Collective and Individual Moral Responsibility in Engineering: Some Questions

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In this essay, I shall examine in a rather general way a number of commonly discussed questions of engineering ethics pertaining to the special ethical obligations and responsibilities of engineers as engineers. However, I shall not attempt to provide specific answers to these questions; instead, I shall raise further questions about the questions themselves. For I believe that it is absurd to try to answer questions about obligations and responsibilities before we are clear about the kinds of questions that we are asking, the context in which they arise and the presuppositions underlying them. It is often taken for granted that philosophers are especially qualified to answer ethical questions, including questions of engineering ethics, and philosophers themselves sometimes welcome the opportunity to play the role of preacher or of ethical guidance counselor. This is a view of the practical value of philosophy that is shared by utilitarians and rights theorists, Rawlsians and Nozickians, and by many others, all of whom are only too ready to hand out answers telling people, in this case engineers, how they ought to act. My own view of the role of philosophy is entirely different; I believe that the most useful contribution that a philosopher can make is to identify, clarify and sort out problems, and in that connection to unmask superstition, bigotry and illegitimate presuppositions. In this last regard, one of my principal objectives in this essay will be to demythologize some current notions in engineering ethics.1

My purpose, then, is zetetic, which means questioning, inquiring, doubting.2 Approaching the problems of engineering ethics zetetically means moving to a second or meta-level and, as I have already indicated, asking questions about the problems themselves. As a pro-paedetic to engineering ethics we need to ask questions like the following: What are the ethical problems of engineering? Why are they ethical rather than simply legal, institutional, organizational, economic, or personal problems facing individual engineers? What is added by saying that they are ethical? Into which of these categories do problems connected with whistleblowing fall? How should the distinctively ethical problems be formulated? How do they arise? What do they presuppose? What methodology and what concepts are the best tools for analyzing the ethical issues that are involved in engineering? What is the moral status of a corporation? What is the meaning of "responsibility" and of "collective responsibility?" and so on.

ENGINEERING ETHICS AND PROFESSIONALISM

Many of the ethical problems associated with engineering are connected with the professional status of engineering, and so I shall start off with a few remarks about professionalism in general as a way of providing a background for the problems I shall discuss. We must begin with the fact that it is generally felt that there is something honorable about being a member of a profession and it is often supposed that professionals are idealistic. For this reason, members of a profession are considered to have special duties and responsibilities towards society over and above those of ordinary people. Society has high expectations that professional persons, by virtue of being members of a profession, will be honest, dedicated and responsible, more so than laymen or persons in other occupations. On that account, it is thought quite seemly that professionals be better paid, treated with more respect and accorded a higher status in society than others. All of this most likely applies to engineers considered as professionals.

Many professions have adopted codes of ethics in imitation of the original code of ethics of the Royal Society of Physicians. Indeed, it is often assumed that in order to become a full-fledged profession an occupation must adopt a code of ethics. On the other hand, it has been said about such codes that if a person is really honest and responsible, then he does not need a code of ethics and if he needs one then it will not do him any good. I mention this matter simply to warn against the assumption that a code of ethics can be consulted for answers to questions of engineering ethics.3

One frequently overlooked aspect of the ethics of professionalism is that professionals tend to believe that their professional "obligations," e.g., to clients, outweigh their obligations to others, e.g., to the public.
In other words, their professional obligations are given priority. The most obvious example of this sense of priorities is to be found in legal ethics, where lawyers are expected to treat their obligations to clients as having precedence over their obligations to society, e.g., a lawyer’s obligation to a client who is guilty of a heinous crime is thought to outweigh any obligation that he might have to the general public whose interest it is to have criminals convicted. Although this assumption about priorities is not always stated explicitly, it is important to remember that it is often there by implication. Indeed, I sense that engineers, like other professionals, frequently take for granted that their obligations to their clients, i.e., their employers, rightfully take precedence over their obligations to society at large. Whether or not this is or ought to be the case is one of the questions that should be examined in engineering ethics. Another typical feature of professionalism that might be mentioned here is what Parsons calls “affective neutrality,” that is, the generally felt requirement that a professional ought to adopt an attitude of neutrality towards the ultimate objectives of his client and ought not to allow his personal judgments about their intrinsic value or disvalue to play any role in determining the services he provides.

In general, it should be observed that the elitism of professionalism and its willingness to sacrifice the public interest to other professional responsibilities attest to the profoundly anti-democratic tendencies of professionalism, which have so often been the target of attack by social critics. In any event, an ethics of professionalism in general, and of engineering in particular, needs to cope with the implications of this charge of elitism, which supposes that we are dealing with the best, brightest and wisest members of society when we discuss professionalism.

I mention all of these points about professionalism here, because it is my impression as an outsider that they play a considerable role in an engineer’s perception of himself as a professional and of his professional obligations and responsibilities.

DIFFERENTIAL ATTRIBUTES OF ENGINEERING AS A PROFESSION

The profession of engineering differs from other professions such as medicine and law in two respects that are basic for understanding the particular problems of engineering ethics.

First, unlike medicine and law, whose services are ordinarily directed to the needs of individual persons, the services provided by engineers relate to things, e.g., machines, buildings, equipment, products, etc. Insofar as an engineer has a relationship to persons, it is indirect. For example, he relates to persons as clients who purchase or use his services or as persons who are affected by what he makes (or designs), e.g., workers, consumers or the general public. As a result of not being directly structured around interpersonal relationships, as are medicine and law, the engineer–client relationship is not as central a concept for the ethical problems of engineering as the physician–patient relationship is for medical ethics or the lawyer–client relationship is for legal ethics. Thus, for example, paternalism is not a burning issue in engineering ethics as it is in medical or legal ethics.

A second important difference between engineering and the other two professions mentioned is that almost all of a modern engineer’s activity takes place in the context of a formal organization of some kind or other, for example, in bureaucratically organized industrial corporations. Solo practice, which provides the traditional background for medical and legal ethics, is uncommon in engineering. Being part of an industrial organization, the ethical problems confronting the engineer take on another dimension, because many of them are a direct result of this status as an employee in an organization. Thus, the usual supposition that a professional is an independent operator does not hold for most engineers. This facet of engineering as a profession makes it both simpler and more complicated to frame and to deal with the ethical problems associated with the profession.

It is also easy to see that the ethical problems of engineers are more closely bound up with the particulars of the economic system in which they operate than are those, say, of physicians, who, in many respects, face the same sorts of ethical problems in Russia as they do in the USA. These considerations suggest that we really ought to ask: is there (or should there be) a different kind of engineering ethics for engineers working under a capitalist system from an ethics that would be appropriate for engineers working under a communist or socialist system?

One important aspect of having organizations rather than individuals as clients is that, for engineers, their being part of a system or an organization such as a large corporation often encourages a sense of futility and helplessness as far as being ethical is concerned. It is obviously difficult to be ethical when one is powerless. If, and to the extent that being moral requires self-determination and being able to operate independently, engineers, more than physicians or lawyers, may be inclined to think that they can do nothing about a situation which they deplore. They are caught up in a maelstrom and are powerless to influence the outcome. Unlike other professionals, engineers do not live a sheltered existence where one is accountable to no one but oneself. As members of the organization, they are subject to lines of accountability like all the other employees. (Compare in this regard a company physician, who has a degree of “autonomy” in what he does, with a company engineer, who has almost none.) For these reasons, engineering ethics involve wider issues of responsibility of the sort that are encountered in politics and in organizational ethics in general. In this respect,
some of the moral dilemmas that trouble ethically sensitive engineers could be compared to situations experienced by persons living under a totalitarian regime, where responsible action involving remonstrance or resistance leads to extermination. I shall return to this problem later.

THE ETHICS OF LOYALTY

Another quite different ethical aspect of the relationship of engineers to formal organizations of which they are members, whether they be public or private, relates to the issue of loyalty. It is often alleged that, as members of a particular organization, engineers have a special duty of loyalty towards that organization and therefore, having that duty, it would be wrong for them to do anything that might harm the organization, i.e., be against its interest. For example, it would be disloyal of an engineer to reveal the secrets of his organization to an outsider, even secrets about unsafe features of products.

In view of the great emphasis on loyalty in discussions of engineering ethics, we need to ask whether or not there is any validity or merit in the concept of loyalty to an organization. We should note right away that the loyalty in question here is not at all like the loyalty that physicians and lawyers are expected to have towards their patients and clients, for the latter kind of loyalty simply amounts to observing the duties of devotion, dedication, zealousness and avoidance of conflicts of interest that are owed to their patients and clients as individuals as a result of their relationship. The loyalty involved in the physician–patient or lawyer–client relationship has often been compared to loyalty between friends.9 Loyalty to an organization, on the other hand, seems to be quite different from the loyalty that one individual gives to another and that can exist between friends.10

In order to see whether and how the concept of loyalty can be applied to an organization, we need to ask a number of other questions: Is loyalty always a virtue? Does loyalty ever permit or require doing something that would otherwise be wrong? What kinds of things can be the objects of loyalty? Do members of organizations, e.g., engineers, have a duty of loyalty to their organizations? If so, could the claims of an organization to loyalty ever justify wrongdoing of some sort?

If we assume that loyalty, as distinguished from blind obedience or servile compliance, is a virtue, then we must inquire into what we mean by “loyalty” in this sense.11 When regarded as a virtue, that is, as something morally desirable, loyalty is founded on moral relationships of one sort or other between persons, e.g., originally between lord and vassal, but now also between family members, between friends, between colleagues and between comrades. Loyalty to a nation, to a college, or to a family is simply loyalty to the people in them, including perhaps to past and future generations within these communities. As a virtue, it derives its moral value from these interpersonal relationships and consists in thoroughgoing dedication and devotion of a person to what is owed another by virtue of a relationship of this kind. It is odd therefore to speak of loyalty where there is no prior personal relationship, for example, loyalty to a perfect stranger or to someone one admires at a distance but does not have any personal relationship to, such as a movie star. It is even more odd to speak of loyalty to a non-person.12 Furthermore, if loyalty is a moral virtue, then it cannot be conceived as requiring something that is not due or, even less, something that is not right. There is no virtue in being a “loyal Nazi” or a “loyal member of the Mafia.” Such notions, according to my analysis, would in fact be contradictions in terms.13

If this analysis of loyalty is correct, and I think that any analysis that takes loyalty to be a virtue would have to be developed along these lines, there are obvious difficulties with the idea of loyalty to a corporation, in the sense of loyalty that implies that it is morally good to be loyal. First, before we could speak meaningfully of loyalty in the context of a corporation, we need to ask: who in the corporation is the object of this loyalty? Is it the managers? the stockholders? one's fellow employees? or all of these? Obviously, loyalty to these different groups requires quite different kinds of conduct, some of which may be inconsistent. If, on the other hand, we choose to say that the object of loyalty is the corporation itself, the corporate entity, we face another paradox. For, quite apart from the issue of corporations being non-persons, something else important for loyalty seems to be missing that might be called “reciprocity.” What I mean is that loyalty is thought to be a two-way thing: A is loyal to B and B is loyal to A. Friends are loyal to each other. In this sense, loyalty is a bond tying people to each other reciprocally. Corporate “loyalty” is, in contrast, by its very nature one-way: dedication and devotion can only be in one direction—from the employee to the corporation. A corporation cannot be loyal to employees in the same sense as they are supposed to be loyal to it, not only because it is not a person but also because the actions of a corporation must be conceptually linked to the benefits they bring to the corporation. A corporation can be good to employees only because it is good for business, that is, because it is in its own self-interest. All this is a consequence of the fact that a corporation is logically incapable of having moral attitudes and its conduct can only be understood in relation to the aims of the corporation. As an ethical notion, however, loyalty cannot be founded solely on utility or self-interest.

As I have already indicated a number of times, corporations are not persons in the moral sense. The fact that in law, corporations have the status of persons as far as the Fourteenth Amendment is concerned, does not make them moral persons: law and morality should not be confused. My arguments against the position that corporation are moral persons are based on a particular
analysis of the logic of organizational decision-making, according to which organizations are logically incapable of moral decision-making and of moral conduct generally. If, as I contend, rational corporate acts must and can only be logically tied to corporate goals, e.g., profit-making, then such acts cannot be based on moral considerations. Essential to my analysis, it should be observed, is a clear-cut distinction and separation of a corporation as an "abstract" entity from the people within a corporation, who, as individuals, are, of course, persons with the moral responsibilities and rights pertaining to persons.14

WHISTLEBLOWING

If, as I have argued, the issue of loyalty to a corporation is a red herring, then we need not discuss the ethics of whistleblowing in that connection. However, there are other issues connected with whistleblowing that we need to examine. The cases of whistleblowing that have received wide attention are spectacular. They typically involve preventable disasters, errors and mistakes, and usually some hanky-panky.15 As has been pointed out, whistleblowing represents a particular kind of solution to a general problem that may have other and better solutions.16 So we immediately have two issues: the rights and wrongs of whistleblowing and the problem that whistleblowing is supposed to solve. As far as whistleblowing itself is concerned, it is obvious that it is not always good or bad and that it is not always successful or necessary. As De George and others point out, it seems on the face of it undesirable from an ethical point of view to have to solve the kind of a problem that leads to whistleblowing by demanding that individuals be moral heroes. In any event, there are obvious ethical as well as practical objections to solutions of social problems that depend so heavily on individual self-sacrifice.

Turning to the second issue, let us take a closer look at the problems for which whistleblowing is supposed to be the solution, that is, the evils that it is supposed to correct. They include such things as faulty design leading to fatal accidents, as in the Hyatt Regency Hotel and the DC 10 crash. What is the underlying problem? If we assume that in general terms it is how to prevent undesirable states of affairs (evils) of some sort, what particular states of affairs are the ones in question? Is the problem simply: how to prevent preventable disasters? Or, to put it positively, is it simply how to promote safety in engineering? If so, is it the same problem that is addressed in the Engineer's Code of Ethics, when it says that "Engineers shall hold paramount the safety, health and welfare of the public in the performance of their professional duties?" One answer to our question, then, might be that the ethical problem behind whistleblowing is simply how to maximize safety or at least how to reduce unsafety to a decent minimum.

There are two things to say about the problem as I have just defined it. First, it involves a reference to safety. If so is against it—in principle. So we start off the discussion of this problem with something that is uncontroversial, for safety is an incontrovertible good, or, if you wish, something whose absence is an incontrovertible evil. It is easy, of course, to see why safety is valued by everyone, for an unsafe bit of machinery, like an airplane or an automobile, might result in one's own death or the death of others who are close. The first point, then, is that our starting place is more solid, so to speak, than the starting place of most ethical problems. To admit safety as an incontrovertible good is not to say that there are no disagreements about safety. There are disagreements, for example, over the definition of safety, how much safety should be built into a machine, what safety measures are necessary in design, structure, operating procedures, etc.17 There are also lively disagreements over the costs of safety, over who has responsibility for safety, and over what kind of controls there should be over safety.

The second question about the problem behind whistleblowing is this: granted that the prevention of preventable disasters is a problem, even a pressing or urgent problem, we must determine what kind of problem it is. Is it a moral or ethical problem? Or is it a social problem? a legal, a political, an institutional (organizational) or an economic problem? Or is it simply a practical human problem concerning means and ends, that is, concerning what measures should be undertaken to avoid the evils in question? In any case, why call it an ethical problem, unless we are ready to say that any problem whatsoever of means and ends is automatically an ethical problem?

One way that one might answer these questions is to say that safety is an ethical problem simply because it is an important matter that we need to do something about, i.e., we ought to do what we can to prevent preventable accidents. In that case, it becomes the problem of how to prevent accidents, and that surely is an engineering problem. Of course, we might want to broaden the scope of the problem so defined and amend it by including questions about how to get those in power to do something to prevent preventable accidents, that is, to take problems of safety more seriously. In order to solve it, then, we might need to tackle some political, organizational or perhaps even social problems. It is still unclear, however, why we should call the basic problem an ethical problem rather than some other kind of problem and why we should call it a "problem" rather than a "task." Are we faced here with something that is in any sense a moral issue and a perplexity? The only thing that we can say for sure is that whistleblowing by isolated individuals is not the answer to the problem of preventing preventable accidents.

On the other hand, we might wish to say that the problem in question is ethical because if everyone in a posi-
tion to do something about safety were aware of their moral responsibilities in that regard and also were moral (i.e., conscientious), then the problem of preventable accidents would be solved. So construed, the "bottom line" becomes the question of how to get people to do what they ought to do, i.e., to be moral. In the final analysis, however, the way we conceive the problem depends on what our basic concern is: is it with the evil of the disaster or is it with the evil of people, that is, their failure to act to prevent disasters. If it is the latter, then the ethical problem turns into a problem of, say, how to raise moral consciousness about safety. It is solved by overcoming insensitivity or callousness on the part of those who are in a position to do something about safety. (This might, of course, include management.) On this view, being moral (ethical) in these senses is valued as a means of preventing accidents, etc. The problem behind whistleblowing (e.g., concerning faulty engineering) is solved by people becoming more moral, say, through moral education. Accordingly, we have a utilitarian interpretation of the problem itself and a utilitarian answer to it, including a utilitarian view of the value of moral consciousness and moral education. Ethics has been reduced to a means for preventing accidents!

Now, all of this seems to me to be an odd way of thinking about ethics. I want to ask: whatever became of ethics? Ethics is treated as if it were a kind of behavior control, an internal behavior control comparable in important respects to external behavior control through law, institutional regulations, social practices, rewards and punishments. As distinct from the latter, ethics is internalized control. But is this what ethics is: internal behavior control? Must we accept the utilitarian answer? Is the problem of how to eliminate preventable accidents simply one of securing moral behavior or one of ethical behavior control?

It might be observed, incidentally, that the assumption that ethics is essentially a kind of behavior control is probably what lies behind the attempts by various professions to codify the rules of their professional ethics. It seems to be taken for granted that if what is ethical is prescribed by a code, then members of the profession will comply and a socially acceptable and desirable outcome will result. Whatever the explicit intent, the underlying purpose of the codes is to create some kind of behavior control analogous to control through law. At this point, I need to make some comments on the use of formal mechanisms of behavior control in the service of ethics.

MECHANISMS OF BEHAVIOR CONTROL:

LAW VS. ETHICS

A great deal of confusion in discussions of ethical problems results from the assimilation of ethics to law, institutions, organizational regulations, and other mechanisms of social control. I hardly need mention here the other common fallacy of identifying ethics with the 'value-system' of some group or other, that is, with what John Austin called "positive morality,"—the body of moral beliefs and conventions actually accepted by a person, a group, or a society. Ethics, sometimes called "critical morality," is logically prior to all of these institutions and social mechanisms of control. It is used to criticize, evaluate and weigh the validity and desirability of the norms, rules and principles embodied in such institutions as law and positive morality. Consequently, ethics is prior to or superior to these other systems of norms in that it is used to determine what in them is morally acceptable and unacceptable.

There are a number of other important differences between ethics and formal systems of control such as law and management regulations. By a "formal system of control" I mean a system consisting of formally adopted rules, regulations, procedures and sanctions that are and can be used to control behavior. Usually the rules in question are written down and published for the guidance of those subject to them. For our purposes, perhaps the chief difference between these systems of control and ethics is that in formal systems of control such as law and management regulations some person or body of persons is authorized to create, change and rescind the rules—at will, so to speak. The authority to do this is vested in legislatures, courts, commissions, boards, managers and other officials. The principles of ethics (or morals), in contrast, are not the kind of thing that can be arbitrarily created, changed or rescinded. Ethics cannot be dictated. In old fashioned terminology, the principles of ethics are "discovered" rather than created by fiat. They are established through argument and persuasion, not through imposition by an external social authority.

Another critical difference between the formal systems of control that I have been discussing and ethics is their purpose, for law, corporate regulations, institutional requirements, and other formal systems of control are designed and used to control behavior for various and sundry purposes, which may be good, evil, or indifferent. From an ethical point of view, it is our job to weigh the validity and desirability of these purposes. But just as important from the ethical point of view are the ways and means selected to achieve these purposes. Here we need to ask: which ways and means are legitimate and ethically justifiable and which are not. In particular, we need to ask which sorts of social control are ethically permissible and which are not? In connection with the last question, there is one important means of control that has received insufficient attention in the literature on engineering ethics, namely, the use of secrecy as a means of control. When is secrecy justified and when not? are the current self-serving norms regarding secrecy, e.g., within a corporation and regarding engineering projects, tolerable from the ethical point of view? Is it not possible that the best way to
avoid political and organizational corruption in the long run is to make public the plans, projects and purposes behind the operations of our public institutions, government and private corporations?19

SOCIAL CONTROL AND THEORIES OF HUMAN NATURE

Ethical theories about proper and improper social control always presuppose, either explicitly or implicitly, a theory of human nature of some kind or other. Theories of human nature in this sense are about what motivates human beings and what ought to motivate them, that is, what would be rational for them to want and to do. Although it is generally assumed that theories of human nature and motivation are descriptive and empirical, in actuality they are always inescapably value-laden, both in regard to how individuals ought to act (if they are rational) and in regard to what are the proper means to get them to act in ways that one wants, i.e., to control them. Different theories of human nature come up with quite different answers to these questions. Thus, according to a Hobbesian self-interest model of human nature, it is reasonable for a person to act for his own self-interest and unreasonable for him to act against it, and for that reason the best and only way to control others is to manipulate their self-interest, to make it in their self-interest to act in certain ways. This is the typical bourgeois economic view of man and it provides the rationale for many of our institutional arrangements that are designed to control behavior, e.g., of employees.20 Whatever is in a person’s self-interest is, other things being equal, permissible, nay, rational for him to do.

For reasons that I cannot give here, the Hobbesian model does not fit individual human beings very well; it ignores not only the ‘irrational’ and emotional side of human nature but also its moral aspect. On the other hand, the model does apply very nicely to corporations, at least to the commonly accepted notion of private corporations as propelled by self-regarding drives for profit, power and glory. The whole Hobbesian apparatus can be usefully applied to an ethical analysis of corporations. Like Hobbesian men, corporations are, in theory at least, in constant competition with each other—as in Hobbes’ state of nature—and the only effective control over their “rational” voracity is through the manipulation of their self-interest. Accordingly, if we really want to cut down unsafe practices and to reduce the incidence of industrially caused accidents (evils) we have to make it in a corporation’s self-interest to take measures to prevent them. It is absurd to appeal to ethics, because corporations are not moral beings. Profits are what count, and so unsafety should be made unprofitable.

I have argued that underlying most thinking about ethics in corporations is a certain mythology, which holds that corporations are persons and that therefore the same theories of human nature, of motivation and of morality apply to them as apply to individual human beings. This mythology leads us either to anthropomor-

phize corporations and treat them like “nice people” or else to reduce individual human beings to miniature corporations, each in pursuit of his self-interest and in perpetual strife with others for profit, power and glory. Once we rid ourselves of this mythology, we will be able to sort out more clearly and coherently our mutual rights, duties and responsibilities in society in relation to each other.

MORAL RESPONSIBILITY AND OTHER KINDS OF RESPONSIBILITY

Nowhere is the fallacious assimilation of corporations to moral persons more apparent than in prevalent conceptions of responsibility; different senses of responsibility are confused with each other almost as if there were a plot to get rid of moral responsibility altogether. Pursuing the same line that I have already taken in this essay, I shall argue that the concept of moral responsibility, as contrasted with other kinds of responsibility, cannot properly or even meaningfully be attributed to corporations, that is, to formal organizations. But first we have to sort out a number of different senses of “responsibility.”

The locus classicus for any discussion of responsibility is Hart’s essay on the subject.21 In his essay, Hart lists four different senses of responsibility, which he calls: (a) Role-responsibility, (b) Causal-responsibility, (c) Liability-responsibility, and (d) Capacity-responsibility. The names speak for themselves; role-responsibilities are the responsibilities that go with roles, tasks and jobs; causal responsibility is the responsibility for having caused something to happen; liability responsibility concerns who is to pay for damages, and capacity-responsibility refers to psychological capacities required for legal competence.

It should be noted right away that Hart does not include on his list the most important sense of “responsibility”: moral responsibility, that is, responsibility in the virtue sense.22 He ignores this kind of responsibility because he is interested only in responsibility as it relates to law. Furthermore, it should be observed that all of Hart’s four senses of responsibility can be attributed to corporations, for corporations can (a) fill roles; they can (b) cause things to happen; they can be (c) liable, e.g., for damages, and they have (d) the “capacities” that Hart mentions, namely, the capacities of “understanding, reasoning and control of conduct.”23 It is easy to see why Hart’s senses of responsibility apply to corporations, for they are essentially legal entities and as such are subject to law, which, as I have pointed out, should not be confused with ethics.

When we come to moral responsibility we are dealing with something quite different.24 In order to bring out the difference, let me begin by distinguishing between forward-looking and backward-looking senses of responsibility, that is, between responsibility for something that has already taken place and responsibili-
ty for what will or might take place in the future. Clearly, liability responsibility is backward looking in this sense and is causal responsibility: "Who and What is responsible for the crash of the DC-10?" Role-responsibility may be either past or future: a safety officer’s role was, is, or will be to monitor such and such for product safety, etc. Retrospectively, a person can be held responsible (liable) for failure to do what his role required, and prospectively, he is responsible (role) for completing certain tasks and controlling certain kinds of results in the future. It should be noted, however, that role-responsibilities (tasks, jobs) are assigned, e.g. by organizations, and from a moral point of view may be non-moral or immoral, as well as moral. Thus, a public relations official may have the responsibility (job, task) for covering up management’s failure to report a hazardous condition.

Now, moral responsibility as I conceive it is forward-looking. It is about what people ought to do to bring about or to prevent future states of affairs. It is based on the duty each one of us has to watch out for what may happen to others or to oneself. As such, it implies concern, care and foresight. To be responsible in this sense is a virtue that cannot be meaningfully predicated of a corporation conceived as a formal organization, that is, as a structure of rules, offices and jobs, etc. Corporations, being nonmoral, entities, cannot be virtuous or vicious in the moral sense; only the people in them can be so characterized.

Now, one noteworthy property of responsibility in the moral sense as contrasted with the other senses is that it is nonexclusive. In the other four senses, responsibility is exclusive in the sense that to impute responsibility to one thing (X) implies that other things (Y, Z) do not have the responsibility. Thus, if one person has a role-responsibility for something, it follows that other people do not have the responsibility. Similarly, causal and liability responsibility are exclusionary. Moral responsibility, on the other hand, is not exclusionary in this sense; for one person to be responsible does not entail, as it does for the other kinds of responsibility, that other persons are not also responsible. A father’s responsibility for his children does not exclude (or negate) the mother’s responsibility—or, for that matter, anyone else’s responsibility, e.g., the responsibility of the state. In the moral sense, there are some things that everyone is responsible for, and one of these things is safety. Concern with safety is not just one person’s job, i.e., his role-responsibility, to the exclusion of others. It is everyone’s moral responsibility—varying in degrees only to the extent that one person is better able to do something about it than others. The concept of moral responsibility implies that there are some things that are everyone’s business!

COLLECTIVE RESPONSIBILITY

A very significant ethical consequence of the non-exclusiveness of moral responsibility is that, if many people can be morally responsible for the same thing, then there can be such a thing as group moral responsibility, or if you wish, collective responsibility, that is, a responsibility that falls on many people at the same time. In as much as one person’s being responsible does not relieve others of responsibility, everyone in a group may have moral responsibility for a certain thing. Thus, the whole family is responsible for seeing that the baby does not get hurt. The whole community is responsible for the health and safety of its citizens. And all the engineers, as well as others, working on a project are responsible for its safety.

Now it should be clear that underlying my analysis of collective responsibility is a distinction between a group of people, a collection or association of individuals, and a formal organization, which is a structure defined by rules, offices and jobs, etc., apart from the people who come and go in the organization. Moral responsibilities, moral virtues and other moral qualities can be ascribed to groups insofar as they pertain to the individuals in them. But since organizations are not persons, they are, as such, beyond the pale of morality. We cannot and should not shift our moral responsibilities onto abstract entities like corporations.

One of the deep problems of our time is that people have followed the lead of philosophers, lawyers and managers and have simply reduced moral responsibility to the other four kinds of responsibility already mentioned. The net effect of this move is to render all responsibility exclusionary and to provide thereby theoretical support for a wholesale abdication of moral responsibility: “That’s her job, not mine”; “he did it, not I,” etc. We are constantly looking for someone to fix responsibility onto, be it liability or role responsibility. We construe the question of responsibility for engineering errors as a question of fixing responsibility on some engineer, either holding him liable for it (in the past) or assigning him the task of watching out for it in the future. “Divide and conquer” is the motto: if we divide responsibilities like jobs or liabilities we will avoid any trouble and we will know whom to blame.

Our ideology gives us a way to pass the buck as far as moral responsibility is concerned. Against this, it should be pointed out that if everyone in a non-exclusive group with moral responsibility for safety sets out to prevent a disaster, then the world will be much better off than if we simply try to fix a disaster on a single person or if we assign the job (= role responsibility) for preventing disasters to a particular person or outfit and then forget about our own responsibilities. According to the conception of moral responsibility that I have in mind here, there is a sense in which all of us, engineers and nonengineers alike, are responsible for things like the Pinto accidents, say, because we accept a way of life, based on the Hobbesian model, that assumes that what is good for business, anyone’s business, is good for us, for society, and correlative, it is good for business to
mind one’s own business.

On a broader front, we can see what happens to a society when a sizeable segment of the population abdicates its moral responsibility for the common good, that is, the good of its members, and opts for the principle of minding one’s own business (job-responsibility). In Germany, a result of this kind of abdication was Hitler. In the USA, a result of this kind of abdication was Vietnam. And unless we start caring, a future result of our abdication of responsibility will be World War III and a nuclear holocaust. Some would like to blame the engineers for that. But I argue that nuclear weaponry is not simply an engineering problem, that is, a problem for engineering ethics, although it is also that, just as problems of engineering ethics, e.g., concerning safe products and concerning a safe environment, are not simply problems of engineering ethics, but problems for all of us. All of these things are everybody’s business.

In conclusion, I want to reiterate what was said at the beginning of this essay: philosophers cannot be expected to provide ready-made solutions to ethical problems in engineering. Instead, following my conception of the zetetic role of a philosopher, I have simply tried to point out a number of questions that need to be asked and some of the pitfalls in ethical thinking about them that ought to be avoided. As far as the latter are concerned, I have tried to show that serious ethical consequences follow from the blithe acceptance of corporations as persons, from the confusing of moral and legal concepts, and from the failure to recognize moral responsibility as a distinctive kind of responsibility that is nonexclusive and that can be predicated of individuals in groups (i.e., collective responsibility) as well as of persons individually. Thus, despite the disclaimers about the practical value of philosophy that I have mentioned, philosophy in the analytic tradition still has an important and perhaps indispensable function in making clear how best to approach the problems that concern us in engineering ethics, even though in the end it does not provide authoritative answers to them.

Notes and References


[2] From the Greek zetein. It is a word that was used for an ancient school of philosophers known as the Skeptics—otherwise as Zetetics.


[6] It is often advanced as a criticism of modern medical practice that physicians treat patients as bodies that are like machines needing to be repaired rather than as persons. In this way, medicine becomes a technology and in that respect becomes like engineering.

[7] There is extensive literature on paternalism in medicine and law.

[8] In this connection, there is a series of rationalizations that are made by members of a bureaucracy to justify their not doing anything about something they think is wrong. For a critical discussion of such attempts to avoid responsibility, see Dennis Thompson, “Moral responsibility of public officials: the problem of many hands,” American Political Science Review, vol. 74, no. 4 (December 1980).


[10] Hume says in this context that virtues like rigid loyalty to persons are “virtues that hold less of reason than of bigotry and superstition.” Treatise, Book III, Part II, Section X.


[12] Elsewhere I argue that formal organizations, e.g., corporations, are not persons in the moral sense. See my “Morality and the ideal of rationality in formal organizations.” Monist, vol. 54, no. 4 (October 1970).


[18] See my “The quest for a code of professional ethics.”

[19] I should remind the reader that none of these institutions, according to my analysis, is a person and therefore none has a moral right to personal privacy.


