions simply replicate the common law see s140 (1) and (2) and s141 (1) and (2).
68. R v Hepworth [1955] 2 QB 600
70. R v Woods [1961] Crim LR 324
prove their case to this level, they deny the plaintiff the possibility of proving their case sufficiently, because the best the plaintiff can achieve is 50%.

**Criminal Case**

For criminal cases, lawyers do not express the required standard numerically. For the sake of illustrating the discussion with numbers, we make a reasonable assumption that proof beyond reasonable doubt involves proof to a level of 99%. In this case the standard of proof for a defendant in a criminal case is 2%.

**Lawyers and the Complementarity Rule**

Lawyers probably do not typically conceive the defendant as having a standard of proof. This possibly arises from their commitment to the notion of the burden of proof. In both criminal and civil cases the burden of proof generally lies on the initiating party (the initiator) – who is for most issues the plaintiff in a civil case and the prosecutor in a criminal case. It generally does not lie on the responding party (the responder) who is the defendant.

This commitment to the burden of proof is often combined with a failure to understand the relationship between the burden of proof and the standard of proof. The basic proposition is that for a case there is a spectrum of probabilities ranging from 0% to 100%. Each party has this spectrum for their case. Because of the complementarity rule the spectrum for each party runs in opposite directions. The following table illustrates this:

<table>
<thead>
<tr>
<th>Initiator</th>
<th>0%</th>
<th>20%</th>
<th>40%</th>
<th>50%</th>
<th>60%</th>
<th>80%</th>
<th>100%</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>100%</td>
<td>80%</td>
<td>60%</td>
<td>50%</td>
<td>40%</td>
<td>20%</td>
<td>0%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
</tr>
</tbody>
</table>

*Diagram 13. Scales of Proof*

Both of these rules, the burden of proof and the standard of proof, concern this spectrum. The rule about the burden of proof states the point on the spectrum at the commencement of the case. This is 0% at the start of the Initiator spectrum, which is 100% on the Responder’s spectrum. The standard of proof states the minimum point along this spectrum where the case has to end for the initiator to win. This is 51% on the initiator’s spectrum, which corresponds to 49% on the responder’s spectrum. On the working assumption made, for criminal cases the minimum standard of proof is 99% on the initiator’s spectrum, which represents 1% on the responder’s spectrum.

**Policy**

There are two forms of reasoning that underpin or provide the policy justification for the standard of proof. To explain this policy it is necessary to
divide the standard of proof into two parts so that the total standard consists of 
(51 +X)%
. The point is that there are two sets of policy justification:
1. First 51%. One justification applies to the first 51%.
2. Excess Over 51%. The second justification applies to any excess over 51%, which the text designates as X%.

Fifty-One Percent
To the extent that the law requires a minimum standard of proof to a degree of 51% for both civil and criminal cases the reasoning is purely abductive. Abductive reasoning says that one treats as true the proposition or conclusion that is most probable. A standard of 51% is the minimum standard for an outcome to be the most probable because the next best possibility can be no more than 49%. In the absence of certain knowledge, abductive reasoning seeks plausible knowledge based on the available evidence.

Excess of Fifty-One Percent
A standard of proof can be in excess of 51%. This is not possible for ordinary civil cases because the standard is in fact 51%. It is, though, possible for the criminal standard, which requires proof beyond reasonable doubt. While this is not commonly expressed as a numerical percentage it is clearly in excess of 51%. As explained above, our method for describing any standard in excess of 51%, including the standard for criminal cases, is to depict it as (51 +X)%.

In criminal cases at least, the excess above 51%, namely X%, is justified by the precautionary principle. This seeks to limit the possibility that the court convicts an innocent person.

Phase 3. Comparing the Two Standards
The core process in Step 4 is to compare the two probabilities. These are as follows:
1. Standard Achieved. This is the standard of probability that the initiator actually achieves.
2. Standard Required. This is the standard of probability that the law requires the initiator to achieve in order win the case.

In principle, making this comparison is a simple task. The question is whether the standard of proof that the initiating party has achieved is equal to or greater than the standard of proof required by law. In practice, and as has been stated already, courts are usually are not able to quantify the percentage to which each party has proved their case.

71. Christopher Enright (2015) Legal Reasoning Chapter 7 Abduction
Phase 4. Determining the Case
The result of making the comparison is to determine the outcome of the case:
1. If the initiator has achieved the required standard of proof or probability of truth, they win the case.
2. If the initiator has failed to achieve the required standard of proof or probability of truth, they lose the case and the responder wins.

Comments
General Remarks
There are some general points to make to round of the discussion:
1. The author refers to the standard of proof as the finishing point – this highlights the fact that when an initiating party reaches this point they have done everything necessary to win the case.
2. Conventionally lawyers frame the standard of proof by reference to the initiating party. However, by use of the complementarity rule in probability one can frame it from the perspective of the responding party as well.
3. While it is rarely possible to measure this probability numerically it can assist understanding of Step 4, especially for lawyers just starting out, to conceive it as a number. This is why some of the discussion uses percentages to explain and illustrate Step 4.

Scale of Proof: Significant Points
It is useful background to Step 4 to identify the points on the scale of proof that are significant and these will, of course, include the finishing point, being the most vital point of all. To explain these, the discussion uses the following designations:

<table>
<thead>
<tr>
<th>FP%</th>
<th>The initiator’s standard of proof or finishing point.</th>
</tr>
</thead>
<tbody>
<tr>
<td>51%</td>
<td>The official mathematical representation of the standard of proof in civil cases.</td>
</tr>
<tr>
<td>99%</td>
<td>A suggested mathematical representation of the standard of proof in criminal cases.</td>
</tr>
</tbody>
</table>

Diagram 14. Significant Points on the Initiator’s Scale of Proof

Initiator’s Finishing Point
The initiator’s finishing point is the vital point. If the initiator makes it to this point or beyond they win the case. The numerical figures for this are as follows:
1. Officially the figure is 51% for civil cases.
2. There is no official figure for criminal cases but the author suggests 99%.

The finishing points for the initiator are set out in the following table which shows the finishing point of both the initiator’s scale and the responder’s scale:

<table>
<thead>
<tr>
<th>Initiator’s Scale</th>
<th>Civil Case</th>
<th>Criminal Case</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>51%</td>
<td>99%</td>
</tr>
</tbody>
</table>
Tipping Point
If the initiator achieves a standard of (X-1)% they lose the case but only just. Therefore, this point (X-1)% represents the point on the responder’s scale where the needle will be when the initiator has achieved the maximum standard of proof that they can achieve and not win the case. If they had gone any higher they would have won.

This means that (X-1)% also represents the tipping point for the initiator’s proof. The tipping point in numerical form for the initiator is as follows:
1. Civil Cases. The tipping point is (51-1)%, being 50%.
2. Criminal Cases. The tipping point is (99-1)%, being 98%.

Responder’s Finishing Point
The responder’s finishing point on the initiator’s scale is determined by the formula (100–X+1)%, which simplifies to (101–X)%. If the responder makes it to this point or beyond they win the case. The finishing point in numerical form for the responder is as follows:

<table>
<thead>
<tr>
<th>Responder’s Scale</th>
<th>Civil Case</th>
<th>Criminal Case</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>50%</td>
<td>98%</td>
</tr>
</tbody>
</table>

There are two key propositions:
1. Civil Cases. The finishing point is (100–51+1)%, being 50%.
2. Criminal Cases. The finishing point is (100–99+1)%, being 2%.

As will now be apparent from the discussion above, the responder’s finishing point is also the initiator’s tipping point.

Complementarity Rule
Diagram 14 and Diagram 15 show the total percentages for civil and criminal cases. In each case the total is 100%. This illustrates the complementarity rule. In general terms the rule says that in a two party case, the percentage to which one party has proved their case is the complement of the percentage to which the other party has proved their case. This means that any point on the initiator’s scale of proof is the complement of the corresponding point on the responder’s scale.
Nature of Step 4
In Step 4 the court comes to the final stage in the process of finding facts. To do this it determines whether the probability that a party’s case is true satisfies the standard of truth required by law. This standard is referred to in law as the standard of proof. It sets a probability level for a court. Probability, of course, ‘measures the strength of belief’ that events have occurred. Consequently, the standard of proof tells a court how strongly it must believe a party’s case, that is, how satisfied the court must be about the truth of facts, before it finds that the party’s case has been proved in law. This is the finishing point for the party’s case. If they reach this point they have won the case.

Conventional accounts of the standard of proof (finishing point) focus on the initiating party in order to determine if they have won their case. This account, however, also considers the position of the responder.

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