SOFT VALUES, POLICY ANALYSIS AND THE LEGAL PROCESS

Christopher Arup

This article appraises the role economic criteria can play in the resolution of questions of legal policy. With soft values (i.e. values which are difficult, if not impossible, to reduce to money or other numerical terms) in mind, the first half considers the limits to the descriptive and evaluative powers of market and other indicators. The second half considers the extent to which the legal process can, and does, employ such indicators in its determinations. Essentially, the paper is then a response to the movement which seeks to make the formulation and review of policy more scientific. The movement has encouraged a re-evaluation of the significance of economic objectives and realities for the making of legal policy, a re-evaluation that has already led to a greater use of cost-benefit analysis, and economic analysis generally. Some doubts are raised here about claims made for the omniscience of these techniques, particularly in regard to the assessment of major new technologies.

While more than one school of economic thought might usefully be applied to law, most recently, the Chicago school has been most sweeping in its employment of the economic approach. Even though significant shades of opinion are discernible within the Chicago camp, there remains an underlying common free market philosophy (Veljanovski 1980). This philosophy surfaces in the many articles in American journals occupied with the exposition and application of the economic approach, not only in such obvious areas of law as the law of commercial relations and of corporations, but also in such areas as criminal, family, welfare and procedural law. In the view of its critics, the Chicago school both interprets and

advocates the market to be the central measure of value, and the individual's preferences as expressed in that market are deemed to be the indicator of satisfaction and of welfare. Much of the criticism of the approach is based on the observation that the market does not, and probably cannot, serve these purposes adequately (Cranston 1977). For example, it is regularly pointed out that concentrations in market strength and disparities in information, retard the making of free and rational adjustments through the medium of wholly private transactions. While these observations have led liberal theorists to consider such reforms as trade practices and disclosure laws, designed to rid the market of its faults so that it can make the proper choices, they have led others to reject the analytical model and concentrate on responses to systematic and institutionalized relations of power that ensure certain organizational and class interests of supremacy in Western economies (Hyman and Brough 1975:141).

The preoccupation of critics with the Chicago school may not however do justice to the economic approach. Economics after all is much broader in its outlook, especially in the field of welfare economics, and thus, with the aid of other disciplines such as sociology and psychology, it can still be of assistance in the formulation of rules and disposition of cases.

1. The limits of economics

The characterization of individual well-being

Firstly, classical economic measures such as price seem to misrepresent or ignore some of the personal satisfactions individuals derive from various commodities. Marshall's concept of the consumer surplus has been developed to fill one such gap and it has significance for legal criteria such as in the calculation of damages or the ordering of injunctions (Harris et al 1979). Another useful example is the individual employee's valuation of work. Classically, work is regarded as a disutility in which a trade-off is made largely between the time consumed and the wage paid. But the economic characterization of work may be more subtle than this, as evidenced by the puzzle of why jobs in occupations with both high esteem and interest, are not taken on lower wages. This paper concentrates on identifying a way to account for those elements which are not reflected in market price when determining, for example, the value of domestic and voluntary labour as part of an analysis of housing policies (Stretton 1976:195). The conventional characterization by classical economics (from which the Chicago school derives its inspiration) may not adequately represent the levels of satisfaction, perceptions of quality, and intensities of feeling, that individuals experience in their work. Thus, an adequate measure of the value to the individual of work might represent not only earnings and hours, but also recognition, feelings of accomplishment, security, the amount of control over the pace and quality of work, and the extent to which personal skills are employed, etc (Horn 1976). The broader view reasserts the personal and social characteristics of work — to the marxists in particular (Kinsey 1979), the conventional approach in treating labour purely as a commodity relation, has the undesirable effect of abstracting and homogenising the role so as to distort the true nature of relations in productive processes.

Similar considerations apply in the valuation of the methods (such as automation) by which goods and services are provided. In this regard, Ng has stressed the

significance of non-economic activities for happiness: the happiness of an individual will be affected by various non-economic activities he and others undertake, such as personal communication with a neighbour, strolling in the street, attending social functions and so on (Ng 1975). The beneficial effect of such activities may not be confined to those who participate in them, indeed it may be more in the form of promoting a long-term harmony in society and a feeling of identification by individuals rather than in the form of some immediate enjoyment from the activities. Taking into account the non-material benefits of such non-economic activities could lead both to their revaluation and to the revaluation of goods that often overshadow them when decisions are being made whether or not to give public support or protection. It is not always possible to find goods that are sufficiently complementary to these non-economic activities or to commercialize them directly in order that they compete in the market; indeed to commodify and commercialize such activities might alter their character fundamentally.

Ng suggests that the production or consumption of certain goods has a subtle negative effect on the non-economic social activities of others. In the absence of government actions to correct market failure, social costs in the form of detrimental spill-over and side effects (such as pollution) fail to be reflected in the true price of goods.

Similarly, the benefits of some activities and facilities are found hard to market, even though it is desirable to charge and control the users by some means. The obstacles to internalization may lie in transaction costs, suggesting a property rule or a liability rule to facilitate bargaining and bring about a market solution, or even the fixing of a price by law where it is difficult collectively to agree on a value by private means and to enforce that valuation. However, the character of certain activities perhaps defies individualization and monetization. As such a different strategy such as public protection or provision must be contemplated. The market finds a variety of sources of satisfaction and welfare hard to tap. Environmental quality, for example, must be treated as a public good so long as only one level of quality can be provided at a time and individuals cannot independently vary the level or quality of what they consume (McColl 1980). Some conditions (*eg* ecological balance or honesty) are not amenable to trade-off because they cannot be broken down into degrees or components in order that they may be compromised or partly foregone (Withey 1974:21). Certain conditions may be regarded as intrinsically satisfying or dissatisfying, independently of whether they are being traded off for any other (Armstrong 1951:269).

So recognition might have to be given to desires that are not readily revealed and promoted by the actions of individuals in the market. Public intervention may be required in order to advance concern for the well-being of others and for the quality of the social fabric and environment as a whole (Steiner 1975), through, for example, Roscoe Pound's categories of social interest (Braybrooke 1961). For practical purposes, even if the purpose of society is ultimately to promote the welfare of its individual members, the social interest must be treated as a necessary abstraction. For instance, the "social interest in the individual life" is a convenient mode of expression and promotion of the individual interest in the well-being of others, particularly if that individual interest bears no direct or material return and is motivated by principle, conscience, altruism, sacrifice and the like. A public

channel may be required. Given that satisfactions are affected by the process of acquisition and the experience of consumption, the public and maybe free nature of the provision for others may add to the satisfactions of both the recipients and the providors.

The need for public decision-making in the social framework.

The evaluation and promotion of the quality of the overall state and structure of society require a broader forum than the market, for the market fails to address in a holistic and deliberate fashion, either the pattern of consumption, or the distribution of wealth. In his exposition of "the tyranny of small decisions", Kahn calls as evidence for this proposition those facilities for which the use is infrequent or uncertain (Kahn 1966). The market is unlikely to bring home the value placed on a service that is to be used rarely, or that might never be used but which gives satisfaction by the knowledge that it exists: country railway lines, electric power station generators and wilderness areas serve as examples. If a high cost is attached to restoring the service or it is impossible to do so, it is desirable to have a mode of expression of the value placed on the preservation of options and the opportunity to alter preferences at a later date. Some public action may be required to preserve the choice, either by subsidising the private supplier, or by restricting certain incompatible uses, or by making the service a public good.

When the process of disappearance of certain goods in favour of others is gradual, diffused and cumulative, as in the impact of the private motor vehicle on the character of urban life, the market is likely to submerge the overall choice. Indeed, any process satisfied by the outcome of a sum of numerous individual decisions, especially if those decisions are spread over time, is likely to under-represent structural and holistic concerns (Firey 1963). Private decisions accumulate surreptitiously to close off alternatives and re-structure the boundaries of future choice. Kelman is prepared to characterize such a situation as a coercion of the consumer: the consumer needs the goods, say motorized transport, but the market offers, due to oligopoly or the scale of demand required to provide the product at all, only an imperfect and partial substitute (Kelman 1979:788). Illich sees it as "compulsory consumption" especially in respect of professional services, although it is notable that legal restrictions as well as market factors play a part here (Illich 1972). In any case, it is unlikely that individuals realize that their choices are being narrowed; if they do, they cannot be confident that an enlightened personal course of action will receive the necessary collective reinforcement. Such constraints encourage a short-term and self-centred view: if, in touch with a hazardous activity, the individual can only offer a bribe or put up a screen, or may be paid off or driven away, the impact on the wider community and on future generations may go unmodified (Tribe 1973). In such situations, it is even possible to recognize a cost to certain interests beyond any loss to individuals, whether in general or in the long term. In this vein, a case has been made out by Stone for rights to attach to plants and animals, in particular for the survival of endangered species, irrespective of the contribution they make to the welfare of man as edible or ornamental species (Stone 1972).

If there are values which individuals cannot be relied upon to bring into account, there are perhaps a few others which should not be the subject of their appropriation

or sale. Is it too much to suggest that, from time to time, some values are regarded as having a first priority, even as being essentials? In Tribe's words, this is to accept the possibility of "significant discontinuities, lexicalities and zero thresholds" in the ordering of values (Tribe 1976:66). Religious and moral philosophies indeed put forward attributes and conditions that should not be tradeable — that no one should be permitted to sell even if he or she could be induced to do so and the sale would maximize net overall wealth. The corollary is those claims which should be rendered worthless, even if their satisfaction would increase overall wealth (Schwartz 1979:807).

A case is frequently made out in respect of individuals, for a guaranteed fundamental level of integrity and humanity to be asserted against such forms of degradation and manipulation as enslavement and sadism. In the same context it is said that guarantees of autonomy and personality are of little use, if the material necessities of life are not secured. Indeed it has even been asserted that the material necessities are a pre-requisite for further, and therefore second-order, satisfactions (Leiss 1976:63). If need be, people should be free to contract into slavery or consent to serious injury. As Calabresi and Melamed argue, society must be clear about its justification for prohibiting the sale of certain attributes. In part, they distinguish paternalisms from moralisms: while society might consider an enslavement to be contrary to the welfare of the two parties involved, it might just be concerned that the enslavement will disturb the moral sense of third persons. A rule of inalienability will be justified if the sale of entitlement has significant and widespread external costs, especially those costs which cannot be measured in an acceptably objective and non-arbitrary way. If the impact on the moral sense of others seems a particularly nebulous and pliable concern, Calabresi and Melamed point out that there are often good efficiency (and distribution) reasons for such rules as well; for example, the enslavement or the flagellation of certain consenting adults might create conditions in which it is harder to prevent unwanted assaults on others, because the borderline of inviolability had been blurred and all human life devalued (Calabresi and Melamed 1972).

Furthermore, while the liberal tradition has made us wary of paternalism, society has still been prepared to question the quality of consent in certain extreme cases such as fraud and duress. Decisions to submit to abuse, even at a price, might further be scrutinized where the purchase of another's integrity has been obtained by taking advantage of the seller's need. It is an important criticism of the wealth maximization yardstick that it rests complacently upon whatever is the existing distribution of wealth (Stretton 1976:198). The highest valued use of resources depends on what competing individuals are willing to pay. This in turn is affected greatly by their relative capacities to pay. Consequently, wealthier individuals often have a greater influence upon the pattern of employment of resources than their numbers would warrant, and, conversely, the poor may be presented with dilemmas of choice between, at the edges, slavery or starvation, crowding or exposure to the elements. The State might therefore intervene in sales where exploitation is occurring. However, one very real practical consideration here is whether the poor are better off because of the stand of a moral elite against exploitation if nothing is done at the same time to increase their economic power by providing income with which to compete in the market or by providing alternatives such as public

employment and housing. In such controversies, it is important to note that the preferred moral value need not be absolutely or immutably dominant: its status might be affected by changes in social conditions, it might have priority only over some other goods, restrictions rather than prohibitions might be placed on its sale or infringement, and it might be offset by other measures such as subsidies (Tribe 1972:98).

2. The Value of Policy Analyses

If some public decisions are so necessary, policy analysis must range across a broader spectrum as it endeavours to identify and measure the varied benefits and detriments of private and government undertakings. As this paper will indicate, policy analysis, defined as an approach which includes cost-benefit analysis but which goes beyond monetizable and commodifiable items, provides useful information, especially in the identification and measurement of the impact of projects. At the same time, policy analysis is engaged in a search for a uniform and objective criterion of value to replace that of market price in order that claims can be compared, aggregated and apportioned. Without care, the urge to settle on a common unit of measure as quickly as possible may lead to a distortion and abuse of the policy analysis technique because a reduction of values to equivalent units runs the risk of downgrading or ignoring the very values which need explicit public recognition, those being the subjectively varying, non-material and structural ones (Baram 1980). In fact in modern bureaucratic and technological societies such values as immanence, communion with nature, tranquility, beauty, sociability, affectivity, serendipity and the preservation of spiritual, aesthetic and communal options — that is to say fragile, elusive, quality of life values, are commonly under-represented (Habermas 1971:92, Landes 1969:25). The attempt to bring these values adequately into account means that they are more likely to receive some consideration by the decision makers. If it is thought that they must be treated as incomparables, it is more likely that they will be ignored or overridden than employed as a qualitative restraint on the range of options from which to choose (Gorz 1980). Nonetheless, if the analyst attempts to do any more than simply list all the values implicated in a policy choice, he will be drawn into a comparison of soft values both with hard technical and economic claims and with other soft values: how, for instance, to match the virtue of free scientific research against the risk to the public of genetic mutations (Chalfant et al 1979)?

Impacts of projects

With advances in the policy analysis technique, engineers and economists in government authorities have recently broadened the base of evaluation of proposals for freeways, industrial plants, parks, dams, and so on (*Country Roads Board 1975*). At the least such analyses can reveal that a project will not achieve its stated objective either effectively or efficiently. As in the instances of recent Australian developments such as the Tasmanian hydro-electric projects and the national domestic broadcasting satellite, the analysis reveals that the project is promoted in part for an intangible sectional benefit such as the prestige of the operating authority or the esteem of outback settlers. Along the same lines, in pointing out the ineffectiveness and inefficiency of a programme of consumer or environment protection, an analysis can reveal that the main purpose is a symbolic expression of a

conscience about those worse off or of an antagonism towards competitors in the same class (Carson 1974). Further, a genuine consumer or environment protection objective can be shown to be counter-productive, especially if the structural constraints of the economy must be accepted as unchangeable. Rent controls, for example, might be shown to reduce the supply of cheap housing wherever investors are free to shift their capital into more profitable sectors.

The strength of policy analysis is that it can identify the character, if not the extent, of material spill-overs and side effects with some ease. In spreading its net to externalities, this "social accounting" assesses wide ranges of project impacts, bringing to notice at least the costs of shielding and repairing. These are often costs which can be priced in the market. The social benefits of the projects prove more difficult to quantify. It is understandable that the analysts have looked for "proxy market indicators" for an estimation of the value placed on these benefits. Among the several forms of surrogate and shadow prices, the most common are wage rates to indicate the value of travel time accorded in reaching a recreational area, property prices to indicate the value of living in a pollution free zone, and wage differentials between jobs with varying risks of mortality and morbidity to indicate the value of a life (Clark and Segal 1979, Sinden and Worrell 1979). It is regrettable that these indicators merely mirror the inadequacies of real prices, because at the same time they do not gauge accurately the lack of control of other factors that also contribute to both levels of prices, and various facets of satisfaction (Lewis 1979).

Social surveys have therefore recently been employed to obtain from individuals their opinion of the worth of an activity. Most commonly, the survey asks what the individual is willing (and, implicitly, able) to pay towards the maintenance of the activity. This art is being developed to enable more subtle probing of the elements of subjective individual well-being such as the relative importance of various domains of life (such as the work environment) to the individual (Withey 1974:28). The challenge remains, however, to perfect an approach by which these individual feelings can be translated into both evaluations of society as a whole (Horn 1976:249) and aggregate social choices (Sen 1970).

Policy analysis is the task of identifying and measuring the effects of alternative plans, of clarifying the issues of choice, determining the critical trade offs and presenting the issues clearly for decision-making (*Country Roads Board 1975:2*). Though value judgments are involved, efforts may be made first to ascertain impacts empirically and to connect them both with their sources and with the means of facilitating or suppressing them as the case may be. But fact finding and policy determinations cannot always be so easily separated, particularly if the impacts are intangible, or diffused over time and space, or uncertain to occur. Disputes between toxicologists and other scientists about the safe levels of exposure to lead and other chemicals indicate what is regarded as fact is influenced and mediated by differing cognitive and technical norms concerning theoretical suppositions and forms of proof. These are in turn affected by both economic and professional situation, by patronage, employment, training, professional reference group and practical experiences (Robbins and Johnston 1976).

Where the projected impact is more psychological than physical, the determinations become even more problematic. The noise of traffic provides one example (Arup 1981). At its higher levels, noise causes physiological damage.

However, in terms of psychological well-being, comfort and enjoyment, the impact of sound is not uniform and clear-cut. Studies of the composition and effects of sound indicate that the extent to which it annoys depends not only on such objective factors as its volume and proximity, but also on such factors as the attitude of the listener to the source of the sound, the listener's activity and general state of mind. All of these factors suggest that the generalization of the impact of sound is difficult.

However, it may not be that the facts about such impacts are unattainable, but rather that the determination of the impact on a particular activity turns on an initial judgment that it is worthwhile devoting resources to the investigation of the possible hazards of exposure to the phenomenon. In practice, such judgments are influenced by the strength of the resistance of the person upon whom the expense of discovering and mapping the impact is to fall. All the same, in certain matters reactions seem so variable and indeterminate, that the task of measuring the impact may commonly be regarded as fruitless. In an interesting article on the problems of aesthetic regulation, Williams analyses the common objection that aesthetic choices are far more subjective than other choices the law has been called upon to make. Williams concedes that aesthetic judgments are subjective in the sense that they characterise their subjects and vary under similar circumstances from one subject to another, but he is not prepared to accept that common ground cannot be established. He demonstrates that methods of verification used in more familiar areas can also be applied to aesthetic judgments, identifying argument by analogy from cases in which a consensus has been reached and citing surveys which have revealed shared attitudes on certain questions (Williams 1977:6). Similarly, surveys have found that people rate traffic noise as the single most source of annoyance among urban sounds and have provided a median threshold level of annoyance of about 68 dB(A) (OECD 1971).

Nevertheless, the variety and interdependence of the factual elements which make up an aesthetic structure or locality, such as line, scale, colour, material, siting and context, multiply the number of combinations and occasions on which value judgments must be made. They also create more opportunities for fluctuations and disagreements and make general standards elusive. The same can be said of the circumstances of traffic noise. Against an estimation of the benefits of a quieter environment must be set the costs of reducing the noise level of vehicle by engineering and other techniques, the cost of policing a standard that might be prescribed, the pleasure of expressing emotion and aggression through the vehicle, multiplied by the variety of circumstances in which noise is both made and heard. It is not surprising that the analysts look not only to the more tangible costs of noise suppression but also to the more material costs of noise continuation, the impact on productivity, property values and health care. Nevertheless, the account would be incomplete without some indication of the aesthetic and amenity value of peace and quiet and the satisfaction of a feeling of safety and harmony.

The gauging of reactions becomes less reliable when the activity is merely threatened and the subjects cannot draw on similar experiences. The enquiry must be refined by including questions relating to uncertainty and by comparing views on delay with the prospect of unfavourable and perhaps irreversible outcomes (Hirschleifer and Shapiro 1975, Greenwood and Ingene 1978).

The analysis becomes even less precise when on one side of the ledger is a risk of harm. Risk-benefit analysis increases the inexactitude of calculations, in comparing both the seriousness of the harm and the benefits of the risk producing activity with the likelihood of the harmful occurrence. It would seem mechanical simply to discount the harm by the probability that it will not occur. As Page outlines, many people continue to place a prohibitive cost on a catastrophic event with a very slight possibility of occurrence; in one instance some people seem to tolerate the statistical probabilities of death on the roads (Page 1978). Furthermore, it is arguable that a value should be placed upon the activity of risk-taking quite apart from its ends: on the one hand, the pleasure some derive from (voluntary) risk-taking, on the other, the cost of exposing others (involuntarily) to the risks of harms that nonetheless would not materialize (Nozick 1974:72).

Conflicts — materialism and morality

When confronted with such difficult issues the tendency of policy analysis has been to draw the line on the type, or field, of impact to be investigated. In this way, the real policy choices and value judgments are made beforehand and are legitimated by the subsequent conduct of the analysis. Governmental Inquiries are often the clearest case of this. The objective and the range of strategies are predetermined in the terms of reference of the inquiry, and the inquiry is reduced to a search for the least wasteful and disruptive of the given strategies by which to achieve the objective (Brooks 1976). The constituency and often the analysts themselves are not asked to consider whether the objective is so expensive that it ought to be discarded entirely. A more subtle preemption of the inquiry is effected by a discriminatory selection of the indicators to be employed, the range of impacts to be studied, or the nature of the constituency to be consulted.

For these reasons, policy analysis is best regarded as an aid to decision making rather than as the decision making itself; it is perhaps more useful as a review of policies than as a means of policy formulation. Ultimately, even in cases where full and accurate mapping of impacts is possible, the task remains to place relative values on the interests affected and decide between them. Where resources are not finite, competing claims must be ranked and rated. Optimally, claims are satisfiable without expense to others, and much of the debate is about the most effective strategy to bring about this condition and minimize the occasions on which conflict must occur. For example, Posner argues that his goal (wealth maximization) is "best conducive to happiness, freedom, self expression and other uncontroversial goals (uncontroversial if not pursued in total disregard for competing goods)" (Posner 1980:244). In an unsophisticated adaption of this argument, conservative politicians argue that the best way to raise the living standards of the poor is by growth in the GNP so as to create more wealth for distribution purposes. The goal of growth might be questioned if it stands on this claim. It might be scrutinized closely so far as it depends upon powerful technological developments with fundamental quality of life costs which cannot be contained locally amongst those who consent. The growth argument might also be questioned on the pattern of the distribution of costs and benefits, especially in regard to those goods which are "positional" (Hirsch 1977). In an affluent country, much of the living standard is socially and relatively defined, and part of the threat to human welfare may stem from the trend to materialism and

the attempt to convert non-economic and free pleasures into commodities that are, consequently, sold to the highest bidder. It has been suggested however that sentimental and ascetic moralities often serve the interests of the governing class: those who teach the morality of sacrifice, want others to sacrifice to them. It is easy for the middle class to preach to the working class about the excesses of consumerism.

There are ways in which some of the conflicts can be avoided. For example, disagreements caused by differing interpretations of fact rather than value judgments (unless they are deliberate distortions) ought to be soluble by empirical methods (Ng 1979:22, Tribe 1972:101). Most people prove adaptable to changing circumstances (Mesthene 1970), and points emerge at which they will accept substitutes or monetary compensation. Over a period, the social benefits of some activities even out with their social costs; and individuals, to introduce a distributional concern, share roughly equally in both (Epstein 1979:83). Where the costs and benefits accrue at different time periods, discount rates can be brought into account.

Nevertheless, some decisions must turn on basic value judgments or ethical principles. That a particular resource allocation makes some better off only at the expense of others can be rebuffed on many occasions by voluntary agreements between those involved. However, in complex societies, transaction costs and other obstacles stemming from such circumstances as the large numbers affected, their varying degrees of participation and exposure, and the broad, long-term and intangible nature of the impacts, make actual agreement impracticable. Society, if it cannot facilitate and induce agreement, must decide whether to permit the producers to go ahead without the consumers' prior consent, or to prohibit the producers from acting. In either way, one group will be the poorer for the ruling. The wealth maximization approach would allow the producers to proceed provided a net gain resulted from the activity after the consumers were compensated for their loss, or at least, provided the producers were in a position to compensate the consumers following the activity (Kronman 1980:235). In a sense, this approach permits the producers to acquire the source of the consumers' satisfactions both compulsorily and unilaterally, at a price fixed by the law, and indeed to avoid payment at all where the costs of litigation and so on deter the consumers from asserting their right (Ogus and Richardson 1977). It is in part because they do not agree that all losses can be monetized and compensated that other philosophies entertain the idea of directives and prohibitions, and apply such criteria in choosing between the claims of groups as their relative capacities to absorb a loss or miss an opportunity.

Where a particular resource allocation will only make some better off at the expense of others, a choice must be made between the two according to one of the several ethical standards which can be adopted. That standard may be that overall wealth is maximized, the total sum of utility or happiness is increased or even the limits maintained as to what any one person (especially a person already worse off than the others) is to do without. At best, policy analysis will help determine when the social choices have to be made, and where they do, which of the various standards is satisfied by each of the alternative strategies. For these purposes, comparisons of alternative outcomes, for individuals and groups, must be made, underlining again the virtue of some articulate medium in which to express the

valuations of outcomes so that they can be matched and weighted. So long as those concerned with wealth maximization can say that the broader measures of welfare lack the materiality and the commensurability of the dollar (Posner 1980:251), then, care must be taken with the process of consultation and consideration and with selection of the authority which is to exercise the discretions inevitably remaining. Value may be attached to an outcome because it results from a good process. This is not to say that the process need be casual and inexplicit and that policy analysis cannot play a useful informational role. For example, one government report has described current planning techniques which are capable of detecting and displaying such information as the character of the groups affected by proposals, the importance of relevant objectives to such groups and the intensity of feeling about the different levels of impact (*Country Roads Board 1975*). Similarly, on a wider social plane, OECD style social indicators have proved useful where their limitations have been appreciated (Devin 1981, see Taylor 1980).

3. Potential Use of Policy Analysis in the Legal Process

Policy analysis (as defined and described earlier) is perhaps more suited to some dimensions of law and legal process than others. In theory, if the legal process were receptive, policy analysis could be employed both in the substantive choices of the law and in the assessment of the operation of law itself. These dimensions include legislation, especially the administrative regulation of specialized planning authorities, common law rules and individual case dispositions.

The market oriented approach is favourable to the legal form of contract. In its eyes, contract is a facilitating rather than directive form which allows the parties to do their own policy analysis, to express and to negotiate their own preferences, moving resources, in cases of mutual advantage, to their most efficient use. Contract rules should therefore be designed to assist the parties in the making and the securing of their own agreements. Where transaction costs are preventing the parties from reaching agreements, the law may be used to induce or compel a bargaining relationship, but not to prescribe the content of the bargain. In fact, the law does make appropriable and exchangeable certain goods which would otherwise be at large or external: the law attributes to individuals the command of these goods. This is most necessary in the case of one-off and unpredictable encounters such as road accidents in which one side at least would see little economic reason otherwise to negotiate. The free market economists, however, are concerned that the legal system, in attaching rights to such environmental goods, will incorrectly value them. The law should assign rights in the goods to those parties who would buy them from others in the absence of transaction costs, and assign obligations to those who would bear them at least cost (Calabresi 1968). Where it is not possible to categorize the cheaper cost-avoider, the obligation should be assigned to the party who can best do the cost-benefit analysis and initiate negotiations to bribe the cheaper cost-avoider to act. In other words, legal rules (and these include liability rules) should aim to recreate a market decision, allowing the parties to recast obligations if they see fit. However, if the law assigns the obligation inefficiently, and the parties seek to negotiate the re-allocation of the obligation but the transaction costs of negotiation outweigh the gain in wealth of the re-allocation, the marketeers are concerned that the most efficient use of resources will be obstructed (Coase 1960). Nevertheless, in

order to minimize the cost of privately securing and exploiting resources, the marketeers do concede the need for the recognition of individual property rights in some goods, so at least there is something with which to bargain. It is hard to picture a pattern of holdings without the present property laws, but if the marketeers started with a clean slate, they would seem to favour attaching rights to private persons into whose hands the resources have fallen (Demetz 1969); they seem most sceptical about the re-casting of entitlements except by private contract and, in some areas, by the payment of compensation, and certainly about common property.

Their aim is that resources obtain their highest exchange value. Thus, if a party can obtain a higher price for his goods elsewhere, he should be permitted by the law to breach his present contracts deliberately, provided he can pay damages and obtain profit (Posner 1972:57). Similarly, obligations in tort may be breached if compensation can be paid. The Chicago school is concerned that if rights were enforceable specifically, the party protected would not have an incentive to avoid or minimize his losses and would be tempted to exaggerate the worth of the right to him in negotiations to induce him to waive it (Thompson 1975). If there is some truth in this claim, the same observation can be characterized in quite a different way by distinguishing the value of "rights" from the merits of their particular contents, and in this way distinguishing the value of different types of rights, of rights to bargain and bribe, to claim payment or compensation, and to insist on non-infringement or access (Kelman 1972). By adding in to the account a value to a right, then the vindification of a right to a very small debt might be re-appraised even where the costs of proving and collecting the debt outweigh the amount. A benefit accrues, in terms of self-esteem and dignity, from the recognition of a person as a rights-bearer (Tribe 1972:88). It is not suggested, however, that the notion of a right can be divorced from the character of its content: enjoying a right is only one item in an account of the costs and benefits of a legal policy. Furthermore, as the paper noted above, there are also a few interests which cannot or should not be left to individuals to assert, whether by way of property or liability rule.

Overview of the law

To compare the foregoing theory with the actual progress of modern law, we may look to American legal history. As Horwitz documents; in the nineteenth century legal systems promoted the exploitation and the exchange of resources above the passive and quiet enjoyment of the environment, by means of the restriction of liability for harm to others (the shift from strict liability to negligence, the distinction between public and private nuisance, the recognition of the capacity to contract out of tortious liability) and the doctrine of freedom of contract (the removal of restrictions on the alienation of property, the distinction between adequate and sufficient consideration, the award of damages rather than specific redress). Horwitz suggested that the law has become increasingly instrumental and economic in its orientation (Horwitz 1977). It can at least be said that the law is moving from a position of embodying universal moral precepts to one of accommodating private and sectional preferences (Ziegert 1977:169), either by the delegation of law making power (Cotterrell 1977:241), as in the labour process and

the market place, or by a withdrawal from such fields as personal and sexual relations. Weber's characterization of modern law as purpose-rational is instructive here:

> Social conduct is of the traditionalistic pattern if it is carried on in the way it is, simply because it has always been carried on in that way. It is of the emotional kind if it is determined by passions and feelings. It is value rational (wert-rational) where it is oriented toward a value system which, as one of religion, ethics, or aesthetics, is regarded as the expression of the proper one as such and without regard to its immediate practical consequences. Social conduct is, finally, purposively rational (zweckrational) where it is oriented toward some practical purpose and determined by rational choice. Modern capitalism constitutes the very prototype of purposively rational conduct, viz, of conduct oriented toward profit and rational choice of the means conducive to that purpose. The categories of legal thought are obviously conceived along lines parallel to the categories of economic conduct. The logically formal rationality of legal thought is the counterpart to the purposive rationality of economic conduct (*Rheinstein 1925:I viii*).

As the law became more secular and pragmatic, new hazards emerged and new legal responses were demanded. The new responses took the form of legislative regulation by expert government authorities. As Kamenka and Tay argue, a new crisis in law and legal ideology is rooted in:

> nineteenth and twentieth-century developments — in the course and social ramifications of scientific and technological progress, in the changing conditions of economic production and use, in the vastly increased scale and power of enterprises, in the consequent ever more obvious social inter-dependence of individuals and units and the growing power of the state and its agencies (*Kamenka and Tay 1972:50*).

This crisis is not confined to western capitalist societies. It takes the form of a tension between individualism and celebratory, consummatory and interactive activity on the one hand (Habermas 1971), and rational socio-technical norms and bureaucratic-administrative requirements on the other (Winkler 1975). The development has placed a strain on established legal concepts, especially in the common law, as new substances, new devices and new organizations raised questions about criteria of causation, foresight, personality, responsibility, harm and freedom. Modern legislation is largely a response to the threats from new organizations and technologies of physical and material injury, rather than to threats to health and well-being in more general terms. On the whole, what is meant by physical integrity and property and by what constitutes and causes interference with them is more clearly understood than other concepts such as amenity and freedom.

Nevertheless, it cannot be said that the law always responded to the physical hazards of new technologies with holistic evaluations, for levels of protection in many areas have been developed falteringly. Braybrooke provides the example of the choice made between lives and the speed at which vehicles may be driven

(Braybrooke 1961:319). And similarly, if it has responded at all, the law has accommodated levels of risk from exposure to new industrial chemicals (Livock 1979). While research can, in many cases, show how many will die or be incapacitated, the costs of preventative measures and the productive value of the hazardous activity appear more substantial, especially if the individuals to suffer cannot be identified in advance: it seems that one bizarre killing elicits a stronger reaction than a steady rate of deaths at work or on the road (Glasbeek and Rowland 1979).

Yet it would be too crude to say that the rationale of the law is purely economic. The law recognizes at least on an individual level some claims that are not easy to translate into monetary terms; these include the enjoyment of life (as affected by negligence and trespass), freedom from physical constraint (false imprisonment), the enjoyment of land (nuisance) and the special qualities of certain goods (breach of contract). Once such interests are infringed, the Law attempts to put a monetary value on the loss of subjective satisfactions and intangibles. It further recognizes that damages are not always an adequate remedy and makes an injunction available instead.

Some legislative directions are designed to promote similar interests, such as neighbourhood amenity (as affected by non-conforming uses of land) (Gifford 1978:15). Such injunctions and directions do not, however, make these interests incomparable or absolute; instead, trade-offs are made a stage further back in the process when the standard is formulated (*eg* traffic noise levels) or the merits of the case determined (unreasonable interference with the enjoyment of land, the balance of hardship). While it might be said that the purpose of the criminal law is to render certain interests inviolable, closer inspection shows that these interests are afforded such protection only against certain other claims that are considered worthless (*eg* the satisfaction derived from force intentionally applied against another's will) (Schwartz 1979:806), and only then if the sanction is a non-negotiable coercive order and not a monetary fine. It is rare, if the competing claim has some merit, that the other prevails completely. An unusual exception is provided by the 1973 *Endangered Species Act* in the United States, an exception made clear in a Supreme Court decision in which the preservation of a small fish prevailed over the completion of a dam on which $100 million had already been spent; *Tennessee Valley Authority v Hill*, 98 S.Ct. 2279 (1979). The Supreme Court recognized that Congress had declared the value of the preservation of the species incalculable: with an all or nothing outcome for the fish, no half measures or substitutional remedies were possible.

The legal process can thus be engaged in setting off or choosing between competing claims, the values of which are not necessarily easy to compare. Roscoe Pound questioned the fitness of the legal form and process for such social calculus and advancement. In particular, the fragility and elusiveness of some values activates the limits to effective legal action. Several of Pound's observations are relevant — especially his recognition of the fragile and elusive nature of moral conditions and the consequent problem of securing non-infringement of them (let alone respect for them), through the law. In this domain, the main function of the law remains to help create a social environment which allows the individual and the

natural group the fullest expressive opportunities compatible with participation in public life and the expectations of others. For, as Gurvitch has argued:

> In contrast to moral values, jural values are inherently conservative, embodying ideas of order rather than of creative spontaneity, and this in turn means that they represent the general rather than the particular, "solidarity" rather than sociality; and replace the values attributed to unique and personal qualities with values relating to objectives and quantifiable characteristics, such as membership of categories and classes. Expressed as commandments, they take the form of rules which symbolize jural values in a limited and determinate manner, in contrast to moral precepts which allow for a wide range of creative possibilities and can never be entirely expressed within rule-like prescriptions (*McDonald 1979:40*).

Rather than trying to substantiate and operationalize concepts of dignity, integrity, humanity, etc., the law might concentrate on the complex and subtle motives for, and modes of curtailment of, those opportunities. In the face of such difficulties as making the modern corporation responsible, the proposition that the subject is functionally dedicated to his own economic motivation becomes an appealing characterization (Fisse 1979). When the law has not been able to demonstrate a great deal of success in changing attitudes, the characterization suggests a clear behaviourist strategy. For, while it would be wrong to discount entirely the role of law in symbolizing and promoting values that do not accord with the subjects' material interests (Smelser 1976:136), nevertheless, to the extent that the subjects do not internalize the values embodied in the law, they will employ their own calculations in deciding whether infringements are justified. In particular they will determine whether their prospects of detection, prosecution, conviction and sentence, outweigh their gain from the infringement (Gunningham 1978:16). Consequently, one of the most useful applications of the economic approach has dealt with the question of accident deterrence, and in particular, with the impact of monetary incentives and charges, the role of insurance and other means to pass on costs. Such observations indicate that some legal strategies have more chance of success than others in influencing behaviour. In particular, those which attach to the initial stages of the planning of projects before resources have been committed, or those which set specific design and performance conditions in contrast to vague obligations to respect and accommodate the interests of others, or those which empower the ordering of the suspension and cessation of activity for breach rather than fines and reprimands, are more likely to be effective.

The Courts

In the United States (though not in Australia) environmentalists have turned to the courts for findings on hazards and rulings between claims (Cranston 1979). While the judicial process confers the strongest procedural rights once the case is within jurisdiction, the courts may not be ideally suited to cope with the substance of those modern questions. In a conservative legal system such as Australia, it would be necessary as a preliminary step to alter the criteria of standing and joinder in order to afford access to those representing non-material interests. Nevertheless, for what

they consider necessary to their own stability, the courts might still employ doctrinal devices by which to narrow the issues before them. Threats that can be materialized are likely to register more strongly with the court, in part because of requirements of proof. In considering the impact of imposing or not imposing liability on a borstal institution for damage done by escaping youths to proximate property-owners, Lord Diplock remarked:

> The material relevant to the assessment of the reformative effect on trainees of release under supervision or of any relaxation of control while still under detention is not of a kind which can be satisfactorily elicited by the adversary procedure and rules of evidence adopted in English courts of law or of which judges (and juries) are suited by their training and experience to assess the probative value (*Home Office* v *Dorset Yacht Co Ltd* [1970] AC 1004, 1067).

As the empirical sciences broaden their scope and become more accessible to the lay person, complementary modifications in trial procedures are conceivable but, in the meantime, as early judicial reactions to claims for damages for nervous shock and mental suffering suggest, problems of proof remain an obstacle to the recognition of subjectively varying and intangible impacts, especially where that recognition might have widespread, but uncertain, consequences.

In a full and open enquiry, a court will consider the consequences of its choice of alternative rulings upon third persons and on society in general. Yet the aim of such trial procedure is to narrow the issues before the court. The civil process channels the conflicts into the narrow and immediate issue of ranking or setting off the claims of individual parties with direct and present (and often material) interest in the issues. Cases are only commenced on the initiative of the parties and a solution to a problem may be curtailed by a private settlement or an award of damages to the particular plaintiff. Despite an activity with broad, diffuse and long-term external effects, the impact on others (such as future generations) of the continuation or cessation of the activity, does not have to be brought into account. The valuations of the court tend to be individualistic and context-bound; the court need only decide which of the two claims has the greater value. A court presented, for example, with a conflict between the amenity of a residential neighbourhood and the economics of a truck transport business, cannot order an improvement in the railway freight system. It has been suggested that many of the significant environmental questions are not justiciable because they are polycentric (Fuller 1960). In Williams' words,

> Polycentric problems arise when three factors coincide: (1) a multiplicity of possible solutions; (2) an interdependency of relevant factors so that the outcome as to one feature of the problem will affect the outcome as to other features; and (3) a multiplicity of relevant factors that makes it difficult to trace one solution's superiority to any particular attribute or combination of attributes (*Williams 1977:18*).

This leads to cases in which large numbers are potentially involved but the bases of their claims will be diverse and contingent. The parties find it difficult to determine where to direct their arguments; the tribunal finds it difficult to articulate a general standard to satisfy all and provide a guide for future activities (Blackshield 1972).

Furthermore, as an increasing number of these modern projects, such as dams and nuclear plants, are quite sizeable and complex, the judicial decision is essentially *post hoc* as well as *ad hoc*. By the time a plaintiff can point to real harm, resources have been expended and the project set in train. If the harm is not catastrophic, the court is tempted to find a compromise rather than to order the projects complete cessation. If the harm is catastrophic, it is too late after the event to place controls on the activity or to effect meaningful compensation.

If the foregoing shortcomings are ultimately technical and logistical problems and thus not insuperable, a different kind of qualification on the scope of the judicial process must still be made. While the policy sciences advance the art of identifying and mapping the multifarious impacts of modern enterprises (and of the laws that might be made about them), the interests affected must still be weighed and compared. Policy analysis concedes to a political judgment. In *Baker v Carr*, the United States Supreme Court remarked that

> judicial procedures are inherently ill-adapted, and hence functionally inappropriate to the handling of a problem in which unusual complexity in the relevant factual data is accompanied by a lack of judicially discoverable and manageable standards for resolving it; or the impossibility of deciding without an initial policy determination of the kind clearly for non-judicial discretion *Baker v Carr,* 396 U.S. 186, 217 (1962).

Arguably, the courts do make such determinations from time to time, but, when they do, they are inclined to limit the scope and novelty of their decision.

The legislative process

Accordingly, decisions on polycentric and political matters are left to the legislators who, in mainstream democratic theory, enjoy the widest scope and authority of the law making processes to make social choices. The legislators may indeed be required to strike, in the form of specific, mandatory directives, some rough and ready trade-offs, rather than rely on comparisons in every individual case, either by bargaining or trial, for the effective decisions. While this may lead to some imperfect results, it may be the only way certain values will be counted and it is often a cheaper form to administer than individualized rules (Michelman 1967:1197; Epstein 1977:79).

Yet the capacity of the legislative process must be set off against the danger that certain groups are denied procedural access, and that, in their absence, all the issues will not be included in the agenda or attempts will not be made to reconcile the interests concerned. Arguably, the party in government is not always disinterested and aloof; the demands of its patrons and constituencies make certain short-term and tangible claims attractive and the government is itself engaged in the promotion and operation of large technological and economic projects. At the least, on complex, long-range issues, the government experiences a failure of nerve, a lack of resolve to face hard truths and to imagine solutions, to question established goals and to win community acceptance of change (Ferkiss 1969, Shapiro 1978).

At the worst, the government favours one sectional interest. The detailed representations of the legislative process as a system of bargaining and trade-offs appear to assume that there is a basic compatibility among the interests in play, or at least a plurality of interests with roughly equal say and information. If, instead, one interest regularly prevails, it can promote a characterization of questions and a valuation of costs and benefits to suit its position (Ball 1979, Radical Statistics Group 1979). Regulations so made may serve to pre-empt or neutralize challenges to its interest. In Livock's study of the regulation of hazardous industrial chemicals, he advanced the view that the characterization of a matter both in legal and in scientific terms acts to obscure the choice between interests being made, removing the matter from political contest into the technical realm (Livock 1979:189). Habermas describes this process more generally in a chapter on "the scientization of politics and public opinion" (Habermas 1971:62). Value judgments appear as objective, technical necessities. In Livoc's area of study, the existing practices of exposure to hazard are embodied in the law, the legislators add their imprimateur to a degree of harm, and the standard freezes at this point becoming the effective, rather than the maximum level of exposure. Indeed, the legislative standard may largely serve a symbolic purpose, because the agency charged with its enforcement is refused the resources necessary to deal with non-compliance or is sympathetic to the regulated group (Carson 1970).

In the United States, various public interest groups have, with the aid of the constitutional right to due process, demanded involvement in delegated law making and administrative processes (Trebilcock et al 1980). This involvement complements requirements that there be expert analysis of the impact of proposals and practices. Both private and public organizations have been required to gather information and to consult constituencies: for example, the television broadcasters, together with the relevant regulatory commission, have been engaged in surveying audiences and hearing interest groups before fixing standards for programmes. A licensing system conveniently creates a point of public access and input. Where such procedures are taken seriously, standards may be adjusted more readily in line with changes in conditions and attitudes.

Consultation does not guarantee that all values are represented, or that the weightings so derived are reflected faithfully in the decision making. For example, the middle class appears to be best represented amongst the professionals in the authorities and the vocal action groups, so that it seems necessary to develop less voluntarist procedures if other groups are to be brought into the decision making processes and their values appreciated and counted (OECD 1979). One suggestion takes the form of auxiliary laws that require representation on the internal decision making bodies of private corporations and public instrumentalities or on the external arbitration boards and tribunals, supported by the provision of resources to the community and public interest groups so that they can organize and nominate suitable representatives (Stone 1975). Even so, it would be naive to expect that all values can be single-mindedly and proportionally represented. In any case, the auxiliary law approach only puts the policy decision one stage further back: how to decide on the correct proportions of voting strengths and, indeed, on the appropriate constituencies?

Accordingly, citizen participation needs to be matched by more sophisticated design and operation of regulation (Breyer 1979). Mandatory minimums can be supplemented by taxes or fees charged against an activity on a sliding scale as an incentive to improve on the regulation standard (Alexandre 1975); subsidies can be paid to the regulated to lighten the burden and reward them for the social benefits that result from compliance (Calabresi and Melamed 1972:1116). The variety of devices employable suggests again that there is a useful informational role for systematic and expert policy studies. Keeping in mind the limits to their powers of description and resolution (Bell 1971), it should prove useful to strengthen the content, conduct and standing of policy analyses carried out when major decisions to undertake or to regulate are contemplated. The inadequacy of legislation such as the Victorian *Environmental Effects Act* 1978 indicates that improvements can be made. Currently, the Act contains no definitions of its major concepts. Its requirements apply only to some public decisions; the Act confers discretions rather than duties on the Minister as to whether and when to set the process in train; most of the indicators of the scope and substance of effect statements are left to guidelines which the Minister may make from time to time and to negotiations with persons engaged in the activity affected by the Act. Furthermore, no standing is conferred upon interested and affected members of the public to ensure the observance of the process. Noting that proper analyses may be time-consuming and expensive, a value may be placed on the process itself. According to Tribe, in a fluidity of means and ends, it is sometimes only in the examination and development of courses of action that people realize their real values and priorities (Tribe 1976:68).

Conclusion

Several points about the challenges which new technologies and organizations present to the legal process especially in regard to the survival of soft values have been raised here. The legal process, in any of its forms, is not ideally suited to deal with the difficult matters of fact and value which these challenges involve. However, if the law abdicated responsibility, society would still be presented with problems, for the market (and indeed economic indicators in general) cannot be relied upon to deal fully or deliberately with all of these matters. Both popular and expert input are required if the legal process is to be sensitive to long range, indirect, and intangible impacts.

References

Alexandre, "Regulatory and Economic Instruments for Traffic Noise Control" in Alexandre et al (eds), *Road Traffic Noise* (1975) Applied Science Publishers, London.

Armstrong, "Utility and the Theory of Welfare" (1951) 3 *Oxford Economic Papers*, 259.

Arup, "Technology, Society and the Functions of Traffic Noise Laws" (1981) 4 *University of N.S.W. Law Journal*, 29.

Ball, "Cost-Benefit Analysis: a critique" in Green and Nore, *Issues in Political Economy — A Critical Approach* (1979) Macmillan, London.

Baram, "Cost-Benefit: An Inadequate Basis for Health, Safety and Environmental Regulatory Decision making" (1980) 8 *Ecology Law Quarterly*, 473.

Bell, "The Disjunction of Culture and Social Structure" in Douglas (ed), *The Technological Threat* (1971) Prentice Hall, New Jersey.

Blackshield, Legal Responses to Cultural Change (Paper presented to the annual conference of the Australasian University Law Schools' Association, Hobart, 1972).

Braybrooke, "The Sociological Jurisprudence of Roscoe Pound" (1961) 5 *Uni. of Western Australia Law Review*, 288.
Breyer, "Analyzing Regulatory Failure: Mismatches, Less Restrictive Alternatives, and Reform" (1979) 92 *Harvard Law Review*, 549.
Brooks, "Environmental Decision-making: Analysis and Values" in Tribe, Schelling and Voss (eds), *When Values Conflict* (1976) Ballinger Pub. Co., Massachussetts.
Calabresi and Melamed, "Property Rules, Liability Rules and Inalienability: One View of the Cathedral" (1972) 85 *Harvard Law Review*, 1089.
Calabresi, "Transaction Costs, Resource Allocations and Liability Rules — A Comment" (1968) 11 *Journal of Law and Economics*, 67.
Carson, "Some Sociological Aspects of Strict Liability and the Enforcement of Factory Legislation" (1970) 33 *Modern Law Review*, 396.
Carson, "Symbolic and Instrumental Dimensions of Early Factory Legislation: A Case Study in the Social Origins of Criminal Law" in R. Hood (ed), *Crime, Criminology and Public Policy* (1974) Heinemann, London.
Chalfant et al, "Recombinant DNA: A Case Study in Regulation of Scientific Research" (1979) 8 *Ecology Law Quarterly*, 55.
Clark and Segal, Techniques for Placing Monetary Values on Environmental Damage (Paper for the workshop on measuring environmental damage costs, sponsored by the Commonwealth Department of Science, 1979.)
Coase, "The Problem of Social Cost" (1960) 3 *Journal of Law and Economics*, 1.
Cotterrell, "Durkheim on Legal Development and Social Solidarity" (1977) 4 *British Journal of Law and Society*, 241.
Cranston, "Creeping Economism: Some Thoughts on Law and Economics" (1977) 4 *British Journal of Law and Society*, 103.
Cranston, "Law and Social Reform" (Paper presented to the annual conference of the Australasian University Law Schools' Association, Melbourne, 1979).
Demetz, "Toward A Theory of Property Rights" (1967) 57 *American Economic Review*, 347.
Devin, "A Broader Perspective for Social Indicators" (1981) 16 *Australian Journal of Social Issues*, 114.
Epstein, "Nuisance Law: Corrective Justice and Its Utilitarian Constraints" (1979) 8 *Journal of Legal Studies*, 49.
Ferkiss, *Technological Man: the Myth and the Reality* (1969) Braziller, New York.
Firey, "Conditions for the Realization of Values Remote in Time" in Tiryakian (ed.), *Sociological Theory, Values and Socio-cultural Change* (1963) Free Press, New York.
Fisse, "The Social Policy of Corporate Criminal Responsibility" (1979) 6 *Adelaide Law Review*, 361.
Fuller, "Adjudication and the Rule of Law" (1960) 54 *Proceedings of the American Society of Internatinal Law*, 1.
Gifford, *The Victorian Town Planning Handbook* (1978) 5th edition, Law Book Co., Sydney.
Glasbeek and Rowland, "Are Injuring and Killing at Work Crimes?" (1979) 17 *Osgoode Hall Law Journal*, 506.
Gorz, *Ecology as Politics* (1980) South End Press, Boston.
Greenwood and Ingene, "Uncertain Externalities, Liability Rules and Resource Allocation" (1978) 68 *American Economic Record*, 300.
Gunningham, "The Industrial Safety, Health and Welfare Act 1977 — A New Approach?" (1978) 6 *Uni. of Tasmania Law Review*, 1.
Habermas, *Towards a Rational Society* (1971) Heinemann, London.
Harris, Ogus and Phillips, "Contract Remedies and the Consumer Surplus" (1979) 95 *Law Quarterly Review*, 581.
Hirsch, *Social Limits to Growth* (1977) Routledge and Kegan Paul, London.
Hirschleifer and Shapiro, "The Treatment of Risk and Uncertainty" in Seidler and Seidler, *Social Accounting: Theory, Issues and Cases* (1975) Melville Pub. Co., Los Angeles.
Horn, "Quality of Working Life: The Social Indicator Approach" (1976) 18 *Journal of Industrial Relations*, 243.
Horwitz, *The Transformation of American Law 1780-1860* (1977) Harvard University Press, Massachussetts.
Hyman and Brough, *Social Values and Industrial Relations* (1975) Blackwell, Oxford.
Illich, "Retooling Society" in Weisstub (ed), *Law, Growth and Technology* (1972) CIDOC, Cuarnerno, Mexico.
Kahn, "The Tyranny of Small decisions: Market Failures, Imperfections and the Limits of Economics" (1966) 19 *Kyklos*, 23.
Kelman, "Choice and Utility" 1979 *Wisconsin Law Review*, 769.

Kelman, "Consumption Theory, Production Theory, and Ideology in the Coase Theorem" (1979) 52 *Southern California Law Review*, 669.
Kinsey, "Despotism and Legality" in Fine et al (eds), *Capitalism and the Rule of Law* (1979) Hutchinson, London.
Kronman, "Wealth Maximization as a Normative Principle" (1980) 9 *Journal of Legal Studies*, 227.
Landes, *The Unbound Prometheus: Technological Change and Industrial Development in Western Europe from 1750 to the Present* (1969) Cambridge University Press, Cambridge.
Leiss, *The Limits to Satisfaction: An Essay on the Problems of needs and commodities* (1976) University of Toronto Press, Toronto.
Lewis, *Urban Economics* (1979) Edward Arnold, London.
Livock, "Science, Law and Safety Standards: A Case Study of Industrial Disease" (1979) 6 *British Journal of Law and Society*, 172.
McColl, Measuring the Benefits of Environment Protection: An Overview of Recent U.S. Research into Benefits of Air and Water Pollution Abatement Programmes (Working Paper No 20 for the Centre for Applied Economic Research, University of N.S.W., (1980).
McDonald, "The Legal Sociology of George S. Gurvitch" (1979) 6 *British Journal of Law and Society*, 24.
Mesthene, *Technological Change: Its Impact on Man and Society* (1970) Harvard University Press, Massachussetts.
Muir, *Law and Attitude Change* (1973) Phoenix, New York.
Michelman, "Property, Utility and Fairness: Comments on the Ethical Foundations of 'Just Compensation' Law" (1967) 80 *Harvard Law Review*, 1165.
Ogus and Richardson, "Economics and the Environment: A Study of Private Nuisance" (1977) 36 *Cambridge Law Journal*, 284.
Nozick, *Anarchy, State and Utopia* (1974) Basic Books, New York.
Ng, *Welfare Economics* (1979) MacMillan, London.
Ng, "Non-Economic Activities, Indirect Externalities and Third-Best Policies" (1975) 28 *Kyklos*, 507.
OECD, *Technology on Trial: Public Participation in Decision-Making Related to Science and Technology* (1979) OECD, Paris.
OECD, Urban Traffic Noise: *A Strategy for an Improved Environment* (1971) OECD, Paris.
Page, "A Generic View of Toxic Chemicals and Similar Risks" (1978) 7 *Ecology Law Quarterly, 207.*
Posner, *Economic Analysis of Law* (1977) 2nd edition, Little Brown, Boston.
Posner, "The Value of Wealth: a Comment on Dworkin and Kronman" (1980) 9 *Journal of Legal Studies*, 243.
Radical Statistics Group, *Social Indicators: for individual well-being or social control? (the case of the OECD)* (1979) Radical Statistics Group, London.
Rheinstein, Introduction to *Weber on Law in Economy and Society* (1925) 2nd edition, Harvard University Press, Massachussetts.
Robbins and Johnston, "The Role of Cognitive and Occupational Differentiation in Scientific Controversies" (1976) 6 *Social Studies of Science* 349.
Schwartz, "Economics, Wealth Distribution and Justice" (1979) *Wisconsin Law Review*, 799.
Sen, *Collective Choice and Social Welfare* (1970) Holden-Day, San Francisco.
Shapiro, "Introduction to the Issue: Some Dilemmas of Biotechnological Research" (1978) 51 *Southern California Law Review*, 987.
Sinden and Worrell, *Unpriced Values: Decision Without Market Prices* (1979) Wiley, New York.
Smelser, *The Sociology of Economic Life* (1976) 2nd edition, Prentice Hall, New Jersey.
State of Victoria, Country Roads Board, Project Evaluation Study, *Project Evaluation — The State of the Art* (Technical Report No 61, 1975).
Steiner, "The Public Sector and the Public Interest" in Seidler and Seidler (eds)., *Social Accounting: Theories, Issues and cases* (1975) Melville Pub. Co., Los Angeles.
Stone, *Where the Law Ends: The Social Control of Corporate Behaviour* (1975) Harper and Row, New York.
Stone, "Should Trees Have Standing? — Towards Legal Rights for Natural Objects" (1972) 45 *Southern California Law Review*, 450.
Stretton, *Capitalism, Socialism and the Environment* (1976) Cambridge University Press, Cambridge.
Tay and Kamenka, "Socialism, Anarchism and the Law" in Kamenka, Brown and Tay (eds), *Law and Society: The Crisis in Legal Ideals* (1978) Edward Arnold, London.
Taylor, "The Problems with Social Indicators" (1980) 15 *Australian Journal of Social Issues*, 230.
Teitz, "Evaluation of Policy in terms of lifestyle, living patterns and environmental needs" (1979) *Royal Australian Planning Institute Journal*, 65.
Thompson, "Injunction Negotiations: An Economic, Moral and Legal Analysis" (1975) 27 *Stanford Law Review*, 1563.

Trebilcock, Pritchard and Waverman, "The Consumer Interest and the Regulatory Process" in Duggan and Darvall (eds) *Consumer Protection: Law and Theory* (1980) The Law Book Co., Sydney.
Tribe, "Policy Science: Analysis or Ideology?" (1972) 2 *Philosophy and Public Affairs*, 66.
Tribe, *Channelling Technology Through Law* (1973) Bracton Press, Chicago.
Tribe, "Ways Not To Think About Plastic Trees" in Tribe, Schelling and Voss (eds), *When Values Conflict* (1976) Ballinger Pub Co., Massachussetts.
Veljanovski, "The Economic Approach To Law: A Critical Introduction" (1980) 7 *British Journal of Law and Society*, 158.
Wenk, "Technology Assessment: Concepts, Practices and Experience in the United States", in Commonwealth of Australia, Department of Science, *Proceedings of a Workshop on Technology Assessment* (1978) AGPS, Canberra.
Williams, "Subjectivity, Expression and Privacy: Problems of Aesthetic Regulation" (1977) 62 *Minnesota Law Review*, 1.
Winkler, "Law, State and Economy: The Industry Act 1975 in Context" (1975) 2 *British Journal of Law and Society*, 103.
Withey, "Values and Social Change" in OECD, *The Subjective Elements of Well-Being* (1974) OECD, Paris.
Ziegert, "Adam Podgorecki's Sociology of Law: The Invisible Factors of the Functioning of Law Made Visible (1977) 12 *Law and Society Review*, 151.