

**JOURNAL OF THE
BOSTON SOCIETY OF CIVIL ENGINEERS**

Volume 59

OCTOBER 1972

Number 4

**BEYOND THE CODE
OF PROFESSIONAL ETHICS**

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(Presented at BSCE-ASCE Student Night, Northeastern University, November 1, 1972.)

It is a pleasure to join you on Student Night, which brings together student chapters and members of two of the oldest professional engineering societies in the country: the Boston Society of Civil Engineers, founded in 1848, and the American Society of Civil Engineers, founded in 1852. The origin of engineering and technical societies¹ can be traced back a good deal further than the middle of the nineteenth century, actually to a group of learned friends in Naples, Italy, in the mid-sixteenth century. Led by della Porta, these gentlemen formed the *Accademia Secretorum Naturae* in 1560. Membership qualifications were rather exclusive: each applicant was required to have made a discovery in the realm of natural science. A few decades later, at the turn of the century, another learned society was formed in Italy by Federigo Cesi, known as the *Accademia dei Lincei* — its purpose was to direct “its labors diligently and seriously to studies as yet little cultivated”. One of the early members was Galileo.

In 1657, the *Accademia del Cimento* was initiated by Leopold de' Medici. The members of this organization, many of whom were disciples of Galileo, managed to meet for only ten years, but their experiments were published in a lasting memento. Torricelli, the physicist, and Borelli were among the members.

These early societies formed in Italy because of the flourishing of science in the Italian universities. The seventeenth century saw a gradual shift in the location of such interest, mainly to England and France. Attempts to start a learned society in England had been made in 1616 but were not fruitful until several of Bacon's followers who had been meeting informally for fifteen years were successful in obtaining a charter from King Charles II for the *Royal Society of London*. Investigations and publications of the Society became known throughout Europe. Their serious efforts were well enough known to be parodied by an interested and caustic Jonathan Swift.

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In France, Louis XIV granted pensions and funds for experimental work by the *Academie des Sciences* formed in 1666. Membership included such men as Pascal, Descartes, and Huyghens. Sir Isaac Newton was a foreign member of note. Proceedings were, as usual, published in Latin.

These, then, were some of the early beginnings — the roots from which all scientific, engineering, and technical societies have blossomed. There were many others: the *Academia Naturae Curiosorum* in Spain (1657), the *Collegium Curiosum* in Germany (1672), the *Academie Imperiale des Sciences* in Russia (1725), the *Royal Academy of Sciences* at Copenhagen (1742), and the *American Philosophical Society*, founded by that most interesting and enthusiastic gentleman, Benjamin Franklin, in 1743.

All of them had rules and regulations. Some must have developed codes of conduct as well. Even the most primitive tribes of men have had at least an unwritten tradition of conduct which has governed much of their individual and group action. One of the oldest written codes is the Ten Commandments given to the world through Moses. Another ancient code is that recorded by Hippocrates in the 4th century B.C., still taken as a vow by graduating doctors of medicine .

OATH OF HIPPOCRATES

I swear by Apollo, the Physician, and Aesculapius and Health and All-Heal and all the Gods and Goddesses that, according to my ability and judgment, I will keep this oath and stipulation:

To reckon him who taught me this art equally dear to me as my parents, to share my substance with him and relieve his necessities if required: to regard his offspring as on the same footing with my own brothers, and to teach them this art if they should wish to learn it, without fee or stipulation, and that by precept, lecture, and every other mode of instruction I will impart a knowledge of the art to my own sons and to those of my teachers, and to disciples bound by a stipulation and oath, according to the Law of medicine, but to none others. I will follow that method of treatment which, according to my ability and judgment, I consider for the benefit of my patients, and abstain from whatever is deleterious and mischievous. I will give no deadly medicine to anyone if asked, not suggest any such counsel; furthermore, I will not give to a woman an instrument to produce abortion. With purity and with holiness I will pass my life and practice my art. I will not cut a person who is suffering with a stone, but will leave this to be done by practitioners of this work. Into whatever houses I enter I will go into them for the benefit of the sick and will abstain from every voluntary act of mischief and

corruption; and further from the seduction of females or males, bond or free. Whatever, in connection with my professional practice, or not in connection with it, I may see or hear in the lives of men which ought not to be spoken abroad I will not divulge, as reckoning that all such should be kept secret.

While I continue to keep this oath unviolated may it be granted to me to enjoy life and the practice of the art, respected by all men at all times but should I trespass and violate this oath, may the reverse be my lot.

Most modern-day professional societies have developed codes of ethics. Among engineers the codes are very similar, as was pointed out by Marvin Runyan² in the May 1972, issue of *Civil Engineering*. Of the ten codes he compared, seven contained clauses similar to the recently deleted Article 3 of the ASCE code: "It shall be considered unprofessional and inconsistent with honorable and dignified conduct and contrary to the public interest for any member of ASCE to invite or submit priced proposals under conditions that constitute price competition for professional services." (This article was deleted by ASCE in 1971 because of a Department of Justice civil antitrust suit; the society is now working on establishing guides for passage of state legislation which would prohibit competitive bidding for professional services through a Task Committee on Professional Services Selection. I should like to read quickly the remaining nine articles in the ASCE code. Engineers are expected to practice within this code or modifications of it for their entire professional careers.

ASCE CODE

It shall be considered unprofessional and inconsistent with honorable and dignified conduct and contrary to the public interest for any member of the American Society of Civil Engineers:

1. To act for his client or for his employer otherwise than as a faithful agent or trustee.
2. To accept remuneration for services rendered other than from his client or his employer.
3. (Deleted)
4. To attempt to supplant another engineer in a particular engagement after definite steps have been taken toward his employment.
5. To attempt to injure, falsely or maliciously, the professional

reputation, business, or employment position of another engineer.

6. To review the work of another engineer for the same client, except with the knowledge of such engineer, unless such engineer's engagement or the work which is subject to review has been terminated.
7. To advertise engineering services in self-laudatory language, or in any other manner derogatory to the dignity of the profession.
8. To use the advantages of a salaried position to compete unfairly with other engineers.
9. To exert undue influence or to offer, solicit, or accept compensation for the purpose of affecting negotiations for an engineering engagement.
10. To act in any manner derogatory to the honor, integrity, or dignity of the engineering profession.

As is the case with most canons or codes of ethics, this code can lead to honest differences of opinion and various interpretations depending on an individual's viewpoint; seldom are breaches of the code cut and dried. E. Sherman Chase once wrote,³ however, that many engineers had "elastic consciences" which permitted them to deviate periodically from a strict adherence to the code, a convenience certainly whenever the code interfered with maximum immediate benefits to such an individual.

The code obviously must be made up of broad generalizations implying specific rules of conduct. It would be an impossibility to list specifically all of the do's and don'ts important to maintaining conduct on a professional level. Further, some engineers would then feel more than they do now that any questionable practice not included in the written code must not then be considered a breach of professional conduct. Soul-searching by the professional is a frequent need in private practice, as it must be too for the doctor, the lawyer, the educator. When Dr. William C. White retired a few years ago as Vice President of Northeastern, it was said of him that throughout his career when confronted with decision-making he always asked himself "what is the *right* thing to do?" and having determined the right thing to the best of his ability went ahead and did it. The most significant part of any code is beyond the code — that portion that is unwritten — the very foundation of professional character, which cannot be legislated or regulated or licensed or coded, but which is the culmination of years of growing, maturing, comprehending, understanding and feeling. The development of professional character is a life-long process — it cannot be acquired by accepting a degree, or by passing a professional examination or by memorizing a code of ethics. It is the process by which young

engineers grow into tall men.⁴ Too often the drive for easy profit and prestige anaesthetizes moral fiber, and although the written code is elastically applied, the unwritten code is stretched to the yield point. That point is easier to reach the second time, and then the third, until finally the original moral fiber has no remaining strength.

This downward process, and the difficulty in getting back, seems to be appropriately illustrated in verse by Henry A. Beers:⁵

A Fish Story

A whale of high porosity,
And low specific gravity,
Dived down with much velocity,
Beneath the earth's concavity.

But soon the weight of water
Squeezed in his fat immensity,
Which varied — as it ought to —
Inversely as his density.

It would have moved to pity
An Ogre or a Hessian,
To see poor Spermaceti
Thus suffering compression.

The while he lay a-roaring
In agonies gigantic,
The lamp-oil out came pouring
And greased the wide Atlantic.

(Would we'd been in the Navy,
And cruising there! Imagine us
All in a sea of gravy,
With billows oleaginous!)

At length old million-pounder
Low on a bed of coral,
Gave his last dying flounder
Whereto I pen this moral.

Moral

O let this tale dramatic
Anent this whale Norwegian

And pressures hydrostatic
Warn you, my young collegian,
That down-compelling forces
Increase as you get deeper;
The lower down you course is,
The upward path's the steeper.

It is a paradox, perhaps, that a professional code of conduct – professional character if you will – cannot be taught but it can be learned. Many years ago, Daniel Webster Mead wrote⁶ of the importance of professional character and how it is obtained:

Character, while partially hereditary, is more largely due to the influence of family and associates, and to education and personal cultivation. That the age and thought of the times largely control character is undoubtedly true, yet no age or nation has been so degenerate that it has not developed some men of high ideals and of character creditable in any age. No high professional standing is ever attained without properly developed character; it is like the internal mechanism of an important machine, unseen but essential to the proper and correct exercise of its highest functions. It is the mainspring of . . . success and is susceptible of great modification and improvement by individual effort.

All engineers desire success – that nebulous concoction of professional accomplishment, meaningful creativity, monetary reward, recognition, exemplary performance. Maxwell Stanley listed the requirements for success⁷ in his book *The Consulting Engineer*. The top five in his judgment, were:

1. Superior engineering talent
2. Scrupulous integrity
3. Skill in human relations
4. Ability in administration
5. Compatible home atmosphere.

It is interesting that three of these have largely to do with professional character. J. W. Frazier, managing partner in a Kansas consulting firm⁸ also stresses character. When selecting a young engineering graduate for employment, he says that he is more interested “in his cleanliness, his character, his personality, and his professional attitude than in his collegiate grade point average or his grade on an EIT examination.” In selecting an experienced engineering associate he is “more impressed by his honesty, integrity, and

engineering accomplishments than in the number of 8-hr. examinations he has passed.”

Although professional integrity cannot really be taught, it can be *shown*. Professors and practicing engineers must set good examples, not that they will be blindly copied, or even imitated at all, but it is from close contact with consistently exemplary attitudes that the young engineer can best learn about professional integrity and the unwritten code. The home influence, mentioned by Maxwell in connection with the fifth requirement for success, cannot be overemphasized. Too many parents are guilty of working with a double standard, one for themselves and one for their children. The same can be said for some educators who have one standard for themselves, another for students. The same can be said for some principal engineers — one standard for themselves, another for their younger employees. Gradually the young engineer may find that the boundary between ethical and unethical conduct is not clearly established. There is a gray area in between.⁹ At times, apparently, since he has observed it in others, it is possible to engage in this gray area, conveniently overlooking or turning one’s back on ethical behavior, to meet the moment’s immediate demands in a more comfortable posture.

Such breeches in professional conduct are visible and common: political contributions by firms or individuals attempting to gain favorable position in competing for public contracts; bribes and kickbacks including the seemingly harmless variety of wining and dining potential clients; accepting gifts from contractors; cheating on examinations, time sheets, expense accounts; moonlighting at the expense of the prime employer; stealing ideas, methods, processes, and even people from other firms. Examples are endless of such unethical behavior on the part of individuals and firms who consider themselves paragons of professional virtue.

Some of the best advice for embryo engineers that I have seen recently was given in a paper by C. S. Hedges, published by ASCE.¹⁰ “Be as particular as you can”, wrote Mr. Hedges, “in the selection of your boss. In most engineering organizations, the influence of the senior engineer is a major factor in molding the professional character of young engineers . . . particularly during [the] first few years that constitute your engineering apprenticeship. No amount of precept is as effective as the proper kind of example.”

If the good example of a senior engineer is superimposed on the prior good example of an outstanding professor, which in turn reinforces the good example of concerned and intelligent parents, it is possible, even in an unwell modern society, that these small doses of integrity in action will lead to a permanent upgrading of one’s professional character.

I think the time for a man to scan his life, to view his own personal code, is when he is a young man, when changes can be made and right attitudes chosen. The good life is made by men of substance, not by hollow men.

Certainly the time is ripe for young men of high personal integrity to become involved in the world's workings.

T. S. Eliot wrote, rather pessimistically, in 1949:¹¹ "Our own period is one of decline. The standards of culture are lower than they were fifty years ago . . . I see no reason why the decay of culture should not proceed much further, and why we may not even anticipate a period, of some duration, of which it is possible to say that it will have *no* culture."

In "Four Quartets" Eliot wrote:

For most of us there is only the unattended
Moment, the moment in and out of time,
The distraction fit, lost in a shaft of sunlight.
. . . or music heard so deeply
That it is not heard at all, but you are the music
While the music lasts.

As a young boy I stayed with my grandmother for extended visits. On the wall of the bedroom where I slept was an embroidered quotation, the first bit of Shakespeare I ever learned (I later learned it was from *Hamlet*¹²):

To thine own self be true,
And it must follow, as the night the day,
Thou canst not then be false to any man.

There is no better advice. It is beyond the code of professional ethics. It cannot be taught. It must be learned. If a firm, compassionate, and unselfish personal code is the foundation of one's professional character, then living with the written code of ethics *must* be a breeze.

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