University of Waterloo
Faculty of Engineering
Department of Electrical and Computer Engineering

# The History of Common Law in Canada

# Tort Law and Professional Engineering

# Intellectual Property

by Douglas Wilhelm Harder
with edits and contributions by Dr. Julie Vale and John J. Magyar
and thanks to Dr. Heather A MacDougall
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# 1. Introduction

The following three chapters are meant to give an introduction to the topics of common law in Canada, tort laws, and intellectual property. These serve as a complement to the custom text, which covers the contract-law component of ECE 290.

# 2. A Brief History of Common Law in Canada

The Canadian government and law are founded on the principles and traditions of English parliamentary government (the *Westminster system*) and English common law. The right to introduce new laws is divided between three bodies: the legislative, the executive, and the judiciary. The legislative branch (the federal House of Commons and Senate and the provincial legislatures) passes statute law in the form of acts of Parliament. The executive branch (the federal and provincial cabinets) passes administrative and regulatory laws in the form of, for example, orders, regulations, and by-laws. Finally, the judiciary interprets the acts and regulations of the legislatures and cabinets, but may also independently introduce new case law and interpretations through a framework of *precedence*.

Common law is only one of a number of systems of laws used throughout the world; others include civil law (almost universal outside the Commonwealth), socialist law (now generally replaced by civil law), and religious law (Sharia or Islamic law in the Middle East and Canon law in the Vatican). The federal government and all provincial governments with the exception of Québec adhere to the principles of common law. Due to its French heritage, the provincial laws within Québec are based on civil law. The common-law approach is significantly different from most countries in the world and an understanding of Canadian law and specifically of common law requires an understanding of the history of English law. Common law originated in England and provides the basis of the system of laws for many Commonwealth countries.

We will begin with an historical overview of English common law up to the time of Confederation with the Constitution Act of 1867 (formerly the British North America Act of 1867). Next we will discuss common law in Canada starting with the division of powers between the federal and provincial governments, followed by the role of the Canadian executive, legislative, and judiciary in creating laws within Canada. Finally, we will look at some bodies of laws, including intellectual property, contract, and tort laws, and how the laws of each of the three braches affect these areas. We will finish with a discussion of the Professional Engineers Act and Ontario Regulation 941.

## 2.1.Historical Development

The laws of most countries are founded on the civil codes of antiquity and therefore it is necessary to first give a brief overview of civil law. Numerous civil codes were written in the Middle East starting at least four thousand years ago with the best known being the Code of Hammurabi from Babylon. The Roman Empire introduced its own uniform set of laws which dictated (or prescribed) and codified the acceptable behaviour of its citizens (or *cives*). One such collection of Roman laws is the Code of Justinian, or the

*Corpus Juris Civilis* (literally *Body of Civil Law*). The duty of judges under such a system is to interpret the laws and apply the prescribed punishments. Such a system where civil laws are codified is still the basis of law in most countries outside the Commonwealth; for example, the French Civil Code (with 2302 articles) is among the most comprehensive in the world.

Elements of English common law, for example, the right to a trial by jury, can be traced to the Germanic traditions of tribes such as the Angles and Saxons who migrated to England starting in 500 CE; however, we will begin with the founding of English *common law*. When William, the duke of Normandy, invaded England in 1066 CE, he brought with him the laws of medieval France which were based on Roman civil law. A later king, Henry II who was crowned King of England in 1154 (less than a century after the Norman invasion), introduced a unified system of laws which were meant to be common to all the subjects in his realm. Though influenced by Roman law, Henry enforced these new laws through a system of judges who travelled throughout the realm. Each judge could decide a case based on the individual conditions and situations. By giving the judges more freedom to interpret the laws, they could resolve disputes on an *ad hoc* basis. To keep the laws common to all of England it was decided that judges would hold regular council together, at which time any decisions were discussed and then used to guide future decisions. This began the principle of *stare decisis*, two words from a longer Latin phrase which translates to "to maintain decisions and to not affect what has been established". This is also known as the *rule of precedence*: a judge is expected to follow the guidelines set by decisions previously made by superior judges; however, a judge has the ability to also base his decisions on changes in society or differences in the exact details of the each case. At any time, however, the king maintained the right to create new laws as suited him.

Henry's son, King John (successor of King Richard the Lionhearted), was forced by a baronial revolt to seal the *Magna Carta* (the Great Charter) in 1215, only sixty-one years after the introduction of common law. This charter was heavily reliant on an older document, the Charter of Liberties, but it included additional provisions which restricted the king from the levying of money without consent from a Council of Barons (Clause 12) and required that the king's judges hold their court in a specified place (Clause 17). The significance of both of these will be discussed shortly. The *Magna Carta* was not without its detractors: King John renounced it almost immediately and Pope Innocent III annulled the document.

A result of Clause 12 is the founding of Parliament. While many monarchs ignored, to the best of their ability, the provisions within this document, it formed a basis by which money could be levied from the barons. Indeed, every time the monarch required funds, he was forced to summon his barons, at which point they made demands for further powers in return for the funds. This increased the power of the Council which, in time, grew into the Parliament of today.

Initially the Council expanded to include clergy and lesser aristocracy. Less than a century later, the *Model Parliament* included two knights from each county, two burgesses from each borough, and two citizens from each city. Finally, these representatives of the people formed the lower *House of Commons* in 1341 and elected the first Speaker of the House in 1377. Today, only an act of Parliament, and hence the support of the commons, may contain articles requiring the government to provide funds. Neither the orders or regulations of the monarch (today the executive or cabinet) nor the precedence of the judiciary may require the government to provide funding.

The centralized *Court of Common Pleas*, required by Clause 17, began to sit in Westminster Hall where it remained for six-hundred years and where its judges continued to develop a strict form of common law based on precedence. This court focused on precedence, often ignoring the specific circumstances of each individual case. In opposition to this strict form of common law, the Court of the Chancellery was set up to "mitigate the rigor of common law" (a court of *equity*). These two courts, along with others, were finally merged in the Supreme Court of Judicature Acts of 1873 and 1875. The concept of equity will play an important role in the interpretation of contract law.

Thus, the *Magna Carta* lead to current structure of three sources of law: the executive (first the monarch and today the cabinet of the government) which is restricted in the laws it may pass, the legislature of representatives (Parliament) through acts of Parliament, and the judiciary through precedence. The ultimate source of laws in England, however, is Parliament and through the concept of the *supremacy of Parliament*, acts of parliament overrule precedence and orders or regulations. Often, acts of parliament will be used to normalize or codify various aspects of common-law precedence; however, it is possible for an act of parliament to introduce significant change such as the Act of Supremacy of 1534 of King Henry VIII. Never-the-less, the judiciary has always held its power of interpretation of the law and its ability to set precedence once an act was passed; its enforcement was based not only on the text but also on the judges interpreting the text.

Today, the term *common law* not only refers to laws set by precedence, but to the system where there are three acknowledged sources of law and where the legislature passes acts only as necessary (for example, to codify precedence). This is in contrast to civil law where statutes are more prescriptive and comprehensive. Canada's common-law traditions are why it is not possible to read an act of Parliament or a regulation or order and expect to have a full understanding of its application and implications. We will see that even the Constitution is subject to the interpretation by the judiciary.

### *Discussion*

Compare the systems of common law and civil law. Which system requires more training for judges? Which system is more predictable? Which is more flexible? England was last successfully invaded almost one thousand years ago; what difficulties exist for creating such a system where regions are often conquered by opposing rulers? Why would a system of civil laws be more useful for a conqueror than a system of common law?

## 2.2. Common Law in Canada

Canada inherited the English Westminster model of separation of the executive, the legislative, and the judiciary, allowing each to pass laws. England is divided into counties and Westminster holds legislative and executive power over all of England. Canada, however, began as the union of the United Province of Canada (formerly the provinces of Upper and Lower Canada, and later Ontario and Québec, respectively) and two self-governing colonies (New Brunswick and Nova Scotia), each of which had its own legislative assembly. The province and colonies were not willing to submit all authority to a centralized federal government. Consequently, unlike England, Canada became a union of four provinces where certain powers were granted to the federal government while other powers remained in the hands of the existing provincial governments. Consequently, the British North America Act of 1867 (today the Constitution Act of 1867) divided power between the federal governments and the provincial governments. We will

begin with an explanation of this division followed by the representation of the executive, the legislative, and judiciary elements within both the federal and provincial governments. This will be followed by a discussion on the Constitution Act of 1982.

Figure 2.2-1. The Fathers of Confederation.

### 2.2.1. Division of Power

While the 1867 event is called *Confederation*, Canada is a federal state and not a confederation (an association of sovereign states, for example, the Confederation of the Rhine in the nineteenth century or more recently the confederation of Serbia and Montenegro in 2003-6); though the Canada model is one of the more decentralized federations. While many people may see the provincial governments as subordinate to the federal government, this is not the case: the Constitution clearly demarks the power of each and while the Governor General is the representative of Her Majesty Queen Elizabeth II to the federal government, the Lieutenant Governors of the provinces are the direct representatives of Her Majesty to the provincial governments. The federal government does, never-the-less, have a means of pressuring the provincial governments to follow federal policy through a system of transfer payments.

The federal and provincial legislatures may only pass laws over areas specified in the constitution. Sections 91 and 92 of the Constitution Act of 1867 list twenty-nine federal and sixteen provincial areas where each government may apply laws. The full lists are given in Appendices A and B, respectively, but those areas within the power of the federal government which may be of interest to an engineer include

The regulation of trade and commerce and unemployment insurance,
Banking, incorporation of banks, and the issue of paper money,
Weights and measures,
Bankruptcy and insolvency,
Patents of invention and discovery,
Criminal law, and
Copyrights;

while those areas within the power of provincial governments include

> Municipal institutions in the province,
> The incorporation of companies with provincial objects,
> Property and civil rights in the province,
> Local works and undertakings other than [...],
> The administration of justice in the province [...], and
> Generally all matters of a merely local or private nature in the province.

The interpretation of these items is left to the courts; once an interpretation has been made by the courts that interpretation serves as precedence for future decisions. If a law is found by the Supreme Court to have been made by a body outside of its jurisdiction as defined in the Constitution, it is declared to be *ultra vires* ("beyond the powers") and unenforceable. The practice of engineering is understood to regard *local works and undertakings* and therefore falls within the powers granted to the provincial governments.

### *Discussion*

In 2010, the federal government proposed setting up a national securities regulator. This regulatory body would oversee stock and bond markets throughout Canada, a responsibility which is currently within the jurisdiction of the provinces (there are currently thirteen provincial and territorial securities regulators). Before proposing this legislation, the minister responsible for the bill asked the Supreme Court of Canada to determine if, constitutionally, the federal government may act on such issues. At least two provinces will argue that the constitution places such oversight within the jurisdiction of the provinces and such a law, if passed by the federal legislature, would be *ultra vires*. (In Appendix B, read item 10.)

Go to the http://scc.lexum.umontreal.ca/en/ web site and search for the phrase "*ultra vires*". Choose one of the cases and discuss what power is being questioned.

Professional Engineers Ontario (PEO) has a legislative mandate from the Province of Ontario to regulate engineering within the province. Can the Canadian Council of Professional Engineers have a similar federal mandate?

## 2.2.2. The Legislative Branch

Following almost a decade of negotiations, the British North America Act of 1867 (since renamed the Constitution Act of 1867) created the Dominion of Canada and defined the structure of the government. The legislative body of the federal government is bicameral, comprising the elected House of Commons and the appointed Senate, while the legislative body of the provincial governments is unicameral with each province having a single legislative assembly. Each act of parliament, whether federal or provincial, must be signed by the representative of the Head of State, Her Majesty Queen Elizabeth II of Canada. As already stated, her representative to the federal government is the Governor General and her representatives to the provinces are the Lieutenant Governors.

## 2.2.3. The Executive Branch

The executive branch in Canada is the Cabinet, which comprises the various ministers and government, the Queen's Privy Council of Canada and the Queen, and is headed by the senior or *Prime* Minister of Canada. The cabinet is able to enact legislation through orders-in-council, regulations, and codes; however, the scope of such laws is in some ways limited.

In Canada, the executive branch must have the "confidence" of Parliament. If the executive branch loses that confidence of the legislature (through a majority vote), either the head of another party is called to form a new coalition government or an election is held. The executive branch is generally controlled by that party which holds the greatest number of seats in the House of Commons. The party system is relatively new, even in England, having slowly formed in the late 1700s and early 1800s. The Prime Minister as *head* of the executive branch is a more recent modification having been solidified in the early twentieth century.

### *Discussion*

At the 2010 G20 meeting in Toronto, the Ontario Cabinet passed a regulation stating that the fenced-in area was a "public work". They made no attempt to publicize these new regulations and police were either misinformed or intentionally mislead protestors as to their rights under the new regulation. Would this be considered an abuse of power by the Cabinet?

## 2.2.4. The Judiciary

The judiciary is broken into a system of courts with parallel systems with federal, provincial, and military jurisdictions. Above each of these is a court of appeals, and superior to each of these (since 1873) is the Supreme Court of Canada. This is demonstrated in Figure 2. In each case, a court has limited authority to make incremental changes to the law (*i.e.*, new precedence) for subordinate courts. Ultimately, the Supreme Court of Canada may set precedence for all other courts in the country. In addition to following precedence set by superior Canadian courts, lower courts must also consider decisions of their equals and should not stray dramatically from them, though they are not strictly bound to follow such decisions. Courts may also consider decisions from related jurisdictions, for example, a B.C. court may consider the decision of an Ontario court; appellant court (courts of appeals) decisions are given greater weight. Furthermore, judges are also allowed to consider precedence set by upper courts in other common-law countries, such as the United Kingdom and the United States.

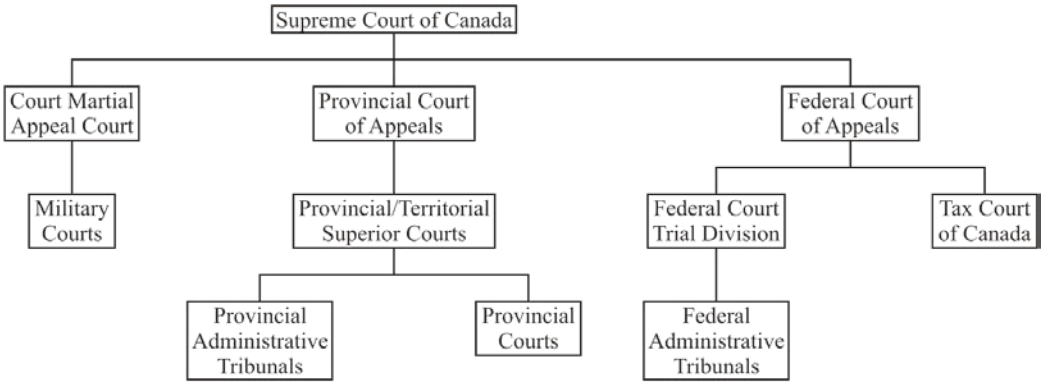


Figure 2.2-2. The structure of the judiciary in Canada.

***Discussion***

It is often colloquially said that "Canada does not have a law for *X*" where the speaker refers only to acts of Parliament. For example, before the Constitution Act of 1982, Canada did not have an act of parliament which provided for freedom of the press. Explain why this does not imply that before 1982 there was no freedom of the press in Canada.

### 2.2.5. Delegation of Authority

Both the federal and provincial governments have the power to delegate authority to other bodies. For example, provincial governments provide an infrastructure for municipalities, which have their own by-laws (*by* being an old Danish word for town), building codes, property tax, *etc*. through the Municipal Act of Ontario, 2002. The justification for such delegation may be demonstrated by observing that local councils are better able to determine, for example, the necessary building codes in a particular municipality based on local geography and climate. If the Government of Ontario was to centralize building codes across the province, such codes would be both monolithic and less responsive to local situations. As another example, the provincial governments delegate the regulation of engineering to specific bodies such as Professional Engineers Ontario; the Professional Engineers Act [**1**] lists the responsibilities and authority delegated to this body. We will look at this Act in Sections **Error! Reference source not found.** and **Error! Reference source not found.**.

### 2.2.6. The Constitution Act of 1982

When the Constitution was repatriated in 1982 under the Right Honourable Prime Minister Pierre Elliott Trudeau, a number of additional articles were added to that document. These are collectively referred to as the *Constitution Act of 1982* and three of the most significant components are the requirements for changes to the Constitution, the supremacy of the Constitution, and the Charter of Rights and Freedoms.

Prior to 1982, the British North America Act was a statute of the British Parliament and was therefore not subject to revision by Canadian Parliament. With the repatriation of the Constitution, it was necessary to describe within the Constitution how that document may be modified. One of the principles of English law is the Supremacy of Parliament: while the courts may interpret legislation, only the legislature may modify or repeal any prior legislative acts. Section 52 of the Constitution Act of 1982 described the relationship between the Constitution and the Canadian government: it removed the Supremacy of Parliament with the clause

> **Primacy of Constitution of Canada**
> 52. (1) The Constitution of Canada is the supreme law of Canada, and any law that is inconsistent with the provisions of the Constitution is, to the extent of the inconsistency, of no force or effect.

This is critical, as it emphasizes the supremacy of the Constitution over Parliament so any act of either a provincial or the federal legislature which contravenes the Constitution is not in force. However, it is now necessary for the judiciary to determine whether an act of Parliament or a portion thereof contravenes the Constitution and, if it is found to do so, render it unenforceable.

The most significant change is the inclusion of the Charter of Rights and Freedoms. Many of the rights of individuals in both Canada and England were a matter of both common law and the 1689 statute Bill of

Rights of England, but it was Thomas Jefferson who advocated the inclusion of a Bill of Rights within the United States Constitution thereby placing those rights outside the jurisdiction of the government. The Canadian Charter is based on this Bill of Rights and the Canadian version begins with a preamble and a list of freedoms:

> **Rights and freedoms in Canada**
> 1. The Canadian Charter of Rights and Freedoms guarantees the rights and freedoms set out in it subject only to such reasonable limits prescribed by law as can be demonstrably justified in a free and democratic society.
>
> **Fundamental freedoms**
> 2. Everyone has the following fundamental freedoms:
>
> (a) Freedom of conscience and religion;
> (b) Freedom of thought, belief, opinion, and expression, including freedom of the press and other media of communication;
> (c) Freedom of peaceful assembly; and
> (d) Freedom of association.
>
> **Equality Rights**
>
> **Equality before and under law and equal protection and benefit of law**
>
> 15. (1) Every individual is equal before and under the law and has the right to the equal protection and equal benefit of the law without discrimination and, in particular, without discrimination based on race, national or ethnic origin, colour, religion, sex, age or mental or physical disability.
>
> (2) Subsection (1) does not preclude any law, program or activity that has as its object the amelioration of conditions of disadvantaged individuals or groups including those that are disadvantaged because of race, national or ethnic origin, colour, religion, sex, age or mental or physical disability.

The consequence of this and Section 52 is that any law which violates one of the constitutional rights of an individual is unenforceable. While prior to 1982 there were many case law precedents for protecting the rights of the individual, the Constitution both normalized, clarified, and published these rights. We will discuss this in various examples.

#### 2.2.6.1. Example: Freedom of Association

Both federal and provincial governments have enacted anti-gang legislation in the past thirty years in an attempt to curb the violence which results from such groups. This includes the federal Bill C-95 *National Anti-Gang Measures*, an amendment to the Criminal Code of Canada. This law has been challenged under the freedom of association clause of the Charter of Rights and Freedoms. The result is that the court must decide what constitutes a reasonable infringement on the rights of an individual. In the application to Hell's Angels in a case in Barrie, Ontario, the Ontario Superior Court ruled that Hell's Angels constituted a criminal organization and therefore its members were not entitled to freedom of

association. In Alberta, however, roadside checks of gang members by the police were found to violate the members' freedom of association.

#### 2.2.6.2. Example: The Constitution and Common Law

In order to demonstrate the relationship between the supremacy of the Constitution and the precedence of the judiciary, we will consider the case of the Albertan legislation named the *Individual Rights Protection Act*. This provincial act did not extend the specified protection to homosexuals whose rights, as a result, were violated on account of their sexual orientation. This was brought before the Supreme Court of Canada in the case *Vriend v. Alberta* [1998] where the court observed that, while sexual orientation was not explicitly listed in the Charter of Rights and Freedom, it is reasonable that it should be included in the Charter. This introduced a precedent for future interpretations of the Charter and consequently, any future lower court must follow in light of this decision.

Thus, even the Constitution is subject to interpretation under the principles of common law and precedence. This is significantly different from most countries where the constitution is usually considered to be *sacrosanct.*

#### 2.2.6.3. Example: The American Constitution

Another reoccurring demonstration of the interaction between a Constitution and its interpretation under common-law principles is in the United States. There is a group of *fundamentalists* who would claim that the Constitution should be read verbatim and not be subject to common-law interpretation. These fundamentalists claim that subsequent interpretations by the U.S. Supreme Court are invalid and that Americans are not subject to, for example, federal income tax. When the founders of the United States wrote the Constitution, they were well aware of the principles of monarchy and common law and while they replaced the king with an elected President, who was simultaneously the Head of the Government and of the State, they did not abandon common law principles for civil law. The alternate can actually be demonstrated: the United States was unified jurally before it was unified politically with the 1790 Constitution [**2**].

#### 2.2.6.4. Example: The Separation of Powers between Federal and Provincial Governments

Another example of the relationship between the judiciary and the Constitution is the separation of powers. The most vague clause in the Constitution Act of 1867 is the statement that "[g]enerally all matters of a merely local or private nature in the province" are within the power of the provincial governments. Hence, it is subject to interpretation by the Supreme Court of Canada and court decisions based on this entry set precedence for future decisions.

## 2.3.Summary and Conclusions

This chapter has covered the history of common law in Canada and has given an overview of the relationship between the executive, legislative, and judiciary within the Canadian federal and provincial governments. We have considered a number of cases that demonstrate that laws may be passed through acts of a legislative body, through orders or regulations of the executive or cabinet, and through precedent case law. The concept of common law is, while not exclusive to, concentrated in commonwealth countries and provides an alternate interpretation to civil law. Engineers working in Canada must

understand the need to not only consider legislation, regulations, codes, and by-laws, but to also consider case law and, if they are to practice in Quebec, must also understand the principles of civil law. We have looked at various aspects of the Canadian Constitution including the division of powers, the supremacy of the Constitution (as opposed to the supremacy of Parliament), and the Charter of Rights and Freedoms.

# 3. Tort Law and Professional Engineering

This section looks at harm committed by one private person against another and the consequences thereof. When one person harms another, the victim is, under certain circumstances, entitled to some form of compensation. The action of causing harm is called a *tort* (from the medieval Latin word for a *wrong*) and remedies for such wrongs are a core concept of common law. To properly understand tort, it is useful to understand both the nature of an offence and its corresponding penalty and the interactions between individuals. We will then look at both intentional and unintentional torts. Intentional torts include all those offences of one person against another with intent to do harm. It is also possible to unintentionally cause harm through negligence. We will look at the definition of negligence and the history of how concepts such as duty of care, breach of that duty, and a causal link to the resulting harm came into legal precedence. We will conclude with a discussion on ways for an engineer to limit or reduce liability in a contract, including an overview of the Limitations Act of Ontario 2002.

## 3.1.1. Offences and Penalties

We have previously discussed how law is a product of civilization and that English common law is the basis for the laws of Canada. We, as a society, have agreed to live in a system whereby laws may originate from one of three branches of government: the legislative (acts of Parliament), the executive (orders, regulations, *etc.*), and the judiciary (common law precedence). A breach of a statute (an act of Parliament), a regulation, order, *etc*. is termed an offence. Certain offences—those listed in the Criminal Code of Canada—merit special attention and are termed criminal offences; being convicted of such an offence results in a sentence and a criminal record. Being found guilty of other offences does not result in the same record: when the punishment has been completed, no record is publicly kept. In either case, the penalty is meant to punish and hopefully rehabilitate the offender and stand as a deterrent. The penalty is not meant to compensate any victims of the offence. The majority of statutes, orders, and regulations describe the relationship between the person and the state. A person may, for example, perform an action which is considered by the state to be a criminal offence. As another example, a person, partnership, or corporation that practices engineering in breach of the provisions of the Professional Engineers Act is considered by the state to be guilty of an offence. For example, Section 40(1) of the Professional Engineers Act reads:

> **Penalties**
> **40.(1)** Every person who contravenes section 12 is guilty of an offence and on conviction is liable for the first offence to a fine of not more than $25,000 and for each subsequent offence to a fine of not more than $50,000 [**1**].

The penalty for an offence under the Professional Engineers Act is always a fine; the balance of Section 40 of that Act lists other offences.

## 3.1.2. Interactions between Persons

In contrast to the relationship between a person and the state, society involves many more relationships between individuals. Legally enforceable agreements between individuals are termed contracts and this topic is discussed elsewhere. When one person harms another the person causing the harm may not have broken any statute law or regulation or breached any contract, but harm has been caused and, under certain circumstances, the injured party is able to seek some form of compensation. This process is covered in the common-law concept of tort.

When the actions of a private individual cause harm (physical, financial, emotional, *etc*.) to come on another, the individual causing the harm has committed a *tort* and the two parties are referred to as the *tortfeasor* and the *victim*, respectively. Under a tort action, the victim may only apply for compensation resulting from the harm caused. While courts may, in particularly egregious cases, apply *punitive damages*, typically the penalty is not meant to punish the tortfeasor—that is the purpose of other laws.

In all cases, it is important to remember that "person" refers not only to individuals, but also to "legal persons" including business organizations such as partnerships and corporations—a common law concept introduced since the Industrial Revolution. An action can only be launched by one person against another person; thus corporations were granted legal personhood in the 1819 United States Supreme Court case of *Dartmouth College v. Woodward* [**3**].

## 3.2. Intentional Torts

We can broadly classify torts based on intention: those where the tortfeasor intentionally performs an action which harms another and those where the harm is unintentional. To understand the second, it is instructive to understand the first. We will look at some intentional torts, including nuisance, defamation, and fraud.

### 3.2.1. The Tort of Nuisance

A person has the right to enjoy his or her real property and when another interferes with that enjoyment, be it through an activity or the damage which results there from, the second party is guilty of the tort of nuisance. Examples include loud music, rubbish fires, pollution, and indecent behaviour. The harm may simply prevent the owner from enjoying his property, for example, through noise or the odour caused by a fire; or the harm may be more substantial, including ash and damage to physical structures. Many nuisances are offences under municipal by-laws though others, in more extreme cases, may be covered under environmental statutes.

### 3.2.2. The Tort of Defamation

Torts of defamation occur when untrue statements damage the reputation of another. These may be divided into those defamations which are written or broadcast, called libel (coming from the Latin word for *little book*), and those which are spoken at public events, called slander.

### 3.2.3. Tort of Fraud

Fraud is a criminal deception and is described in Section 380 of the Criminal Code of Canada which states that this is any crime arising via "deceit, falsehood or other fraudulent means, whether or not it is a false pretence within the meaning of this Act, defrauds the public or any person, whether ascertained or not, of any property, money or valuable security or any service" [**4**]. Victims of fraud may start actions against the tortfeasor for damages resulting from the tort of fraud. To prevent certain instances of frauds, the Ontario *Statute of Frauds* [**5**] is a list of those contracts which must be written, as opposed to oral, in order to have legal support. This is based on *An Act for Prevention of Frauds and Perjuries* of 1677 of England [**6**].

### 3.2.4. Other Intentional Torts

Other intentional torts include assault (threatening harm), battery (physical harm), infliction of emotional distress, false arrest or imprisonment, conversion (using another's property without the consent of the

owner), and trespassing. As other intentional torts are given specific names (nuisance and defamation), those listed here are often collectively grouped as *intentional torts*. Note that many of these torts may also result in a criminal offence; however, the punishment for the criminal offence does not compensate the victim. In order to claim damages, the victim must bring a tort action against the tortfeasor.

### 3.2.5. Intentional Torts and Professional Engineering

A professional engineer who, in the practice of professional engineering, intentionally harms another person would almost certainly be considered guilty of both unethical and unprofessional behaviour. This behavour would most likely constitute professional misconduct under clause 72 (2) (j) of Ontario Regulation 941 which states

> **72 (2) (j)** For the purposes of the Act and this Regulation, "professional misconduct" means conduct or an act relevant to the practice of professional engineering that, having regard to all the circumstances, would reasonably be regarded by the engineering profession as disgraceful, dishonourable or unprofessional [**7**].

It is, however, still possible for an engineer, in the practice of his or her profession, to unintentionally cause harm as a result of his or her practice. To address this, we must discuss unintentional torts, specifically the unintentional tort of negligence.

## 3.3. Unintentional Tort of Negligence under the Duty of Care

There are many circumstances where one person may cause harm to another without any intent to cause such harm, yet where the victim may deserve some form of compensation. The critical question in all such cases is "Was the defendant *negligent* in his or her actions?" The Oxford English Dictionary (OED) defines negligence in this sense as

> Want of attention to what ought to be done or looked after; carelessness with regard to one's duty or business; lack of necessary or ordinary care in doing something [**8**].

Essentially, negligence is the failure to take those actions which a reasonable and prudent person would do to protect another person or property from natural and probable harm. Negligence has previously been applied to contract law and to actions performed under such circumstances, as is shown by the 19$^{th}$-century jurist Lord Blackburn decision that

> "those who go personally or bring property where they know that they or it may come into collision with the persons or property of others have by law a duty cast upon them to use reasonable care and skill to avoid such a collision." [**9**]

Prior to 1932, negligence was applied to only breach of contractual agreements but has since evolved into legal concepts such as product liability, where no a-priori contractual relationship exists. Indeed, a common-law precedence set in 1932 with respect to tort actions indicates that a party may be liable in tort for negligence outside of a contractual agreement, that is, where one party owes a *duty of care* to the other.

### 3.3.1. History

The precedent case for liability in tort as a result of a duty of care began when one unfortunate snail found itself in an opaque bottle of ginger beer. *Donoghue v. Stevenson* is a 1932 case where the plaintiff, May Donoghue, brought an action against David Stevenson, the manufacturer of the bottle of ginger beer. The ginger beer was purchased by Ms. Donoghue's friend and therefore Ms. Donoghue did not have a contract between herself and the owner of the Wellmeadow Cafe. Ms. Donoghue consumed part of the beverage with a sundae before the snail was discovered. The discovery occurred before her friend had consumed any of the drink; thus, her friend who had a contract with the establishment did not become ill. The determination by the House of Lords that Mr. Stevenson was liable to Ms. Donoghue resulted in a new form of product liability. In his judgement, Lord Atkin described a person as having a duty of care so as to avoid injuring them as "persons who are so closely and directly affected by my act that I ought reasonably to have them in contemplation as being so affected when I am directing my mind to the acts or omissions that are called in question". He also gives an example: "a manufacturer of products, which he sells in such a form as to show that he intends them to reach the ultimate consumer in the form in which they left him with no reasonable possibility of intermediate examination, and with knowledge that the absence of reasonable care in the preparation or putting up of products will result in an injury to the consumer's life or property, owes a duty to the consumer to take that reasonable care".

### 3.3.2. Test for Liability of the Tort of Negligence

The case of *Donoghue v. Stevenson* introduced the requirement for duty of care; however, as other cases appeared before the courts, other requirements were added. Today, it can be said that the defendant will be held liable for the tort of negligence if the three conditions of

1. The defendant owing a duty of care to the plaintiff,
2. The defendant breaching that duty of care, and
3. The breach of duty causing the injury to the plaintiff

are shown to hold. Each of these has further tests; for example, the 1990 case of *Caparo Industries plc v. Dickman* [**10**] established a three-stage test for duty of care:

1a. The harm must be a *reasonably foreseeable* result of the conduct,
1b. The relationship must *proximate* (OED: coming next (before or after) in a chain of causation, agency, reasoning, or other relation; immediate: opposed to *remote* or *ultimate*), and
1c. It is *fair, just and reasonable* to impose liability.

We could go into greater detail in both discussing what constitutes a breach of duty and factual causation; however, it is sufficient for the student to understand Conditions 1, 2, and 3. The next four sections discuss how negligence may be applicable to the work of a professional engineer.

### 3.3.3. Occupier's Liability

The owner of real estate (*real property*) is responsible for the health and safety of any who enter that property—be that entrance legal or illegal (trespassing). In the former case, the owner must make efforts to prevent harm caused to guests against known dangers of the property. For example, this includes ice which may form on any paths towards the entrance. In the case of trespassers, the liability is less; however, for example, the owner is not allowed to set traps intended to harm the trespasser. This began

as a common-law precedence set by cases such as the 1909 Appeals Court case of *Cooke v Midland Great Western Railway of Ireland* where the defendant was found to be responsible for harm caused to children who had wandered onto the property in search of berries. While such liability is in many jurisdictions a matter of common-law precedence, in Ontario it is regulated by the Occupiers' Liability Act [**11**].

### 3.3.4. Liability for Negligent Misstatement

The case of *Donoghue v. Stevenson* demonstrates that an action or omission thereof may cause liability in tort for negligence; however, it is possible for a professional to give advice or statements in relation to his or her profession outside of a contract and still be held accountable in tort for negligently made statements.

The 1963 case of *Hedley Bryne & Co. Ltd. v. Heller & Partners Ltd.* saw the plaintiff requesting information from the defendant about the credit-worthiness of a potential client. The defendant responded with a statement that the potential client was "considered good for its ordinary business engagements", but they added the clause "without responsibility on the part of this bank". No consideration was attached with this letter and therefore it could not be considered a contract. A short time later, the client went into liquidation and the plaintiff lost £17,000 and therefore initiated a civil action. In its ruling, the House of Lords stated that

> "I consider that it follows and that it should now be regarded as settled that if someone possessed of a special skill undertakes, quite irrespective of contract, to apply that skill for the assistance of another person who relies upon such skill, a duty of care will arise. The fact that the service is to be given by...words can make no difference. Furthermore, if...a person is so placed that others could reasonably rely upon his judgment or his skill..., a person takes it upon himself to give information or advice to, or allows his information or advice to be passed on to, another person who, as he knows or should know, will place reliance upon it, then a duty of care will arise."

That is, a professional providing a service, either with or without a contract, has a duty of care to the other party. In this case, the only phrase which prevented the defendant from being found liable in tort for negligence was the inclusion of the two words "without responsibility". We will look at limitations on liability in Section 3.3.8.

The actual conditions under which liability arises due to such misstatements have since been clarified. A special relationship must exist between the parties. First, the person whose advice is being sought falls into one of three categories:

1. Is an expert or professional advisor,
2. Holds him or herself out as possessing the requisite skill and knowledge to give the information (the definition of a profession), or
3. Is aware or should be aware that the enquirer intends to act on the advice.

Second, the person who is giving the advice makes no disclaimer [**12**].

An example of a case where no disclaimer was present is the 1983 Ontario Court of Appeals case *Canama Contracting Ltd. v. Huffman et al.*. The contractor had forwarded, without contract, a set of plans to the engineer employed with the Department of Agriculture of Ontario. The engineer wrote a

short note of approval: "Good set of plans. I like the detail. Wish I could spend that amount of time on each project. Keep up the good work". No disclaimer was attached to these comments and when the structure failed, the engineer was determined to be 75 % liable for damages while the contractor was 25 % liable [**13**].

### 3.3.5. Duty of Care of an Engineer

What is the standard that dictates the duty of care required by an engineer? An engineer cannot at all times foresee all possible circumstances, and often corrections are made to the practice of engineering only after the discovery of an injury resulting from current practices. Not every engineer will graduate at the top of his or her class; however, should each be held to the skills of the best or most knowledgeable student? Further, not every engineer will have a thorough knowledge of all fields related to a project.

The standard for such a measure has been the discussion of numerous cases. An engineer will be responsible "if he does or omits to do his professional undertaking with an ordinary and reasonable degree of care and skill". With respect to breadth of knowledge, "[t]he employer buys both skill and judgement, and the architect ought not to undertake the work if it cannot succeed, and he should know whether it will or not". Another case states

> "[a]s to the amount of skill required, the architect or engineer need not necessarily exercise an extra ordinary degree of skill. It is not enough to make him responsible than others of greater experience or ability might have used a greater degree of skill, or even that he might have used some greater degree. The question is whether there has been such a want of competent care and skill, leading to a bad result, as to amount to negligence" [**13**].

In other words, an engineer will be held to the standard of an ordinary reasonable engineer.

### 3.3.6. Liability for Gratuitous Services

The case of *Bryne v. Heller* should make it clear that a professional engineer will be held liable for negligence in tort for any gratuitous or promotional work that falls under the practice of engineering. A more recent example is the 1976 case of *Kenney v. Hall, Pain and Foster*. The defendant offered, as a promotion for his realty company, a free appraisal of the plaintiff's home. The appraisal was performed by an inexperienced agent who significantly underestimated the value of the house. Unaware of this error, the defendant entered into a contract with the defendants to sell the house at the appraised price and only became aware of the error once the house was sold. At this point the plaintiff launched a successful action against the realty company for the difference between the original appraisal and the actual value [**14**].

With respect to the practice of professional engineering, an engineer may be asked by family, friends, or perhaps a non-profit organization for engineering advice or services. While such services may be provided gratuitously, the engineering will still be liable for any damages which result from negligent actions. Consequently, an engineer must take such services as seriously as he or she may take services performed under contract.

### 3.3.7. Liability Outside of a Contract

An engineer may be liable in tort for negligence despite there being no contract between the parties. This is demonstrated in the 1993 Supreme Court of Canada case *Edgeworth Construction Ltd. v. N.D. Lea & Associates, Ltd.* [**15**]. The Province of British Columbia provided drawings prepared by an engineering firm as part of a tender package. The plaintiff placed a bid based on those plans and was awarded the contract. The plans did not accurately reflect the conditions of the ground and therefore the contractor lost money on the project; however, the tendering contract stated that the province accepted no responsibility for the engineering plans. The contractor thus launched an action against the engineering firm. The defendants argued that the contract between the province and the contractor destroyed the "proximity" and thus there was no duty of care. The contract between the province and the contractor did not limit the liability of the engineering firm, nor did the contract between the engineering firm and the province contain a statement indicating the firm was not responsible for any negligent misrepresentations in the design. The Justices ruled that even though the plans were used by the province, the plans continued to represent the work of the engineering firm; therefore the engineering firm was held liable. In their decision, the justices referred to, among other cases, *Bryne v. Heller*.

Interestingly enough, while the engineering firm was held liable for the negligent plans, the individual engineers who sealed those plans were not. In the decision, the Supreme Court of Canada wrote:

> "The position of the individual engineers is different. The only basis upon which they are sued is the fact that each of them affixed his seal to the design documents. In my view, this is insufficient to establish a duty of care between the individual engineers and Edgeworth. The seal attests that a qualified engineer prepared the drawing. It is not a guarantee of accuracy. The affixation of a seal, without more, is insufficient to found liability for negligent misrepresentation. I agree with the courts below that the action against the individual defendants should be struck."

Thus, if an engineer applies sound engineering practices in the preparation of a sealed document, that engineer cannot be found negligent in tort for inaccuracies in the document. However, there are caveats. For instance, others will be the judge of whether or not the practices were sound. Furthermore, the partners in a partnership are *jointly and separately liable*.

### 3.3.8. Limitations on Liability in Tort for Negligence

The previous six sections have discussed how a professional engineer who engages in the practice of professional engineering may be liable for negligent statements or work even, though no contract exists between the injured party and the engineer. However, there are limitations on the liability of the engineer. We will look two cases that demonstrate how the engineer can limit his or her liability. This will be followed by a description of the 2002 Limitations Act of Ontario.

#### 3.3.8.1. *Hedley Bryne & Co. Ltd. v. Heller & Partners Ltd.* Revisited

The 1963 case of *Bryne v. Heller* demonstrated that a professional who provides an opinion may be liable for that opinion if actions are taken based on that advice, resulting in damages. The only factor which found the defendant to be not liable for the losses experienced by the plaintiff was that the defendant provided the opinion with the disclaimer "without responsibility on the part of this bank". The House of Lords found that

> "...in my judgment, the bank..., by the words which they employed, effectively disclaimed any assumption of a duty of care. They stated that they only responded to the inquiry on the basis that their reply was without responsibility. If the inquirers chose to receive and act upon the reply they cannot disregard the definite terms upon which it was given. They cannot accept a reply given with a stipulation and then reject the stipulation. Furthermore, within accepted principles...the words employed were apt to exclude any liability for negligence."

This was further upheld in our next case.

#### 3.3.8.2. *Wolverine Tube (Canada) Inc. v. Noranda Metal Industries Ltd. et al.*

The 1994 case of *Wolverine v. Noranda* confirms that a professional giving an opinion may limit his or her duty of care and therefore the liability in tort for negligence. One of the defendants, Arthur D. Little, had, as an environment consultant, produced a report regarding lands owned by Noranda for that company. The report was later relied upon by the plaintiff when purchasing the land and, when the report was found to contain errors, the plaintiff launched an action claiming liability in tort. The only defence was a statement included at the front of the report:

> This report was prepared by Arthur D. Little of Canada, Limited for the account of Noranda, Inc. The material in it reflects Arthur D. Little's best judgment in light of the information available to it at the time of preparation. Any use which a third party makes of this report, on any reliance on or decision to be made based on it, are the responsibility of such third parties. Arthur D. Little accepts no responsibility for damages, if any, suffered by any third party as a result of decisions made or actions based on this report.

The court found that this disclaimer was sufficient to distance the proximity of the defendant from the liability in tort; that is, the defendant had clearly stated the limitations of which the report was to be used and clearly disclaimed any other responsibility [**13**].

#### 3.3.8.3. Limitations Act of Ontario (2002) and Discoverability

After the passage of sufficient time, it is reasonable that at some point a person can no longer be responsible for actions previously taken. While it had been a common law precedence, the Ontario legislature normalized these practices by introducing the Limitations Act of 2002 [**16**]. This act contains an *ultimate* 15-year limitation period (Section 15) which begins once the project has been completed. No action may be started after this period has passed.

There is, however, another more basic limitation period: by Section 4, no action may commence with respect to a claim two years after the claim is discovered. Section 5 expands on discoverability:

> **Discovery**
> **5 (1)** A claim is discovered on the earlier of,
>
> (a) the day on which the person with the claim first knew,
>
> (i) that the injury, loss or damage had occurred,
> (ii) that the injury, loss or damage was caused by or contributed to by an act or omission,

(iii) that the act or omission was that of the person against whom the claim is made, and
(iv) that, having regard to the nature of the injury, loss or damage, a proceeding would be an appropriate means to seek to remedy it; and

(b) the day on which a reasonable person with the abilities and in the circumstances of the person with the claim first ought to have known of the matters referred to in clause (a).

Thus, it is not possible to be aware of damages and then wait an unreasonable amount of time before launching an action. A 2006 amendment allows the contracting parties to modify these limitation periods.

### 3.3.9. Negligence and the Professional Engineer

While negligence resulting in harm may result in liability in tort, negligence has further consequences. Ontario Regulation 941 contains negligence within its definition of professional misconduct: **72. (2)(a)** For the purpose of this Act and this Regulation, "professional misconduct" means negligence [**7**]. The actual definition of negligence is given immediately prior to this clause:

**72. (1)** "negligence" means an act or an omission in the carrying out of the work of a practitioner that constitutes a failure to maintain the standards that a reasonable and prudent practitioner would maintain in the circumstances.

A professional engineer found guilty of negligence in a court of law would likely find him or herself simultaneously guilty of professional misconduct according to the Professional Engineers Act:

**28. (2)(a)** A member of the Association or a holder of a certificate of authorization [or a temporary, provisional or limited licence] may be found guilty of professional misconduct by the Committee if the member or holder has been found guilty of an offence relevant to suitability to practise, upon proof of such conviction [**1**].

It is possible however, for an engineer to be found guilty of professional misconduct due to negligence even if he or she was not found guilty under a court of law as per

**28. (2)(b)** A member of the Association or a holder of a certificate of authorization [or a temporary, provisional, or limited licence] may be found guilty of professional misconduct by the Committee if the member or holder has been guilty in the opinion of the Discipline Committee of professional misconduct as defined in the regulations.

For example, an engineer who negligently prepares and seals a plan which is then found to be deficient may not have caused injury to any party; however, the engineer could still be found guilty of professional misconduct through negligence.

### 3.3.10. Summary of the Unintentional Tort of Negligence

An engineer who behaves ethically and does not intentionally cause injury to others may in the practice of his or her profession still be negligent in the performance of his or her duties. As a consequence, he or she may be liable due to the unintentional tort of negligence. To be found guilty of negligence, it must be demonstrated that the defendant owed a duty of care to the injured party, the defendant failed in that duty, and the injury was a causal result of that breach of duty. An engineer may be liable either for actual damages or economic loss, the injury may be caused as a result of actions taken by the engineer or may result from misstatements made by the engineer. The engineer is able to limit his or her liability to non-contractual parties via clear disclaimers. Normally, the engineer is ultimately liable for 15 years following the completion of a project, but any litigation must be started at most two years after the actual discovery or what would be reasonable discovery of the damages caused.

## 3.4. Summary of Tort Law and the Professional Engineer

This report has covered liabilities in tort for both intentional injuries and the unintentional tort of negligence.

Intentional harm caused by a tortfeasor will usually result in an offence, possibly even criminal, under statute law. An engineer who commits such an offence has almost certainly behaved unethically and will likely be found guilty of the offence of professional misconduct under the Professional Engineers Act.

The last century has seen the development of the common-law concept of the unintentional tort of negligence. When a person owes a duty of care to victim, but the person breaches that duty of care, and a causal chain can be found linking the breach to the harm, the victim may seek compensation from the tortfeasor. An engineer may be held liable both for consequences of work or word, under contract or out of contract, and consequently, it is essential that the engineer always limit liability to the parties involved with a contract. An engineer who is found guilty of the tort of negligence will also likely be guilty of professional misconduct under the Professional Engineers Act. Consequently, an engineer must understand tort law, the historical precedent cases, and the applications to the field of engineering.

# 4. Intellectual Property

This section will look at intellectual property (IP) concerns and how they affect the practices of a professional engineer. There are five main categories of IP: patents of invention, trade-marks, copyright, industrial design, and trade secrets. In each case, we will describe the IP in question, the basis in both statute law and common-law precedence, the duration that the legislation protects the IP, the mechanisms by which the IP may be transferred between parties, and other related issues. The first four categories are protected by legislative statutes as well as common-law precedence while the last, trade secrets, is protected under both contract and criminal law. The duration of the protection extends from perpetual for trade-marks (with renewals every fifteen years) and industrial secrets, at least fifty years for copyright, twenty years for patents, and ten years for industrial designs. With trade-marks and industrial designs, there is a requirement to litigate within a reasonable time. This chapter investigates these five categories.

## 4.1.Patents of Invention

An invention is defined by the Patent Act [**17**] as "any new and useful art, process, machine, manufacture or composition of matter, or any new and useful improvement in any art, process, machine, manufacture or composition of matter". Applications for patents are submitted to the Government of Canada which issues patents through the Canadian Intellectual Property Office (CIPO). The patent of an invention allows the holder to exclude others from using the invention for a period of twenty years. The holder may either use the invention or licence others to use it; the holder may also choose not to allow anyone to use the invention. A patent may be assigned to another legal person (an individual person or a business organization), although this must be registered through the CIPO. The use of a patented invention without the permission of the patent holder allows the holder to sue the infringer for damages and to seek an injunction against the infringer that would prevent them from continuing to use the invention.

The three topics of what defines an invention, first-to-invent versus first-to-file, and software patents are related to patents and are of significant interest to engineers. These are discussed in the next three sections.

### 4.1.1. What Defines an Invention?

The definition of what constitutes a patentable invention does not immediately follow from the dictionary definition of the word *invention*. First, an invention cannot simply be a combination of other devices: the statement "only when the whole in some way exceeds the sum of its parts is the accumulation of old devices patentable" was part of a 1950 U.S. Supreme Court decision in *Great Atlantic & Pacific Tea Co. v. Supermarket Equipment Corp*. Second, a patent cannot be "obvious"—according to Section 28.3 of the act:

> **28.3** The subject-matter defined by a claim in an application for a patent in Canada must be subject-matter that would not have been obvious on the claim date to a person skilled in the art or science to which it pertains, having regard to
>
> (a) information disclosed more than one year before the filing date by the applicant, or by a person who obtained knowledge, directly or indirectly, from the applicant in such a manner that the information became available to the public in Canada or elsewhere; and

(b) information disclosed before the claim date by a person not mentioned in paragraph (a) in such a manner that the information became available to the public in Canada or elsewhere [**17**].

At this point the reader should be immediately considering how to interpret the description than an invention must not be "obvious...to a person skilled in the art or science to which it pertains"; such a statement falls within common-law precedence. In the 1928 U.K. Court of Appeals case, Sir Stafford Cripps asked, in regards to a chemical in question:

> "Was it for all practical purposes obvious to any skilled chemist in the state of chemical knowledge existing at the date of the patent which consists of the chemical literature available … and his general chemical knowledge, that he could manufacture valuable therapeutic agents by making the higher alkyl resorcinols …?"

If the answer to such a question is "yes", the object lacks the inventive step necessary for a patent. The procedure for determining obviousness has been refined numerous times in many different jurisdictions. A recent decision in the United Kingdom (see the 2007 Court of Appeals case of *Pozzoli Spa v BDMO SA & Anor*) defined a four-step process:

1. Identify the notional "person skilled in the art" and identify the relevant common general knowledge of that person;
2. Identify the inventive concept of the claim in question or if that cannot readily be done, construe it;
3. Identify what, if any, differences exist between the matter cited as forming part of the "state of the art" and the inventive concept of the claim or the claim as construed; and
4. Viewed without any knowledge of the alleged invention as claimed, do those differences constitute steps which would have been obvious to the person skilled in the art or do they require any degree of invention? [**18**]

This process is merely a systematic way of thinking about the issue and is not the mental equivalent of a mathematical formula. There is no objectively correct answer in borderline situations—there will always be some room for reasonable people to disagree. As such, the process of investigating the obviousness of an invention will continue to be refined and any professional engineer with interests in patents needs to remain current in such cases.

As an aside, the requirement described in paragraph 28.3 (a) of the Patent Act has resulted in a number of fourth-year design projects being hidden during the ECE Design-Project Symposium. Such a public display would begin the clock ticking toward the one-year deadline and could render invalid any application filed after that date.

### 4.1.2. First-to-Invent versus First-to-File

Historically, patents were issued to the individual who could demonstrate that he or she first created an invention. This required inventors to keep meticulous track of the progress towards a particular invention (hence the strong emphasis on clear and precise laboratory notes in many undergraduate courses) and required the courts to verify this progress. These difficulties lead many countries to adopt a policy of granting patents based solely on the date of the application for the patent. Before 1989, Canadian patents were granted on a *first-to-invent* priority. A change to the Patent Act took the Canadian position to a *first-*

*to-file* priority [**19**]. Today, only the Philippines continue to use a *first-to-invent* priority. With the signing of the *America Invents Act* of 2011 by President Obama, the United States dated the moved to a *first-to-file* priority for March 2013. These changes put Canada and the United States in line with the rest of the world—a situation which was already forced upon inventors working to protect their intellectual property in foreign countries. A report by Coster of Torys, L.L.P. lists a number of advantages and disadvantages of adopting the first-to-file priority for patents [**19**]. Specifically he addresses fairness and efficiency conditions with respect to the first-to-file priority. The fairness condition includes consideration of the possibility that such a system is harmful to true inventors and beneficial to large corporations over individuals or smaller business organizations; the efficiency condition includes consideration of the possibility of higher costs for investors and a lesser impact on scientific and technological progress. After twenty years, the adoption of the first-to-file system does not appear to have had a significant detrimental effect on the patent process.

### 4.1.3. Software Patents

Another issue of interest to electrical and computer engineering students is the issue of software and software algorithm patents. This is an issue whereby precedence has been set by the United States. The U.S. Court of Appeals for the Federal Circuit established the patentability of software and software algorithms through a number of precedent-setting cases starting in the 1980s. The U.S. Patent and Trademarks Office issued a 1996 document which included the statement

> "The utility of an invention must be within the "technological" arts. A practical application of a computer-related invention is statutory subject matter. This requirement can be discerned from the variously phrased prohibitions against the patenting of abstract ideas, laws of nature or natural phenomena. An invention that has a practical application in the technological arts satisfies the utility requirement." [**20**]

The inclusion of software algorithms under patents is an evolving process. One of the strongest opponents of software patents is the Free Software Foundation founded by Richard Stallman. The GNU General Public Licence is associated with the GNU-Linux Project and has also been used by others to make their code freely available within certain constraints [**21**].

## 4.2. Trade-Marks

A trade-mark is defined by the Trade-marks Act as

(a) a mark that is used by a person for the purpose of distinguishing or so as to distinguish wares or services manufactured, sold, leased, hired or performed by him from those manufactured, sold, leased, hired or performed by others,
(b) a certification mark,
(c) a distinguishing guise, or
(d) a proposed trade-mark [**22**].

We begin by discussing (a), which is of most interest to professional engineers. A brief description of the second and third items will follow. The last item allows holders to signify intention to use a trade-mark and will not be discussed here.

The most common form of trade mark is a mark used to identify the supplier of a particular product and therefore distinguish the product from similar products made by competitors. Figure 4.2-1 shows a number of trade-marks from well-known computer-engineering-based industries.


Figure 4.2-1. Numerous trade-marks from industries including three registered denoted with ® and one unregistered denoted with ™.

In other cases, the trade-mark may be associated with one particular product; examples are shown in Figure 4.2-2.


Figure 4.2-2. Various product logos.

Trade-marks must be registered to be protected by the Trade-mark Act legislation. Common law precedence protects the users of unregistered trade-marks, but to a much lesser extent.

Trade-marks assist the development of a brand's reputation; the protections granted to owners of trade-marks prevent others from using similar markings where such marks may cause confusion for the customer. Unlike a patent, the holder of a trade-mark must actively prevent others from using similar marks; if they do not, the holder risks losing the protection for that trade-mark. The "yo-yo" children's

toy and the “thermos” vacuum flask are two examples of trade-marks lost by a failure of the owner from preventing the generic use of the term. The 1950 case of *Haughton Elevator Co. v. Seeberger* set the precedence for loss of the trade-mark wherein the Otis Elevator Company lost the trade-mark “escalator” for a moving stairway.

A registered trade-mark is valid in Canada for fifteen years and this registration may be renewed arbitrarily, often in additional fifteen-year periods.

Certification marks include any mark used to indicate that a product has satisfied a particular standard with two such marks being shown in Figure 4.2-3.

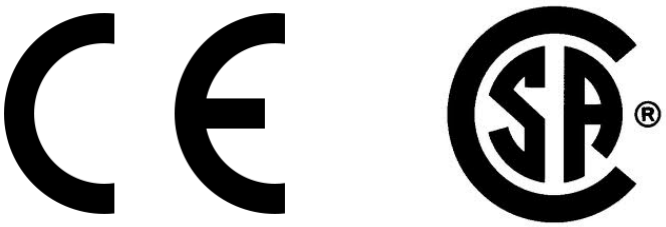

Figure 4.2-3. Two certification marks: the European Conformity (*conformité européenne*) and the Canadian Standards Association mark.

Distinguishing guises refer to the shaping of a product or its container or the mechanism by which the product is wrapped or packaged; for example, the shape of the Coca-Cola bottle.

## 4.3. Copyright

The Copyright Act applies to written works, performances, recordings, and communications signals [**23**]. The holder of the copyright has the sole right to produce or reproduce the work. The copyright is valid for fifty years after the death of the original source. Copyrights are assignable, but this must be done in writing.

Associated with copyright are moral rights; that is, the right of an author to be associated by name with a work which he or she created. This includes the right to be associated by a pseudonym or the right to remain anonymous. Many employment contracts require the employee to waive such moral rights. If these rights were not waived, the author of some component produced by the manufacturer would have the moral right to request to be associated with the component; for example, technical documentation or software.

Employment contracts will usually contain provisions for the transfer of copyrights to the employer and the waiving of moral rights. Indeed, the law presumes that the employer will own the copyright; if the employment contract is silent on the matter, the employer would still own the copyright in the absence of unusual circumstances. However, when a professional engineer provides services directly to the public in the form of an engineer-client relationship, the engineer usually maintains a copyright on all the material which is produced. The client cannot, for example, sell the product of such a contract to a third party.

## 4.4.Industrial Design

An industrial design is defined within the Industrial Design Act as "features of shape, configuration, pattern or ornament and any combination of those features that, in a finished article, appeal to and are judged solely by the eye" [**24**]. This is emphasized by the application requiring a drawing or photograph (see paragraph 4.(1)(a) of the act). Industrial designs do not apply to any feature which appears due to solely a utilitarian function; for example, the exterior body of the VW Beetle (or any car, for that matter) has a practical function of improving the aerodynamics of the vehicle, but it also contains curves and surfaces which differentiate it from other models of automobiles. The aerodynamic component is not an industrial design, but the curves and surfaces that are present for decorative purposes may be an industrial design. A car wheel is strictly utilitarian, but the hub cap or wheel cover may be considered to be an industrial design. A simple spring-loaded mousetrap which is purely functional would not qualify as an industrial design. From the Industry Canada web site, the following cannot be protected:

1. The functional features of an article,
2. A principle of construction or how an article is built,
3. The materials used in the construction of an article,
4. Colour per se, or
5. Ideas.

Figure 4.4-1 shows a hubcap where the spokes and centre piece are strictly ornamental in nature and provide no functional support.

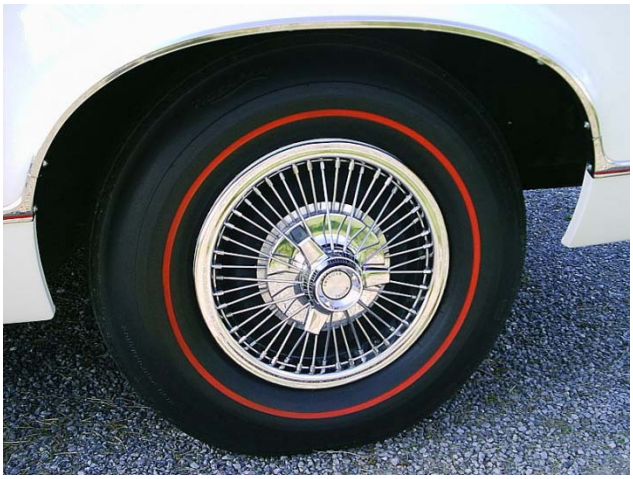

Figure 4.4-1. A 1967 ornamental hubcap (Christopher Ziemnowicz).

The holder of an industrial design has an exclusive right to the design and this protection is valid for ten years. Unlike a trade-mark, there is no protection granted to any design that is not registered. Any legal action must be started within three years of the alleged offence. It is possible to search the Canadian Industrial Design Database at the website http://www.cipo.ic.gc.ca/iddatabase which allows the user to search the database on certain keywords. For example, a search for Apple reveals the industrial design for a computer screen shown in Figure 4.4-2.

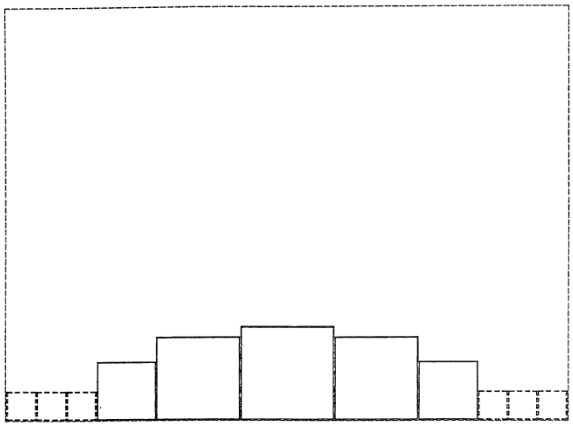

Figure 4.4-2. An industrial design for a screen registered by Apple.

## 4.5. Trade Secrets

Trade secrets are a form of intellectual property that is not covered by statute, but rather by contract and criminal law. The most well known trade secret is the recipe for Coca Cola.

A trade secret was described by Lord Denning in the 1967 Appeals Court case of *Seager v. Copydex Ltd*. as

> "A trade secret may consist of any formula, pattern, device or compilation of information which is used in one's business, and which gives him an opportunity to obtain an advantage over competitors who do not know or use it. It may be a formula for a chemical compound, a process of manufacturing, treating or preserving materials, a pattern for a machine or other device, or a list of customers."

Another description of trade secrets appears in the North American Free-Trade Act where article 1711(1) reads as follow:

> Each party shall provide the legal means for any person to prevent trade secrets from being disclosed to, acquire by, or used by others without the consent of the person lawfully in control of the information in a manner contrary to honest commercial practices, in so far as:
>
> a. the information is secret in the sense that it is not, as a body or in the precise configuration and assembly of its components, generally known among or readily accessible to persons that normally deal with the kind of information in question;
> b. the information has actual or potential value because it is secret; and
> c. the person lawfully in control of the information has taken reasonable steps under the circumstances to keep it secret.

A professional engineer in Ontario is required by both the Code of Ethics and the definition of professional misconduct to avoid compromising trade secrets. According to the Code of Ethics,

> **77.3** A practitioner...shall regard as confidential information obtained...as to the business affairs, technical methods or processes of an employer...

Failure to do so may result in an allegation of professional misconduct:

> **72(2)(b)** failure to make reasonable provision for the safeguarding of...property of a person who may be affected by the work for which the practitioner is responsible
>
> **72(2)(j)** conduct or an act...would reasonably be regarded by the engineering profession as disgraceful, dishonourable or unprofessional.

The most significant case of software theft of trade secrets is the theft of source code by Avant! Corporation from Cadence Design Systems. This resulted in both civil cases launched by Cadence and the criminal convictions for a number of the executives at Avant!. The restitution and fines exceeded half-a-billion dollars. Charges to which the executives pleaded no contest included trade-secret theft, conspiracy to commit trade-secret theft, receiving stolen property, and securities fraud [**25**].

## 4.6. Summary of Intellectual Property

We have given a brief overview of each of the five categories of IP which include patents of invention, trade-marks, copyright, industrial design, and trade secrets. The first four categories are protected by various acts of Parliament; however, the interpretation is, in many cases, subject to common-law precedence. Trade secrets require the holder to prevent others from acquiring the knowledge of the secret and are protected by contract and criminal law; however, no protection is afforded the holder of a trade secret if another party reverse engineers the process or independently discovers the same principle. Trade secrets and trade-marks may be held indefinitely. The duration of the protection afforded to other forms of intellectual property varies from ten to fifty years. The product of the application of professional engineering is in many cases intellectual in nature and, therefore, a professional engineer should be aware of these categories, the distinctions, and the protections afforded to each.

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