

The Color of Ethics

The word “color” is used in the title to denote that the topic of ethics is highly perceptual and subjective. This subject has been written about and discussed extensively. The reason is obvious: that people, including professionals, continue to abuse each other. The most common cause is over money, but people also get mistreated physically, mentally, sexually, domestically, and in a dominating manner over perceived superiority.

Generally, most people want to do the right thing when dealing with others. Ethics does not provide a right or wrong answer, just a set of principles to guide choices. It eliminates confusion and clarifies issues. It also defines where a group of people mostly agree. This subject is being approached from an engineering perspective because that is where the spark was lit when a female engineer did not want to discuss weapons during an open ethics presentation. The subject of using military force is covered in the latter part of this essay.

Definitions

Webster’s¹ defines ethics in three relevant ways:

1. “the discipline dealing with what is good and bad and with moral duty and obligation”
2. “the principles of conduct governing an individual or a professional group”
3. “a guiding philosophy”

All three of these definitions are useful and appropriate to the remaining sections of this essay. However, these definitions remain non-committal. That is, they do not define what is “good” or “bad”, nor what are the principles. Ethics is therefore dynamic in both a temporal and spatial manner. That is, they change over time and with location. What is “bad” behavior last year can become O.K. tomorrow, and what is “good” in Middle Eastern societies can be defined as a crime in Western cultures. Ethics does provide a group of people with a moral map that is beyond written laws to guide them through complex issues consistent with their society.

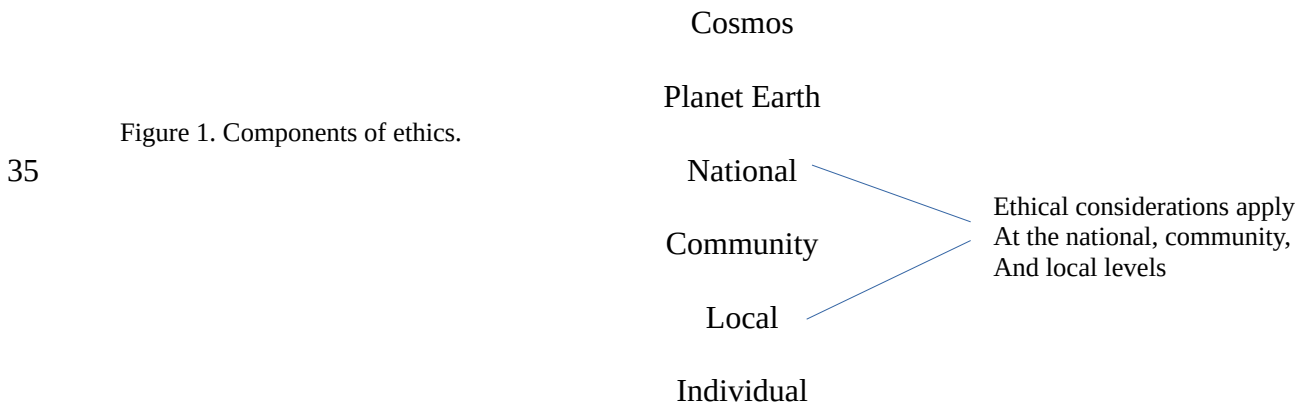
Components

In true engineering fashion, I will attempt to break down this complex subject into it’s components. Ethics is multi-dimensional on several layers. At the lowest level, it treats the individual as one unit, Figure 1. A single person is the cell unit in a society. There are health guidelines on how one should treat one’s body. That behavior, good or bad, does not affect other people unless poor health behavior becomes a burden on another as a caretaker. A group of one individual has no concern for ethical behavior. A solitary person stranded on an island alone will do as he/she sees fit. A group of 100,000

1 Merriam-Webster’s Collegiate Dictionary, Tenth Edition, 1995

30 seems to have lost ethics among it's criminal members. So ethics is practiced in depth with some "tribe" of moderate numbers of like minded people.

On a local level, there are immediate family, relatives, employers, and clients. Up to this point, there are few written laws that define miss-behavior. The local group defines what is acceptable. For example, consistent profanity may



40 be the norm in some settings for being considered a “real man”, and someone else in the group complaining about it may be “out of bounds”.

At the community level, some written laws begin to describe what is acceptable treatment of others. The community includes city, church, school, state or province, and society in general. Law enforcement and judicial proceedings provide means to handle criminal behavior, but those proceedings are mostly dysfunctional to control unethical acts. The statistical evidence for that statement is that we still have criminal activity after centuries of applying the controls, and other societies have the same continuing problems of crime. Arrest and incarceration has not made crime go away. People will do whatever they think that they can get away with. However, there are professional organizations which exercise some controls on it’s members with codes of conduct. These codes attempt to define acceptable relations among the members of the group and the society at large, that go beyond lawful ordinances.

50 At the next higher level is the national component defined by “country”. This level introduces a whole new atmosphere of morality related to large amounts of money and how to deal with existential threats. The culture is defined by it’s constitution, it’s military strength, federal laws, and politics. At this national level, almost anything goes as “just”, defined by the leadership.

We all reside on “planet Earth” and the planet has no morals. It operates on the laws of nature, specifically, biology, chemistry, and physics. There are cultures that define how individuals should interact with nature, but the planet operates on

it's own rules. We humans have little control. The environment will do what is natural for the planet to establish some sort of equilibrium over time.

60 The largest component is the cosmos. If you believe in God or some other deity, then that defines your compass for personal behavior. Religion has been a wonderful guide for ethical rules and controls because we cannot hide from an all seeing and powerful overlord. We humans have absolutely no control of what goes on in the heavens, but it can control us. In fact, we are victims of that chaos and uncertainty. The geological record indicates that we will all go away at some time because of some event beyond our control, so why bother with ethics. The reason is that we have an obligation to at least treat others with some sort of civility in the mean time.

Philosophy

65 Philosophers have had much to say about human behavior. They have been, and continue to be, concerned about “how shall we conduct ourselves?” and “what form of governance shall we have?” They also address specific questions, such as;

1. Is lying always wrong?
2. Is euthanasia immoral?
- 70 3. Do animals have rights?
4. Is genetic engineering good for life?
5. Should vehicles have a “kill” switch to stop motion (similar to industrial machines that could hurt someone)?
6. Is it right for only governments to conduct gambling operations?

75 Among the ancients, Protagoras claimed that “man is the measure of all things”. This is the first written statement adopting relativism as a philosophy applicable to ethics. Simply stated, Protagoras is suggesting that each person perceives reality differently. There may or may not be an objective reality, but we do not all agree on what we individually perceive. This also means that we will develop our own opinions as to what is right or wrong. That is the fundamental issue with ethics, i.e., they are relative.

80 In the Greek tradition, “ethikos” means relating to one’s character. Plato writes, via Socrates, about morality, justice, and good behavior. Before written laws, the strong man defined what was pleasing to him and should be practiced by all. That became the rule for good behavior in his kingdom. In other words, the king established what was just, not necessarily ethical. Not much has changed.

Socrates argues (in Platos' dialogues) that evil or bad actions are the result of ignorance. People will naturally do what is good if they know what is right. But people are born ignorant and do not know what is right. So knowledge, or
85 education, is the key to good behavior and happiness. This suggests that humans are born criminals and that evil behavior needs to be unlearned. Ethics is not innate. It is a learned behavior that deletes selfishness.

Aristotle goes on to claim that happiness is the ultimate goal of all humanity. People seek freedom from pain and the acquisition of more happiness in their daily actions. However extremes were seen as degrading and immoral behavior. Moderation was encouraged. This seems to have little to do with proper relations with others, but the pursuit of extremes by
90 one will likely be at the cost of another. There is no good reason for a chief executive to compensate himself or herself at 1,000 times the average worker salary. Greed is one of those bad extremes. Aristotle goes on to suggest that friendship is the basis of ethical behavior, where the benefit to the other person is the essence of doing good for the others' sake.

Epictetus, a Stoic philosopher severely beaten and mistreated by his Roman master before being granted freedom, preached that there is no morality in nature. Death and evil happens. We have no control of external events around us. We
95 should accept them as is. The only thing we have control of is our attitude. Therefore, accepting little from others will cause them no harm. This establishes the ethical principle of not pressing others too much.

These ancient principles have segregated the interpretation of ethics in modern times into many colors as:

1. Hedonism – maximizing pleasure and minimizing pain for the most people. As a group, some people may suffer, but the objective is to preserve the group as whole.
- 100 2. The Golden Rule – “treat others as one wishes to be treated” ascribed to Hindu Hitopadehsa (2000 BCE), Luke 6:31, Seneca, and Buddha
3. Consequentialism – “the end justifies the means” The consequences of an action or rule generally outweigh other considerations, such as pain from exercise or surgery. A morally right action is one that produces a good outcome, as quoted from The Prince, by Machiavelli
- 105 4. Utilitarianism – It is the greatest happiness for the greatest number of people that is the measure of right or wrong, Jeremy Bentham & John Stuart Mill.
5. Anarchistic Ethics – there is no religious or transcendental explanation of morality. Ethics is evolutionary. It changes and is inherited as human instinct progresses to satisfy social needs, Kropotkin

6. Moral Relativism – morality is arbitrary and subjective. In a democracy, let's take a vote. The majority has some kind of collective intelligence and will make the "right" decision. If you disagree, then you are an outlier in that society. Most of us think that we can be "mostly" good even though we may not obey all the rules of society.

7. Moral Absolutism – states that there are universal rules that apply to everyone, everywhere, all the time, such as the declaration of human rights. This tends to come from a religious perspective. It does not fit with respect for diversity in other cultures. It has led to violent conflict where it is virtuous to eliminate non-conformists who are perceived as inferior beings.

The ultimate philosophical question about ethics is "does it have an independent existence that is universally true?" If the answer is no, then humans invent ethical values. They can change from place to place and evolve over time.

Power

Ethics relates to exerting power over others who are powerless to resist. The most sensitive social groups are minors among a larger group of majors, where the majority government can exercise control through the laws. The actions of the powerful are unenforceable. This is where there is an obligation of the powerful to be ethical on their part just because of the others' lack of power. The moral duty and obligation of the powerful is to have self discipline to adhere to these principles. The responsibility is unilateral, regardless of others' misbehavior.

This implies that it becomes incumbent on the powerful to exercise a higher level of empathy toward the less powerful. This is above and beyond written laws. At the national level, ethics guides diplomacy when dealing with other cultures, and ethics guides military force when diplomacy fails.

Professional Codes

Professional organizations have their specific codes of conduct. These are to implicitly regulate areas of behavior and details that lie beyond government control. That is, unethical behavior can be legal and still not result in a crime. It falls upon those administrators (those that collect the annual fees) to write some rules. The purpose is to protect the standing of the organization in the eyes of the public. Attorneys have their codes, as do journalists and engineers. Publication ethics are to –

1. Verify facts
2. Give credit to previous works
3. Protect confidential information, like medical records and the identity of information sources

Attorneys have their codes to not berate another, uphold the justice system, and protect their clients interests.

Engineers' rules of professional conduct include "The protection of the public safety, health, welfare, and property They include other statements about fraud, violations, competency, truthful testimony, conflicts of interest, unfair competition, and upholding the honor, integrity, and dignity of the profession, but the protection of the public safety, health, welfare, and property is paramount. We will return to this code when discussing weapons.

Many of these professional codes are inadequate as an ethical standard. The shortcomings are in tardiness, supervision, and sexual harassment.

Within the Department of Defense, tardiness or absenteeism is a crime. It is called AWOL (away without leave). Military operations depend strongly on proper timing. For example, the artillery barrage must cease promptly when infantry is advancing or someone is going to get hurt. An air refueling tanker must arrive at some location, altitude, and precise time when a fighter jet needs fuel or we lose assets. To be late for an engineering meeting is not a crime in civilian life, but it abuses the time of others. To be late is an insult. To be early is a statement of respect. Tardiness and absenteeism should be included in professional ethics.

Professionals typically have subordinates, and provide them supervision in their duties. The leader has obligations to grow those subordinates into larger responsibilities. To not develop subordinates would be unethical. How to treat subordinates is well described in The Unwritten Laws of Engineering.

Sexual harassment is strongly discouraged in government organizations. Annual refresher training is required just to maintain awareness and update policies. The subject is entirely ignored in many professional code of ethics. That should be an embarrassment to those groups. Sex is a normal human activity and it would be difficult to keep men and women apart, however, it is a highly personal and private affair. It should be absent in a professional environment, especially in relation to subordinates.

Money

Money has been described as the root of all evil. It is not evil itself, but the excessive desire for accumulation of this inedible currency is not healthy. Businesses are bound by rules of law that must be followed to avoid jail time, but those rules say little about maximizing profit. This is where ethics needs to be more visible. Business operations satisfy some human need and should be compensated for their efforts, even make some extra to return benefit to the founders. But what good reason is there for someone to make a million dollars a day. They cannot eat that much food.

Sole consideration for money in decision making has led to very bad decisions for society in general. Recall the Wells Fargo scandal and the Deep Horizon event. Corporate ethics do not address profiteering. Ethics says nothing about

165 pricing. Does maximizing bottom line profit mean that we are doing the right thing? The return on investment period of six months mentality is poor social responsibility. The short term return of profits ignores the long term benefit for humanity to "do the right thing". There are countless examples of some individual toiling long hours alone to produce some benefit for society in the end. "Good" companies have also done the same by investing in research with no expectation to make money next year.

170 The proper guidance for ethical behavior in regard to money is to remove it from consideration. This forces a long term vision on "what is the right thing to do". Toyota lost money on the hybrid Prius for years, but restored confidence in the corporate leadership and turned out to be good for the occupants of the planet. Doing the right thing has turned out to be very profitable in the long run, perhaps not for the initial doer, but for everyone eventually.

Sources to Draw From

175 Humans compose their own rules for behavior. The sources for ethics are –

1. Religion – When an all powerful deity lays down the rules, then there is no contest. They must be followed or else, but they need to be interpreted by a seer. Let's take one of the Ten Commandments as an example "Thou Shalt not Kill". That standing alone and literally is an absurd statement without qualification. We all consume things that we have killed to survive. How about in self defense? Shall we not be able to employ pest control?

180 However, religious rules and rituals are good for a group to remain cohesive, but have resulted in some of the most brutal conflicts on the planet.

2. Human conscience. Adult humans have a natural desire to do what is best for their group. That is part of parenting and just maturity. It appears to be genetically coded into our species. Other species of creatures probably have the same desires for their kind.

185 3. Examples of good human beings. Confucious, Buddha, Jesus Christ, Gandhi, Mohamed, etc.

4. Rational cost-benefit analysis of actions and effects. This seems to have been the source of some corporate policies with catchy phrases placarded around the halls. It defines good employee behavior that should be emulated.

5. Kings. A strong leader can write the rules. It helps to keep the lid on things from getting out of control, and kingship is all about control.

190 Military Force

War at first glance appears to be unethical. That is a premature conclusion not based on reality. The desire of most humans is to live in harmony, and to achieve that goal is the task for diplomats. When diplomacy fails, the adversary stops

talking and postures to kill as many of our group as quickly and efficiently as possible, then we are left with two choices. One is to step aside and surrender all that they want. The other choice is to resist. The traditional business of war involved
195 killing the adversary or neutralizing their offensive capabilities, but future conflicts may evolve to something else. The ethics of those something else's will be discussed at the end of this section.

War is a dirty business but necessary to preserve a society. It has some ethical values. War implies the breakdown of law and order, but not the absence of any ethics. We justify killing in the wholesale slaughter of innocent animals for food. We have an efficient production system for this to insure our survival. When an adversary intends to do the same to us,
200 then the ethical course for engineers and scientists is to step up to the task to apply known and new technologies to prevent that. That is written into the first code of conduct for professional engineers – “The protection of the public safety, health, welfare, and property in the performance of professional duties”. It would be unethical to stand by and observe an adversary kill and destroy our society. Pacifism is a worthy goal, but unachievable unless there is 100% compliance from all sides.

Military actions concern the application of deadly force. There is a Uniform code of military justice for the
205 behavior of our soldiers and the Geneva convention for humanitarian treatment of combatants and civilians. These are “laws” relating to the conduct of war, but there are additional codes of ethics practiced by a side that chooses to abide by them. One of the U.S. ethical codes is the justification for the initiation of military force. This is embodied in that a civilian makes that fatal decision. Other ethics are the choice of weaponry and who or what may be targeted. Attempts are made to neutralize combatants while avoiding civilian casualties. Another ethical code is to treat those prisoners who surrender with
210 dignity and respect for their choice to stop hostilities. A third is to minimize the destruction of property so that the surviving society can recover as quickly as possible. The high road objective is not let either society totally collapse.

Engineers are deeply involved in the conduct of national defense. The engineering profession has its roots in military science. Archimedes and Leonardo da Vinci designed fortifications to defend their cities. West Point graduated the first engineers in 1824 for the same purpose – to design defensive fortifications for the fledgling new republic. Engineers
215 and scientists should recognize their responsibilities to preserve our society with their talents, and should be proud of that role.

Defense means protection from existential threats in a proactive mode, not just waiting for the attack. To build a "fortress America" with only defensive barriers will only work temporarily. A siege, given sufficient time, will always be successful. Only an offensive/defensive strategy will guarantee sustainable survival. The nature of warfare continues to
220 change. The task for scientists and engineers (practicing scientists) is to monitor adversaries with intelligence, to detect

potential threats, have a plan with hardware in place, and soldiers trained and motivated to neutralize those threats when they become imminent. That means weapons, whether we like it or not. To not do that is to ignore our own code of professional conduct. It would not only be unethical, but stupid as a society. Today, we have opened a portal via the internet for enemies to come in with “soft” weapons that can do serious harm. The ethics of cyberwarfare are undefined. Shall we
225 respond in kind with soft retaliation or shall we just sever the connection?

Future conflicts are likely to involve struggle for dwindling resources, as they have in the past. The fundamental problem is too many people and not enough resources. The past solution was to reduce the number of people via direct killing of combatants, followed by those who support the combatants. What is the right and ethical way to restrict resources to others?

230 Believe it or not, a large nuclear arsenal has kept the global peace for about 70 years, and continues to do so. The strategy of deterrence has worked to convince enemies that the cost of aggression toward those who control nuclear weapons was too expensive. The community of hard working scientists and engineers fulfilled their professional duties well in protecting the public safety. Not having a national defense system is like not having a fence, and not having a country. The fundamental law among animals is "If you cannot defend it, then you cannot keep it".

235 Today, nuclear weapons are obsolete. Cruise missiles and smart bombs made nuclear weapons unnecessary to neutralize a specific target. And someday, not far off, these smart weapons will be insufficient to protect us against new threats. The work of protecting the public will continue and the burden will be shouldered by professionals who clearly understand their responsibilities to preserve a society.

240 Not wanting to engage in weapons development is a personal choice just like not wanting to work at a sewage treatment plant. That does not make it unethical. Everyone uses the services of the sewage treatment plant every single day, just like everyone enjoys the protection of the Department of Defense every single day. We can respect the conscientious objector and accommodate that person on an individual basis, but one persons' objection, or a million peoples objection, does not invalidate the need to safeguard and protect the society as a whole.

The Veteran

245 One day, an Army veteran received a telephone call at work from a school principal that his 13-year old son was involved in a fight on campus. His presence was required at the school to address discipline with the boys, their parents, and the school police.

Upon arriving at the school building, he met the two boys, two school police officers, the principal, and the other boys parents waiting in a room. He asked his son what happened. The son responded that the other boy was bullying him.

250 The principal asked of the veteran on how his son should be disciplined.

The veteran replied that no discipline was needed. He declared that his son has a right to defend himself. He went on to state that he expected his son to not only do so, but to win. He further added that if his friend was in trouble, then he expected his son to jump in and support his friend.

The principal and two police officers were astonished with this "unconventional" response. The veteran then turned

255 to the two police officers and stated that if we, as a nation, are not going to defend ourselves, then we should retire the Department of Defense. We should turn the other cheek and prepare to die.

Guiding principles

260 There are no universal laws of ethics, but there are some principles that should not be ignored. Generals and diplomats (powerful people) have been brought down by sex, money, and drugs. So those areas are something to pay particular attention to.

People like dichotomies, yes or no, but ethics issues are multifaceted and there is often not a clear right or wrong answer. One moral compass is to ask yourself "Am I taking advantage of others?" Another is personal integrity, on and off

265 the job. That is one of a professionals' most important assets. A persons' word should be as good as a written bond, if not better. Personal appearance and neatness can command respect from others, beyond just plain decency. Don't wear T-shirts with controversial images. Be on time. Never discuss politics with a client. Profanity has no place in a gentleman's profession. Be respectful to the opposite sex, elders, minorities, and just about everyone. Listen more, talk less.