Competence–yes. Compliance with laws–yes. But ethics?
Why should the regulator of a profession be concerned
about the conduct of its professionals?

Laws exist to protect the public from fraud, negligence and any dubious business practices of engineers. Contracts spell out what is required of an engineer undertaking a project. Firms define the jobs of their employee engineers. With all of these more-or-less legal constraints on behaviour, why should a profession impose ethical obligations on its practitioners?

A quick survey of the many definitions of "profession" shows agreement that, in addition to possessing specialized knowledge, a profession is governed by self-imposed commitments to provide useful service to society. Any group that calls itself a profession must compel its members to act in accordance with its professional commitments. But where do those commitments come from?

Most engineers who ask why the profession should be concerned that engineers make good choices want to know: "What is different about their professional eth-
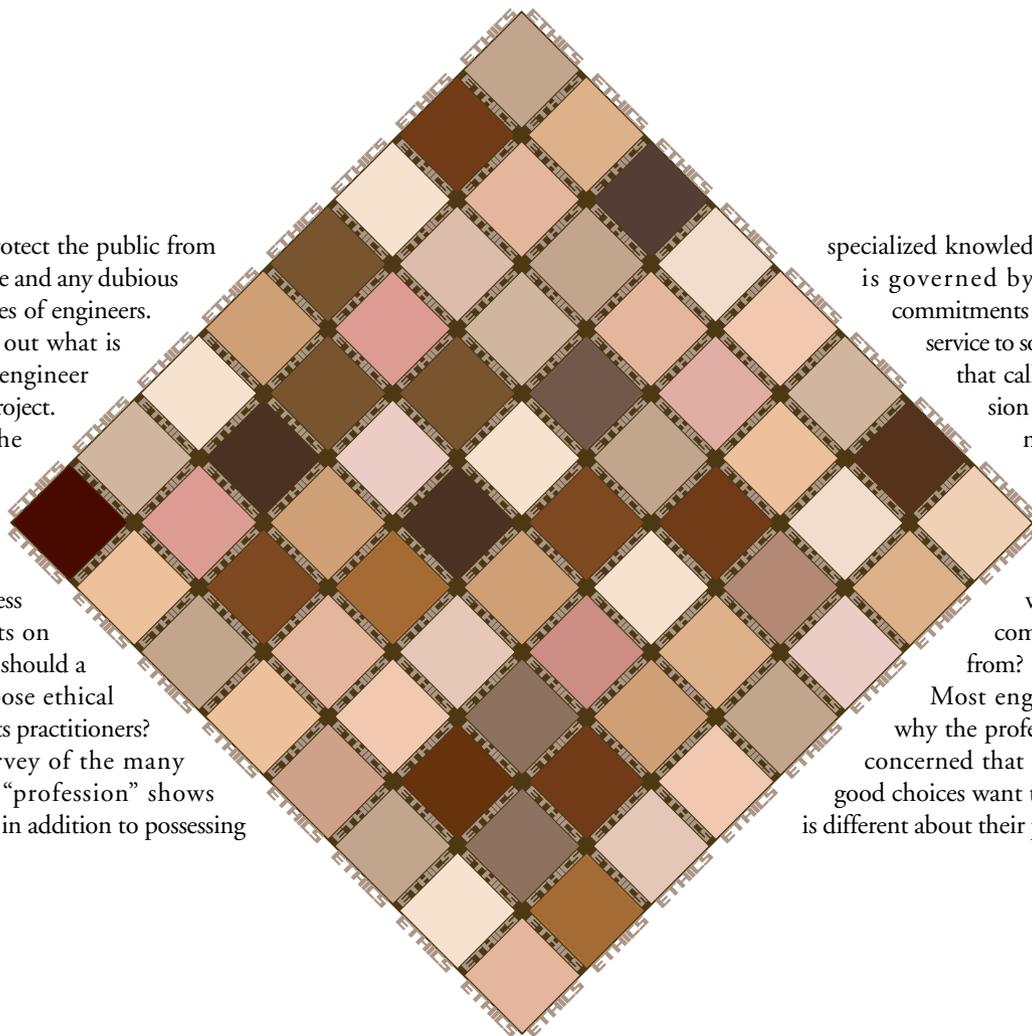
Ethics and the regulator
BY BERNARD ENNIS, P.ENG.

ical obligations? Why is there a special class of ethics for engineers? Don't engineering ethics come from the same set of rules that everyone else has to live by?"

In fact, they don't. Professional engineers deal with a special range of problems using a set of cognitive skills unique to the profession. Just as the problems and technical decisions faced by professional engineers are different from those faced by other people, so are the ethical obligations that govern their behaviour as engineers. Engineering ethics are the principles that distinguish conduct that is right from wrong in an engineering context. But what is right or wrong in an engineering context? How is this determined?

Core values rule

In any society, there are many influences on our choices and resultant behaviour. Acceptable social behaviour is dictated by customs, or rule-setting conventions, that guide us in making decisions about how to act. There are many kinds of customs in society, such as etiquette, rituals, traditions, law, morality and ethics. Even language use and thinking are subject to socially accepted, conformance-enhancing rules–particularly in grammar, semantics and logic–that make our applications of language and thought comprehensible to other people. Each of these customs sets out expectations of behaviour, with different levels of obligation, different expectations of compliance, and applicability to different groups.

Many of the rules set out by customs, such as those of etiquette and ritual, are arbitrary. Some rules are pragmatic; they serve such practical ends as facilitating social interaction, or promoting healthy, happy lives. But, regardless of the purpose or source of the rules, people will not be accepted as a member of a social group unless they comply with that group's rules. Conformity to core values and principles is essential to cohesion and continuance of any group, including a profession.

Ethics is often thought of in terms of prescriptive rules, such as codes of conduct. But ethics reduced to codified instructions obscures its true nature. Ethics refers to ways of deriving, from general principles, reasons for acting in a particular way. These principles, forming the core of various ethical theories, are not picked arbitrarily, nor are they a matter of habit or fashion. They are fundamental premises about the human condition, such as the need for happiness (utilitarianism), respect for other people's freedom (Kantian ethics) or the principle of moderation (virtue ethics). There is considerable disagreement about which fundamental principles are most important, but general agreement, since the time Socrates started the enterprise, that ethics is concerned with rationally deciding proper conduct.

Reason is the foundation of ethics, but facts need to inform reason. Since many ethical obligations are specifically created by a person's role in society, it is the nature of the work a person

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does, or the relationships that a person has, that provides the facts needed for ethical reasoning. Parents, for instance, have obligations to protect, nurture and love their own children. So, as long as the parents are alive and capable, nobody else is expected to assume these obligations, and no one can be considered a good parent if they refuse the obligations of that role. Similarly, we expect our friends to act like friends, which means we believe they should treat us differently than they treat strangers. A good friend is one who meets the expectations of friendship. In both cases, ethical obligations are defined by ideal role models; our idea of how a perfect representation of that role should behave is the source of our ethics.

Role-based obligations can also arise from some, but not all, occupations. Ordinarily, a plumber, a store clerk, or a factory worker has no special obligation to the people their work affects beyond getting the work done as well as possible. For example, plumbers don't have obligations of confidentiality to the people to whom they provide services. So, a plumber can go to your neighbour's house and fix the pipes, and then come to your house and gossip about the neighbour, and is doing nothing wrong according to plumbers' ethics. In fact, we'd probably all agree that there aren't any ethics specifically for plumbers. All a customer expects of a plumber is that the pipes don't leak, the sink drains, and the bill is reasonable.

On the other hand, it is not enough for a doctor to be able to diagnose, or for a lawyer to be able to prepare pleadings for a lawsuit. Why not? Because, in addition to special knowledge and skills, the roles of doctors and lawyers demand that they have an obligation of confidentiality to their clients. If a patient did not feel comfortable giving intimate information to a doctor, the doctor could not help the patient and could not fulfill a doctoring role. If a lawyer was not privy to confidential information, he or she might be unaware of a fact relevant to providing the best possible advice to the client. Thus, to function consistently with the ideals of their professions, lawyers and doctors must make client confidentiality a professional value. This, and possibly other core values, forms the basis for making ethical decisions. Similarly, analysis of the roles of other professions suggests credibility is a core value for journalism and accounting, as is obedience for the military, and caring for nurses.

Role-based obligations

To understand the ethical obligations of a role, we must know which aspects of that role are absolutely necessary to make it possible. To understand engineering ethics, we must understand why there is an engineering profession. After all, engineering would happen regardless of whether an engineering profession exists. If there were no profession and no licence, roads would be built, and so would power plants and MP3 players. In every way most of us would notice, in fact, we would still live the way

we do, for in many jurisdictions, engineering is done by people who do not belong formally or informally to a profession. Some of these practitioners might not even have gone to an engineering school. In these jurisdictions, anyone is free to engage in whatever occupation they wish and market forces, rather than laws and licences, govern who can provide engineering services. However, when society finds that having a profession–some formal way of limiting a sphere of activities to qualified practitioners–is useful, governments recognize the existence of that profession by enacting laws that restrict the rights of non-licensed people to do those activities.

Despite their usefulness, laws such as the *Professional Engineers Act* are by their nature discriminatory, since they give rights exclusively to a small portion of the population, leading others (including, in this case, scientists, technologists and internationally trained engineers) to say they are unfairly barred from earning a living providing services they are capable of providing. It is only society, as a whole, that can justify this discrimination; society must have a good reason, and must see some benefit, for creating this disparity. Without a reasonable benefit, there would be no incentive for society to create the legal protections that give professionals exclusive rights to practise. And, without this protection, professions would not exist.

Because professionals are given an exclusive right to practise, to be exercised for the benefit of another person, each profession is a fiduciary trust. In these relationships, a fiduciary, such as a trustee or agent, is entrusted with rights and powers that would normally belong to the beneficiary. In the case of professions, the beneficiary is society and the trustee is the profession's membership. The rights handed to the profession are the rights to practise that would belong to everyone in an unregulated society. The fiduciary (trustee) must exercise a high standard of care in protecting or promoting the interests of the beneficiary, since that is the purpose of the relationship. Establishing and maintaining the beneficiary's trust is essential to the fiduciary relationship.

Maintaining trust

How does a profession gain and maintain the public's trust? Analysis of trust shows that it has two aspects: familiarity and risk acceptance. The public wants to accept very little risk, and relies on professional engineers to minimize the risk associated with technology, infrastructure, and alterations to the environment. Since clients and the public cannot adequately evaluate the quality of the advice, opinions, and design provided by engineers, they must trust the profession to allow only competent, reliable individuals to provide these services. Building the conditions for this reliance is the primary function of the regulator of a profession. The regulatory body must establish standards of admission and standards of practice that minimize the possibility that professional engineers can create harm. Standards

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of admission ensure that only people with the appropriate skills and knowledge obtain a licence to practise. Standards of practice ensure that licence holders know their professional obligations in circumstances related to their role of protecting the public's health, safety and welfare. When engineers are understood to be able to perform their roles in a predictable manner, the public can assume there is little risk in relying on them.

Familiarity is important because people find it easier to trust when they know with whom they are dealing. Familiarity involves intimate knowledge of another person, knowledge about their beliefs, values, intentions and motivations. When we know a person's values, we can confidently predict their behaviour, and that confidence justifies the trust we place in them. Just as familiarity with friends and relatives makes us reasonably confident we know how they will act in a given circumstance, awareness of a profession's values establishes in the public's mind an image of what to expect from individual practitioners.

Why ethics?

This brings us back to the question: "Why ethics?" What is it about ethics that is fundamental to the existence of a profession?

It is because, in addition to competent engineering skills and knowledge, the public depends on consistent, predictable and appropriate behaviour by all practitioners. Ethics is the science of defining such behaviour. Engineering ethics seeks to discover the values underpinning the engineering profession, why they are important, and how they should be used to make decisions in engineering practice.

Ethics is an essential component of practice, because consistent and externally rational behaviour–i.e. behaving in ways that make sense to other people–encourages the development of trust. If an individual acts on internal motivations that are unknown to others, the reasons for his or her actions may not be readily apparent. Engineers have to make sure their motives are clear, and that people can understand why they do what they do. This implies that every engineer must be ready to reflect on his or her motives and to test the reasons underlying his or her choices. If engineers do not understand how they are expected to act in a particular situation, neither will clients, employers, or members of the public, all of whom rely on their skill and judgment. Trust cannot develop in the absence of reasonable expectations of consistent behaviour. Although this is no different from the requirements for being an ethical person, engineers meet these requirements while also taking into consideration the special obligations of the profession's relationship with society. ❧

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