Issues in Bioethics: A Brief History and Overview

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Contents

PART I: INTRODUCTION TO ETHICS

CHAPTER 1: WHAT IS ETHICS? ................................................................. 1
A. What is Ethics? .................................................................................. 1
B. Two different approaches to Ethics: Religious and Philosophical Ethics ......................................................... 2
C. Descriptive and Normative Philosophical Ethics ...................................................................................... 2
D. Subjectivism and Ethical Relativism .......................................................... 4
   1. Subjectivism .................................................................................. 4
   2. Ethical Relativism ......................................................................... 5
   3. Critique of Subjectivism and Relativism ........................................... 6

CHAPTER 2: ETHICAL PRINCIPLES & ETHICAL THEORIES ................................................. 9
C. Ethical Principles, Codes of Ethics and Legal Principles .......................................................... 9
   1. Ethical Principles ........................................................................... 9
   2. Codes of Ethics ............................................................................ 9
   3. Legal Principles ......................................................................... 10
D. Ethical Theories .................................................................................. 13
   1. Ethical Egoism ........................................................................... 14
   2. Utilitarianism .............................................................................. 15
   3. Deontology or Kantian theory ....................................................... 16
   4. Natural Law Theory .................................................................. 18
   5. Contractarianism (Social Contract Theory) and Natural Rights .......................................................... 18
   6. The ethic of care ......................................................................... 20

PART II: ORIGIN OF BIOETHICS & BIOETHICAL ISSUES ......................................................... 21

CHAPTER 3: ORIGIN OF BIOETHICS ........................................................................ 22
A. Beginnings ....................................................................................... 22
B. The Increasing Impact and Power of Medicine & the Life Sciences ......................................................... 23
   1. Improvements in Hygiene, sanitation, nutrition .............................................. 23
   2. Vaccination, Antibiotics and Drugs ....................................................... 24
   3. Other 20th century advances in medical science and technology .................................................. 25
   4. New Dilemmas Created by Progress in Medical Science & Technology .................................................. 25
C. The Biological Revolution .................................................................... 25
D. Human Experimentation, Nuremberg Code & Foundation of Bioethics .................................................... 27

CHAPTER 4: WHAT IS BIOETHICS? ........................................................................ 30
A. Definition of Bioethics ...................................................................... 30
B. Key Ethical Principles in Bioethics ....................................................... 31

CHAPTER 5: FOUR BIOETHICAL ISSUES ....................................................................... 32
A. Issues #1 & 2: Human Experimentation & Torture .................................................................................. 32
   1. Cold War Background: A Canadian Cold War Connection ......................................................... 32
   2. Dr. Ewan Cameron’s Experiments at the Allan Memorial in Montreal .................................................. 32
   3. Dr. D.O. Hebb’s Sensory Deprivation Experiments at McGill University .................................................. 33
   4. From Defensive Theory to Offensive Practice .................................................................................. 34
   5. 9/11 and Beyond .......................................................................... 34
   6. 9/11 and Beyond: Canadian Involvement ..................................................................................... 35
B. Issue #3: Euthanasia .......................................................................... 37
   1. Nazi Germany and the “Action T4 Program” .................................................................................. 37
   2. What is Euthanasia? ....................................................................... 38
   3. Euthanasia in the Netherlands .................................................................................. 40
   4. Euthanasia in Canada ....................................................................... 41
   5. The Current Euthanasia Debate in Quebec and Canada ................................................................ 43
C. Issue #4: The Health Care Debate ......................................................................................... 46
   1. Introduction ................................................................................... 46
   2. The Health Care Debate in Canada: A Brief Summary .............................................................. 47
   3. Health Coverage and Access in the USA ..................................................................................... 55
   4. Conclusion and Ethical Reflection ......................................................................................... 57
D. Issue #5: Genetic Technology ........................................................................ 58
1. Background: Discovering the Structure and Function of DNA (1940-53) ........................................58
2. Gene Mapping and Sequencing (1976-1999) .................................................................................60
3. Bacteria and Viruses as Genetic Engineering Tools .................................................................61
4. Some Current Applications of Recombinant DNA Science & Technology ............................62
CONCLUSION ..................................................................................................................................67
Bibliography .................................................................................................................................69
PART I: INTRODUCTION TO ETHICS
CHAPTER 1: WHAT IS ETHICS?

A. What is Ethics?

Before explaining what bioethics is, let’s first look at the term ethics. Ethics deals with questions of right and wrong, good or bad and our moral obligations to others as well as ourselves. Sometimes words, like morality, morals, values and others have been used as synonyms for ethics. Writers specializing in these matters make distinctions between these words but we will deal with these later.

The importance of ethics should be clear since we make ethical judgments and decisions every day. Indeed, the ability to make ethical decisions has often been considered a key difference between humans and other animals. These decisions affect the people and the world around us, though it may be all too easy to ignore this at times. That is one reason it is important to examine ethics, including our own ethics. Since our ethical choices affect others this also tells us that ethics is largely a social matter, dealing with how we get along with others. But besides the impact our ethics has on others, ethics is important also because it is something that is key in defining who we are as individuals. As Daniel Maguire says

Moral values are more basic than all other values, because moral values touch, not just on what we do or experience or have, but on what we “are.” It is admittedly unfortunate if a person is not gifted with the values of wealth, gracefulness, beauty, education, and aesthetic sophistication. But it is a qualitative leap beyond the merely unfortunate if a person is a murderer, a liar, or a thief. Here the failure is at the level of what a person is and has to be as a person. (Quoted in Kammer, 8).

In short, our ethics tells us what kind of person we are. An ethics course is thus not just about learning what others have said or written but it is about learning about our own ethics and becoming conscious about the decisions we make that make us the kind of person we are. But this is not a course that tells you what to think about what is right and wrong on any particular issue. Instead, it tries to help you find out about how to think about matters of right and wrong by using some key “mental tools” of philosophical ethics that will be explained below. What is right and wrong is up to you to decide after you have used these “mental tools”. It asks, too, that you are willing to question your ethical beliefs and provide good reasons for them. These are key requirements of the philosophical approach to ethics and are one way to become more aware of and shape who we are.

To help us acquire these mental tools and encourage our questioning, we look briefly, at what some of the great philosophers of the past have taught us on this issue. Though they often disagree on moral questions, they can still provide us with a way of questioning, clarifying and making more consistent our own ethical philosophy. In this way they can contribute to our growth as human beings.

Later in the course we look at important bioethical issues using some of these mental tools mentioned, including ethical principles and ethical theories (examined below). An issue is a subject of debate or controversy, often with conflicting sides. Bioethical
issues include a vast array of topics including abortion, animal experimentation and testing, human experimentation, euthanasia, genetic engineering of humans and other species, healthcare and much much more. We will clarify further the meaning of bioethics and bioethical issues later. We need first to examine different kinds of approaches to ethics.

B. Two different approaches to Ethics: Religious and Philosophical Ethics

In the past and still today, much of our ethics was shaped by custom, tradition and religion. This is what we can call religious ethics. Religious ethics is based on the idea of obedience to divine commands and the divine will. Indeed, some authors refer to religious ethics as “divine command theory”. In religions like Judaism, Christianity and Islam this divine will is believed to have been revealed in sacred books like the Bible or the Koran. Of course, there are differing interpretations of exactly what the divine will (God’s will) is or what their sacred texts say and we find that people even from the very same religious traditions differ considerably in their ethical conclusions on key bioethical issues like abortion, euthanasia and capital punishment.

Religious Ethics is still influential in our society in part because it includes religious believers of various faiths who seek to follow what their religion teaches. But it is also influential in that even though our society is largely secular, our laws, customs and beliefs have been deeply influenced by religion, especially Christianity. However, religion does not play as prominent a role as it once did and for many, religious faith does not occupy an important role in their lives and is not a direct source of their ethics.

Besides religious ethics there is also philosophical ethics. Philosophical ethics is a field of study which seeks to apply reason and fact to clarify ethical questions. In this way, it can contribute to making better and wiser decisions on many ethical issues. A big difference between religious and philosophical ethics centers around the role of reason. In religious ethics the first priority is obedience to the divine will while in philosophical ethics the first priority is to submit everything to rational and logical questioning as well as factual verification.

Because it stresses reason and fact, philosophical ethics can provide a common denominator or common meeting place wherein all of us, regardless of our religious or cultural backgrounds, can discuss ethical issues or issues of right and wrong. This is a big advantage in a multicultural society like Canada where there are so many differing traditions, religions and viewpoints. As mentioned, the key requirements for philosophical ethics are that one is willing to question his or her own beliefs and support them by appeal to facts and reason. As long as one accepts these basic requirements, then a conversation or debate can be had whatever one’s religious or cultural background. But this sounds easier than it is since ethical and moral issues, can be quite personal, controversial and emotional. If we take them seriously, they can often confront us with challenges to deeply held beliefs. In this course, we try to use the approach of philosophical ethics without ignoring the other important traditional and religious sources of ethics.

C. Descriptive and Normative Philosophical Ethics

Philosophical ethics can be divided into two main groups: descriptive ethics, which explains or describes the moral viewpoints people actually have (“what is”), and normative ethics, which prescribes the moral viewpoints people should have and the actions people...
should undertake (“what ought to be”). Descriptive ethics is supposed to provide an accurate description of what people’s ethics are. These can sometimes be learned from opinion polls or other such studies. But the ethics or values people actually have may or may not be right or good when judged by the light of fact and reason. Normative ethics assumes there is a difference between what people’s ethics are and what they should be. It questions what people’s ethics are and shows their failings and inconsistencies while (hopefully) providing us with some amount of guidance in difficult moral situations about what they should be. The difference is one between description versus prescription or between “what is” and “what should be”. However, there are a number of rival ethical theories that often seem to provide opposing views of “what should be” in any given case, as we shall see.

The world of ethics. A major division is between philosophical and religious ethics. Under religious ethics are the ethics connected to various religious traditions (there are dozens but only two are named here). Within philosophical ethics, we find normative and descriptive ethics. Under Normative ethics are various ethical theories (there are several but only two are named here).
D. Subjectivism and Ethical Relativism

1. Subjectivism

Within the field of normative ethics, there is wide disagreement even among experts and philosophers on what is right or wrong on almost every important issue. Some, for example, argue euthanasia is good while others argue the opposite. The same is true for many other bioethical issues ranging from abortion to genetic modification and “test tube babies”. There are a multitude of ethical theories and ethical principles that often give entirely different answers to a moral problem. This disagreement is in especially sharp contrast to what we learn in science classes. Everyone in science agrees that there are atoms and that there is gravity and a whole host of other facts, theories and laws. After all, there is no rival theory to the theory of gravity! But this is not what we find in ethics and it is indeed a fact that people differ sharply on important questions that often involve life and death, as bioethical issues often do.

Some are frustrated at this and conclude that, unlike what we find in science where all agree on the basics of their field, there is no universally agreed upon right and wrong in ethics. Instead, some will argue that ethical or moral viewpoints are an entirely private or even largely subjective affair. The word subjective comes from the word subject which means an individual or a person. **Subjectivism is a viewpoint which claims that what is true is only true from the point of view of one person** (the subject) rather than objective which is the idea that what is true is independent of the viewpoint of one, many or even most persons. When people argue about something and say “it’s all up to your individual point of view” or it’s “all relative to the individual” they are sometimes assuming that ethical judgments of what is right or wrong are really an individual affair and cannot be generalized. So, if I believe killing is wrong, that is true but only for me. Someone else may believe killing is right and that would be true for him or her. The subjectivist view assumes we cannot generalize and say that “killing is wrong” for everyone. The assumption made here is that unlike, for example, physics or mathematics, there is “no right answer” for everyone because, unlike science, there is no “objective reality” in ethics but only different perceptions and viewpoints that differ from one person to another.

Those who hold this view seem to think that ethics is about how you feel about something or how you perceive something. If you think killing is wrong, this is simply like saying that you don’t like killing but it doesn’t mean killing is “really” or “objectively” wrong. It is wrong for you but not necessarily for someone else. For subjectivists what is true morally is based on how the individual feels or see things. For subjectivists there is no difference between how we perceive or see something and what something “really” or “truly” is. What we feel or perceive is good, is good and what we feel or perceive is bad, is bad. In this way, subjectivism treats ethics as if it were like a question of taste. Some people like coffee, others like tea. It would be silly to argue that one is better or truer than the other. The tea lover believes tea is best and that is true for him and likewise with the coffee lover. As a well-known Latin phrase puts it: “De gustibus non est disputandum”; in matters of taste, there should be no disputes.

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1 Note that “objective” here doesn’t just mean something which many or most believe is true but means that there is a reality “out there” that is separate from us and exists apart from us, with a definite “shape” which one, many or most people can get right – or wrong.
2. Ethical Relativism

Subjectivism is sometimes classified as one type of philosophy called ethical relativism, specifically, individualistic ethical relativism. Individualistic ethical relativism is the view that what is right and wrong is based on the viewpoint of the individual. Another type of ethical relativism is called cultural relativism. This form of relativism claims that right or wrong is relative not to the individual’s views but to the culture the individual is raised in. Thus it may be “wrong” for one person to kill an innocent person in our culture. But if another culture says it’s right to kill an innocent person, then it is ethical to kill others in that culture. If we asked a cultural relativist which culture is right he or she would answer that there is no way to establish which culture is “really” or “objectively” right or wrong. A culture’s values cannot be judged by the values of any other culture or any outside yardstick. The cultural relativist, however, would be able to judge someone as believing or behaving “wrongly” if that person believed or acted against the ethics of that culture. Thus, if a culture believes killing is wrong and a person inside that culture believes killing is right, the cultural relativist could judge that person as wrong because he or she believes in values contrary to that of the culture he or she is living in. The cultural relativist, like the subjectivist, would still deny that can ever be any “objectivity” in ethical judgments because they both maintain there is no universal, common standard that cuts across all cultures. The difference is that the subjectivist sees what is true or good as dependent on the individual’s view or feelings while the cultural relativist see what is true or good as based on the particular culture one is raised in.

Cultural Relativism and Ethical Relativism equally illustrated by this cartoon.
3. Critique of Subjectivism and Relativism

The relativist and subjectivist viewpoints are attractive in many ways. Ethical viewpoints do contain a larger element of “subjectivity” (i.e., personal bias) than the natural sciences. It is also undeniably true that value systems change from one time period to another, from one culture to another and even from individual to individual within a given culture. So it is a fact that individuals and cultures do differ in ethical viewpoints just like they do in many other respects. So how can we justifiably claim that one particular ethical view is ever universally or objectively valid? In addition, we know how people often behave when they are convinced that their moral perspective is the only valid, objective one: they try to impose their views on others or even worse. Believing there is an objective truth in ethics thus seems intolerant to many people and that is why they often favour relativism which seems to recognize and accept diversity of viewpoints.

We can respond to this in a number of ways. First, the fact that moral judgments are often subjective to various degrees doesn’t mean they are completely and necessarily always subjective. Some degree of objectivity is often possible. Here “objectivity” must be understood as a matter of degree and not as an either/or proposition. The degree of objectivity can be evaluated by a number of key things; first, is the factual support one has for their moral beliefs, and second; the logical consistency one provides for their moral beliefs. In this way, moral judgments are like any good theory – the more facts and logic to support it, the better the theory or moral judgment. However, one needs to remember that there will often be a degree of uncertainty and possible bias that may make some moral judgments more probabilistic than absolute. We need always to maintain an open mind and be willing to change our conclusions – something that sounds a lot easier than it really is!

Secondly, the fact that value systems change from place to place, time to time and person to person proves only that: people’s views do in fact differ. It doesn’t prove that all of these viewpoints are equally valid (or equally invalid) and leaves untouched the possibility that there may be one or a few that are closer to the “objective truth” than others. For example, it is a fact that people once believed the earth was flat. We now know they were mistaken. To say “well, this is true for them” is to deny that there is a world “out there” separate from what we think or feel about it – i.e., an “objectively” existing world. This example illustrates that there is a difference between what people may believe or perceive or feel and what really exists. Furthermore, the fact that some societies practiced or still practice slavery, for example, doesn’t make that practice right or doesn’t mean that we cannot judge it to be wrong. Even if people at the time believed it was right, that does not make it right even for them. The mistake here is in not distinguishing between what people actually or factually think and do – a question of descriptive ethics – and what they should think and do – a question of normative ethics. From the viewpoint of normative ethics, the fact that people have differing moral values doesn’t prove there is no subset of moral values that are “truer” than others. Some people could be mistaken while others could be correct. And just because “everyone” believes something to be true, doesn’t make it true. From the viewpoint of normative philosophical ethics, to judge which, if any moral viewpoint, is most correct, we need to examine the reasons (facts and logic) behind it. Those views which have the most facts to support them and are the most logically consistent are those which are most true.

Thirdly, when we actually try to argue for ethical relativism, we are in fact claiming that it is the “best” or the most “truthful” viewpoint and this immediately involves us in a
logical contradiction. We find ourselves arguing that the best viewpoint is one that claims that there are no best viewpoints. In this case it would be logically impossible to even argue for ethical relativism. A really committed ethical relativist might then maintain that logical consistency is itself not applicable to ethics because ethics are a matter of feeling and taste, like the fact that I like coffee in the morning while you prefer tea. On such matters, there is no debating of right and wrong; these are just personal preferences. That would mean, however, that we could not judge as wrong even things we “know” are wrong, like the killing of babies or other forms of murder. Clearly, there is something wrong with an ethical viewpoint that says murder is just someone’s preference, like whether she likes coffee or tea!

This leads us to a fourth and final point: relativists tend to exaggerate differences and underplay similarities in our moral values that would strengthen the case for objectivity in ethics. The source of this objectivity comes from the fact that, as human beings, we have certain common characteristics, including similar bodies, a rational mind, feelings, language, social life, and a certain amount of empathy for our fellow human beings and other living creatures. These basic characteristics are common to most adult individuals in all societies in the world and are part of our human nature or human condition. The moral part of this common human nature may be called our moral intuitions, a kind of “moral common sense”\(^2\) that we recognize immediately as a twinge of conscience whenever we know we have done something wrong. It is what makes us say that murder or killing of innocent life is wrong – objectively wrong, despite the arguments of ethical relativism or subjectivism.

Moral intuitions may be a product of social and parental teaching or might even be built into us biologically, as some have claimed. Religious people sometimes believe these are implanted into us by God. Whatever their origins, moral intuitions provide one source of moral guidance, though perhaps not always a clear, justifiable or reliable one. Some ethical theorists view our moral intuitions as one source (not the only source) for particular moral traditions, for example, Christianity, or Islam or Hinduism, etc. Moral intuitions may also be at the basis of secular (non-religious) or philosophical ethics as well, such as Kantian ethics and utilitarianism. In this sense, all religious and philosophical moral traditions are simply different ways different cultures have had of formulating, developing and expressing a common moral nature or our basic moral intuitions. In fact, as the German philosopher Immanuel Kant showed, no society exists, or can exist, where killing, lying or stealing is accepted as the norm. The existence of moral intuitions and the fact that no society exists without moral systems based partly on them suggests that ethics are or can be objective, at least in some measure.

If ethics is more than just personal preference or what your society thinks is right, we can argue, convince, defend and rationally discuss the merits of our ethical viewpoints and judgments, something we could not do if these were merely a matter of taste. But within this common basis for moral guidance, we recognize, of course, substantial differences between cultures and religions throughout the world and even some variations between individuals belonging to the same culture and religion. Because all moral systems in the world may be based, in part, on moral intuitions does not mean that all moral systems will be identical. It does mean, however, that there is a possibility of reaching at least partial agreement and objective understanding on what constitutes right and wrong action. Ethical

\(^2\) Examples of moral intuitions may include the rules that we should not kill, steal or tell lies.
relativism is thus wrong in denying that there is a common, objective basis to morality and claiming that morality is just a matter of individual taste or culturally accepted beliefs. Ethical relativism is thus an untenable and inadequate theory of ethics.
Chapter 2: Ethical Principles & Ethical Theories

C. Ethical Principles, Codes of Ethics and Legal Principles

1. Ethical Principles

Should one always tell the truth to a friend even though this might hurt our friend’s feelings? Should loyalty or sympathy to a friend come before honesty? Here loyalty and honesty are examples of ethical principles (like ethical rules) many of us follow. These principles can be like guides to doing the right thing and most of the time they probably work well. Just working out and writing down one’s own ethical principles is an interesting and valuable exercise in philosophical ethics. Here are some well known ethical principles drawn from religious and philosophical ethics:

- Sanctity of human life (a religious ethical principle)
- Thou shalt not kill (a religious ethical principle)
- The golden rule (a religious ethical principle)
- respect for life (a philosophical ethical principle)
- confidentiality or privacy (e.g., of patients’ medical information)
- autonomy (the freedom to act according to one’s own wishes)
- beneficence (doing good)
- non-maleficence (not doing harm)
- justice
- equality

But sometimes these principles can be in conflict, as in the example above of truth telling to a friend. Philosophical ethics can help in resolving or at least clarifying such difficult ethical dilemmas. Reasoning things out with the help of philosophical ethics can help find a better solution to ethical dilemmas than just acting from emotion or without thought. In particular, ethical theories (mentioned later) are key parts of philosophical ethics that may help resolve clashes between ethical principles.

2. Codes of Ethics

Ethical principles can sometimes be found listed in codes of ethics produced by doctors, nurses and many other professional associations. Such codes of ethics are often no more than a list of ethical principles or rules allowing, commanding or prohibiting certain acts. One famous example in religious ethics are the Bible’s Ten Commandments “thou shalt” and thou shalt nots”. The Ten Commandments are a type of code of ethics intended for an entire community. But codes of ethics are rules more often written up and intended for the practitioners of specific occupations, like doctors, nurses, teachers, policemen, engineers, etc…Thus the famous Hippocratic Oath, after invoking Apollo and other deities as witnesses and establishing the duties and obligations physicians have towards each other and their patients, includes statements such as:
• “I will apply dietetic measures for the benefit of the sick according to my ability and judgment; I will keep them from harm and injustice.”

• “I will neither give a deadly drug to anybody if asked for it, nor will I make a suggestion to this effect. Similarly I will not give to a woman an abortive remedy…” (“The Hippocratic Oath” in Edelstein, 43)

Similarly, the **Canadian Medical Association** Code of Ethics includes in its first section, seven different statements of principle outlining the behaviour expected of the ethical physician:

I. Consider first the well-being of the patient.
II. Honour your profession and its traditions.
III. Recognize your limitations and the special skills of others in the prevention and treatment of disease.
IV. Protect the patient’s secrets.
V. Teach and be taught.
VI. Remember that integrity and professional ability should be your best advertisement.
VII. Be responsible in setting a value on your services. ("The Canadian Medical Association Code of Ethics," in Kluge (ed.), pp.536-540)

Codes of ethics like the ones mentioned above are simply lists of ethical principles. But again, sometimes different principles can conflict. A doctor, for example, may have sworn an oath to do whatever she can to preserve the life of a patient. But what if that patient is suffering from a painful and incurable disease and requests the termination of life-sustaining treatments? Should the doctor follow the principle of preserving life or respect the wishes of the patient (autonomy)? Also, what exactly does “the well-being of a patient” mean? Does it mean preserving the life of the patient regardless of the pain a patient might be facing or regardless of the wishes of the patient? Here a definition and interpretation of “well-being” is needed and so is a way to resolve a possible clash between the principles of respect for human life with other principles. Because they are just lists of principles, codes of ethics don’t provide this. What is needed is philosophical reasoning and ethical theory.

3. Legal Principles

Ethical principles are also found in another set of rules and that is the law. Like codes of ethics, **legal principles** are enshrined in legal codes such as municipal bylaws, provincial laws as well as federal laws like the **Criminal Code**. These are parts of the laws of a country and spell out what rules we are bound to follow. Unlike ethical codes, however, breaking these legal codes (i.e., breaking the law) may result in jail, fines or other consequences. **Legal principles** reflect to some extent (but not always) ethical principles that are widespread in society. However, like all lists of principles, they cannot provide a complete guide to all situations and require interpretation, definition and argument and reasoning. Otherwise, we wouldn’t need judges, lawyers and courts! As with codes of ethics, legal principles can often clash with each other and a way to resolve dilemmas between legal principles is needed. Clashes can occur because one principle or section of the same or different legal code may appear to contradict another, or for other reasons. One
partial solution to this is to establish one set of laws as the “highest” and most important in the land. In the United States, this is called the Constitution and it contains key principles which all other laws must not contradict or violate.

Canada also has a Constitution which includes the Canadian Charter of Rights and Freedoms, passed in 1982, and is the highest law in Canada. Section 7 of the Charter states “Everyone has the right to life, liberty and security…” but does “liberty” here mean that a patient has the right to end life-sustaining treatments? Does “the right to life” here mean that women do not have the right to have abortions? Even having a “highest law” doesn’t remove all questions. Again, just as we saw with other lists of principles, legal principles need to be defined, interpreted, and argued so that clashes between principles can be clarified and resolved. That is one important purpose of the courts!

![Canadian Charter of Rights and Freedoms](https://greatlakesenvironmentaljustice.wordpress.com/aamjiwnaang/ecojustice-charter-challenge)

Section 7. Everyone has the right to life, liberty and security of the person and the right not to be deprived thereof except in accordance with the principles of fundamental justice.

Section 15. 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.

~ The Canadian Charter of Rights and Freedoms


Even if the law is clear, which is not always the case, is what it dictates always the right thing to do? Many people disagree with current laws dealing with abortion, euthanasia, capital punishment, drug enforcement and much more. Though as citizens we are bound to follow the law or suffer the consequences, that doesn’t mean the law is always ethically right. Not so long ago, the law protected slavery and did not allow women the vote. Today we would see this as wrong. The ethics of our society have changed since then and the laws have changed accordingly.

In some ways the law is a reflection of a consensus, agreement and compromise about what a large segment of society believes at any given time. Critics, however, maintain the law is often written by the powerful minority to serve mainly their interests. But even if a majority of people believe in something, does that make it right? All of the above shows that just because we have rules or principles to follow, that doesn’t mean they provide an answer to every possible situation or that even when they do, the rules are not always right or ethical. There may sometimes be a big difference between what is legal and what is ethically right. We need to be able to interpret these rules or principles and also to question...
them by asking what factual or logical support they have. Just like in assessing our own personal ethics, we need to use the reasoned approach of philosophical ethics to see if the ethics of our society, enshrined partly in the law, are well supported. Philosophical ethics provides ethical theories that can help in this task but, as we will see, they don’t provide a perfect answer either!
D. Ethical Theories

Ethical principles may play an important role in establishing the ethical standards of a profession or an institution just as they are important in guiding one’s own ethical behaviour but they are not ethical theories. Ethical principles present no argument as to why an ethical principle exists or is valid, and often cannot adequately deal with situations in which ethical principles clash. The Hippocratic injunction to do no harm, for example, may conflict with other principles, such as the relief from pain. In addition, ethical principles often leave unsettled key definitions of basic concepts such as “health”, “well-being” or even the meaning of “good” or “harm” and other terms. Presenting a reasoned argument, definitions, and interpretations that provides a more complete, consistent and connected ethical viewpoint is the job of an ethical theory. Like science, philosophical ethics tries to develop theories that can be used both to explain and support ethical viewpoints and guides to decision-making action. Such ethical theories also are intended to help resolve the problem of conflicting principles mentioned above and thus arrive at satisfactory ethical decisions. The questioning and clarification of what these principles are and what good or bad is are what ethical theories are supposed to do. Furthermore, ethical theories try to establish worked out systems of ethical principles or rules that fit together logically without contradicting themselves and not just disconnected lists of principles.

The word “theory” here does not mean something unsure but, as in science, a fairly widely accepted explanatory idea, as in the “theory” of gravity. As mentioned above, a key assumption of most philosophical ethics is that it is possible to reach a certain amount of “objective truth” about issues of right and wrong. By “objective truth” is meant a viewpoint that is not just true for me or for a particular culture or time but true for everyone even if it is not accepted by some. Again this is much like what science claims for its laws and theories. Gravity, for example is not just true for me but is true for all times and places – it is an “objective” not just a “subjective” (personal) truth. In science, theories like gravity can also be used to explain many things, like why objects fall to the ground. At the same time, facts can be used to support the correctness of a theory. Thus, the fact that all objects fall to the ground when released from a certain height supports the theory of gravity. Of course, any fact that contradicts the theory would show that the theory is untrue. If I let go of a pencil and it did not fall to the ground but stayed floating in the air or flew up instead, this would contradict the theory of gravity. So theories are ideas that explain many facts about the world and are also supported or confirmed by many facts observed in the world.

Unfortunately, unlike in science, there is no single, universally accepted theory of ethics. There is nothing like a single “theory of gravity” in philosophical ethics that is accepted by everyone. Instead there are a number of key competing theories we will need to look at. Though some have claimed that their ethical theory covers all situations, just like the theory of gravity covers all situations, the fact is that each one has serious weaknesses and imperfections. Though philosophical ethics, like science, uses facts and reason, it is not as accurate or objective or reliable as science. But, by using various theories and approaches and maintaining our commitment to fact and reason, we can still make substantial progress in coming closer to the truth even if we can’t come to an absolute certainty. This
“fuzziness” (as compared to science) is typical of all studies that involve examining human beings and human behavior.

Many ethical theories are based on a general view of human nature then try to deduce moral principles like justice and human rights from this general theory. Many assume a model of society in which individuals compete and conflict in asserting their individual rights and interests. But all theories (except for one) accept that there are moral rules that go beyond mere self-interest. In other words, almost all ethical theories assume that we have ethical obligations to ourselves and others. Following the Royal Commission on the New Reproductive Technology, we will examine 6 different ethical theories:

1. Ethical Egoism
2. Utilitarianism (or Consequentialism)
3. Deontology (Kantian ethics)
4. Natural Law
5. Social Contract Theory
6. Ethic of Care (Feminist ethics)

1. Ethical Egoism

This theory asserts that what is moral is simply what fulfills our self-interest. In other words, it is what many people might term a theory of “selfishness” or simply “egoism”. Ethical Egoism criticizes and rejects view that there are moral reasons that can restrain or impede personal self-interest. Action is based on personal desire and self-interest and if an action does not satisfy these criteria there is no reason to do it. On the other hand, some ethical egoists advance the view that helping others may be in your own self-interest. Ethical egoism accepts that it may be in a person’s interest to obey certain rules (e.g., vs. theft, injury) as long as everybody else obeys them. Though short-term sacrifice to self-interest is entailed in obeying these rules, long term interests are protected (for example, the protection from injury and benefits of co-operation). However, we know this is not always the case and

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3 This fact, often lamented by students and others and even offered as proof of the irrelevance of normative ethical theory, should not necessarily be viewed with consternation. It is simply a reflection of an important lesson in education in the Humanities: there may not be a single, true, key “theory of everything” that will tells us what to think and do. The real secret is in the continuous search and fair appraisal of rival viewpoints in the formation of one’s own understanding of life.
sometimes helping yourself will harm others and vice versa. The ethical egoist would say when this happens you should simply help yourself and do what is in your own interest.

Ethical egoism has been severely criticized in many ways. Many argue that this is really not a theory of morality at all, since “moral” by definition, means some degree of concern for others. Ethical egoism might agree that it is in my self-interest to obey certain rules but nothing prevents the strong or powerful from dominating the weak, if this is advantageous to the former. Thus ethical egoism may justify, in some contexts, the enslavement and oppression of the weak by the strong – hardly a credible moral normative theory (i.e., a theory about how we should act)!

2. Utilitarianism

Utilitarianism is an ethical theory developed by the British philosopher Jeremy Bentham (1748-1832) and later refined by John Stuart Mill (1806-1872). According to this theory, the morally right action is one that creates “the greatest happiness (or greatest good) for the greatest number”. It is a theory that looks at the maximization of “well-being” or “happiness” as the main rule deciding ethical action. In other words, to decide what is good, one has to calculate whether one course of action will result in more “happiness” or “good” than another course. The right action would then be to choose the action that follows the greatest happiness or greatest good.

Over many years, utilitarian philosophers have tried to work out the definition of “happiness,” or “well-being” as well as who should be counted as part of the greater number. Is “happiness” the same as “pleasure” or is it “something higher”, like “the good”? “What is the “good”? Does the “greatest good” mean the “greatest good” for the individual, or for a single society? The whole human race? Or do we include non-human animals too? The issue of who it is that does the maximizing of happiness (individual, group, or society) is also debated.

Originally “happiness” was interpreted as “pleasure” and utilitarianism is often described as a way to calculate how to achieve the most pleasure and the least pain. Later, under pressure of criticism, other philosophers redefined “pleasure” to mean “happiness” or “goodness” or “well-being”. Many utilitarian philosopher have also more recently insisted that the “greatest good” should refer not just to the good of the individual or to that of a single society but to that of the human race as a whole and even to include many non-human animals, too. However, there is still disagreement about these matters. Despite this, most people can easily see that there is at least some validity in a theory that promotes the greatest good for the greatest number, however we define the various debatable terms.

Utilitarianism is part of a consequentialist group of theories, in that “happiness” or “good” is judged by the actual or potential consequences an action has or may have on everyone, rather than the motives or intentions of the action itself. For consequentialist theories, no actions or desires are intrinsically good or bad in themselves but good or bad is judged by consequences. For example, killing someone would normally be considered bad. But if by killing that someone you could save hundreds of others, then the action would be good, according to utilitarianism, since you’ve accomplished a greater amount of happiness or good than of unhappiness or bad. Even if the killing was accidental or unintended, utilitarians would still consider it a good action because it is results, outcomes or consequences that matter, not intentions.
As sensible as this sounds, consequentialist theories like utilitarianism do not always accord with our everyday moral sense, or what some call, our moral intuitions. Imagine, for example, a physician who wanted to test a potentially dangerous drug on other human beings. Since a risk of death is involved, he decides to hide this fact from his subjects and injects them with the substance. He justifies this action by arguing that the drug could save hundreds of lives at the cost of the lives of only a few experimental subjects. It thus fits the utilitarian rule of “greatest good for the greatest number,” and from the utilitarian viewpoint is therefore ethical. This, however, would violate our moral intuitions and many cherished principles such as the respect for human life, personal autonomy, informed consent and so forth (see below). In addition, since you are looking at the possible future consequences, there is no guarantee that the sacrifice of your subjects will bring any benefit at all. Though utilitarian calculations may sometimes be very useful, it is clearly not adequate for every possible case.

3. Deontology or Kantian theory

Deontology is influenced by the German philosopher Immanuel Kant (1724-1804), who conceived of morality as flowing from an inner sense of duty rather than from a calculation of external consequences. This sense of duty established what he termed the categorical imperative. Any act that follows the dictates of the categorical imperative is moral for Kant and any act that violates it is immoral. However, there are three formulations of this categorical imperative:

(i) The universalizing maxim. Act as if your will were also a universal law.
(ii) Respect for rational agents. Always respect people as rational agents.
(iii) The formula of ends. Treat rational agents always as ends in themselves, never merely as a means to an end.

The connection between these three formulations of the categorical imperative is unclear, though they all seem connected to our uniquely human rational abilities for Kant. But we can still explain the key ideas behind each. The universalizing maxim provides criteria for deciding whether the “will” or intention behind an action, is ethical or not. It asks us to imagine whether an action we are contemplating would remain valid (logically consistent, tenable) if everyone acted according to that principle (i.e., if it were a “universal law”). For example, if I decided to take a loan I know I couldn’t pay back, the principle under which I acted could be summarized as “Whenever I’m short of money, I will borrow money and promise to pay it back, though I know I won’t”. To determine whether this is ethical, says
Kant, we should imagine this as a “universal law”, meaning let’s imagine everyone did it and thought it was acceptable. What would happen if everyone acted according to this principle? Knowing that people really did not intend to pay back, banks would obviously stop providing loans. But not only would bank loans become an impossibility, even promising itself would become an impossibility, because, as Kant states, “…it would make promising, and the very purpose of promising, itself impossible, since no one would believe he was being promised anything, but would laugh at utterances of this kind as empty shams” (Kant 90). In other words no promises would ever be taken seriously and they would soon cease to exist. Bank loans or other such practices would never even exist in a world like this because they are based on the assumption that, overall, promises are intended to be kept. In a world like this, we wouldn’t even be able to ask for loans because the principle upon which they are founded would not exist or even be possible. For Kant any principle that “contradicts” or destroys itself like this when it is “universalized” should be judged unethical.

The other formulations of the categorical imperative – respect for people as rational agents and treating people as ends in themselves are a bit simpler to understand. They both imply that people, by virtue of their rationality, possess an intrinsic dignity. For Kant, the ability to reason (rationality) is what separates humans from other animals. In addition, it allows people (“rational agents”) the ability to determine their own fate. As such, humans should never be used merely as means to an end – even “the common or highest good,” but should be treated as ends in themselves. The utilitarian view that sacrificing certain individuals or deceiving them even for the happiness of many others would be wrong for Kant because that would be treating people as a means to an end and would be disregarding their will as rational agents.

We can see that for Kant it is not the consequences but the quality of the motive or will or intention which determines the ethical nature of an act. Kantians thus believe that there are intrinsically good or bad actions, regardless of the consequences. In this view people have intrinsic rights over their own bodies and lives that medical research and technology cannot disregard, even in the name of the greater good. In our previous example of the doctor concealing the potentially harmful drug to his test subjects, Kant would say this was wrong because we would be using these subjects only as means to an end and not as an end in himself/herself.

Surprisingly, Immanuel Kant did not get many dates.

It is not difficult to see how this system of ethics may also have problems. Suppose we are living in Nazi occupied Europe and are hiding Jews from the Gestapo. What should
we do if they come to our door and demand to know whether we are hiding these people in our home? According to the Kantian view, lying, even to save a life, would not be allowed according to the first formulation of the categorical imperative. This again, seems to violate our moral intuitions which tell us that it is a moral act to save people from unjust persecution or death.

Despite these apparent failings, there is something that rings undeniably true about Kant’s categorical imperatives. For one thing, Kant’s ethics offers a defense for individuals and groups whose lives or welfare could be threatened “for the greater good” and asserts the rights and dignity of the individual against threats by the majority.

4. Natural Law Theory

Adherents of natural law believe that morality is based on following the natural order of things. This view implies that moral principles can be read in the tendencies of the natural order. These include:

i. the desire of all living things for self-preservation,
ii. the desire of all living things for procreation and family life, and
iii. the inclination of human beings to reason and act according to natural principles.

These tendencies, observable in animals in nature, for example, are used to establish ethical principles and duties such as: respect for life, protection of the family and respect for rational autonomy. Under these moral principles, most natural law theorists would oppose, for example, euthanasia which contradicts the principle of respect for human life. The same would be true for abortion and any artificial interference in the process of human reproduction and genetics. But disagreements abound, too.

A major problem in natural law theory is determining what is “natural”, especially for human beings. Is killing more natural than helping each other? Is homosexuality “natural” and therefore morally acceptable or is it “unnatural” and thus immoral? Furthermore, modern medical technology is full of artificial (“non-natural”) aids to extend life, relieve and manage pain and other purposes. How does a natural law perspective deal with this? Is wearing glasses unnatural and therefore immoral? Finally, equating what is natural with what is good is a common practice but it can sometimes wind up in some fairly problematic conclusions. For example, if nature is, as some claim, a jungle in which only the fittest survive, does that mean that this is how humans should also conduct themselves?

5. Contractarianism (Social Contract Theory) and Natural Rights

This theory imagines society, including government and laws, as if it were an agreement between people. What would we all agree to if we could set up our own society? That is the test of whether any act or policy is right or wrong according to this theory. The agreement, called the social contract, would probably include whatever would help maintain life, order, liberty, property of the signatories to the social contract.

One of the earliest social contract theorists, Thomas Hobbes (1588-1679), proposed that humans were at first in a “state of nature” with no laws or rules and were thus like in a “war of all against all” in which each person’s life was “solitary, poor, nasty, brutish and short” (Hobbes ch. 13). For their mutual benefit, says Hobbes, people agreed to establish
government and laws and live in society – the social contract. For Hobbes, the social contract traded the original but insecure freedom people had in the “state of nature” for the advantages living in society could bring, including laws, order and stability. Since Hobbes saw people’s lives in the state of nature (before the social contract) as especially insecure, his view was that the contract gave the king (or government) almost complete power over the people. In other words, people had few rights under society against government power. In exchange they had a safer and more stable society.

However, later writers, taking the same social contract idea, disagreed that people had handed over almost all their freedom when agreeing to live in society. The British philosopher John Locke (1632-1704) wrote that governments did not or should not have complete power over individuals and could not take away the life, liberty and property of people because these were “natural rights” that people had in “the state of nature” even before the social contract and could not be taken or traded away even to form or enter society. Today the idea that people have rights is very influential indeed. We find the idea of rights in the US Declaration of Independence of 1776:

We hold these truths to be self-evident, that all men are created equal, that they are endowed by their Creator with certain unalienable Rights, that among these Life, Liberty and the pursuit of happiness.

We find the same idea in the Canadian Charter of Rights and Freedoms which lists some of these rights in section 7, as mentioned above:

Everyone has the right to, life, liberty and the security of the person and the right not to be deprived thereof except in accordance with the principles of fundamental justice (“Canadian Charter of Rights and Freedoms”).

People today use “rights” language all the time. But there is a difference between “legal rights” as put down in legal documents like the Canadian Charter and “moral rights” which might not be in the law but may still influence people’s ethical views and actions. During slavery, for example, abolitionists used the idea of “rights” to try to win freedom or liberty for the slaves. At first this right of freedom was seen as a moral or ethical right. Only later, when the abolitionists cause grew more powerful, was it transformed into a legal right and slavery legally abolished. The same thing happened with women’s rights and now may be happening with Gay rights here and elsewhere in the world.

Modern day contract theorists propose that the best way to establish whether an action or policy is moral is to imagine what rules we would agree to for society if each person could decide for himself or herself what these rules would be. To find the best rules we would need to make them based on objective reason rather than on our own particular interests or biases, as if we did not know what kind of careers and special interests we were going to have. We would not know if we were going to be a beggar or a millionaire. By following this procedure we could find ethical rules that would really be objective and achieve the common good that we should live by. In reality, of course, we are all born into an already existing society with all sorts of rules, ethical and legal principles already in place. But contractarianism asks us to pretend that’s not the case as a method to discovering objective ethical rules or principles to live by.
Obviously, rules like those protecting people against murder, theft, slavery and such would probably be accepted. Nobody would agree to join a society in which these things were acceptable because you never know if you might not wind up as a victim of murder or as a slave. But how would contractarianism deal with the issue of whether it is ethical for you to cheat on an exam? Or about whether you should tell the truth to your friend about his lousy artwork or be loyal or encouraging? How would it stand on issues like abortion? Does the foetus have “a right to life” like other individuals in society or are the mother’s rights of liberty more important? It may not be so easy to apply contractarianism to these daily moral problems. Another major criticism is about the make believe nature of social contract theory. Even social contract theorists admit the “state of nature” probably never existed since humans have always lived in societies with rules. Thus there probably never was a “social contract” and some go so far as saying the entire idea of “natural rights” is also nonsense. The utilitarian philosopher, Jeremy Bentham, for example, says the idea of natural rights is like “nonsense on stilts”. Despite this, social contract theory remains, especially the influential idea of “rights”.

6. The ethic of care

Advocates of the ethic of care (sometimes also called feminist ethics) criticize the general approach of the ethical theories we’ve just examined. They question the attempt to establish universal and general moral laws covering all cases. They also criticize the assumption these theories make that human society is like a battlefield between individuals with competing interests and rights. The ethic of care stresses the uniqueness of each case and the need for sensitivity to the specific needs of the unique individuals in each case, rather than the construction of general theories and principles. A key principle it does follow, however, stresses the importance of maintaining responsibilities and social relationships rather than managing conflicting interests and rights. As in other approaches, there are differences in how the ethic of care evaluates various cases. In the abortion controversy, for example, some claim the ethic of care allows us to see that the central issue is not in pitting the rights of the foetus against the rights of the mother but in showing a concern for both and viewing them both as a single unit, precluding restriction of women’s rights and her own sense of responsibility. Others however, using the same framework, propose that law should impose a “duty of care” on pregnant women to protect a foetus.
PART II: ORIGIN OF BIOETHICS & BIOETHICAL ISSUES

http://oregonstate.edu/terra/2008/09/strong-medicine/


Chapter 3: Origin of Bioethics

A. Beginnings

Since bioethics has become a branch of philosophy (philosophical ethics), one can trace it back to the beginning of western philosophy in the 6th century BC in ancient Greece. The Greek philosophers tried to understand the world around them by relying on fact and reason. Even more specifically, some thinkers at that time began to try to explain health and disease by the same means. The “father of medicine” in the West, Hippocrates (c.460-377 BC) was one of the earliest to approach illness and health in this way. For example, he correctly interpreted epilepsy as a result of a brain anomaly rather than as possession by demons as had previously been thought. Medicine, as a science, began at this point. It is interesting that Hippocrates is also widely known for the famous Hippocratic Oath which is one of the earliest examples of a code of ethics for the medical profession. Hippocrates seemed to understand that doctors needed not just to have knowledge about their craft but also needed to have that knowledge guided by ethical principles. After all, anyone who had the power to heal also had the power to inflict harm. Thus was born the still influential Hippocratic Oath and at the same time, the field of bioethics.

However, there was little development of bioethics beyond the Hippocratic Oath until modern science and modern medicine began to make a serious impact on the lives of people. Before the 19th century there was no understanding of germs and microbes, no vaccination, limited hygiene, poor nutrition for much of the population and if seriously ill, one was lucky to survive a visit from a doctor or a stay in the hospital, if these were within reach in the first place. To make matters worse industrialization was crowding people together in rapidly growing cities and creating even more difficult conditions for the great numbers of impoverished and landless labourers who flocked there to search for work. Serious outbreaks of infectious disease began to threaten even the more prosperous classes.

It was only when medical science began to make a substantial difference in the life span and the quality of life of the average person that bioethics became a prominent field of study. Along with the benefits of medical science came unforeseen drawbacks and dilemmas that we are now facing and that created a need for serious study. But bioethics isn’t just about the dilemmas and debates caused by medical science and fancy new machinery or technology. At least as important to the growth of bioethics were changes that had little to do with medical science and much more with political and economic events and battles. In this regard, one key turning point in the development of modern bioethics were the events that happened during World War II (1939-45) and the period immediately after, sometimes described as the Cold War (especially 1950s to 70s).

These events also have less to do with medical or scientific breakthroughs and much more with history, politics and economics. We begin with a look at the increasing impact of medical knowledge and of social changes that dramatically changed the standard of living of people in the western, richer countries of the world.
B. The Increasing Impact and Power of Medicine & the Life Sciences

The average life span of an American male in 1900 was about 44-45 years old. Today it is about 74-75 with another five years for the average female ("Ten Great Public Health Achievements" 1481). Similar figures are found for most Western countries. In Canada, life expectancy for a baby born in 2005 is about 80.4 years4. In less than a hundred years, we have practically doubled the life expectancy of people in the rich countries of the world. Equally important has been the lowering of the death rate due to various factors like infectious diseases and malnutrition. How was this miraculous achievement made possible? Three key elements are involved, (i) the growth of scientific knowledge about the cause of disease along with improved medical technology to treat and cure disease, (ii) the increasing economic growth and productivity due partly to industrialization in the richer countries of the world and (iii) the increasing power of organized ordinary citizens. The latter point is especially important in that it allowed the benefits of (i) and (ii) to be shared across a wider section of society. Only point (i) is examined in this section.

1. Improvements in Hygiene, sanitation, nutrition

One key element in extended life span is the growth in scientific understanding of hygiene and sanitation in the 19th century and the recognition that infectious diseases were partly the result of bacteria or germs. Improved hygiene in the growing cities, in childbirth and in surgical operations also helped. Perhaps the most crucial factor was the initiatives that led to cleaner water supplies and sewage disposal. Polluted and unhealthy water are key causes of deadly infectious and non-infectious diseases, especially among children and infants. When governments began massive and expensive programs to pump fresh water into every home, it made a huge difference to the overall health of the people. Unfortunately, clean water supply, including sewage disposal, is an expensive proposition and thus many of the poorer countries of the world still suffer from the diseases due to this cause. Safer and healthier working environments and improved housing conditions also contributed to improved hygiene and sanitation and also raised the overall health of people.

Another key cause of this extended life span was improvement in nutrition. In 1900, most people simply didn’t eat enough or didn’t eat sufficiently nutritious food. Thanks to increase in agricultural productivity, in wages and in transportation and communication, safer, healthier and more abundant foods improved overall health. Both improved sanitation and nutrition have eradicated a number of infectious diseases, reduced infant mortality and helped extend life for most people in the developed world. They also make clear that a key component of improved health and longevity of people is not medical technology but simply improved living and working conditions that provide better food, cleaner water and healthier surroundings.

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4 This is an average between males and females. “Life expectancy hits 80.4 years: Statistics Canada,” CBCnews.ca, http://www.cbc.ca/Canada/story/2008/01/14/Death-stats.html
2. Vaccination, Antibiotics and Drugs

Beginning in the late 19th century, large scaled large scale vaccination programs, prevented the illness or death of millions of people from infectious diseases. As one recent article put it:

Before smallpox was eradicated with a vaccine, it killed an estimated 500 million people. And just 60 years ago, polio paralyzed 16,000 Americans every year, while rubella caused birth defects and mental retardation in as many as 20,000 newborns. Measles infected 4 million children, killing 3,000 annually, and a bacterium called \textit{Haemophilus influenzae} type b caused Hib meningitis in more than 15,000 children, leaving many with permanent brain damage. Infant mortality and abbreviated life spans — now regarded as a third world problem — were a first world reality\textsuperscript{5}.

As mentioned above, just disease, smallpox, had killed millions of people throughout history, and has now been completely eradicated. A continuation of large-scale inoculation programs for diseases like polio have also all but eliminated many of the dreaded diseases of the past — at least in the rich countries. Ironically, however, there is now an “anti-vaccination movement,” especially in the USA which has succeeded in lowering the rate of inoculation, especially of children, and some of the diseases of the past are now making a comeback as a result\textsuperscript{6}.

After World War II (1939-1945), more scientific advances also paved the way to the development of antibiotics such as penicillin and streptomycin, a major step in managing and eradicating bacterial infections like pneumonia, syphilis, gonorrhea, diphtheria, scarlet fever and tuberculosis. Unfortunately, bacteria keep evolving and we are now faced with a crisis due to the problem of antibiotic resistance\textsuperscript{7}. The postwar period, also saw an explosion of drugs for all sort of conditions both physical and psychological. These have allowed people to manage illness, cope with pain, and otherwise lead more productive lives than they otherwise would. A famous recent example is the drug combination called AZT (also called the “cocktail”) which has dramatically changed the outlook of people suffering from HIV and full blown AIDS. Again, however, most of the benefits of this discovery have gone to people in the rich countries of the world.

Whereas in earlier periods when individual researchers and scientists or small labs often connected to research universities invented or discovered new drugs or techniques, in the 20th century, these were increasingly developed by a giant multinational pharmaceutical companies. These have been important for the treatment of a host of illnesses including heart disease, diabetes, and pain management linked to many other underlying illnesses. Important, as well, are drugs and treatments developed for mental conditions, including a class of drugs called SSRIs. More recently, drugs to treat conditions like ADHD (Attention Deficit Hyperactivity Disorder) in children have been in the spotlight and a source of controversy and debate. Though it is true that many of these drugs have helped people cope with their illnesses, it is also true that besides their potentially


\textsuperscript{6} Ibid.

harmful side effects, there is the increasing problem of abuse and addiction. Such problems have fed into growing mistrust of the pharmaceutical industry and even of medical science itself among important segments of the population.

3. Other 20th century advances in medical science and technology

In the 1960s the adoption of all kinds of life-saving machinery such as the respirator, the kidney dialysis machine, and, more recently, the adoption of various kinds of diagnostic scanning tools from the CT scanner to ultrasound to the latest computer-assisted MRI (Magnetic Resonance Imaging) systems have also made a profound impact on diagnosis and treatment of illness and disease. Organ transplantation and other techniques have prolonged the lives of many who would otherwise have died.

4. New Dilemmas Created by Progress in Medical Science & Technology

Many of the technologies and advances mentioned above help to save lives and relieve suffering, but they also created new previously unimaginable problems and ethical dilemmas. For example, drugs and treatments to help alleviate suffering and disease have sometimes caused terrible and unforeseen consequences in the people who have taken them or their offspring. This was the case in the infamous thalidomide tragedy in which pregnant mothers were offered pills to relieve “morning sickness” but which resulted in serious birth defects in their children (“Thalidomide”). Human and animal experimentation in the process of understanding disease and in creation or testing of some of these drugs to counter disease has also sometimes erupted into serious ethical controversy. The miracle of antibiotics has suffered a serious setback with the development of antibiotic resistant bacteria that threaten a comeback of many diseases previously thought conquered. Organ transplantation and dialysis has sparked debate about who gets access to these and who doesn’t, as well as whether we should or should not allow payment for the “gift” of a new organ. The ability to maintain life through the respirator and other means has forced us to seek clearer definitions of death while the extension of life has given rise to questions about the quality of life that is thereby extended, along with questions about the ethics of assisted suicide and euthanasia. The high cost of many drugs, treatments and medical technologies has raised issues of equal access to these treatments and has put a strain on the public health care system in Canada and many other countries. Such questions kept bioethicists busy for decades. And the continuing growth of medical science and technology has kept bioethics busy right up to our own time.

C. The Biological Revolution

Most recently, a new wave of scientific advance in biology, genetics, and biological technology (biotechnology) has resulted in what has been called the biological revolution or genetic revolution. The manipulating of the genes of animals, plants and microorganisms, called genetic engineering or recombinant DNA technology, is at the heart of this revolution. Aided by the vast new information gained by the Human Genome Project, a largely U.S. government sponsored multi-billion dollar project to
map the entire human genetic code. The HGP promises to assist the science of genetics in opening new doors to the prevention and treatment of genetic and partially genetic illnesses. Already, genetic testing allows us to peer into our own genetic makeup and the genetic makeup of the fetus (called prenatal diagnostics) to search for genetic or chromosomal diseases, such as Down’s Syndrome, Huntington’s, Tay Sachs or genetic vulnerabilities, such as predisposition to certain forms of cancer. The new techniques of gene therapy, promise to one day remove or alter genes responsible for these diseases or vulnerabilities. Meanwhile, knowledge of the chemical structure of genes allows for the creation of new drugs and medications of all sorts that are more powerful, more varied, more specialized, more effective and more abundant than ever before.

Stem cell research and research on fetal and embryonic tissue is yet another example of the powerful possibilities of biological technology, this time holding the promise of regenerating diseased organs or tissues by the use of cells derived from the tissues of fetuses and embryos. Perhaps stem cell research illustrates most clearly both the promise and the obvious ethical problems that modern medicine creates. In medicine, new knowledge and techniques have allowed doctors to better manage pain, extend or maintain life and find new treatments and therapies for previously untreatable conditions but this has not been purchased at a cheap price either financially or ethically. But the power of genetic manipulation extends far beyond medicine and human health or disease. The biotechnology industry seeks to multiply the production of all types of animals and crops and increase the milk, meat and dairy from the animals we raise through genetically modified organisms (GMOs) and genetically modified foods (GMFs). New kinds of pesticides and herbicides and even new species have been created in the continued effort to improve productivity and increase profits. Cloning of animals, including humans, is only one example of the continuing spectacular advance not just in our ability to control disease but to control life itself – all life – at the most basic, genetic level.

The genetic altering of foods and living products may have long term harmful consequences for the animals and organisms concerned, for the environment as a whole and for humans who consume or are exposed to these products. At the same time, the commercial development of genetic “products” has led to the patenting of certain genetic lines and even whole organisms in the United States, raising the issue of whether owning the rights to living things is morally acceptable. The diagnosis of genetic diseases in adults presents us with the painful dilemma of whether we should inform people that they have these conditions, especially when no effective treatment exists. Widespread knowledge of our genetic makeup may increase the likelihood of a new form of genetic discrimination where employers, for example, refuse to hire us because of presumed genetic vulnerabilities to certain diseases and presumed genetic suitability for certain kinds of jobs. Diagnosis of the genetic conditions of the unborn (prenatal diagnosis) raises new questions about selective abortion, sex-selection, disability and the value or quality of life. Stem cell and fetal tissue research have also poured new fuel on the age-old abortion debate. The genetic engineering techniques used in biotechnology may also soon allow us to alter the genetic makeup of human beings. The same gene therapy techniques scientists use to replace genes responsible for genetic diseases by normally functioning ones may allow us to genetically “custom make” our children to have features and traits we consider desirable. This “playing of God” as some people call it, or the replacing of nature by human will might be one of the most serious and disturbing long term consequences of the new genetic technology. In this case, we are increasingly forced to ask what makes us
human and what is freedom if someone else is able to design us as he/she desires? It would appear that for every advance there are serious harmful or potentially harmful “side effects”, to say the least. This should make clear why ethical knowledge and debate are so urgently needed today.

As we can see, almost all medical and technological breakthrough come with unforeseen and unintended, sometimes harmful effects. Today we also need to include the harmful effect not just on people but on the environment and on other animals and plants. That is one important lesson we need to keep in mind as we move further into the 21st century.

Finally, bioethics is sometimes closely associated with environmental ethics, which examines the ethical obligations we have towards our environment. Clearly, the environment is one of the key issues of our time and is another example of how technological change brings with it unforeseen problems and controversies. Canada has been in the international spotlight recently in terms of environmental policy. We have not lived up to the engagements signed during the Kyoto Conference in 1997 to reduce Green House gases. Indeed, the development of the Alberta Tar Sands project by various governments and industry has raised a storm of controversy raising a question over whether tar sands mining is environmentally safe and ethically acceptable. Today, however, there has been a reduction in the extraction of oil in the Tar Sands (due largely to the plummeting price of oil) and the new government of Justin Trudeau promises to do better on meeting international environmental standards.

D. Human Experimentation, Nuremberg Code & Foundation of Bioethics

The many scientific and medical developments alluded to above and the great number of ethical dilemmas they give rise to, hopefully provides part of the background for understanding the emergence of bioethics as a distinct specialty in the post war period. Most significant to the birth of bioethics was the issue of unethical human experimentation, especially as conducted in World War II but also, as will be seen, which continued on in the USA, Canada and other countries even after the war.

World War II (1939-45) was the most destructive war in human history, resulting in the deaths of anywhere from about 50 to 65 million people, most of whom were civilians. Though science and technology had helped to extend human life, the war gave humanity a stark lesson on the potentially destructive application of modern science and technology when divorced from ethical constraints. Most instructive in this regard were the system of concentration and death camps built and maintained by the German Nazi regime throughout occupied Europe in which about 12 million were killed by shooting, poison gas, starvation, exhaustion or other means. This includes the figure of about 6 million Jews killed either in concentration or death camps or elsewhere in what is called the Holocaust (or Shoa in Hebrew), 2-3 million Soviet prisoners of war (PoWs), and large numbers of Roma (“Gypsies”), homosexuals, and others.

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When the war ended, some of the leadership of the Axis Powers were judged in an extraordinary series of trials organized by the Allied powers, the victors in the war, with the United States leading the initiative. In Europe, the trials were held in the German town of Nuremberg, once the site of many Nazi rallies. One set of these Nuremberg Trials were directed at the political and military leadership and another set dealt with other actors, including doctors. “The Doctor’s Trials” put some of the leading German doctors and scientists involved in inhumane experiments on the dock. The Nuremberg Trials were the first such trials in history and although some view them as propaganda exercises, it is important to recall that to the judges themselves, after so many years of horrific violence on an unprecedented scale, they represented an attempt to return to the values of “civilization”. As Justice Robert Jackson (1892-1954) so eloquently put it:

the wrongs which we seek to condemn and punish have been so calculated, so malignant, and so devastating, that civilisation cannot tolerate their being ignored, because it cannot survive their being repeated.

The “wrongs” Jackson refers to are mostly Nazi experiments conducted on unwilling concentration camp inmates. They included high-altitude experiments where inmates were placed in low-pressure chambers, freezing experiments, experiments involving injecting inmates with various diseases, bone-grafting experiments, exposing prisoners to phosgene and mustard gas, experiments on twins, experiments using various methods to sterilize inmates, and many others (“Nazi Medical Experiments”). The Doctor’s Trial resulted in the sentencing of some of these Nazi doctors to death by hanging or imprisonment but also to the formulation of the Nuremberg Code, a 10 point code of ethics outlining the rights of research subjects in human experiments. Along with the United Nations Universal Declaration of Human Rights\(^9\), the Nuremberg Code, especially the stress on informed consent, became a cornerstone of international law, human rights and bioethics in the post war world (Annas). Though some writers disagree (see Ghooi), The Nuremberg Code has been called the most important bioethical document since the Hippocratic Oath.

Unfortunately, the Nuremberg Code did not prevent further unethical experiments after the war. In a very influential article entitled “Ethics and Clinical Research” the American anesthesiologist Dr. Henry K. Beecher (1904-1976) outlined 22 examples of ethically questionable experiments conducted after the war. Some leading to death and lasting injury. Many writers believe that along with the Nuremberg Code, Beecher’s article marks the beginning of modern bioethics in America. It led not only to the drafting of stricter ethical controls in the form of the Belmont Report in the USA and the World Medical Association’s Declaration of Helsinki but the beginning of bioethics as a modern discipline taught in colleges and universities throughout the United States and the western world. Books and publications devoted to the new field multiplied throughout the 1970s and up to our time. New institutions devoted to medical ethics and bioethics also sprang up by the late 1960s and 1970s, like the Hastings Center (founded in 1969) and the Kennedy Institute of Ethics (founded 1971). Presidents Clinton and Bush (Jr.) also formed Bioethics councils to engender debate and advise them on how to address the many bioethical issues opened up by new medical and genetic technology. However, though modern bioethics

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\(^9\) Authored in part by the disabled Canadian lawyer, John Peters Humphrey (1905-95)
contributed to opening of ethical debate in institutions of higher learning and may have led to greater respect for experimental subjects and patients alike, it did not end or prevent all unethical experiments and treatments.

Moreover, a danger emerged from the growth of bioethics as an academic specialty that debate and policies would be dominated by experts and specialists and thus shut out the general public. In a democratic society that is supposed to reflect the informed will of the people, this would indeed be an unfortunate development.

Another danger is that bioethics could become so narrowly defined that crucial and controversial questions would be left out, especially if these were politically sensitive. Thus we note that few bioethical textbooks deal with the issue of torture and extraordinary rendition in the wake of 9/11 and the “war on terror” (see below). These are sometimes simply not seen as “bioethical issues” and thus not mentioned. Instead there is a focus on the important, though well worn themes of abortion, euthanasia, and the ethical debates arising from the new genetic technology. At the cost of becoming an established discipline, bioethics may be in danger of losing its critical edge and of failing to challenge the power structures that allowed abuses like those detailed at Nuremberg or those that may have occurred much more recently in the “war against terror”.
Chapter 4: What is Bioethics?

A. Definition of Bioethics

We are now ready to understand how bioethics fits into the wider tradition of philosophical ethics.

Bioethics is a field of study dealing with the ethical implications of biological and medical practice, research and technology. A compound word coined in the late 1970s, bioethics includes a study of

- **biology**, the science of living things, including human and non-human life and the environment that sustains it
- **ethics**, the study dealing with moral values, what is good or bad and with moral duty and obligation

Bioethics has also been called “biomedical ethics” and “medical ethics”, though it deals with a greater range of issues than the latter. The word “biology” (from the Greek root *bios* meaning “life” or “living”) here includes the study of, experimentation on and use of living beings, whether human or not. Biology also includes the important fields of medicine and genetics. We have already mentioned and defined the term “ethics”. Although bioethics in some form has been around for a long time, the word itself was invented in 1971 by an American physician V.R Potter in his book *Bioethics: Bridge to the Future*, stating:

I... propose the term *Bioethics* in order to emphasize the two most important ingredients in achieving the new wisdom that is so desperately needed: biological knowledge and human values (Potter 3)

The goal of bioethics is, as Potter says, to apply ethical thinking or “wisdom” and moral values to the dilemmas, questions and issues raised by the many developments in the fields of biological and medical science. The urgency of Potter’s plea to “achieve the new wisdom that is so desperately needed” is partly due to the tremendous advances in our scientific knowledge of what causes disease and what accounts for well being in humans and other living things. Most important have been the advances made in the various fields of biology, medicine and medical technology, especially in the last century. These have proved tremendously beneficial in many ways but have also had unforeseen and often very harmful consequences, forcing us to ask the bioethical kinds of questions mentioned above and to make difficult and often painful decisions.

Since the biological and medical fields often deal with the well being, suffering and life and death of human beings and other organisms, it should be clear that ethical concerns will necessarily be connected to these life sciences in some form. For example: who decides who gets life-saving treatment? On what basis is that decision made? What kinds of treatments or procedures are justified on humans or other animals in the name of science or for other purposes? Should we extend the life of everyone as much as possible even if that means unbearable pain and suffering? Should we alter people’s genetic codes to cure
disease or even to improve one’s intelligence or looks? Should we allow cloning of humans or animals? What are our ethical obligations, if any, toward non-human animals? What of our obligations towards the natural environment? These and many other questions require ethical reasoning and this is the job of bioethics. Part of the goal of bioethics is to help us make both ethical and logical decisions on such questions but as we will see, it also can help us look far more deeply and critically at the world, the society and the kind of people we have become or want to become.

B. Key Ethical Principles in Bioethics

Bioethics writers use many of the ethical theories discussed above. But they also use ethical principles. Many of these are common to philosophical ethics in general but some are especially important or relevant to bioethical concerns. Below we examine seven of the most important ethical principles mentioned in a Report prepared by the Royal Commission on the New Reproductive Technologies (Kymlicka, RCNRT, 16) in 1989 and relevant to bioethics. The (RCNRT) was given the mandate of investigating the impact of some of the New Reproductive Technologies on Canadian society and to recommend policies to the government to minimize some of their possible negative consequences. Note that many of these principles were meant to respond to development in the late 1980s and early 1990s when In Vitro Fertilization (i.e., “test-tube babies”) and surrogate motherhood were some of the most prominent issues. Today, many new developments, such as cloning and genetic engineering of people, plants and animals, for example, would also need to be addressed. Furthermore, we are dealing here with a Canadian commission that is attempting to establish ethical guidelines in the context of a health system that is publicly funded and accessible to all – unlike what we find in the United States. Despite this, many of the ethical principles remain relevant to the present time and continue to be used both here, in the US and in other countries.

Provide a one sentence definition of each:

- **individual autonomy**: ________________________________
- **justice**: __________________________________________
- **equality**: __________________________________________
- **beneficence**: _______________________________________
- **non-malfeasance**: _________________________________
- **respect for human life**: ______________________________
- **accountability**: ____________________________________
Chapter 5: Four Bioethical Issues

This section examines some of the bioethical issues we will be covering in this class. It is intended only to give a background to help in understanding further readings and stimulating class discussion and debate. The issues covered deal with human experimentation and torture, health care, and euthanasia.

A. Issues #1 & 2: Human Experimentation & Torture

Though many types of human experimentation have led to serious ethical questions in the period since World War II, the focus here will be on those experiments which have been especially significant to recent concern about the “war on terror” and which also have had an important Canadian component.

1. Cold War Background: A Canadian Cold War Connection

As mentioned, the issue of unethical human experiments conducted during the Nazi period and prosecuted during the Nuremberg trials following the war led to the Nuremberg Code and was a major contributor to the formation of modern bioethics. But the story does not end there.

The post war period featured an ideological rivalry between the USA and the USSR and their allies for political influence throughout the world called the Cold War. Fear and paranoia existed on both sides that one side would crush the other. In America, anti-communism reached a peak in trials in the 50s against hundreds of people accused of being communist and possible agents of the USSR. The trials were led by Senator Joseph McCarthy (1908-1957). In addition, trials against many people in the film industry were conducted by the House Un-American Activities Committee. The trials are now considered like “witch hunts” that ruined the lives of many American politicians, activists, artists and scientists. At the same time, paranoia and fears about possible “brainwashing” are also reflected in movies like The Manchurian Candidate (1962), remade but with much different plot line reflecting a different time in 2004.

At the same time, the Korean War in the 50s raged between North Korea, supported by Communist China and the USSR against South Korea, supported by the US, Canada and other western nations and the UN. When some American soldiers were caught by the communists and denounced their own government, even when they returned home, American authorities feared they had been “brainwashed” and thus decided to launch their own brainwashing program, entitled MK-ULTRA, directed partly by the CIA (Central Intelligence Agency)\(^\text{10}\).

2. Dr. Ewan Cameron’s Experiments at the Allan Memorial in Montreal

Ewan Cameron (1901-1967) was a psychiatrist, observer at Nuremberg Trials, and former head of the American Psychiatric Association conducted experiments on

\(^{10}\) Author Colin A. Ross disagrees, claiming the US “brainwashing” program started before this.
psychiatric patients at McGill University’s Allan Memorial Institute in the hopes of curing their mental illnesses in the 1950s and early 60s.

Cameron’s experiments involved sleep deprivation and sleep inducement, intake of massive doses of hallucinogenic drugs like LSD, and repeated high doses of electroshock therapy (ECT). Cameron’s idea was that he could wipe out past behaviour patterns that supposedly created the mental illness (he called this “de-patterning”) and then replace these with “good patterns” via “psychic driving” through constantly repeated taped messages both during sleep and in waking hours.

With CIA funding from 1957 to 1963, Dr. Cameron had used approximately a hundred patients as involuntary subjects to test a three-stage method for “brain washing” or “depatterning”—first, a drug-induced coma, spiked with LSD for up to eighty-six days; next, extreme electro-shock treatment three times daily for thirty days; and, finally, a football helmet clamped to the head with a looped tape repeating, up to a half-million times, messages such as “my mother hates me” (McCoy, 408) 19

Unfortunately, he succeeded only in destroying the complete memories and therefore the identities of many of his patients. Many lost all memory of their children, husbands, past jobs, past life and even how to play guitar. He was never able to replace the “bad behaviour patterns” with “good ones”.

His patients did not know and were never told they were taking part in experimental procedures and did not sign their consent to these. Despite these harmful results, the CIA thought Ewan Cameron’s work in Montreal perfect for their MK- ULTRA program and funded his experiments under cover of a front organization called the Society for Human Ecology.

3. Dr. D.O. Hebb’s Sensory Deprivation Experiments at McGill University

Donald O. Hebb (1904-1985) was another brilliant Canadian scientist who, like Cameron, also worked under Dr. Wilder Penfield at the Montreal Neurological Institute in the 1930s. He was appointed professor in the psychology department at McGill in 1947 where he continued work on understanding the physiology of the brain and was also elected president of the American Psychological Association in 1960. His scientific work, including his book, The Organization of Behaviour (1949), were major advances in the field of brain and behavioural science.

Hebb’s sensory deprivation experiments sought to block out all sensory inputs from volunteer experimental subjects such that they were unable to see, hear, touch or smell for extended periods of time. These experiments, Hebb states, originated in the forced confessions produced by the Soviet and Chinese communist governments during the Cold War. Some thought that the Russians and Chinese had succeeded in finding the method of “brainwashing” people.

The work that we have done at McGill University began, actually, with the problem of brainwashing. We were not permitted to say so in the first publishing.... The chief impetus, of course, was the dismay at the kind of “confessions” being produced at the Russian Communist trials. “Brainwashing” was a term that came a little later,
applied to Chinese procedures. We did not know what the Russian procedures were, but it seemed that they were producing some peculiar changes of attitude. How? One possible factor was perceptual isolation and we concentrated on that. (“Donald O. Hebb”)

Subjects were put in isolation chambers with bandages over their eyes, hands and other body parts. Later, some were put in what are now called floatation tanks at body temperature. Sometimes “white noise” was played via headphones. The results surprised even Hebb. Subjects became quite agitated and anxious within a fairly short time. They began experiencing hallucinations and many struggled to break out of their confinement. One subject suffered prolonged mental illness and, according to one author, there was a serious risk of lasting psychological damage. “It scared the hell out of us,” Hebb said later, “to see how completely dependent the mind is on a close connection with the ordinary sensory environment, and how disorganizing to be cut off from that support” (McCoy, 409). Despite these risks, and despite the apparent violations of the Hippocratic Oath and the Nuremberg Code both Cameron’s and Hebb’s experiments represented, they continued well into the 1960s.

4. From Defensive Theory to Offensive Practice

Initially, the CIA claimed that they supported both Cameron’s and Hebb’s work to gain knowledge that soldiers or others could use to defend themselves against brainwashing if captured in war or other circumstances. But these supposedly defensive purposes could and were fairly rapidly transformed into offensive ones. The CIA applied the knowledge gained from these experiments in perfecting interrogation techniques against real or perceived enemies. Some of this is clearly evident in the agency’s now declassified publication entitled “Kubark”. Called a “torture manual” by some and summarizing some of the work above and mentioning “experiments conducted at McGill University,” Kubark states that sensory deprivation works since “the calculated provision of stimuli during interrogation tends to make the regressed subject view the interrogator as a father-figure . . . strengthening . . . the subject’s tendencies toward compliance” (KUBARK, 87-90). This government agency had used the techniques developed to understand the mind and to provide therapies to patients and used them instead for the interrogation and manipulation of those they deemed enemies.

5. 9/11 and Beyond

The story continues into our own time. The events of 9/11 ignited dramatic changes on the international scene. The United States retaliated against the terrorist attacks on the World Trade Center, the Pentagon and other sites by launching a “war on terrorism”. This included the invasion of Iraq and the ousting of its leader Saddam Hussein, a war in Afghanistan followed by the ousting of the Taliban regime there and a manhunt for Osama bin Laden. The latter was found and killed by American Navy Seals in May 2012.

On another front, many suspected terrorists or terrorist supporters were captured and interrogated by US authorities. Some were sent to other countries for interrogation – often with the knowledge that these prisoners would be tortured. This practice was called
“extraordinary rendition” and Canada as well as Britain and other countries took part in the practice. In addition, the CIA operated what are called black sites in various countries where prisoners were allegedly tortured (Priest). Those not sent elsewhere to face torture were sent to the US naval base at Guantánamo Bay, Cuba. There, CIA interrogators and others utilized many of the techniques outlined in the *Kubark* manual and derived partly from Cameron’s and Hebb’s experiments. Techniques of sensory deprivation, including immediate “bagging” of individuals” are well known from countless photographs. But the technique was carried further in the cells of the prisoners. Sleep deprivation and use of disorienting drugs as well as other techniques familiar from the Canadian research and other forms of psychological and physical coercion were used. Some of the same techniques emerged again with photographic clarity when the Abu Ghraib prisoner abuse scandal broke in 2004.

Critics vehemently opposed these practices which they claimed constituted torture and thus violated the UN Convention Against Torture as well as the Geneva Conventions designed to protect prisoners of war, to which the US was a signatory. The US administration under George W. Bush countered that the prisoners were not prisoners of war but “unlawful enemy combatants” and as such were not covered by the Geneva Conventions. The use of torture was denied and redefined to fit in with practices called “enhanced interrogations”. Most controversial was the practice of waterboarding. According to Senator John McCain, who was himself detained and tortured for 5 years during the Vietnam War, during World War II, the US hanged Japanese officers for waterboarding (“McCain: Japanese Hanged For Waterboarding ”) and other torture yet under the Bush presidency it was now seen as an acceptable part of “enhanced interrogation” and not considered torture by government officials.

President Barak Obama was elected in 2009 and many hoped that his presidency would end the some of the worst abuses of the preceding government and close Guantánamo Bay. Many pressed, as well, for legal prosecution of government officials responsible for approving “enhanced interrogation”. While Obama did outlaw enhanced interrogation and ordered the CIA to end secret sites where torture was conducted, he has not able to completely close the Guantánamo Bay facility as he had promised. Though he has managed to transfer most of the prisoners out of the prison to be sent back to other counties, there are still 41 prisoners left there that are now the responsibility of President Donald Trump. Trump has criticized the prisoner transfers and has vowed not to close the prison. Obama has not prosecuted anyone for the alleged violations of international or American laws against torture (Browne).

6. 9/11 and Beyond: Canadian Involvement

The Canadian government was deeply involved in some of these events. A new category of crimes may fall under the provision of security certificates whereby non-citizens can be held indefinitely and deported. Canada has also participated in extraordinary renditions whereby suspected security threats have been sent or diverted to other countries where they have been tortured for months or years. The Maher Arar case is one of many which achieved international notoriety. On his way back home to Montreal from vacation in Tunisia in 2002, Arar was arrested and detained at a layover in New York’s JFK airport acting on information supplied by the RCMP. The American authorities eventually sent to Arar to Syria, even though Canada was his current home and the authorities knew that torture was practiced in Syria. Arar had dual Canadian and Syrian
citizenship. There he was imprisoned and tortured for almost a year. After his return, a Commission of Inquiry cleared Arar of any wrongdoing. He sued the Canadian government and received a $10.5 million dollar settlement as well as an apology from Prime Minster Stephen Harper.

**Omar Khadr** is a Canadian who was wounded and captured in a battle in a village in Afghanistan and sent first to the US Air Force base in Bagram, Afghanistan and then to Guantanamo Bay, Cuba. He was 15 years old at the time. While in Guantanamo he alleges he was tortured and mistreated. After 8 years without facing trial, he was put before special military courts at Guantanamo where he eventually pled guilty to “war crimes” charges and the charge of murder for throwing a grenade at an American soldier during the battle in which he was captured. He was found guilty and was condemned to 8 years in prison, not including time already spent. His plea bargain arranged for his transfer to Canada to serve the remainder of his term but the Canadian government was not very anxious to bring Omar back. Unlike the prisoners there from other western countries, the Canadian government did not seek to extradite him from the infamous prison where he claims he was tortured. This, despite his lawyers’ arguments that he should not have been imprisoned in the first place under the UN conventions banning prosecution of child soldiers. They also pointed to the allegations of torture, the dubious character of the Military Commissions Courts. After 10 years at Guantanamo and a series of legal battles in Canada that went all the way to the Canadian Supreme Court, Khadr was repatriated back to Canada in 2012, possibly under pressure from the American Obama administration, to serve the remainder of his sentence. He was finally ordered released, with special conditions, by a Canadian judge who refused to accept the Canadian government’s attempt to delay his release in 2015. He now lives in Edmonton with his lawyer, Denis Edney and his wife.

Canada has been condemned by the United Nations and Human rights groups for the Security Certificates as well as its involvement in extraordinary renditions and for refusal to seek extradition in the Omar Khadr case. There are unfortunately many other examples of questionable conduct by our government in the “war on terror” and it is therefore important for every citizen, regardless of the final evaluation he or she comes to, to know what is being done in the name of national security.
B. Issue #3: Euthanasia

Euthanasia was not a major issue in most societies before the establishment of the Judeo-Christian tradition. In ancient Greece the Hippocratic Oath forbade providing a “deadly drug to anybody who asked for it, nor will I make a suggestion to this effect”. In reality, however, “mercy killing” was not uncommon for example on the battlefield and in other situations. Possibly, the Hippocratic Oath did not wish to make doctors or the “healing profession” also a “killing profession”. The prohibition against killing was taken up by Christianity where it was often interpreted as supporting the sanctity of human life principle and part of the mission of the Church in caring for the weak or ill. But due to the low state of medical technology in the past, life-threatening illness most often led to relatively prompt death. Only with the advanced medical science of the 20th century, was it now possible to keep people alive who would otherwise have died but often in seriously debilitated conditions or in prolonged pain. At the same time, the influence of religion, and with it the sanctity of human life principle, declined. And thus only then did euthanasia became an increasingly serious social and ethical issue.

1. Nazi Germany and the “Action T4 Program”

In more recent times, however, like human experimentation, euthanasia also has a dark history tainted by the Nazi past. The Nazi euthanasia program – also called Aktion T4 – targeted residents of institutions and hospitals caring for the mentally disabled and psychiatric patients. In October of 1939, Hitler signed a decree enabling doctors to grant “mercy death” to patients judged “ incurable”. According to Karl Brandt, Hitler’s personal physician and others, Hitler had wanted to do this earlier but understood that public opinion would be against it. The program could be more easily implemented during time of war and this is what Hitler did. He designated Karl Brandt along with Reichsleiter Philipp Bouler as responsible for the initiative (“Action T4”). Medical staff in hospitals and institutions for the physically or mentally disabled were obliged to register all patients who were deemed “incurable” or, represented what Nazi ideology called “Life unworthy of life” (German, lebensunwerten Lebens).

The program began with the killing of children under three with “serious hereditary diseases” including “suspected idiocy,” Down syndrome, and those born with deformities of all kinds. At first consent was sought from parents and legal guardians, but this was couched in euphemisms that their children would be sent to “Special Sections treatment centers” to receive better care. These centers included psychiatric or care facilities specially modified for the killing and disposing of bodies. Once there the children would be quickly assessed and given lethal injections. Parents were told their loved ones had died of pneumonia or other illness. When war broke out the program was extended to include older children and those with no disability but who were troublesome or juvenile delinquents. Jewish children were also rounded up. Eventually, the program was expanded again to include adults, areas outside of Germany, and more conditions, such as “epilepsy, Huntington’s Chorea, advanced syphilis…” and others were included. In addition, the program began to utilize improved methods of killing using carbon monoxide gas for more efficient and quicker results, first utilized in 1940. The killings were all conducted and
supervised by doctors and brain samples of the deceased were sent to research centers. According to various authors, this was to maintain the idea that these were medical measures rather than cold blooded murder. In all about 70, 273 people were killed under this program (“Action T4”).

Though the program was clouded in secrecy, it was impossible to hide what was happening for very long. Thousands of people were involved in the carrying out of the program. Parents soon discovered that they had been lied to and that their children had been killed. Significantly, serious opposition, especially among Catholic Germans and Austrians developed. So much so, that Hitler decided to end the program in 1941. But the killings continued, though at a less rapid pace.

At the Nuremberg Trials some of the doctors responsible, including Brandt were executed or imprisoned for their part in the program. Others killed themselves or fled. Today, what happened in Nazi Germany, casts a dark shadow over discussion of euthanasia. Despite this, support for euthanasia in specific circumstances has grown among medical professionals and the general public and some countries and jurisdictions have enacted laws that permit the killing of those in terminal stages of illness with their consent. Though these measures are often controversial they do not come close to approaching the cruelty and inhumanity of Nazi euthanasia program. Crucial to remember is that the Nazi “euthanasia” program did not require consent of the victims or their guardians but was forced upon them.

2. What is Euthanasia?

It should be stressed that for many the word “euthanasia” actually may not properly describe the actions carried out in the Nazi T4 program described above. The word **euthanasia is a Greek compound word meaning “good death”**. While some people may object that death can never be good, we need to distinguish as clearly as possible between **what the Nazis did in their T4 program and other mass killings which is murder** and euthanasia which may be killing but not necessarily murder. Murder involves the unethical killing of an innocent person against his or her will\(^{11}\) which cannot be seen as “good death” (euthanasia) according to almost all ethical views. The advocates of euthanasia today would insist that “true” euthanasia must be at the request of the person who wishes to die. One philosopher includes the following criteria to define “true” euthanasia:

1. The death is requested by and is the genuine will of the person who wishes to die.
2. The death is for the good of the person who wishes to die and not for “the greater good” of the country, family or anyone else.
3. The death is to relieve pain and suffering that is not treatable in any other way
4. The death is requested by a person who is already facing a terminal illness.

Clearly, this was not the case in Nazi Germany where people were killed against their will, were not suffering pain or facing any terminal illness and were not killed for their own good. They were killed – murdered – for the supposed “good of the country” rather than for their own good. Unfortunately, we continue to find questionable definitions of euthanasia even today. For example, Philippa Foot mentions the *Oxford English Dictionary*’s definition “a quick and easy death” (Foot, 85-112). The definition leaves out some of the

\(^{11}\) Soldiers killing enemy soldiers in battle also be an exception to this as well and not considered murder.
crucial points mentioned above, such as that the death must be for the good of the person and his or her will. Similarly, Quebec’s *Dying with Dignity Report* defines euthanasia as “An act that involves deliberately causing the death of another person to put an end to that person’s suffering” (*Dying with Dignity Report*, 18). This also leaves out the consent of the person who is killed and other points mentioned above. Moreover the Report sought to avoid the word “euthanasia” altogether because it is “emotionally charged” and “does not evoke the idea of support, which is central to our proposal” (76).

Today’s euthanasia debate rages in many countries but almost all proponents of euthanasia insist on at least some of these crucial criteria which differentiates today’s euthanasia debate from what occurred in the past. The issue has become especially pressing since the war because medical technology has continued to develop and provided the ability to extend the quantity of life but not always the “*quality of life*”. Advocates point to the prospect of living for extended periods with pain or with diminished physical and intellectual capacity and claim that “genuine euthanasia” is born of compassion and respect for the autonomy and dignity of the person affected.

That does not mean there is no cause for concern. Critics contend that even this more humane euthanasia contains dangers. One of these is fear of the “*slippery slope*”. This is the idea that accepting or legalizing euthanasia even for the most extreme or exceptional cases will lead inevitably and uncontrollably to an expansion of the practice such that many more will die and be killed than originally intended. This “snowball” effect or slippery slope is in fact what happened in Nazi Germany. Some may thus agree with euthanasia in principle but would be against enshrining this in law due to fears of a slippery slope.

Others point out that since doctors would be the ones carrying out the killing, it would represent a direct reversal of their essential mission and role as healers, doing irreparable harm to the profession. Moreover, they argue, some patients would be hesitant or even fearful of their doctors if euthanasia became a legal and accepted “treatment” (Kass 25-46).

Finally, the issue of euthanasia for psychiatric or psychological reasons is also raised as problematic. Some argue it would be wrong to deny “the right” to euthanasia for those who suffer mentally rather than physically. While others claim that euthanasia for such conditions ought not to be permitted. This has been an issue in those countries that have legalized it, including Quebec and Canada’s.

A distinction is often made between “*letting die*” and “*killing*” also called “*passive euthanasia*” and “*active euthanasia*”, respectively. *Passive euthanasia means not taking extraordinary steps to stop someone suffering from a terminal illness from dying*. Thus a patient suffering from inoperable terminal and painful cancer and who has only a few months to live may request that his life not be extended through “extraordinary measures” and be “allowed to die”. Passive euthanasia would mean that no drugs or other means are used to extend this person’s life so that the disease takes its course and ends his or her life. In *active euthanasia, on the other hand, drugs or other means are used that causes the patient’s death*. An important moral difference is thus drawn between omission (not doing something) and commission (doing something) that leads to a person’s death. Though once seen as important, this distinction, is rejected by some philosophers as irrelevant, illogical and unethical (Rachels 78-80). Indeed, today “*passive euthanasia*,” or “*letting die*” is often no longer even seen as a form of euthanasia but simply as respecting a patient’s right to refuse or terminate treatment and has been a common practice in most
hospitals for decades. Only “active euthanasia” is still considered euthanasia, but as mentioned above, even here the word “euthanasia” is avoided and terms like “medical aid in dying” (MAID) and “physician assisted suicide” are more often used. As one witness stated before the Canadian Senate:

Withholding or withdrawing life-saving medical care, "pulling the plug", used to be called "passive euthanasia". However, as you reread the briefs of many of my other colleagues, you will see that none of them still uses the term “euthanasia” for these very widespread social practices. Indeed, tens of thousands of Canadians die every year by what would have been called "passive euthanasia" and what would have been condemned by church groups and by individuals as an alarming, dangerous, negative development as recently as 12, 15 years ago. (Professor Arthur Schafer, testimony to “The Special Senate Committee on Euthanasia and Assisted Suicide Of Life and Death - Final Report June 1995”).

Since what was once called “passive euthanasia” is common practice today, the battle is really about whether to now allow active euthanasia, although, as we have said, the term “euthanasia” is often avoided altogether. In many countries, the battle has resulted in victories for the advocates of euthanasia, including most recently in Canada and Quebec. .

3. Euthanasia in the Netherlands

The Netherlands was one of the first countries to permit active euthanasia in the post war period with the passage of the Euthanasia Act in 2002. The law stipulated various criteria for granting a euthanasia request:

1. The patient's request is voluntary and well-considered;
2. The patient’s suffering is unbearable and hopeless;
3. The patient is informed about his situation and prospects;
4. There are no reasonable alternatives. Further,
5. Another independent physician should be consulted; and
6. The termination of life should be performed with due medical care and attention.36

Between 1990 and 2001, there was an appreciable growth in the practice of euthanasia, with cases of death from this cause growing from 1.7% (1990) to 2.4% (1995) to 2.6% (2001). This fueled fears that the “slippery slope” was taking hold in the Netherlands. However, “This trend reversed in 2005, when 1.7% of all deaths were the result of euthanasia (approximately 2,300 cases)” (Rietjens, 273-274). But the slippery slope may still be there after all, in a different form. The Dutch courts began to interpret “unbearable suffering” as including not just physical ailments but psychological ones as well, as for example “severe and refractory depression”. Some authors are opposed to euthanasia in the case of psychological conditions like depression since these are treatable. But this development does seem to point to problems in defining exactly what “unbearable suffering” means, who should determine this and how far we should go in favouring choice or autonomy over respect for life.

Scholars are divided over the impact of legalization but it is clear that the trend is towards more countries following suit. Already Belgium and Luxemburg have enacted laws
legalizing euthanasia. The same is true of states of Oregon, Washington and Montana in the USA. Switzerland allows for assisted suicide. Quebec passed the *Dying with Dignity Act* in 2014 and Canada passed *The Medical Aid in Dying Act* a year later.

4. Euthanasia in Canada

With the exceptions mentioned above, in many countries, euthanasia and physician assisted suicide remains illegal. Part of the reason for this is due to the influence of the *Judeo-Christian tradition* which, unlike the ancient Greek and Roman societies, viewed suicide and euthanasia as a violation of the will of God and of the *sanctity of human life* principle. However, not all opponents of euthanasia today invoke these religious reasons and some provided philosophical arguments instead of religious ones to oppose the legalization of euthanasia.

In Canada, though suicide is no longer illegal, under **section 14 of the Criminal Code of Canada:**

No person is entitled to consent to have death inflicted on him, and such consent does not affect the criminal responsibility of any person by whom death may be inflicted on the person by whom consent is given. (Quoted in Tiedemann and Valiquet)

This means that helping someone to end their life is a crime even if that someone consents to it. **Section 241** spells this out more explicitly:

> 241. Every one who
> a. counsels a person to commit suicide, or
> b. aids or abets a person to commit suicide, whether suicide ensues or not, is guilty of an indictable offence and liable to imprisonment for a term not exceeding fourteen years (Ibid.).

These provisions of the Criminal Code were challenged, however, in a number of famous legal cases, including that of Sue Rodriguez, a Victoria BC woman who was diagnosed with ALS (Amyotrophic Lateral Sclerosis, also called Lou Gehrig Disease) in 1991. She was 41 years old at the time. Knowing the degenerative disease would progressively incapacitate her before finally killing her, she fought in the courts for the right to seek assistance in her death when she felt the time was right. Against the Criminal Code sections 14 and 241, she invoked **section 7 and 12** of the *Canadian Charter of Rights and Freedoms*. Section 7 guarantees that

“everyone has the right to life, liberty and security of the person”

while section 12 states that

“Everyone has the right not to be subjected to any cruel and unusual treatment or punishment.”

Her argument was that the prohibition against assisted suicide denied her right to
“liberty” and “security of the person” guaranteed by section 7 of the Charter. The latter was interpreted to include the principle of personal autonomy or “the right to make choices concerning one’s own body” (Smith). She also contended that forbidding suicide would amount to cruel and unusual treatment since “it forces her to endure a prolonged period of suffering until her natural death occurs or requires her to end her life before she wishes so that she can do so without assistance.” (Ibid.). Finally she argued that making her suicide illegal violated section 15 of the Charter which states that

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. (Quoted in Smith, Ibid.).

Since able bodied people can choose to commit suicide without assistance and without penalty, section 241 of the Criminal Code discriminates against disabled people who are unable to do so without assistance.

Another important case that once again triggered debate on the legalization of euthanasia in Canada involved that of Robert Latimer and his severely physically and mentally disabled daughter, Tracy Latimer. Robert killed his daughter by carbon monoxide poisoning and argued he had done so to spare her from further suffering. He was convicted of second degree murder in 1994 and spent 10 years in prison. This case differed from that of Sue Rodriguez in various ways, but one crucial difference is that another person had made the decision to end the life of someone and without obtaining that person’s consent.

Opinions were divided across the country in both the Sue Rodriguez and the Robert Latimer cases, but it is clear that even though the law has not been changed yet, the trend is toward greater public acceptance of euthanasia. This is especially the case in Quebec where opinion polls show greater than the Canadian average support for euthanasia. For example, to the question, “Generally speaking, do you support or oppose legalizing euthanasia in Canada?” 63% said “support” while 24% said “oppose”. In Quebec, 78% of respondents chose “support” To the question “Do you agree or disagree with allowing a parent to euthanize their child who suffers from a severe form of a condition, such as cerebral palsy?” 36% of Canadians said “Agree” while 46% said “Disagree”. In Quebec, however, 52% chose “Agree” and 34% chose “Disagree” (Angus Reid Public Opinion, “Majority of Canadians Support Legalizing Euthanasia”).

Though Sue Rodriguez lost her struggle to be allowed to die in 1993, the situation changed rapidly with a very similar case of Gloria Taylor and Kay Carter in 2015. Taylor, like Rodriguez suffered from ALS and Carter had a degenerative condition called spinal sterosis. They argued in front of the BC Supreme Court against the prohibition on assisted suicide in section 241 (b) as well as sections 14 and 15 of the Criminal Code as Rodriguez had done. Also like Rodriguez they used the Charter’s section 7 to argue these sections of Criminal Code were unconstitutional. This time the court accepted their argument and this was upheld when the government filed an appeal which went to Supreme Court of Canada in 2012 in the case called Carter v Canada. In 2015 the Supreme Court ruled that the Criminal law could not prohibit physician assisted suicide to “a competent adult person who clearly consents to the termination of life and has a grievous and irremediable medical condition, including an illness, disease or disability, that causes enduring suffering that is intolerable to the individual in the circumstances of his or her
condition.” (Department of Justice, “Legislative Background: Medical Assistance in Dying (Bill C-14))”. The government was directed to revise the law and after many extensions and delays, the federal government passed Bill C-14, The Medical Aid in Dying law. One cause of delay was dispute over what criteria would qualify someone for medical aid in dying. Originally, the ruling appeared to cover even those who were not suffering from “terminal illness”, such as those afflicted with ALS like Taylor and Rodriguez who often can live for long periods of time with their condition. But many representatives in the House of Commons were hesitant to vote for what they thought was overly broad criteria. The wording finally adopted insisted that “only patients suffering from incurable illness whose natural death is *reasonably foreseeable*’ are eligible for a medically assisted death”.

Another important issue was medical assistance in dying in the case of those not suffering from physical ailments as Carter, Taylor and Rodriguez were but from psychological or emotional ailments, such as severe depression.

5. The Current Euthanasia Debate in Quebec and Canada

In Quebec, the issue of legalization of euthanasia has also occasionally made headline news. In 2009 the federation of Quebec medical specialists made the front pages with the publication of a poll that claimed that 75% of specialists “…were ‘certainly’ or ‘probably’ in support of legalizing euthanasia as long as the practice were strictly regulated” (“Quebec specialists support legalizing euthanasia”). As mentioned, public opinion polls on euthanasia and assisted suicide consistently show Quebeckers are more in favour than the Canadian average. Some speculate that this may have to do with the rejection of religious values during the Quiet revolution. As Quebec’s *Dying with Dignity Report* states:

> In the past, society was more homogeneous and subject to various authorities. Death had a different meaning then, mainly because of religious references. But the expiatory suffering of yesteryear has lost its meaning, resulting in the unwillingness to tolerate prolonged suffering. Personal autonomy, inviolability and integrity, along with pluralistic values, have become the cornerstones of [Quebec] society.

In 2010 a Bloc Quebecois MP, Francine Lalonde, proposed a bill to protect doctors who help their terminally ill patients end their lives but it was defeated in Parliament. That same year, the Quebec government began a “Dying with Dignity” commission which toured the province to gather information, arguments and to hear the opinions of Quebeckers on the issue. The *Report* it produced, recommended that patients be allowed to request their deaths under certain clearly defined criteria and that doctors be allowed to provide it for them. Recommendation 13 states the following:

> The Committee recommends that relevant legislation be amended to recognize medical aid in dying as appropriate end-of-life care if the request made by the person meets the following criteria, as assessed by the physician:

- o The person is a Québec resident according to the Health Insurance Act;
- o The person is an adult able to consent to treatment under the law;

12 Although the Commission’s mandate was to provide a forum for all views on end of life issues, the phrase “dying with dignity” is often connected to those who advocate legalization of euthanasia.
o The person himself or herself requests medical aid in dying after making a free and informed decision;
o The person is suffering from a serious, incurable disease;
o The person is in an advanced state of weakening capacities, with no chance of improvement;
o The person has constant and unbearable physical or psychological suffering that cannot be eased under conditions he or she deems tolerable.

The legal changes required to implement these and other recommendations are under the Criminal Code (namely, section 14 mentioned above in the Sue Rodriguez case) and thus within the jurisdiction of the federal government rather than the provincial government. However, responsibility for administering these provisions of the Criminal code still fall into the hands of the province. The provincial government could thus choose not to prosecute medical staff who provide assistance in dying to their patients and for all practical purposes, permit the practice of active euthanasia in Quebec. The PQ government of Pauline Marois had already expressed its intention of moving swiftly on this issue to bring legislation facilitating euthanasia in certain cases but was disrupted by defeat in the election of 2014. The new liberal government of Philippe Couillard moved quickly, however, to pass the legislation. Bill 52 became Law 52 “An Act Respecting End of Life Care” in June 2014.

Although Quebec’s Law 52 appeared to be in legal limbo, two developments seem to have ensured the legal reality of euthanasia in Quebec and the rest of Canada. One was the Carter v. Canada Supreme Court case in February 2015 which overturned the earlier decision made in the Sue Rodriguez case. Let us recall that in the Rodriguez case, the Supreme Court disagreed that Sections 241 and 14 of the Criminal Code banning assisted suicide violated Rodriguez’s rights as stated in section 7 of the Charter which guarantees to all, “life, liberty and security of the person…” They were especially concerned that allowing assisted suicide would open the door to abuse, especially of the weak, vulnerable and disabled. But the Carter v. Canada decision seems to reflect a different attitude. In this case, the judges ruled that

...Section 241(b) and s. 14 of the Criminal Code unjustifiably infringe s. 7 of the Charter and are of no force or effect to the extent that they prohibit physician-assisted death for a competent adult person who (1) clearly consents to the termination of life and (2) has a grievous and irremediable medical condition (including an illness, disease or disability) that causes enduring suffering that is intolerable to the individual in the circumstances of his or her condition.13

The “right to life” is threatened by the prohibition against suicide, said the judges, because “…it has the effect of forcing some individuals to take their own lives prematurely, for fear that they would be incapable of doing so when they reached the point where suffering was intolerable”. The right to liberty and security of the person are also threatened, they claimed because “The prohibition denies people in this situation the right to make decisions concerning their bodily integrity and medical care and thus trenches on their liberty. And by

leaving them to endure intolerable suffering, it impinges on their security of the person” (Carter v. Canada). Though they admitted troubling cases, based partly on their interpretation of the evidence from Netherlands, Belgium and other countries that had legalized euthanasia, the judges rejected the view that allowing assisted suicide would result in a “slippery slope” or would be a threat to disabled, elderly and otherwise vulnerable groups. The judges thus declared section 241 of Criminal Code invalid in cases involving people with grave medical conditions causing “enduring suffering…intolerable to the individual” and who “clearly consents to the termination of life”. They gave the government 12 months to revise the law accordingly.

Despite this victory for pro-euthanasia advocates, another stumbling block remained. This was that the government was under the control of the Stephen Harper Conservative Party majority. It was evident that the Conservatives were not sympathetic to the cause of euthanasia and though directed by the Supreme Court to change the law to allow it, could still invoke ways to maintain the status quo as long as possible. The defeat of the Stephen Harper conservatives and the election of the Justin Trudeau Liberal government in Ottawa in 2015 removed this last stumbling block. While in opposition, Trudeau had already supported calls for reform of the law and shortly after the Carter Supreme Court decision, called for the immediate launching of a debate on the issue. Though he asked for a 6 month extension for changing of the Criminal Code to allow assisted suicide, he applauded the Quebec’s government handling of the issue and has clearly expressed his own support for physician-assisted death, citing his personal experience witnessing the death of his father, Pierre Trudeau in 2000. After some further delay due to disagreements about who would be eligible for “medical aid in dying”, Parliament passed Bill C-14 in June 2016 which formally repealed the Criminal Code ban on assisted suicide and allowed doctors and nurse practitioners to help patients end their lives. The law defines “medical assistance in dying” as follows:

(a) the administering by a medical practitioner or nurse practitioner of a substance to a person, at their request, that causes their death; or
(b) the prescribing or providing by a medical practitioner or nurse practitioner of a substance to a person, at their request, so that they may self-administer the substance and in doing so cause their own death. (aide médicale à mourir)  (Bill C-41, An Act to amend the Criminal Code and to make related amendments to other Acts (medical assistance in dying, June 17, 2016)

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14 As it Happens, CBC Radio interview with Carol Off. February 26, 2015
C. Issue #4: The Health Care Debate

1. Introduction

The decision to create public health insurance, like the Canadian Medicare system, has had a profound impact on the lives of the average person and has allowed the benefits of modern science and medicine to be shared by a greater percentage of the population. This decision is due to a number of reasons but one key factor was concerted public campaigns and political pressure over many years to improve the lives of the majority of the people. Thus the health and well-being enjoyed by people in the developed world is not just a result of science and technology but of political mobilization and organization which defenders of public insurance view as a victory of the ethical principles of equality and social justice. After all, even the best medical treatment will not help someone who cannot get it because he or she cannot afford it. The crucial point here is that health care is not only a question of what medical science and technology can deliver but about how effective the people are in pushing the political system to provide access to those benefits.

Many believe the public health system is under attack in Canada and other western countries. The United States, though the world leader in medical science, still has no public health insurance system comparable to Canada’s or many other Western countries. Most health care in the US is delivered through private, for profit medical insurance, though important government run insurance programs do exist. According to the US Census Bureau, in 2003, 43.6 million people had no health insurance coverage in the United States (US Census Bureau). Faced with escalating health care costs, deficits and economic recessions, governments have tried to cut back on the funding of the public health care system. In Canada, Alberta’s Bill 11 sought to privatize some of the services presently funded and available in the public system. Under this proposed law, in other words, people will have the “option” to pay for certain health services or wait in line in the public system. In Quebec, thousands of people still do not have a family doctor, a patient’s main entry way into health care and waiting times remain a major problem. At the same time, Quebec has witnessed a rapid growth of private, for profit clinics offering medical services that bypass the long waiting lists many have to endure in the public system. Critics have attacked this as establishing a “two-tier” system of health care – one presumably better and faster system for those who can afford it, and another lower quality system for the rest of the population. These critics fear that Canada will adopt a more American style of for profit health care. Supporters of private health care, on the other hand, argue that a mix of private and public health care would reduce pressure on the overburdened public system and improve wait times.

Though the federal government has promised to prevent violations to the Canada Health Act, the law that tries to ensure equal access to health services, it is evident that more services are now privately available and the services offered in the public system are often difficult to access in a timely way. The Federal government itself has seriously reduced funding for health care in the past and present levels of Federal funding still do not match those of the early 1980s. The provincial governments now find themselves footing a greater percentage of the financing for health care while Quebec has embarked on a serious
austerity program which seeks to reduce the budget largely by cutting spending for social programs like public health care.

Meanwhile, under the leadership of President Obama, reformers in the US have fought hard to establish greater accessibility to health care coverage for that country. Most recently, the Affordable Care Act and the Patient Protection Act (aka “Obamacare”) has been passed which seems to have improved accessibility somewhat, though millions remain uninsured. But changes to the US public health system are as much an ideological battlefield as are changes to the Canadian system. Billions of dollars are at stake and Americans remain seriously divided over the issue. The American example of health care is often used as a warning to Canadians about what privatization might mean but other countries provide other models that are sometimes presented as providing another alternative or solutions for Canadians. Often, however, these also involve allowing a greater role for private, for profit medical services. The purpose of this section of the course is to provide basic information enabling you to better understand the debate and thus allow you to better inform yourself to make a more informed decision on where you stand on the issue of health care privatization and on what would be the most ethical direction to take for the future of health care in our society.

2. The Health Care Debate in Canada: A Brief Summary

Most Canadians are deeply attached to our public health care system, also known as Medicare, and some even see it as part of what defines us as a people. All political parties claim to want to defend the public health care system but that has not stopped funding cuts that may be partly responsible for what some call a crisis in the system today. Steadily increasing costs due, it is claimed, to the aging population, expensive new high tech machinery and drugs, as well as other problems such as long waiting times has provoked a search for a solution to the problems of Medicare today. One proposed solution is to restore funding to levels that would ensure reasonable waiting times and enforce the rules guaranteeing that every Canadian has access to quality health care. Others claim that more money is not the solution. Some of these critics have argued that the government should allow a greater role to private health care insurance and allow market competition to encourage greater efficiency in health services. Few of these people say we should eliminate government run health care entirely, but argue that a greater role for the private sector and competition would provide more services and complement, not replace the existing public system while lightening the tax burden. There are fears, however, that this solution would spell the end of the public system in Canada and introduce a private, American style profit orientated system instead. The following provides some historical background to the present Canadian public health care system and examine some of the key points in the debate on privatization of health care.

Background

The Canadian Health care system, also called Medicare, is a largely publicly funded national system funded and administered by both federal and provincial governments.

15 In the US, “Medicare” and “Medicaid” refers to a narrower set of government funded health insurance programs that cover some older people, the disabled and others. Most people are not covered by such but purchase health care through employers and private companies. Some are not covered by any health insurance.
“Publicly funded” means that it is funded by tax dollars Canadians pay to governments rather than directly by patients to doctors or insurance companies. It is thus important to remember that healthcare is not “free” but is funded by taxpayers. The crucial point, however, is that the taxation system is progressive in this regard, meaning that the wealthy pay more in proportion to their income than the less wealthy. In effect, then, public healthcare represents a massive transfer of resources from the wealthy to the less wealthy and this perhaps explains part of why some support and others oppose it.

Its origin can be traced back to the Great Depression of the 1930s when health care in Canada (and most countries) was private and for profit. This means that people's ability to pay determined whether or not they received professional health care. The impoverishment of a large number of Canadians caused by the collapse of the world economy during the Depression increased demands for government assistance in various areas, including medical care. Some governments responded to this call, in the period during World War II (1939-45) and especially after (1945-75). The experience of the Depression and War thus fueled the call for the establishment of a more accessible public healthcare system.

Especially important was the Saskatchewan based Commonwealth Co-operative Federation (CCF), a political party and social movement headed by Tommy Douglas (1904-1986), once voted “the Greatest Canadian” in a 2004 CBC survey. The CCF was the first socialist government elected in North America when it assumed power in the province in 1944. Douglas was strongly influenced by both socialist and Christian ideas and believed the state should play a bigger role in guaranteeing people certain basic needs, including health care. As premier of the province Douglas implemented a series of laws that established the first government-funded comprehensive medical system in Canada, though not without considerable opposition.

Douglas left the provincial political scene in 1961 for Ottawa to lead the newly founded the New Democratic Party (NDP) in the hopes that he would have equal success on the national level. The NDP was in large part a creation of the CCF but revamped to run on the national level and to appeal to a broader range of Canadians. It maintained some of its socialist ideas and under Douglas's leadership campaigned for a national health insurance program similar to Saskatchewan's.

Though the NDP never won a federal election, the idea of national health insurance program caught on, helped by pressure from the NDP, the example of Saskatchewan and public demand across the country. The post war period (after 1945) and especially the 1960s witnessed strong demands for the construction of a "welfare state" in many Western countries. This included ideas about government funded and government run pension plans, unemployment insurance, family allowance, welfare and health insurance. In 1966 the federal government introduced "Medicare" across the country, making itself responsible for 50% of the funding. The other 50% was to be the provincial governments' responsibility.

The Canada Health Act

By the mid 1970s, the pressure for government funded solutions to social problems like health care and poverty began to decline. Faced with an economic recession and significant budget deficits, governments began to cut back on the "welfare state" in general, including healthcare funding. In 1977 the Pierre Elliott Trudeau government (1968-1979, 1980-84) replaced the 50-50 funding formula with "block" grants to the provinces, in effect lowering
the federal government's contribution. Despite this, pressure for more comprehensive national health insurance remained and in 1984, the Canada Health Act was passed and became the key federal law establishing our modern day health insurance program. The Act banned "extra billing" by doctors and established a number of key principles that were supposed to guarantee access to basic medical care for all who needed it across the country. These key principles included the following:

**Public Administration**: All administration of provincial health insurance must be carried out by a public authority on a non-profit basis. They also must be accountable to the province or territory, and their records and accounts are subject to audits.

**Comprehensiveness**: All necessary health services, including hospitals, physicians and surgical dentists, must be insured.

**Universality**: All insured residents are entitled to the same level of health care.

**Portability**: A resident that moves to a different province or territory is still entitled to coverage from their home province during a minimum waiting period. This also applies to residents which leave the country.

**Accessibility**: All insured persons have reasonable access to health care facilities.

In addition, all physicians, hospitals, etc, must be provided reasonable compensation for the services they provide (Canada Health Act).

**Money, Money, Money**

The Act seems to spell out a fairly complete plan for coverage of every Canadian citizen regardless of the ability to pay but the issue of funding and enforceability of these principles has always been a major concern and especially so in recent years. Obviously, without sufficient funds many of the principles mentioned above could be compromised. Already the Pierre Trudeau government had reduced the share of funding from the federal government. In 1995, again as part of an overall strategy to reduce the federal deficit, Paul Martin’s government introduced the Canada Health and Social Transfer (CHST) which further reduced the federal government's share of health care funding. The provinces would have to pay more for health care than before or would have to reduce services. In 2004, under the Martin government, a 10 year Health Accord was signed between Ottawa and the provinces, providing a 6% increase in federal money for health care. The agreement ran out in 2014. Federal funding for healthcare continued to decrease under Prime Minster Stephen Harper who declined to renew the Health Accord or even engage in renewed talks with the provinces on new funding. Instead, the federal government committed itself to continuation of a 6% increase until 2017-2018 but thereafter, increases to health care spending will be pegged to growth in the economy (relative to GDP). Critics contend this is really another cut in spending, further reducing the federal government’s share of spending from the current 20% toward an estimated average of 12% in the long run.
According to the Canadian Health Coalition,

…the current federal government is transferring up to $36 billion less than they would under the formula in the previous accord. It will contribute an historic low of the total costs of Medicare – under 12% from the current 20%. This unilateral change in the funding formula hits poorer provinces hardest. Furthermore, tying increases to economic growth means that in hard times, when health needs increase and provincial capacity to meet those needs is weakest, the federal government contribution will decline. Taken together this is a formula for fragmentation, inequity, and a race to the bottom. (Canadian Health Coalition)

Presumably, the gap in funding will have to be made up by the provinces by cuts to provincial health care programs or through increased taxes or increased privatization or a combination of all three. Many Canadian supporters of public health see this history of declining federal funding, as well as an inability or unwillingness to produce a greater number of healthcare workers, as a major cause of problems in today's Medicare system, including the long waiting times for important medical services.

On the other hand, others argue that more money is not the solution. They warn about excessive and “unsustainable” government spending while claiming that more money will not solve these chronic problems. They argue that the privatization of some medical services provides a better solution allowing for improved services without raising
government expenditures and the tax burden. Beginning in the 1990s and continuing to this day, various provincial governments began to introduce private, for-profit health care services. In Alberta, the provincial Conservative Party, headed by Ralph Klein began to allow private hospitals. In this case, the motive for introducing privatized services stems from a conservative viewpoint that criticizes government-run services and many "welfare state" measures as inefficient and costly and claims a private for profit "free market" system would be cheaper, more efficient, reduce waiting times as well as overcrowding in emergency rooms.

Quebec, under the Charest government also has allowed the growth of private clinics that charge patients for surgery and other services – a practice which would seem to violate the Canada Health Act's principle of accessibility. One reporter says that "Montreal has become the private health-care capital of Canada, offering a wide range of medical services to those willing to pay out of pocket to bypass the public system" (Derfel).

**The Chaoulli Case**

Another possible threat to the Medicare system has come from the 2005 Supreme Court ruling in Quebec called "**The Chaoulli case**," named after Dr. Jacques Chaoulli, who argued on behalf of his patient George Zeliotis. Dr Chaoulli argued that his patient's life and security were being put in danger because of the excessive waiting time for his medical treatment. Private services could not be used by his patient because of the province's legal ban against private clinics charging for services already offered by the public Medicare plan. Dr. Chaoulli argued that banning private services violated key parts of his patient's rights to "**life and security of the person**" as spelled out in both the **Quebec Charter of Rights** and in the **Canadian Charter of Rights and Freedoms**. The purpose of the Quebec law banning private services when public ones are available stems from the view that allowing private services would create a "**two-tiered**" system whereby those with money could get quick and timely health services while those without would have to wait. Moreover, as was argued during the trial and elsewhere, the existence of private services in such cases would actually undermine the public services since the limited pool of doctors, nurses and other health-care resources would be drawn to the more lucrative private sector leaving the public system even more starved than at present.

The Supreme Court judgment was close, with a ruling of 4 to 3 in favour of Chaoulli and against the Quebec law. The judges in the majority decision agreed that excessive waits were a threat to the life and security of the person and that the banning of private services was thus a violation of the Charter and unconstitutional or illegal. The Quebec government was directed to lift its ban on private services but the judges agreed to an 18 month delay so the government could prepare to implement the directive.

The decision in the Chaoulli case raised fears that sections of the Canada Health Act guaranteeing access to health care based on need rather than ability to pay would have to be struck down because of the ruling that long wait times violated the Charter. Concerns were expressed that laws in other provinces like Quebec's limiting or banning private services would also now be ruled unconstitutional. Some interpreted this as meaning that there would now have to be a private "**parallel system**" of health care alongside the public one. But as former Liberal federal health minister Ujjal Dosanjh said at a meeting in 2005, "[The Chaoulli case] did not, as some have suggested, rule that the Charter of Rights and Freedoms requires the creation of a parallel private system". Instead he said the ruling
states that when the public system provides a vital health service, governments are obliged "to ensure that medically necessary care is provided within a reasonable time (quoted in Canadian Medical Association's Annual General Meeting, “Speaking Notes for the Honourable Ujjal Dosanjh”). But since governments, both federal and provincial, have not been able or willing to provide this care, the net result has been an increase in private services.

In 2006 Bill 33 was passed in Quebec, confirming the legality of privately owned clinics and making them, in effect, a destination for some of those not able to receive timely enough services in the public system.

The Bill will give doctors permission to run publicly funded, privately owned, for-profit surgical centres. It will also create a wait list management system in public hospitals to determine when overflow patients must be sent to private clinics. And it will end the province's absolute ban on private medical insurance, which will now be available — albeit only for hip, knee and cataract procedures (the operations with the longest wait times) in private clinics. (Solomon)

Quebec and Montreal Situation

Today it appears that private clinics and medical services have proliferated in Quebec and in other parts of Canada (Glauser). The debate rages on as to what impact this will on the pocket books of Canadians, on the efficient delivery of health care services and on the health of Medicare itself. Meanwhile, the Phillippe Couillard government in Quebec, under the guidance of health minister Gaétan Barette has embarked on a pledge to reduce the provincial deficit, including through important cuts to health care spending via proposed legislation (Bill 10 and Bill 20).

Added to this “austerity” agenda, as it has been called, are a number of important decisions which may have an impact on the quality of healthcare delivery in the province and in the city of Montreal. Most importantly is the decision by various Quebec governments to build two “super hospitals” to replace and merge the existing hospitals. One, serving the English speaking population is also called the McGill University Health Centre (MUHC), which opened in the summer of 2015. The other, serving the French speaking population is the Centre hospitalier de l’Université de Montréal (CHUM) still under construction. Though the existing hospitals in Montreal, such as the Royal Victoria, The Montreal General, The Montreal Children’s Hospital, The Montreal Neurological Institute, the Montreal Chest Institute, were aging and in need of repair, the construction of the MUHC has drawn severe criticism and become infamous as a case of unprecedented corruption and skyrocketing costs. The criticism began early since the super hospital was as it has been called, are a number of important decisions which may have an impact on the quality of healthcare delivery in the province and in the city of Montreal. Most importantly is the decision by various Quebec governments to build two “super hospitals” to replace and merge the existing hospitals. One, serving the English speaking population is also called the McGill University Health Centre (MUHC), which opened in the summer of 2015. The other, serving the French speaking population is the Centre hospitalier de l’Université de Montréal (CHUM) still under construction. Though the existing hospitals in Montreal, such as the Royal Victoria, The Montreal General, The Montreal Children’s Hospital, The Montreal Neurological Institute, the Montreal Chest Institute, were aging and in need of repair, the construction of the MUHC has drawn severe criticism and become infamous as a case of unprecedented corruption and skyrocketing costs. The criticism began early since the super hospital was based on the concept of “Public-Private-Partnership” (PPP) in which private construction and engineering companies share in the cost and benefits of government building projects, supposedly helping to reduce the burden on provincial expenses. Instead, the cost of the project has soared and has also been plagued by shocking levels of corruption16. Initially estimated at $600 million, the cost is now pegged at $1.3 billion,

including an additional $1 billion to finance repairs at the Montreal General. And this is only for the English language hospital. Moreover, the former head of the MUHC, Arthur Porter was charged with a number of criminal offenses, such as fraud, conspiracy to commit fraud, fraud against the government, breach of trust, laundering the proceeds of crime, and participating in a secret commission. He was arrested in Panama with his wife in an apparent attempt to evade arrest. Interestingly, Porter had previously been appointed by Stephen Harper to be head of CSIS in 2008. Along with Porter, the top executives of the construction and engineering firm who built the hospital, SNC-Lavalin, were also charged with fraud, bribery and corruption.

Added to this are a number of serious and costly errors committed by various provincial governments which have already had a serious impact on healthcare delivery in the province. This includes plans to computerize medical records, as many other countries have done. The project has been called a “disaster” by the Health minister himself, costing about $1.6 billion dollars but winding up with a “patchwork” that does little to improve patient services and health outcomes. Most recently was about $416.7 million overpayment to doctors which the premiere of the province has admitted could not be recovered.

Given the level of waste, mismanagement and corruption, it is little wonder that many fear for the future of our public health insurance system as a means to deliver quality and accessible is healthcare to all citizens. The tragedy is that we are here dealing with the health of people and even issues of life and death, as a recent case has shown. In this sense, the financial waste and corruption ought to be seen not just as a criminal and political matter but as a bioethical issue in its own right.

**Public or Private?**

Waiting times are a crucial issue in health care delivery in Canada and governments have at times made moves to address the issue. In 2005 more money was injected into the system by the federal government and in many cases the number of operations per year increased dramatically. For example knee surgery operations have increased by 77% in 2002-3 compared to 1994. Hip surgeries increased by 33% in the same time period (Canadian Institute for Health Information. Funding, however, is still not at the level it was before the cuts made by Prime Minister Paul Martin in the 1990s and long wait times for many medically necessary procedures remain. More recently, the Harper government has continued the long term decline of federal government contribution to health care funding. While the federal government has pledged a 6% increase to health care spending up to

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20 “Quebec doctors will keep government overpayments,” *CBC News*, Nov 29, 2015,
2017, thereafter, spending will be tied to economic growth, including inflation. According to the Toronto Star:

Currently, federal health transfers make up about 20 per cent of provincial health spending, a share that is expected to drop to 18.6 per cent between now and 2036 if the government keeps transfers to around 4 per cent annually. (Wallace)

This is a far cry from the “50-50” split between federal and provincial governments that once existed. The provinces will have to make up for the shortfall somehow by increasing taxes, cutting services or increasing privatisation.

Supporters of public health care are often deeply suspicious of the real commitment of the Liberal and Conservative parties, whether federal or provincial, to the Canadian health care system. Some even claim that these governments have purposefully underfunded the system so that people would then be prepared to accept increased privatization. They see the deterioration of health care services in the context of the attack on welfare state policies begun in the mid 1970s. They point to the influence of conservative US economic, political and social policies as a major factor in pushing or supporting Canadian governments in eroding the present health care system. Especially important, they claim, is the influence of American private health insurance and pharmaceutical companies who would love to expand into the Canadian market. Sometimes fears are voiced that the North American Free Trade Agreement (NAFTA) will allow private US based companies to establish their presence in Canada and, again, undermine the public system. At the same time, the deterioration or elimination of the Canadian public system would help to silence calls for a public health care system in the US.

Proponents of privatization, on the other hand, accuse supporters of Medicare of fear mongering and hysteria. Most proponents reject the accusation that they are trying to destroy the public system and state that they simply want to allow private health care providers to supplement and work alongside the public system, not to replace or undermine it. They are skeptical that increasing funding will help things since governments are notoriously inefficient, they claim, compared to private enterprise. Furthermore, funding may be insufficient to meet astronomically rising costs due to the aging of the population and expensive new drugs and machinery. They note how the US leads the world in medical research and innovation, has much more high tech equipment per capita as well as shorter waiting times than in Canada. Privatization, they say, would provide these benefits in Canada, too, while reducing government expenditures and providing more choice.

Meanwhile, some argue that the Canadian public health system can be improved and wait times reduced even without adding additional money. Dr. Danielle Martin who became famous for her support for the Canadian public system during an exchange with a US Senator has recently proposed a number of measures that she argues will greatly improve outcomes.
3. Health Coverage and Access in the USA

One way to envision the possible effects of privatization is to look at the US where private, for profit companies, called health management organizations (HMOs), provide health insurance for much of the population. Insurance is most often obtained through employer group insurance plans funded by employers, workers and both state and federal governments. Those without employment can apply for individual coverage, also provided by private health insurance companies. The US federal government has also instituted various programs, such as Medicaid and Medicare that provide health insurance to lower income Americans. Medicaid covers over 50 million Americans, including seniors, those with disabilities and others who might not otherwise be Covered (“Quick Facts About Disparities”). Medicare in the USA, not to be confused with the Canadian Medicare system, also offers coverage to lower income Americans, especially to seniors aged 65 and older and to the disabled. Coverage can vary widely depending on what type of health plan an employer gets for his employees, what state one lives in, whether one is on Medicaid, Medicare and other factors.

Despite these federal and state sponsored programs, in 2002, about 43 million people in the USA had no medical health insurance coverage (US Census Bureau), the majority of them from lower income groups and racial minorities. Others were "underinsured", meaning that their level of insurance was insufficient to meet potentially costly medical treatments. Supporters of the Canadian system point to these supposed inequalities and inefficiencies of the American system that leave so many people uninsured and underinsured.

Moreover, recent statistics indicate that even those who may be better off face serious financial problems related to health expenses since these account for half of the personal bankruptcies in the country. They point out that private health insurers are motivated to insure only those who are young and healthy and often refuse coverage to high risk people and those with "pre-existing conditions". Many authors note the marked differences in the quality of health care offered to the wealthy with that provided to the poor and various minorities (American Nursing Association). They note, as well, that the American system, while offering only incomplete coverage of the population was actually far more expensive than the Canadian system or, indeed, any other public system in the developed countries. This is especially the case when examining the administration costs of each system. According to recent research, the US spent about $294.3 billion on health care administration, amounting to about $1059 per capita, while Canada spend only $307 per capita (Woolhander 21).

Expenditures on administration in the US was 31.0 per cent of health expenditures while it was only 16.7 per cent for Canada. American doctors themselves sometimes express frustration at the cost and amount of “paper work” involved in their practices. Patients, their families, and physicians must complete a multitude of forms, often for several carriers, involving significant time and expense. Patients and their families are burdened with paperwork when they are most vulnerable – worried and sick.

Physicians must also respond to demands for documentation and justification from insurance carriers and quality review organizations. These frustrating layers of review, which involve demands to justify clinical decisions, requirements for prior approval, and
denials of payment, undercut provision of high quality care for all patients by inappropriately second-guessing professional judgments and intruding into physician-patient relationships (American College of Physicians 124-131).

The Rise and Fall (?) of “Obamacare”?

The election of President Barack Obama in 2009, raised new hopes that the American health care system could be reformed to increase coverage and eliminate some of the worst disparities. After a very emotional battle during his first term, the Obama government was able to pass a compromise version of health care reform with a series of bills including the Patient Protection and Affordable Care Act that expanded Medicaid coverage to include millions of previously uninsured, banned denial of claims or coverage based on “pre-existing conditions” and provided support for small companies to fund their employees’ health insurance (“Patient Protection and Affordable Care Act”). Although there is still no universal coverage, the health reform did expand coverage to a larger section of the population and represented an important victory to health care reformers given the history of past failed attempts in the USA. At the same time, the Obama health reforms promise to actually save the federal government money in the long term, reducing “federal deficits by $210 billion over the 2012–2021 period” (US Congressional Budget Office (CBO). This is an important consideration since rising health care costs, whether in the US or Canada is one important cause of all government expenditures. However, the reforms maintained and even strengthened the private insurance providers and market driven, for profit system of US health care. This is because more individuals and businesses will be forced to register with these companies or pay a fine. Moreover, pharmaceuticals companies will continue to charge the highest rates in the world for their drugs.

Despite the maintenance of profit driven health insurance system, the Republican Party has maintained an implacable stance against “Obamacare” leading Court challenges against it and attempting over 50 times to repeal it in Congress. Despite some successes by Republicans, the reforms remain essentially in force and have had an impact on health coverage. According to some experts,

On the big demographic trends, the model performed admirably. The census confirms that insurance coverage improved disproportionately among groups the model identified: black and Hispanic Americans, the young and the poor. 21

What the future holds for these changes and for the future of healthcare in the USA depends much on the political debate and Donald Trump who has replaced Obama as President and whose Republican party now also holds a majority in the Senate and Congress. Trump and his Republican followers have indicated they will fight to roll back the changes made during Obama’s presidency. This will not be an easy task since the cost savings that Obama’s reforms instituted may be jeopardized and this is an issue that Republicans themselves are usually in favour of. Moreover, there does not appear to be a coherent alternative to “Obamacare” proposed as of yet and returning to the pre-Obama days without an alternative would mean that over 20 million people could lose their

health care coverage, disqualify people on the basis of “pre-existing conditions” and lifetime caps on insurance and end coverage for children under 26 under their parents’ health plans (Haberman & Pear). The battle between competing visions of healthcare is not yet ended in America.

4. Conclusion and Ethical Reflection

Whether the motivation is to save money or to increase coverage and delivery, the future of accessible health care remains an open question in Canada, the USA and in other wealthy countries. Will America eventually succeed in achieving a universal health care program, as all other western countries have done? Will the federal government’s role in delivering health care grow there? Will Canada continue going down the road of increasing privatization and, if so, does that mean that we will have eroded the promise of health care to all citizens regardless of ability to pay? Or is privatization actually a solution to long wait times and skyrocketing costs of healthcare? The future is unknown but much depends on how attentive average citizens like you are to the debates and facts surrounding health care. Much depends, as well, on the ethical principles we choose to apply to the issue of health care. Do we still favour an ethics of equality and justice or do we favour that of autonomy and individual choice? What is the most ethical road to follow according to you?
D. Issue #5: Genetic Technology

Genetic engineering (also called recombinant DNA science and technology, gene splicing, etc…) might well be one of the greatest and perhaps most dangerous of scientific and technological advances of the 20th century. It continues to have an enormous impact on everything from the food we eat to our environment, medicine, pharmaceuticals, criminology, and even our ideas about human nature. For this reason, some writers call the development of genetic engineering and all the consequences that flow from it, the biological revolution or the genetic revolution, a revolution in our understanding of and in our ability to manipulate the genetic basis of life. As this implies, the biological revolution proceeded in two phases here, first in our understanding of genes and then in our ability to control and manipulate them. As in other fields of science greater understanding often leads to greater control and proves once again, that knowledge is power.

In the following sections we focus first on the scientific developments that contributed to our greater understanding of genes, beginning with the discovery of the structure and function of the DNA molecule and continuing on with our increased ability to “read” and decipher how different stretches of DNA are responsible for different traits and characteristics in organisms, whether bacteria, plants, or animals including humans (gene expression). Next we try to show how scientists began to use this greater understanding of DNA and other aspects of the microscopic world of life to actually alter, manipulate and control genes (genetic engineering).

1. Background: Discovering the Structure and Function of DNA (1940-53)

The story begins with Gregor Mendel’s discovery of the mechanisms of heredity in the 19th century. Mendel’s work indicated that there were particles or “units” of heredity, responsible for the traits of organisms. Since then, the hunt has been on to discover what these basic “units” of heredity (the genes) are. In 1952 experiments involving virus and bacteria, confirmed that it was DNA - deoxyribonucleic acid – a complex molecule within the chromosomes of cells that carried genetic information directing cells to specialize and form the various parts of a working body. In 1953 James Watson (1928- ) and Francis Crick (1916- 2004) succeeded in establishing a model of the structure of DNA which showed how it could both express and accurately transmit genetic information22. They showed that the structure of DNA – its shape and composition – makes it the command center that tells the cell what kind of cell it will be (skin, lung, blood, etc…) and also explains how it regulates the growth, life support system, and reproduction of cells. Once they published this model in 1953, it became clear that Watson and Crick had indeed found the so-called “blueprint of life” since all living things have DNA (or its close relative RNA). And it is this molecule that “gives the instructions” to make, grow and maintain the various kinds of cells that make up a living being.

22 Credit should also be given to Rosalind Franklin (1920-1958) who pioneered the technique of X-Ray crystallography that showed the structure of the DNA molecule. Unfortunately, Franklin died and was therefore not awarded the Nobel prize along with Watson, Crick and Maurice Wilkins when they received it in 1962.
Their Nobel Prize winning model proposed that DNA was a molecule composed of two main strands, twisted together into a **double helix** structure, like a twisted staircase joined by the steps or the “ribs” of the molecule. The “backbone” of this staircase was composed of sugar-phosphate while the “ribs” (the joined steps) are called **nucleotide bases** that come in four “flavours”: Adenine (A), Thymine (T), Guanine (G) and Cytosine (C). These bases glue the two strands of the molecule together. The order of these bases along a stretch of one strand of the DNA molecule, for example, “ACTG” as in the illustration on the left, is called the **sequence of base pairs**. Note that the sequence along one of the strands can tell us what the sequence on the other strand will be since “A” can only pair up with “T,” and “C” only with “G”. Thus for the left handed sequence “ACTG” we would have a complementary right handed strand of “TGAC”. The double stranded shape of the DNA molecule explained how genetic information could be **replicated** (copied). If DNA was “unzipped” into two strands, each strand contained the necessary information to produce a complementary (“mirror image”) strand from the free floating base pairs in the cell. Thus one strand of the molecule acted as a **template** (like a mold) for the other. Since replication (reproduction) of cells is a fundamental process in all living things, this confirmed that DNA must be the basis of heredity.

The shape and structure of Watson and Crick’s DNA also eventually provided part of the explanation for **gene expression**: how genes provide the information to make and maintain the various kinds of specialized cells and cell parts that make up the tissues, organs, etc... of a working body. The sequence of nucleotide bases of the DNA molecule are what ultimately “spell out,” in a complex multi-step process, the instructions to make cells and most of their vital parts. The entire process can be further clarified by a frequently made analogy to letters, words and sentences in a language. The nucleotide sequences of the DNA molecule are analogous to a 4 letter “alphabet” (ACTG) which, in varying length and order, can “spell out” certain “words” (amino acids) which eventually combine into “sentences” (proteins) responsible for the structure and function of various cells. Since cells make up most of our bodies, we understand how DNA is the blueprint of life.

Given the complexity of the process, conducted millions of times a second throughout the whole body of an organism (as well as in the developing embryo), it is remarkable how accurate DNA replication and **protein synthesis** (creation of proteins)
normally are. However, certain errors or mutations in copying or synthesis sometimes occur. If these errors happen in an important part of the genetic code, a hereditary disease may result. Some hereditary diseases, such as sickle cell anemia which affects some east Africans or their descendants in America and elsewhere are the result of a single “mistake” in the sequence of DNA coding for hemoglobin - a key protein in blood cells. Other hereditary diseases have more complex causes, occurring at other stages in protein synthesis or may be a result of chromosomal or other anomalies. Moreover, various mutagenic agents have been discovered in the 20th century, responsible for rearranging, deleting and adding to normal sequences. From the evolutionary perspective most mutations are harmful, if not lethal to an organism. Thus the discovery of DNA also helped clarify the root causes of certain genetic diseases.

A much clearer idea of what genes were emerged from all this work. Genes were redefined as stretches of DNA of variable length containing various sequences of nucleotide bases that ultimately “code for” or produce essential proteins, key components of all living beings. The genetic source of all of these was the DNA molecule as revealed by Watson and Crick.


Now that geneticist had a much clearer understanding of what genes were and how DNA functioned, progress in actually understanding what parts of the genetic code were responsible for specific traits and characteristics proceeded rapidly. This is what we refer to as “reading,” deciphering or mapping and sequencing the genetic code. It involves locating what DNA sequences within a specific chromosome are responsible for a specific trait or characteristic. At first, attention was focused on finding gene sequences that were responsible for hereditary diseases. The job was difficult since the human genetic code is about 3 billion base pairs long but in the 60s and 70s various teams of scientists still managed to locate genes responsible for diseases like cystic fibrosis, multiple sclerosis, sickle cell anemia and others. This means they could isolate the sequences of DNA in a specific region of a specific chromosome responsible for the disease.

By the 1990s, however, the US government, along with other governments in the developed world and research institutions began a much more systematic and large scale project to map and sequence the entire human genetic code (called the human genome). In 1990 this job was given to the US National Institutes of Health and the Department of Energy and called the Human Genome Project. They were given 15 years to do the job of locating not just disease genes but all genes in the human body.

Much of the laboratory work in sequencing and mapping DNA sequences is repetitious and mechanical. But computers took over some of these tasks, increasing both the speed and accuracy of the job. Scientists thus built a sequence map of the human (and other animal) genome, detailing the chemical structure of the genetic code at the most fundamental level and showing what proteins it “codes” for. Today this technique has been refined and partly automated; allowing the deciphering of thousands of base pair sequences in a fraction of the time it took just ten years ago. With this information, the
entire human genetic code (the genome) and, eventually, knowledge of what each part of that code does in building or maintaining a human body, is now revealed.

Walter Gilbert, a pioneer in the field, calls gene mapping and sequencing “the holy grail” of biology. This is because such detailed maps provide the information detailing exactly what genes are doing what in the human body. Possessing such information we can discover what genes are responsible for triggering various kinds of hereditary diseases, certain types of cancer and other diseases that have a genetic or partly genetic component. Once known, genetic tests can be created that will be able to spot whether someone has or does not have the “faulty” sequence. Moreover, this can be done before birth as has been the case for Down’s syndrome for many years and for literally hundreds of genetic diseases or weaknesses today.

Beyond diseases, we can discover the source of many “normal” genetic or party genetic traits. Perhaps we will discover genes for homosexuality, or intelligence, or creativity or other behaviours and traits, as some already claim to have done. Gene-mapping promises to reveal, according to some of its proponents, the very roots of human nature. To enthusiasts of gene-mapping the possibilities are endless. But we need to be careful of such claims. If you already believe that human nature is primarily a question of genes, then gene-mapping may indeed be the “holy grail” for you. Exactly how useful and important gene-mapping will be, especially on the question of human nature, should not be pre-judged. So far, it has produced nothing like a major breakthrough linking mental traits to genes. But the potential is still there and many other benefits - and dangers - have already emerged from genetic engineering in general and gene mapping in particular.

3. Bacteria and Viruses as Genetic Engineering Tools

Knowledge of the exact chemical structure, function and location of genes were crucial first steps toward their eventual control and manipulation, i.e., towards genetic engineering. Though microscopically small, not only were microbiologists eventually able to find tools for “reading” DNA, they also succeeded in developing powerful new ways to actually “write” and “edit” or manipulate the genetic code of organisms in ways never before imagined. This was due largely to the work done with bacteria and viruses in the field of molecular biology. The development and expansion of this new found ability to understand, manipulate and “engineer” the genetic code is at the heart of the biological revolution; a revolution that has continued, expanded and intensified to the present day.

As powerful as the modern microscope can be, it cannot cut, delete, glue or alter stretches of DNA or genes. No “scalpel” or other conventional tool delicate or tiny enough to do this job by comparatively gigantic and awkward human hands can do this job in this microscopic world. Nature, however, already conveniently provides such microscopic “tools” which have been doing exactly this for billions of years. Molecular biologists lost no time in harnessing these tiny “genetic engineers” for their own purposes. These are the viruses and bacteria cell biology had already discovered long before DNA. Researchers

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23 Dean Hamer is one scientist who claimed to have discovered a “gay gene”. Other claims about genes for equally controversial behavioural characteristics keep forthcoming from scientists. Obviously, these need to be critically and carefully scrutinized and verified, given what this book has shown about the misuse of biological knowledge. Hamer’s own work has been severely criticized as scientifically inadequate.
chose to study bacteria and viruses because they were the simplest living things and because they reproduced very quickly. Their importance in spreading infectious diseases was known since Louis Pasteur in the 19th century, as were their more beneficial effects in various quarters. Bacteria are one-celled organisms that have no nucleus but do have genetic material, whereas viruses don’t even have cells and were once thought to have no genetic material24 but this is not the case. A virus is little more than a protein coat containing a string of DNA. A favourite bacterium of geneticists has been Eschericia coli (E. coli), that exists in the human intestines and a favourite set of viruses has been the bacteriophage that attacks E. coli. Unlike bacteria, viruses cannot reproduce by themselves but need to “hijack” a cell and use its machinery to duplicate themselves (replicate). A virus can infect people, for example, when it latches on to a cell wall and injects its genes through the wall. The virus genes then insert themselves into the genetic code of the cell they have invaded and use the genetic machinery of the cell to duplicate themselves and their protein covering. If successful, viruses multiply so fast in the host cell that they burst right out of the cell, destroying it and releasing other copies into the cell’s environment to continue the cycle and cause the disease symptoms.

However, a virus’s ability to insert its own genetic material into the genetic code of a cell provided scientists with a valuable tool for inserting the genes of one organism into those of another. If they could substitute the virus’s genes for other, more useful genes, they would have a means to insert useful genes into a cell and thereby modify what the cell was doing. In other words, bacteria and viruses could be used as delivery systems or vectors to insert genes into a cell. This is exactly what scientists have been able to do and today all the tools are available for copying or cloning genes, for cutting them in specific places using enzymes and for changing or inserting gene sequences using bacteria and viruses in any number of ways. Thus it is that genetic science and technology have succeeded in developing the techniques for reading, cutting, altering, adding and recombing various stretches of DNA from any organism and this is what genetic engineering is all about. The possibilities of genetic engineering are truly staggering and the sections above will give just a small sample of what these are.

4. Some Current Applications of Recombinant DNA Science & Technology

Gene mapping and sequencing is perhaps the key to the continuance of the biological revolution and is therefore one of the most important applications of recombinant DNA science. This is because almost any present or future application of Recombinant DNA science will require knowledge of DNA sequences. In this sense, genomic sequencing can be (and has been) compared to the construction of a reference library or gigantic dictionary of the “code of life” that others will use in any number of ways. Gilbert and others compare it to an “infrastructure” necessary for the future advance of biology and medicine. Itself the product of biological science and technology, it is of obvious value to continuing

24 Some have debated whether viruses are “living” at all since they lack even the most basic features normally thought necessary to living things - such as the ability to reproduce. Many researchers conceive of viruses as on the borderline between the living and non-living.
25 The word “infrastructure” is usually used to describe the network of roads, highways, bridges, the sanitation, sewage, water and electrical systems upon which a modern economy depends to maintain itself. A well-developed infrastructure, in this economic sense, is also the pre-requisite of any economic growth in a modern society.
biological research and researchers who need to know the sequences of the genes they are investigating in the lab. But the uses to which this knowledge can be put are numerous indeed, like the uses to which the words in a dictionary can be put. The frequently used metaphors of “dictionary”, “reference library,” “code” or “map” when referring to the genetic “code” conveys the idea of a hidden language brought to light by modern science. The metaphor of “map” seems to be particularly appropriate. Like Columbus, we have discovered a new world and produced a new and more accurate map of its terrain. Like Columbus we are about to change history forever. How will we treat this new world? Will we plunder it for profit like conquistadors, driven by gold? Will we conquer it in the name of the new god of science and technology and ravage, dispossess and colonize the new lands we’ve discovered? Or will we have learned from the past and treat the new knowledge we’ve gained with respect and humility? The answers are taking shape at the moment but it is clear that much depends on how much knowledge “ordinary people” have of current scientific developments and of the past uses and misuses of science and technology. Without debate and involvement by the public, no hard questions will be asked and we may simply be subjected to what others – “the experts” say.

The practical applications of modern genetic technology are too numerous to mention here, but a small list may give an idea of why this is indeed revolution.

1. DNA fingerprinting and criminal forensics.

Variants of DNA sequencing techniques have been used in paternity cases, to determine (or at least rule out) the genetic relation between a child and a parent. The O.J. Simpson trial, not to mention shows like CSI gave wide publicity to the now widely used and accepted technique of identifying an alleged perpetrator of a crime by matching certain of his or her DNA sequences to blood, semen, tissue or other organic products found on the crime scene. It is now also being used to discover the identities of the victims of war crimes and their perpetrators, for example in Kosovo and Yugoslavia. This technology, however, is becoming increasingly important in influencing decisions in criminal cases, upon which proper justice and a person’s freedom or life will sometimes depend. The prospect of a universal identification system, using DNA fingerprinting techniques, has led some writers to contemplate a “Big Brother” scenario in which powerful interests will have inside information on all individuals and their supposedly inherited mental and physical weaknesses and strengths.

2. Pharmaceutical industry.

Knowing the sequence of a gene and its protein products can also be used to develop drugs to counteract a genetic deficiency. Drugs like erythropoietin (EPO) that stimulates production of red blood cells and granulocyte-colony stimulating factor (G-CSF) that stimulates the production of red blood cells, proven useful in the fight against anemia and cancer, are only two examples of the potential medical benefits genetic sequencing knowledge can have.26

3. Biotechnology industry.

Recombinant DNA techniques, combined with sequence data for micro-organisms,

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plants and animals, have allowed researchers to produce genetically altered strains of important food crops that are more resistant to disease or that produce greater yields. In fact, any number of desired traits can now be engineered into a growing list of living things. Such manipulation of living beings has raised opposition from animal rights and environmental groups. The former argues that this represents another violation to the rights of animals and the latter claiming that releasing genetically modified organisms (GMOs) into the environment may have untold and uncontrollable consequences. Other critics oppose the altering of food crops (GMFs) as potentially damaging to human health and are especially critical of the lack of research in this area and the absence of warning labels telling people which fruits and vegetables have been genetically modified. Another key controversy surrounds the patenting of GMOs or DNA sequences. The ownership of the genetic code of any living thing is seen as inherently abhorrent by some, with especially serious consequences to independent farmers both here and in underdeveloped countries. Critics paint a picture of how genetically modified seeds for crops will be owned by large corporations, forcing everyone to buy or even rent something previously thought a free “gift” of nature.

4. Medical diagnosis, prenatal testing and genetic screening. Another important practical application of gene mapping and DNA science, is currently one of the fastest growing fields of medical technology in the US. It is not hard to understand why. Commercially, hundreds of millions of dollars can be made by developing tests for various kinds of genetic or partly genetic diseases. But non-commercial considerations are also important, with a host of politicians, activists and disability groups pressing for research into the precise genetic causes of diseases like Huntington’s, cystic fibrosis, sickle cell anemia and others. Pressure for more widespread testing by employers and insurance providers is now growing in the US. Employers are looking for ways to cut labour costs due to missed sick days and are especially anxious to avoid the high health insurance costs associated with chronic illnesses. Some private insurers themselves are also pressing for access to the results of genetic tests among their clients. They fear the consequences of “adverse selection” (“Whose Right to Genetic Knowledge?”) as more and more individuals get tested for a host of diseases.

5. Gene therapy.
Gene therapy is “the insertion into an organism of a normal gene which then corrects a genetic defect” (Anderson 401). While genetic screening allows us to search and find “faulty genes”, genetic therapy allows us to replace these with “good genes”. The alleviation of suffering and pain due to “genetic disease” is thus another tantalizing and dramatic benefit that could emerge from Recombinant DNA science and technology. But those afflicted with the most destructive and obvious “genetic diseases” (a relatively

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28 For critical perspectives on this issue see authors Jeremy Rifkin and Andrew Kimbrell of the Foundation for Economic Trends.

29 In the U.S., medical insurance is largely supplied by employers through private rather than public health plans (as is the case in Canada). This means that health insurance costs can weigh heavily on particular companies, especially in the context of an aging population. Thus there may be some pressure to “remain competitive” by finding a way to “screen out” individuals who reveal a genetic disease or even simply a “pre-disposition” to certain diseases (cf. “Whose right to genetic knowledge”, Nature, vol. 379, 1 February, 1996, pp. 379-392).
small fraction of the population) are not the only potential beneficiaries of gene therapy. In the future, gene therapy may be useful to those who are “at risk” or have “genetic vulnerabilities” or “predispositions” to a much wider range of diseases, including cancer, heart disease and AIDS. This means, just about everybody since, as Francis S. Collins, the director of the NIH’s Human Genome Project says “…we’re all at risk for something” (Beardsley 102). But the same techniques used for treating genetic illnesses or “predispositions” could also be used for “cosmetic” purposes or to enhance your baby’s IQ (assuming, of course, IQ is genetic or partly genetic). The possibility of a new, more technologically sophisticated eugenics, once again rears its head.

6. Cloning. A clone is an artificially created genetic duplicate of an organism. Cloning of animals was made famous by Dolly the sheep but cloning of smaller creatures, microorganisms and segments of DNA has been going on for some time. Most controversial is the idea of cloning a human being. However, much confusion reigns about this, especially since Hollywood films began to make this a major theme in various science-fiction movies. Cloning is often mistaken as genetic engineering of people, or “custom-made” babies but this is different than creating a genetic duplicate and may in fact be a greater ethical danger today. As mentioned, a human clone would probably be less similar to the “original” than many people believe, unless one is predisposed to accept the assumption that all we are is our genetics. Thus the idea of achieving immortality via a clone or of “cloning Hitlers” is simply wrong. Though people often imagine scientists making villainous zombie-like armies of clones, logically speaking there is no reason to believe that a clone would be somehow more prone to control and manipulation than anyone else, unless society decided otherwise (i.e., through discrimination). Ethically speaking, there would be no reason to treat a clone as any less or more human than anyone else.

Most scientists are more intrigued by the possibility of cloning human tissues and organs rather than cloning an entire human. These could be used in transplants and to repair damaged organs while eliminating or reducing the problem of rejection. If successful, those would indeed be a major medical breakthrough. More recently the possibility of cloning stem cells from embryonic tissue has become another practice that has provoked controversy. Stem cells are unspecialized cells that can be injected into damaged organs and tissues where they would presumably act to help repair and even reverse the damage. The controversy lies in using parts of human beings (embryos and fetuses) as medical products.

7. Evolutionary history.
Finally, genomic sequencing promises to yield dramatic new insights into our evolutionary history. Already it is widely known that 98% of the human genome is practically identical to the genome of the chimpanzee. More detailed contrasts and comparisons between humans and other species on the genetic level may reveal unsuspected relationships, connections and differences in the vast evolutionary tree of life.

8. Discovering the “roots” of human nature? As important for the future as any of the above-mentioned applications of genetic knowledge are, the discovery of genes or complexes of genes regulating human emotional, intellectual and creative abilities, promises to be even more revolutionary. The consequences of such findings would have
major implications on all of the social sciences and are already deeply affecting traditional views of human nature. Though little new solid evidence has emerged linking complex mental traits to genes, the impressive growth of genetic technology in general has encouraged a tendency to see a wide range of human traits and behaviours as biologically and genetically based. Thus we witness alleged discoveries of “genes for” obesity, alcoholism, sexual orientation, even political ideology, in television programs, newspapers, magazines, radio and in lectures and conferences daily. If such “human nature” genes could be found, we would indeed have discovered a powerful new way to understand people and perhaps also to control them, whether for good or bad. Establishing the validity of these claims requires that we look more deeply into the scientific work (if any) on which it is based. We need to keep in mind, as well, the past uses and misuses of biological knowledge mentioned in this book.
CONCLUSION

We’ve examined the meaning of bioethics and examined only a few of the many bioethical issues in this course. Like all the others, the last issue, genetic technology, certainly raises many questions we should all learn more about so we can make wise decisions about them. Bioethics forces us to ask what kind of society and what kind of world we want. Should we build a society in which only those who can afford it get adequate medical care and level of well-being? How can we prevent inhuman medical and scientific experiments in the future while maintaining commitment to scientific progress? How can we deal with the threats to our security without destroying the fundamental rights and freedoms that we have struggled to achieve? Should we go “full steam ahead” with all medical technology or do we need to examine them more carefully and control or even stop some of them? Should we alter the genetic code of human beings? If so, who decides and for what purposes? Should we start considering the welfare of other species, too, like the animals we test our products on or even the animals we routinely eat? Should we spend so much time on expensive technologies that benefit a relatively small and affluent population while simple steps like cleaner water could save the lives of many more? Should we continue to live in a world where entire areas and whole generations are wiped out by curable, treatable and preventable diseases? These and other questions are what bioethics examines. It tries to do what Potter mentions above – provide greater knowledge about biological and medical science but as part of a wider mission to develop moral or ethical wisdom to guide us in deciding how we should live.

On a global level, it is apparent that the social and health benefits enjoyed by Canadians and other rich countries have not spread around the world. Few countries can afford the public health care systems or, in some cases, even the basic public health measures like clean water and sanitation implemented in the West. Despite impressive efforts by the UN, the World Health Organization and others to implement vaccination programs, in Africa, millions of people still die or suffer from preventable, treatable or curable illnesses and infectious diseases. Only recently have western pharmaceutical companies, governments and trade organizations agreed to provide cheap versions of drugs to treat people with HIV/AIDS in poor countries. Meanwhile, the AIDS pandemic has been decimating Africa for the last 10 to 15 years, resulting in about 17 million deaths. The resistance to providing these drugs is based on the protection of patents and fear of lost profits for the pharmaceutical companies, most of which are based in the developed world (McGeary). Fortunately, the availability of drugs has improved recently but serious problems remain. In many ways, if we examine infant mortality, life span and illness and death due to infectious diseases, the situation in poor countries resembles the situation of the average person in the so-called advanced countries from one hundred years ago. For sub-Saharan Africa, life-expectancy is still an average of 49.6 years while 32% of the population is undernourished (United Nations Development Program). On a global level, adequate health care is for those who can afford it.

It is important to remember that many of the changes that led to extended life span and better health for people were not just the result of increased scientific knowledge or improved technology. At least as crucial were political developments and decisions that led to improved social and economic conditions for a larger segment of the population.
Medical breakthroughs like vaccination wouldn’t have made a great impact if governments hadn’t also followed this with massive public inoculation campaigns that reached even the poorest members of society. Without political pressure vaccination, improved diets, cleaner water, better hygiene and sanitation and better working and living conditions and higher wages would not have happened. Neither would have public health insurance taken hold in Canada and elsewhere. Even if a country has the most advanced medical technology in the world, it will do little good if only a few can gain access to it. Thanks to the organization and political struggles of past generations, access to both basic goods as well as more advanced medical care was opened to a larger segment of society.

This brings us again to what Potter above calls a “new wisdom” that bioethics is aiming for. This new wisdom would help us in our moral and ethical thinking and provide ethical principles to assess new technologies and treatments. As mentioned, the lives and health of people are determined not just by technology and science but by the choices we make as a society. Hopefully, we will be encouraged to ask even more fundamental questions about who should have access to these technologies and to what kind of society we want, what kind of ideas we believe in and even what it means to be a human being and a free being. These are some of the questions that bioethics and ethics raise in the hopes that this generation or the next will find just and equitable – ethical – answers to them.
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