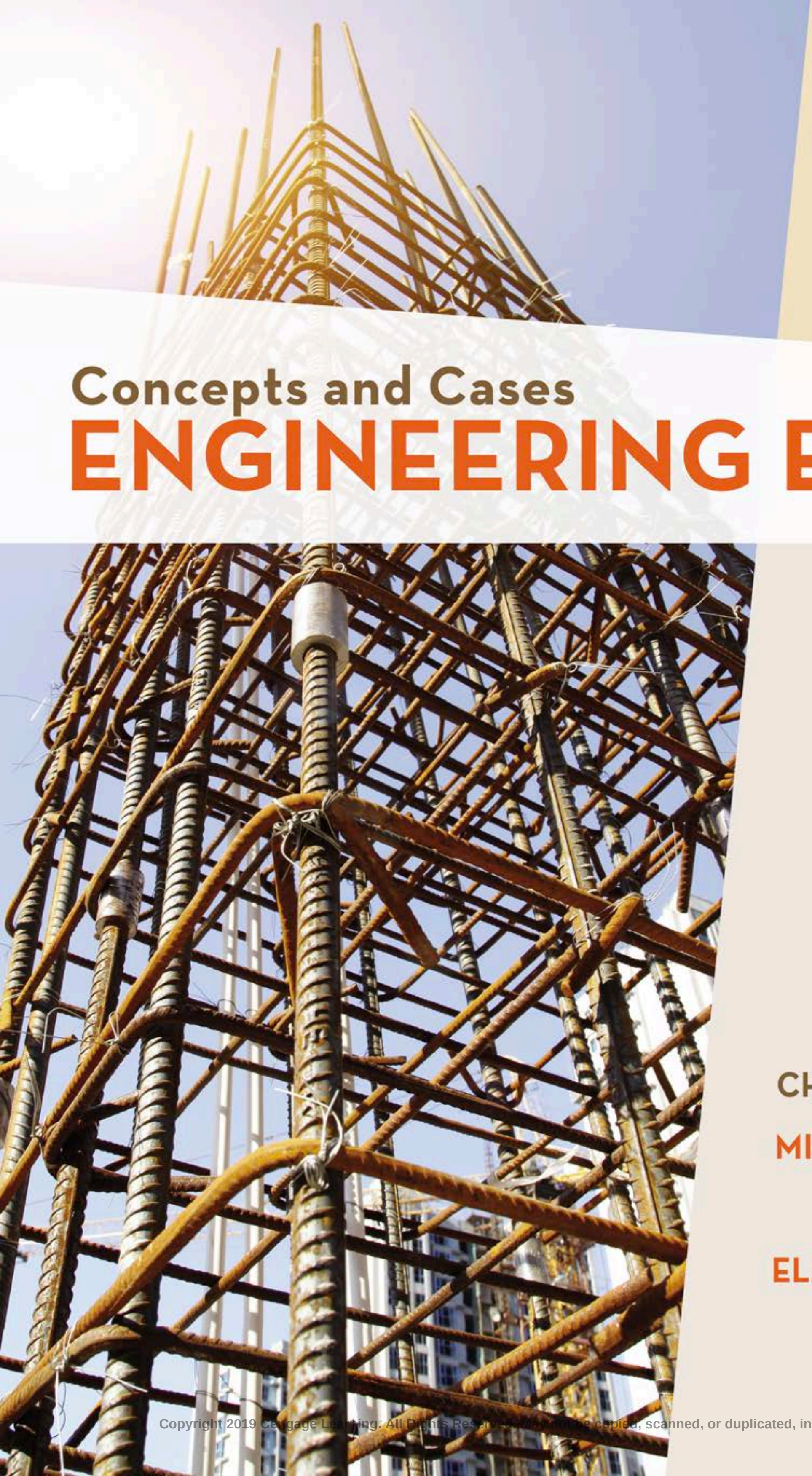

Sixth Edition

Concepts and Cases
ENGINEERING ETHICS

CHARLES E. HARRIS, JR.
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CENGAGE

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Charles E. Harris, Jr., Michael S. Pritchard, Ray W. James, P.E., Elaine E. Englehardt, and Michael J. Rabins

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PREFACE

WE ARE HAPPY TO INTRODUCE the sixth edition of *Engineering Ethics: Concepts and Cases*. We have both added and deleted material throughout the book. One new feature is the introduction of boxes in every chapter. The boxes serve to break up the textual material and to either summarize ideas already discussed or to introduce ideas not covered elsewhere. Some chapter rearranging and renumbering is noted in the summary below. For example, the chapter in the fifth edition "The Social and Value Dimensions of Technology" has been removed; however much of the ideas in that chapter are discussed in the new Chapter 1 and elsewhere.

Here is a summary of some of the major additions:

- Chapter 1 (Engineers: Professionals for the Human Good) begins with a discussion of professional identity and continues with three accounts of the nature of professionalism. The special concern of engineering for human welfare, well-being, or quality of life is given greater emphasis, along with a discussion of what this means.
- Chapter 2 (A Practical Ethics Toolkit) contains revised accounts of utilitarianism and the analogy between the use of ethical theory in applied ethics and the use of models in engineering. For the first time, we provide an extensive discussion of virtue ethics and show how it can be useful in applied ethics.
- Chapter 3 (Responsibility in Engineering) shifts the discussion of impediments, or obstacles, to responsibility from Chapter 7 in the fifth edition, to this chapter. This revised chapter now contains considerations of how virtues can assist engineers in dealing with these impediments.
- Chapter 4 (Engineers in Organizations) is a reworking of the fifth edition's Chapter 7 in ways that make clearer how the working environment of engineers in organizations gives rise to special responsibilities for engineers as employees. The chapter also explores tensions between these organizational responsibilities and responsibilities engineers have by virtue of being members of a profession.
- Chapter 5 (Trust and Reliability) is a reworking of the fifth edition's Chapter 5 and places greater emphasis on the importance of virtues in grounding the trustworthiness of engineers in regard to their relationships to the public, their employers, clients, and the engineering profession itself.

- Chapter 6 (The Engineer's Responsibility to Assess and Manage Risk) is revised to include a more focused delineation of the engineer's responsibilities to assess and manage risks in two major tasks commonly handled by engineers: design of products or engineered systems, and operation of engineered systems.
- Chapter 7 (Engineering and the Environment) has been substantially revised and now contains an account of the development of the environmental movement, including its international dimension, and a more extended discussion of sustainability and the potential conflict between sustainability and economic development. The implementation of environmental concerns in both engineering and business is given a more extended treatment. The chapter also considers how the virtue of respect for nature can be developed.
- Chapter 8 (Engineering in the Global Context) features a new discussion of whether engineers outside Europe and North America think of themselves as professionals and whether they should be considered professionals. The statements of international engineering organizations are given greater prominence.
- Chapter 9 (New Horizons in Engineering) is a new brief chapter designed to highlight some of the important challenges that will face engineers of the future as well as areas where evolving technology offers promise. The chapter encourages the reader to anticipate the kinds of ethical challenges that will be faced by future engineers as they address those challenges and implement evolving technologies. One constant is that engineers of the future will still need a good understanding the ethical responsibilities of the profession in order to best serve the public.
- Cases. Several new, contemporary cases have been added and several others from the fifth edition have been deleted. Newly introduced cases include studies of problems with Toyota's drive-by-wire software, the Tesla Model S "Autopilot" semi-autonomous driver assist system, Volkswagen's emissions cheating scandal, and lead contamination in the municipal water supply in Flint, Michigan. In addition, some existing cases have been updated to reflect new facts or legal findings that have emerged since the publication of the fifth edition.

CHAPTER ONE

Engineers: Professionals for the Human Good

Main Ideas in This Chapter

- **A person's profession is a part of her personal identity.**
- **According to several prominent accounts, engineering is a profession, although the absence in a jurisdiction of a requirement for registration in order to practice engineering weakens its professional status in that jurisdiction.**
- **Engineering codes and other statements from leaders of the engineering profession impose on engineers an obligation to promote the public good, sometimes interpreted as well-being and also as welfare or quality of life.**
- **Promoting the well-being of the public includes not engaging in professionally prohibited actions, preventing harm to the public, and actively promoting the public's well-being.**
- **In designing for well-being, engineers must keep in mind the social context of engineering and technology, and the need for a critical attitude toward technology.**

DRIVERLESS CARS ARE IN OUR future. It is easy to understand why, given the advantages they offer. They promise a significant reduction in traffic collisions, increased access of the elderly and disabled to automobile transportation, lower fuel consumption, and major increases in traffic flow. On the other hand, they raise many social, legal, and ethical questions. Perhaps the most obvious question is who should have responsibility for accidents. The first fatal accident of a driverless car occurred in Williston, Florida, on May 7, 2016. The occupant of the Tesla driverless car was killed when a tractor-trailer made a left turn in front of the car. The car went under the truck's trailer without applying the brakes, evidently because neither the autopilot nor the driver noticed the white side of the trailer against a brightly lit sky. Where should moral responsibility and legal liability lie in this case? Investigation revealed that the driver did not operate the Tesla according to instructions, and that Tesla did not deploy a system capable of identifying situations in which the driver was not "prepared to take over at any time." And how realistic is it to install an autopilot system and then tell the driver she must be able to take over at any time?

Liability and responsibility are not the only questions raised by driverless cars. How safe are they? What kinds of information should be given to drivers before they purchase or use these vehicles? How should the potential problems of hacking and terrorism be handled? (A driverless car filled with explosives could be like a drone on the highway.) What about the potential loss of driving-related jobs? Should there be retraining for other jobs?

Many of these questions have appeared in other forms and other contexts before. Technology almost always raises new moral and social issues—or, most commonly, old issues in new ways. Questions of responsibility are not unique to driverless cars. They arise in the context of so-called engineering accidents, such as the loss of the Challenger and Columbia space vehicles. Moral issues also arise in thinking about the duties of engineers in such areas as the relationship of technology to the environment and handling risk properly. The issues are important to engineers not simply because engineers have usually created the technologies involved, but because engineers are professionals, and the concept of professionalism has a strong moral component. The two components of professionalism are (1) expertise in a certain area (accounting, law, medicine, engineering, etc.) and (2) adherence to moral guidelines, usually laid out in a formal code of ethics. Failure in either of these two areas means one is deficient as a professional. This book is about the second component of professionalism. We hope you are ready to begin your journey of discovery into the moral or ethical dimension of engineering.[1]

1.1 YOUR PROFESSION IS PART OF YOUR IDENTITY

If you were asked to identify or describe yourself, how would you do it? You might give your name and family affiliation, and maybe your place of residence. If you are employed, you would probably give your occupation. "I am a salesperson for Blue Jeans, Inc." "I am an executive with Safety First Corporation." If you are a professional, giving your profession would probably be especially important to you. "I am a cardiologist in private practice." "I am an accountant with Jones, Brown and Smith." "I am a civil engineer with Galendo Engineering."

If you are an engineer—and the chances are good that, if you are reading this book, you are an engineer or an engineering student—your professional identity will become an important part of your conception of *who you are*. To get some sense of the power of professional identity, just ask yourself: "How does it *feel* to be an engineer?" If you are not yet a degreed engineer, ask yourself: "Will I *feel* differently about myself when I get that degree?" The answer to this question is probably "yes." You will of course give a deep sigh of relief, now that you have finally "done it." And you will be proud of yourself, now that you are a true professional. But there is something deeper. See Box 1.1 for an account of how professional identity develops.

BOX 1.1 Three Stages in the Development of Professional Identity

- ***Independent Operator***. Professionalism is meeting fixed and clearly defined guidelines and expectations that are external to one's character.
- ***Team-Oriented Idealist***. Rather than identifying professionalism with fixed rules and behaviors, professionalism is seen as conforming to the expectations of other professionals, especially of the exemplary type.
- ***Self-Defining or Integrated Professional***. Rather than identifying professionalism with external expectations of one's peers, one has integrated his personal values with those of his profession. Professional values are a part of who one is. This stage is often not fully achieved until mid-life.[2]

1.2 WHAT IS A PROFESSION?

What, then, is a profession? The use of "profess" and related terms in the Middle Ages was associated with a monk's public "profession" of a way of life that carried with it stringent moral requirements. By the late seventeenth century, the term had been secularized to apply to those who "professed" to be duly qualified to perform certain services of value to others. Three approaches to professionalism are especially important in understanding the concept, and can be useful in understanding professional identity.

First, there is the Sociological Account, which holds that there are characteristics especially associated with professionalism. See Box 1.2 for one widely known list of such characteristics.

BOX 1.2 Characteristics of a Profession

1. Extensive period of training of an intellectual character, usually obtained at a college or university.
2. Possessing knowledge and skills vital to the well-being of the larger society.
3. A monopoly or near-monopoly on the provision of professional services, and considerable control over professional education and the standards for admission into the profession.
4. An unusual degree of autonomy in the workplace.
5. A claim to be regulated by ethical standards, usually embodied in a code of ethics, that promotes the good of the public.[3]

A second way to understand professionalism is the Social Contract Account. On the Social Contract Account, professionals have an implicit agreement with the public. On the one hand, professionals agree to attain a high degree of professional expertise, to provide competent service to the public, and to regulate their conduct by ethical standards. On the other hand, the public agrees to allow professionals to enjoy above-average wages, to have social recognition and prestige, and to have a considerable degree of freedom to regulate themselves. The idea of such an implicit contractual relationship, if taken seriously, imposes a powerful sense of obligation on a professional or a developing professional.

A third account of professionalism is offered by philosopher Michael Davis, who defines a profession in the following way:

> A profession is a number of individuals in the same occupation voluntarily organized to earn a living by openly serving a moral ideal in a morally permissible way beyond what law, market, morality, and public opinion would otherwise require.[4]

Davis' definition highlights the facts that a profession is not composed of only one person, that it involves a public element, that it is a way people earn a living and is therefore usually something that occupies them during their working hours, that people enter into it voluntarily, and that it involves a morally desirable goal, such as curing the sick or promoting the public good.

1.3 ENGINEERING IS A PROFESSION

Engineering is clearly a profession by all three accounts. There are a few rough edges to the fit, but this may be true with all professions. First consider the Sociological Account. Becoming an engineer requires high level of training at the college or university level. Engineering is vitally important to the public. Just as one cannot imaginea modern society without the services of lawyers and doctors, one cannot imagine our society without highways, computers, airplanes, and many other technological artifacts designed by engineers. Engineers have considerable control over the curriculum in engineering schools and the standards for admission to the profession. Control is usually exercised through the influence of professional societies and other professional organizations. The engineering profession does not have complete control over the practice of engineering, because, in some countries, such as the United States, one does not have to be a registered professional engineer (PE) in order to practice engineering. In fact, in the United States, only about one-third of engineers are registered with their state licensing boards. Further, the so-called industry exemption exempts engineers whose services are not directly offered to the public.

To continue, while engineers who work in business and public organizations may not be as autonomous as lawyers or doctors who have their own practice, they probably have more autonomy than most nonprofessionals, if only because nonengineers do not have enough technical knowledge to give more than general direction to engineers. Finally, engineers, like other professionals, have ethical codes that are supposed to regulate their conduct for the public good. Cynics may claim that professional codes are mere window dressing, designed to disguise the fact that professionals are primarily out to promote their own economic self-interest. While there is some truth to the claim, we believe ethical considerations are taken very seriously by most engineers and other professionals.

The question whether engineers should have to be registered in order to practice engineering is especially important for the professional status of engineering. It is also controversial in the engineering profession itself. See Box 1.3 for a summary of some of the arguments.

We believe the "YES" arguments are stronger and that the exemption from universal registration weakens engineering professionalism. It is not, however, a fatal weakness. A licensed PE must "sign off" on most public-works projects, and most business would probably want their engineering work to be performed by a degreed engineer, if not a PE.

The engineering profession also satisfies for the most part the conditions set by the Social Contract Account, although, again, it fits some aspects of the account better than others. Engineers in general have a high level of professional expertise and render competent service. Engineers also have ethical codes, but the loss of PE registration as a penalty for unethical conduct does not prohibit an engineer from professional practice, as in most other professions, since engineers are not required to be licensed to practice. So perhaps it can be said that the engineering profession does not have the same ability to enforce ethical sanctions as some other professions. Nevertheless, a severe ethical violation can tarnish the reputation of an engineer and possibly subject the engineer to legal penalties.

On the other side of the social contract, engineers do command attractive wages and considerable social status. Because most engineers work in large organizations, they may not have as much freedom in the workplace as professionals who are in private practice; but lawyers and physicians increasingly are also employed by large organizations, so this difference can be exaggerated. Our conclusion must be, then, that, by the first two standards we have used, engineering fits into the category of

BOX 1.3 Should Engineers Have to Be Registered to Practice Engineering?

NO. Registration Should Not Be Required to Practice Engineering.

- Registration might increase the cost of engineering services, because the costs of registration would be passed on to clients and customers.
- Registration might make certain types of cooperation between engineers and nonengineers on the same project difficult, because registration would prohibit nonengineers from doing engineering work.
- Engineers already must be licensed in order to "sign off" on work that directly affects the public.

YES. Registration Should Be Required to Practice Engineering.

- Some countries already require registration to practice, and the types of problems described above have not appeared to be serious.
- The distinction between work that does and does not affect the public is not clear, since most engineering work affects the public in some way.
- Registration might increase the professional autonomy of engineers in the workplace, because engineers could more easily resist management requirements to violate professional standards. An engineer could say, "Complying with your requests might lead to the revocation of my license, and other engineers would face the same problem if they complied with your request."

"profession," although there are a few rough edges in the fit, especially with regard to the lack of a requirement for universal registration.

Look back at the Michael Davis' definition of a profession. We believe you will conclude that engineering satisfies this definition as well.

1.4 A PROFESSION WITH A DIFFERENCE: THE PRIMACY OF THE PUBLIC GOOD

In addition to not requiring registration, engineering has another feature that differentiates it from most of the other major professions: the clear primacy of the obligation to the good of the public, as opposed to the good of employers, clients, and patients. To see this difference, contrast engineering with law, medicine, and accounting.

The "Preamble" to the 2013 Model Rules of Professional Conduct of the American Bar Association says, "A lawyer, as a member of the legal profession, is a representative of clients, an officer of the legal system, and a public citizen having special responsibility for the quality of justice." Looking at the order of priorities, the obligation to clients appears to be primary, a conclusion which may be justified by the nature of the adversary system of justice in the United States. In the adversary system, each client has a lawyer who advocates her interests, and the contest in court, regulated by the relevant laws, is supposed to produce a just outcome. This at least is a common justification for the claim that lawyers owe their primary obligation to their clients.

The "Preamble" to the 2001 Code of Medical Ethics of the American Medical Association begins by saying that the provisions in the code are "developed primarily for the benefit of the patient." It goes on to say that the physician must hold "responsibility to patients foremost, as well as to society, other health professionals, and self." Here, obligations to the patient take first place. As in the legal profession, the physician is the advocate of the patient and his or her rights. Even if the patient has committed a crime, the physician must in general be devoted to treating the medical needs of the patient, rather than being concerned with legal or even moral issues. There are a few exceptions to this rule, such as the obligation of physicians to report child abuse, but exceptions are few and far between.

Finally, under "The Public Interest," section .02 of the code of the American Institute of Certified Public Accountants says that a distinguishing mark of a profession is responsibility to the public but goes on to list *"clients"* as the first member of the public, along with "credit grantors, governments, employees, investors, the business and financial community, and others...." The first place given to clients, as well as the italics, indicates the primacy of client loyalty.

Prior to the 1970s, engineering codes also listed loyalty to clients or employers as the first responsibility of engineers. The first canon of the 1912 code of the American Institute of Electrical Engineers, for example, says that "engineers should consider the protection of a client's or employer's interests his first professional obligation…." The first canon of the 1963 code of the American Institute of Chemical Engineers says that an engineer should "serve with devotion his employer, his clients and the public." Note here that employers and clients appear to take first place.

In the 1970s, a profound shift of emphasis took place. The primary obligation of engineers shifted from clients and employers to the public. This shift may have been foreshadowed by an earlier code. The 1828 charter that established the Institution of Civil Engineers in the United Kingdom defines engineering as "the art of directing the great sources of power in nature for the use and convenience of man." At the time of this code's writing, the expression "use and convenience of man" was often associated with utilitarian thinking and thus implied an obligation to maximize the good, and this good may have been the general public good, as it was in utilitarian thinking.[5] Whatever may have been the case with this early code, engineering codes are now clear that the primary obligation of engineers is to the public. As an example, the first of the Fundamental Canons of the code of the National Society of Professional Engineers (NSPE) says that engineers shall "hold paramount the safety, health, and welfare of the public."

This change was not supported by everyone in the engineering profession. In October of 1978, shortly after the change in priorities occurred, engineer Samuel Florman wrote a well-known criticism of the change in priorities.[6] Florman notes that engineering codes have traditionally focused on "gentlemanly conduct rather than concern for public welfare" and expressed dismay that "the deceptive platitude that the professional's primary obligation is to the public..." should trump an "employer's wishes or instructions..."

Florman provides several arguments to bolster his opposition to giving priority to the public. One argument is that this new way of thinking could produce organizational chaos. He fears that "ties of loyalty and discipline would dissolve, and organizations would shatter." Every engineer would follow her own conscience, instead of allowing managers to decide issues, based on laws and judicial decisions. Determining the will of the public "can become weak if there is too much reliance upon morality." He concludes this first argument by saying, "Engineers are obliged to bring integrity and competence to whatever work they undertake. But they should not be counted upon to consider paramount the welfare of the human race."

Florman's second major argument is that engineers are not qualified by training to make ethical and policy decisions. This is not their area of expertise. He insists that "engineers have neither the power nor the right to plan social change." Engineers are not trained in social policy issues, environmental issues, and other topics relevant to making decisions about the public welfare, nor have they been given this right by law. Rather "professionals should serve," not lead in these areas. To be sure, business, government agencies, and citizens' groups should have access to engineering expertise, but engineers should not take the lead in making policy decisions.

Both of Florman's arguments contain an undeniable element of truth. He is certainly correct in wanting to avoid organizational chaos and in holding that engineers should in general be loyal employees. He is also correct in his claim that engineers are not trained in many areas relevant to the assessment of the social consequences of technology. In addition to the areas he mentions, we could add that engineers are also not trained in psychology, sociology, and economics.

Nevertheless, we believe that further considerations cast doubt on Florman's arguments. First, Florman seems to believe that engineers should obey managers, no questions asked, unless it is clear that they are being asked to disobey the law. If this is the case, engineers would have no need of a code of ethics and probably should not be considered professionals at all. Whether or not this conclusion would disturb Florman, it would disturb many engineers. Second, Florman apparently assumes that organizational dissent weakens an organization, but differing opinions and viewpoints often make an organization more creative and enable it to anticipate problems before they cause trouble. Nowadays, some managers welcome differing viewpoints and encourage employees to bring up criticisms. Third, engineers often see problems before managers do, and understand them better. Being more "on the ground" and involved more intimately in design and testing than managers, they can alert managers to issues that should be considered.

How and to what extent engineers are obligated to concern themselves with the public good is a complicated question of enormous importance. It is, we believe, an area where the position of the engineering profession is still evolving. Think of the question of engineering obligations with regard to the environment and the social effects of technology. We pursue this issue only in the most general way here, but much of the rest of the book is devoted to the question, "How should engineering be devoted to the public good?"

1.5 WHAT IS THE PUBLIC GOOD?

Even if we grant that engineers have an obligation to the public good, we can still ask what the public good is. The most general answer to this question is spelled out in many codes, and the answer is that engineers should "hold paramount the safety, health, and welfare of the public," as the NSPE code states. Probably, the most fundamental term here—and certainly the most ambiguous and controversial—is "welfare."

The term "welfare" appears to have several equivalents in engineering codes, such as "well-being" and "quality of life." The Preamble to the NSPE code says that "engineering has a direct and vital impact on the quality of life for all people." The code of the Association for Computing Machinery obligates its members to "contribute to society and human well-being" (I.1). This same section says that well-being includes a safe natural environment. One of the "Guidelines" to Canon 1 of the code of the American Society of Civil Engineers affirms that engineers should utilize "their knowledge and skill for the enhancement of human welfare and the environment." Finally, part of the introductory statement of the code of the Institute of Electrical and Electronics Engineers states that its members recognize "the importance of our technologies in affecting the quality of life throughout the world."

Assuming the equivalence of these terms, we shall take "well-being" as our term of choice and say that *promoting the well-being of the public is the primary responsibility of the engineering profession.*

1.6 BUT WHAT IS WELL-BEING?

No doubt, engineers have always assumed that their work contributes to the human good or what we have now called human well-being, but, until recently, little explicit consideration has been given to this goal. One reason for the increased interest in well-being is that the term itself has been the focus of considerable public and academic discussion. Some countries, such as the United Kingdom, France, Canada, and Australia, are measuring the well-being of their citizens, with a view to basing national policy on the results.[7] It is even conceivable that engineers may one day be asked in some formal way to determine the well-being impact of their work, just as they now are often asked to determine the environmental impact.

The mandate to engineers to promote human well-being or quality of life in their professional work is clear, but more guidance about the nature of well-being is needed. A simple equivalence of well-being (or welfare or quality of life) with material well-being is not supported by psychological research. Psychologist Martin Seligman maintains instead that the five elements of well-being include positive emotion, enjoyment of activities in which one can be absorbed, connection to something larger than oneself, accomplishment in projects or work, and positive relationships.[8] There is, if anything, even more agreement on what constitutes the closely related concept of happiness. According to a poll conducted by the British Broadcasting Corporation, the factors that promote happiness include human relationships (47%) and health (24%); the remaining factors being work fulfillment (2%); community and friends (5%); spirituality (6%); money and financial situation (7%); and a nice place to live (8%).[9]

These ideas, however, may be somewhat difficult to relate to engineering. One possible way around this issue which may sometimes be useful is to take advantage of the widely discussed Capabilities Approach (CA). Two important developers of the CA were Nobel Prize winner in economics Amartya Sen and philosopher Martha Nussbaum. According to Sen and Nussbaum, we do not have to determine what well-being is, but rather step back a little and ask what conditions are necessary for the realization of some of the most commonly recognized elements of well-being, regardless of how individuals or even experts may define it. In his "Foreword" to the National Academy of Engineering's (NAE) presentation of the 20 greatest engineering achievements of the twentieth century, astronaut Neil Young put it this way. Even though each of us may have our own concept of what comprises "quality of life," we can probably agree "that certain living conditions are essential to a preferred quality in our own lives."[10] If we look at the capabilities suggested by CA writers that are most closely related to engineering, we get a clue as to what some of these living conditions might be: having food, shelter, and water, having satisfying human relationships (communication, the Internet), having free movement and expression (highways, air travel, the Internet, telephone, etc.), and having a satisfactory relationship to the natural world (environmental preservation).[11]

Whether or not we use the CA, we shall be considering the relationship of engineering to well-being (or its conditions) throughout much of the rest of this book. In the next three sections, we discuss three types of engineering activity identified by codes or other engineering authorities and show how they relate to the theme of promoting human well-being.

1.7 PROHIBITED ACTIONS

Many precepts in ordinary or nonprofessional ethics identify actions we should not do. Ethical precepts prohibit such actions as dishonesty, stealing, and murder. Prohibitions are also a prominent part of professional ethics, including engineering ethics. Approximately 80 percent of the code of the NSPE is taken up with statements that are, either explicitly or implicitly, prohibitive in character. See Box 1.4 for some examples.

Even many provisions of the NSPE code that are not explicitly negative are actually prohibitive in character. Section II.1.b states that "engineers shall approve only those engineering documents that are in conformity with applicable standards." In other words, engineers shall *not* approve engineering documents that are *not* in conformity with applicable standards. This is not the same as saying that engineers *shall* approve all engineering documents that are in conformity with applicable standards. Presumably, there are other criteria that would need to be satisfied for approval of an engineering document to be *required*.

Many other provisions of the code, such as the requirement that engineers notify the appropriate professional bodies or public authorities of code violations (II.1.f), are "policing" provisions and thus are essentially prohibitive in character. Even the requirement that engineers be "objective and truthful" (II.3.a) is another way of stating that engineers must not make biased and deceitful statements. Similarly, the provision that engineers shall continue their professional development (III.9.c) is another way of saying that engineers shall not neglect their professional development.

BOX 1.4 Examples of Prohibited Actions from the NSPE Code

- Do not reveal privileged information (II,1,c)
- Do not associate with dishonest professionals (II,1,d)
- Do not aid the unlawful practice of engineering (II,1,e)
- Do not accept compensation from two parties on the same project (II,4,b)
- Do not participate in governmental decisions related to your own work (II,4,d)
- Do not solicit work from a governmental body on which a member of your firm has a position (II,4,e)
- Do not falsify your qualifications (II,5,a)
- Do not give bribes (II,5,b)
- Do not be influenced by conflicting interests (III,5)
- Do not unjustly injure the reputation of another engineer (III,7)