THE ATTITUDES OF MANUFACTURING EXECUTIVES TO OFFENCES AGAINST THE ENVIRONMENT

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STUDY TEAM:

D.A. Cole, LL.B., Adel.

- Project Direction and Report Writing

E. Bamford, B.Ec., Qld.

- Computer Programming

X. Ilic, B.A., Adel.

- Survey Implementation and Research

THE ATTITUDES OF MANUFACTURING EXECUTIVES TO OFFENCES AGAINST THE ENVIRONMENT

1. CORPORATE ENVIRONMENTAL CRIME

1.1 Corporate Crime - The Concept

The notion of corporate crime involves the commission of crime as a result of the complex relationship of decision-making which occurs in large public and private organisations. Corporate crime is regarded as a particular type of white collar crime (Clinard and Yeager, 1980, p.17), the latter concept having been defined variously. Hopkins (1977, pp.1 and 2) proffers two definitions by Gibbons (1973, pp.326-7) and Edelhertz (1970, p.3) respectively. Gibbons defines white collar crime as "violations of business regulations or occupational roles carried on as contributory to the business or occupational enterprise. An offence will be said to be a white collar one in so far as it represents violation of a legal rule constructed to govern business affairs or occupational practice and in so far as the law violation took place as part of the conduct of regular business or occupational activities."

Hopkins (p.3) is of the opinion that Gibbons' definition of white collar crime includes violation of pollution regulations in that such violations contribute to the profitability of the enterprise. This he contrasts with a definition produced by Edelhertz, who described white collar crime as "an illegal act or series of illegal acts committed by non-physical means and by concealment or guile, to obtain money or property, or to obtain business or personal advantage."

This, contends Hopkins, would preclude consideration of pollution offences as corporate crime (p.3).

Nevertheless, in recent years it has been accepted that the notion of corporate crime embraces offences against the environment.

Hopkins himself proceeds to include such crimes in his study of white collar crime in Australia. Clinard and Yeager (p.9), quoting Geis (1973, p.12) agree that " 'smogging' a city or town has taken on the proportions of a massive crime wave, yet federal and state statistical compilations of crime pay attention to 'muggers' and ignore 'smoggers' ".

1.2 Investigations to Date

Criminologists have paid little attention to offences by corporations against the environment, even if the offences constitute significant health risks to human populations. Bequai (1978, p.119) comments that -
"(c)riminologists have long neglected to study or include within their scope of interest offenses (sic.) against the environment. For too long we have studied only the interaction between individuals and have neglected that between the individual and his environment. In the last analysis, it is this wider scope of activity that may determine if our civilisation survives or falls. Crimes against the environment merit concern and study."

There has been little empirical research undertaken in relation to corporate crime either in the United States or Australia. In 1979 in the United States, the National Institute of Law Enforcement and Criminal Justice undertook a study of illegal corporate behaviour under the direction of Marshall B. Clinard. The study analysed existing data on prosecution and other government intervention in illegal corporate activity, endeavoured to predict violations by companies and provided an analysis of methodological difficulties involved in studying corporate crime.

In Australia, Fisse (1978) has examined the concept of corporate criminal responsibility and the notion of community service being imposed as a sanction against delinquent corporations (1980). Braithwaite (1980) has undertaken an analysis of sentencing in the context of white collar crime.

Empirical investigation of the illegal behaviour of corporations and governmental response to such behaviour has resulted in little research. Hopkins (1977) provides one exception but the methodological problem of acquiring adequate data and information confounded his investigations to some extent. The difficulties which attach to investigating corporate offences are perhaps best illustrated by the following observation drawn from the report by Clinard (1979) for the National Institute of Law Enforcement and Criminal Justice.

"Research in the area of corporate crime presents many difficulties not generally encountered in research on either ordinary or white collar crime that involves occupations such as various small businesses, doctors, lawyers, etc. It involves issues such as corporate organizational structure and complexity, problems of data collection and analysis, the wide diversity of sanctions, and the problems of ranking the seriousness of the violations.

Corporate crime occurs within an extremely complex organizational structure. This complexity provides methodological challenges to the quantitative researcher interested in the structural and economic correlates of corporate crime. Product diversification provides a good example of such problems."

From a different perspective, studies have been undertaken to measure people's perceptions of the seriousness of various crimes and this has included attitudes to white collar crime. Work of this nature by Wolfgang (1980) resulted in white collar crime receiving a very high rating on the seriousness scale. Cullen *et al* (1980) also undertook an exercise to measure any change in attitudes to white collar crime. Nevertheless, this form of research can be carried out independently of the need for access to government data and information sources as would be required in analysing government responses to white collar crime.

If empirical research in relation to corporate or white collar crime generally has received little attention, research into corporate crimes against the environment has received even less. Whilst such offences are sometimes included in perception studies

(for example, Wolfgang, 1980), there is little or no research directed essentially to analysis of the perception of populations to such crimes. Investigations of illegal corporate behaviour, as such, and Governmental response, has included environmental offences (Yeager, 1979; Hopkins, 1977). Nevertheless, information is scanty.

As indicated above, it is the amorphous notion of a corporation and more particularly corporate behaviour which poses a formidable challenge to criminologists. Corporate crime has been described as "organizational (sic.) crime occurring in the context of complex relationships and expectations among boards of directors, executives and managers, on the one hand, and among parent corporations, corporate divisions and subsidiaries, on the other" (Clinard and Yeager, 1980, p.17). In the context of corporate negligence, Fisse (1978, p.374) has suggested that communication breakdowns are "often attributable to corporate rather than merely individual negligence". Fisse illustrates his point by stating that - "(e)ngineering and construction disasters not uncommonly arise from oversights attributable more to overall collective deficiency than palpable individual fault."

1.3 Corporate Culpability and Attitudes of Personnel

The existence of a corporate character raises the issue of the relationship between corporate liability and the personal attitudes and culpability of senior personnel who effectively constitute those bodies. Whilst in certain cases it will be neither possible nor reasonable to attribute personal blame to individual members of a firm, in other cases such action will be defensible. In part, this paper endeavours to identify whether there may be a relationship between the personal views of senior industrial management and the potential for the commission of crimes, by their companies, against the environment. Conversely, it may be possible to identify a relationship between those personal views and governmental response to environmental crime.

2. THE CORPORATE OFFENCE AGAINST THE ENVIRONMENT

The commission of offences against the environment by corporations raises a variety of jurisprudential issues. The *mens rea* necessary for the commission of an offence obviously is significant in relation to corporations which, in fact, do not possess the ability to form any particular state of mind although their employees obviously possess that capacity. Related to this is whether or not the utilisation of penalties on the basis of their deterrence value is particularly relevant in relation to the corporation or, more particularly, how large the penalty has to be or to whom directed in order to condition the appropriate corporate behaviour.

2.1 *Mens Rea* - Strict Responsibility

In relation to environmental offences, there is a tendency to create offences for which responsibility is strict, in which case, *mens rea* becomes largely irrelevant. As Smith and Hogan (1978, p.79) put it -

"Crimes which do not require intention, recklessness or even negligence as to one or more elements in the *actus reus* are known as offences of strict liability ..."

The rationale of the creation of offences of strict liability in the context of pollution is provided by Lord Salmon in the United Kingdom case of Alphacell Ltd. v. Woodward (1972) 2. All. E.R. 475, in which his lordship said the following -

"If ... it were held to be the law that no conviction could be obtained ... unless the prosecution could discharge the often impossible onus of proving that the pollution was caused intentionally or negligently, a great deal of pollution would go unpunished and undeterred to the relief of many riparian factory owners. As a result, many rivers which are now filthy would become filthier still and many river which are now clear would lose their cleanliness."

Howard (1982, p.377) has suggested that the doctrine of strict responsibility is unnecessary and that it "serves no purpose not served equally well by the doctrine of negligence" and points out that the concept of negligence is less likely to work injustice where an individual has taken reasonable care but damage still occurs.

As Howard points out, however, the defence of reasonable mistake of fact has been developed by the High Court of Australia in relation to offences of strict responsibility (Howard, 1963; 1982). Consequently, the nature of the doctrine is not as draconian in Australia as it is in other common law jurisdictions.

It is of interest to note that the notion of strict responsibility has been confined largely to what are termed "regulatory offences", described as "minor statutory offences of a regulatory kind such as offences against statutes regulating the sale of food and drugs and alcoholic drinks" (Howard, 1982, p.377. For a list of offences regarded as regulatory 50 years ago, see Sayre, 1933, p.73). Nevertheless, the concept, as indicated by Lord Salmon, above, is being extended to offences arising from legislation fundamentally concerned with water and air quality and pollution by noise.

Of the legislation being examined in this report, none appears to require a particular mental element on the part of the alleged offender, or, if a corporate utility, its employees, although penal provisions under the Noise Control Act provide a defence of reasonable excuse.

The Water Resources Act states that -
"... a person shall not, unless he is authorised by or under this Act or any other Act, cause, suffer or permit any waste to come into contact directly or indirectly with waters." Although the term "cause, suffer or permit" may be subject to interpretation so as to infer the necessity for a particular *mens rea*, there is no statutory specification of a particular mental element.

Similarly, offences of strict responsibility are created by the Clean Air Regulations. For example, Regulation 11(1) of the Clean

Air Regulations, 1972-1978, is as follows:

"The owner or occupant of any premises shall not conduct any trade, industry or process, or operate any fuel burning equipment or industrial plant in or on such premises in such a manner as to cause, permit or allow the emission of air impurities in excess of the standard of concentration and rate of emission prescribed in the Third Schedule to these regulations in respect of such trade, industry or process, fuel-burning equipment or industrial plant."

The Noise Control Act, in relation to the provision of notices limiting the emission of noise from industrial premises, states that:
"a person ... shall not fail, without reasonable excuse, to comply with the notice" (s.10(6)). Identical phraseology is used in relation to the offence of not complying with the conditions of a Ministerial exemption (s.11(6)). It would appear that in relation to offences under this Act, the notion of strict responsibility is diluted by the defence of "reasonable excuse", in itself a statutory recognition, in part, at least, of the common law defence of reasonable mistake of fact.

2.2 Deterring Corporate Criminal Behaviour

The concept of deterrence is dependent for its validity upon a variety of factors including fear of legal sanction and, in some cases, fear of loss of reputation and social acceptability. Deterrence, in relation to the corporate entity, requires re-examination, for not only does the large corporation possess the capacity to either absorb heavy fines and/or pass them on to the consumer, the fear of loss of corporate reputation may not be as significant as the fear of loss of personal reputation. On this basis, the courts have endeavoured to introduce notions of personal liability for corporate offences. Legislation currently tends to stipulate directorial responsibility for corporate offences. Nevertheless, deterring forms of corporate behaviour is a vexed issue.

On the assumption that there is a trend towards regarding senior management as ultimately responsible at law for decisions resulting in offences against the environment, this study is designed to provide some indication of whether the commission of such offences is likely to be regarded as sufficiently serious to warrant care in industrial operations.

3. INDUSTRIAL POLLUTION AND REGULATORY APPROACHES IN SOUTH AUSTRALIA

Environmental degradation is as apparent in South Australia as elsewhere. In 1972, the Committee on Environment in South Australia was appointed "to inquire into and report on all aspects of pollution in South Australia, including pollution of land, sea, air and water ..." (Report of the Committee on Environment, May, 1972). The Committee commented as follows:

"... man in the more technologically advanced countries expects not merely to survive but to have readily available housing, transport, a diversity of foods and clothing, education, recreational space, entertainment of all kinds, a wide variety of consumer goods and many other amenities both material and cultural which bring interest and variety into life. The satisfying of these expectations makes great and growing demands on the supply of power, water and minerals and also requires the manufacture of a great many products which mainly are those of chemical and engineering technology. Those products will have limited life and will, after a period of use, become waste. The manufacturing processes themselves used to produce these goods, make also a great variety of waste products which include chemicals, metals, packaging materials, exhaust fumes, heat, noise, etc. If we now add to this accumulation of the waste that inevitably comes from a settled community, viz., sewage, food waste, etc., we obtain a gigantic accumulation of debris produced by the modern technological consumer society. Much of this debris is non-degradable and may be seen near any town or city, but even with that which is degradable, the scale of production is such that the environment cannot always meet the necessary recycling needs" (para. 2.6.5, p.7).

Holdgate (1979, pp.15-16) has contrasted pollution with other forms of environmental disruption such as eutrophication and over-cropping. He points out that whilst the latter forms of degradation can be clearly economically damaging to those responsible for the environmental harm, tending to some form of self regulation, the same cannot be said of "chemical and industrial stress". As Holdgate says of polluting industries, "these industrial processes do not depend for their benefits upon preserving the productivity

of ecosystems. Indeed, the replacement of biologically productive soil by unproductive substrata of concrete or stone is a normal feature of industrial expansion into 'green field' sites. There is thus no direct feedback working to restrain the impact of the stress" (p.16).

Holdgate's assumption of the self-regulating nature of such environmentally damaging activities as agriculture and sewage disposal is challengeable, particularly in the South Australian context where there is marked evidence of virtually absolute ecological disruption as a result of cropping and pastoralism over much of the State's arable land and mineral and energy exploration is, at times, carried out with almost total disregard for environmental impacts. What is not challengeable, however, is the assertion that no such self-regulating process applies to industrial waste (emissions and discharges), for the pollution relates to the common good - air and water[1].

The environmental problems associated with industrial development apply also to urban Australia where the growth ethic is as entrenched as it is in other western industrial societies (see Barwick, 1974). Each State boasts its centres for heavy industry. For example, Whyalla and Port Adelaide in South Australia, Wollongong and Newcastle in New South Wales and Geelong in Victoria. Each State capital incorporates industrial zones with appropriate concentrations of manufacturing processes.

The lack of any intrinsic capacity by industry to self-regulate clearly argues for external regulation, which inevitably falls to governments. Since 1972, in South Australia, a variety of legislation has been introduced to counter the increasing pollution loads in air and water and to control industrial and other noise. The legislation includes:

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[1] For a discussion of the economics of pollution of common resources such as air and water, see Hardin, "The Tragedy of the Commons", 1968.

- The Clean Air Regulations, 1969-1979; 1972-1978;
- Water Resources Act, 1976;
- Noise Control Act, 1976-1977.

The legislation is not simply penal in nature. In relation to the first two, it is directed to the issuing of licences or permits authorising discharges or emissions in accordance with the licence or permit. Under the Noise Control Act, exemptions may be obtained. Clearly negotiation with government departments is a precursor to the issuing of a licence or permit, or the granting of an exemption, and this stage is regarded as an essential element of regulation. Nevertheless, the ultimate control is penal sanction in the event of breach of the terms of the licence or permit, or for a breach of the conditions of an exemption in the case of noise control.

There have been few prosecutions of industry under any of the above legislation. This could be interpreted as meaning that either there is general compliance by industry with environmental protection legislation in South Australia or that there is a reluctance to prosecute. A more likely situation, however, is that much pollution reduction is achieved through negotiation with individual industries prior to licensing.

Nevertheless, the penalising of offenders against the environment plays a necessary role in contributing to satisfactory control. As one writer has pointed out, "(t)he criminal sanction does provide ... an incentive for compliance which reaches beyond other enforcement remedies" (Glenn, 1973, p.880). It is the ultimate weapon against a polluter even though it may rarely be used. Nevertheless, unless the sanction can be seen to be operating as an effective deterrent, its utility may be questioned. Infrequent prosecutions may devalue its effect. More particularly it must be questioned whether companies are deterred at all by the possibility of even the maximum fine, bearing in mind, for example, that the maximum fine under the Water Resources Act (S.A.) is $10,000, the Clean Air Regulations $2,000 and $200 per day for a continuing offence and the Noise Control Act $5,000.

The matter is compounded by the difficulty of reconciling the notion of corporate entity with theories of deterrence.

4. MEASURING ATTITUDES TO CRIME - METHODOLOGIES PURSUED TO DATE

In recent years, there has been a concerted attempt by social investigators, particularly criminologists, to develop a measurement of crime seriousness.

The benchmark study by Sellin and Wolfgang (1964) was based upon the work of S.S. Stevens in the area of psychophysics. Sellin and Wolfgang wished to measure the seriousness of criminal behaviour and developed a scale of offence seriousness based upon a quantification of the attitudes of groups of individuals to various offences. The authors make the following comment:

"The criteria for determining degrees of seriousness of crimes must ultimately be determined by someone's or some group's subjective interpretation. If weights were assigned by a few criminologists engaged in the task of constructing a mathematical model, we should regard this as an arbitrary determination. But if judgements were elicited from theoretically meaningful and large social groups, consensus might produce a series of weighted values that would have validity. ... Although no external objective criteria, beyond people's judgements, exists for producing a continum of seriousness of delinquent acts, there are objective methods of measurement which have been developed into psychological "laws" relating two different kinds of psychological scales. These methods can be applied to such non-physical dimensions as the graded seriousness of deviant behaviour."

The method adopted to acquire a satisfactory measurement was basically as follows:

Using 141 scenarios or stimuli representing a range of criminal offences, various groups of individuals were requested to assign a score to each offence which represented their opinion as to their respective seriousness. It will be noted that Sellin and Wolfgang requested respondents also to categorise offences according to seriousness, as well as applying a score.

Having acquired the scores, they were then averaged and each average seriousness rating was expressed as a ratio of the average seriousness rating of the larceny of one dollar. For example, if larceny of one dollar has an average score of 15 and minor assault 45, the former has a scale score of 1, the latter, 3. By this method, a scale could be developed using the least serious perceived offence as a base of 1 with all other offences.

It should be noted that Sellin and Wolfgang adopted the magnitude rather than category indices for developing a scale of seriousness. Their choice was based upon presumed theoretical strengths of the magnitude indice, although this assumption has been disputed (Bridges and Lisager, 1975).

The Sellin and Wolfgang study was developed on the basis that it would and should be subject to replication. Such replication has occurred in a variety of countries including Canada, England, Taiwan and Puerto Rico (see Figlio, 1975, p.189). As recently as 1980, the methodologies were replicated in studies carried out by Kvålseth. It should be noted that in many cases the number of offences judged varied.

Clearly the technique may be used for assessing perceived seriousness of particular offences or classes of offences, as this study is intended to do. Such evaluations have been undertaken in Australia in relation to the offence of drunken driving. Pocock and Landauer have used a scaling technique to assess the attitude of non-offenders (1979), barristers and solicitors in New South Wales (1979) and drunk-driving offenders (1980) to the offence of drunken driving.

The methodology adopted was, to all intents and purposes, a replication of the methodology adopted by Sellin and Wolfgang.

It is of interest to note, however, that Pocock and Landauer reach the conclusion from one of the studies that "driving under the influence of alcohol, even if no injury occurs, was considered .... to be a major offence." In the context of the study, this is no doubt correct. However, the magnitude scores applied by respondents are likely to be relative to the facts, however brief, presented in

each scenario. Each offence may, however, occur as a result of a myriad of fact situations, some of which, although constituting offences, may be regarded as trivial, others of which may be regarded as grave. For example, theft (see Pocock and Landauer, 1978, p.143) of a disused lawnmower from a neighbour's tool shed is clearly not as significant as theft of expensive electronics equipment from a university laboratory. Similarly, embezzling $50 to pay for medical bills for a sick relative is unlikely to be regarded as seriously as embezzling $50,000 for gambling purposes. Driving under the influence of alcohol at 30 kph on a quiet side street at 3.00 a.m. on a Sunday with a blood-alcohol content of 0.09 is not as serious as driving at 80 kph through a city's main thoroughfare at 8.00 p.m. on a Saturday with a blood-alcohol reading of 0.25.

It may be, therefore, that unless some attempt is made to reduce the fact situations to a level of qualitative comparability in the context of each offence, the best that can be said is that *given the fact situations presented to the respondents,* certain results as to the perceived degree of seriousness were obtained.

In this study, some attempt has been made to ameliorate the effect of the above difficulty upon the results. The degree of success with which this was done is referred to below (see Section 5).

5. THE METHODOLOGY ADOPTED

For this study, a series of twenty scenarios was developed (see Appendices I and II). In an endeavour to establish whether the perceived seriousness of offences *per se* could be assessed, two sets of questionnaires were developed. Each offence appeared in each of the two questionnaires, but the seriousness of the offences was varied. For example:

Questionnaire A: A company owning 12 cinemas fails to install adequate emergency exits in three of them.

Questionnaire B: A company owning 12 cinemas fails to install adequate emergency exits in any of them.

Each offence appeared on each questionnaire but the variations of each were randomly selected and allocated to a questionnaire to avoid each questionnaire containing scenarios with the same relative degree of seriousness.

The hypothesis to be tested was that respondents would rate or score environmental offences similarly on both questionnaires, despite the variation in relative seriousness of the offences described. In other words, an attempt was made to establish whether respondents broadly conceptualise as to the relative seriousness of offences, *per se*, or whether the facts constituting each offence are the guiding criteria for assessment of perceived seriousness.

This approach is regarded by the researcher as useful. However, it would have been more valuable, in order to provide a sounder basis for comparison between the responses to questionnaires, if a constant were provided: that is, either all environmental offences remained identical in questionnaires A and B or the "non-environmental" offences remained identical. Any replication of this study should endeavour to remedy this deficiency.

The scenarios largely related to corporate offences but, for the sake of completeness, offences such as common assault and personal

fraud were included. Within the twenty scenarios appeared three offences which were "environmental" in nature. These were broadly: pollution of a river with sump oil; the sale of canned fish contaminated with mercury, and the emission of excessive levels of industrial noise.

A covering letter explaining the basis and rationale of the study and a brief set of instructions was included with each questionnaire administered (see Appendices III and IV). Respondents were requested to assign a numerical score to each offence depending upon his or her view of its seriousness. As a benchmark, it was stated that travelling in a vehicle at 75 kph through a 60 kph speed zone would attract a score of 10. Respondents were asked to use this as a base score to assist in rating the other offences. It was indicated that respondents were permitted to award as high or low a score as they wished but were not allowed to award a negative score.

The two categories of questionnaire were labelled 'A' and 'B' and equally allocated at random to the finally identified sample.

Administering the Questionnaire

The questionnaire was administered to one hundred of the major manufacturing industries in South Australia. It is likely that the most appropriate criterion to identify the top 100 would have been annual turnover. However, obtaining this information would have been a time-consuming and complex task with no guarantee of obtaining accurate information in all cases. Consequently, it was decided to establish the sample by reference to numbers of personnel employed.

In this respect, the study was assisted by listings of industries published by the South Australian Department of Trade and Industry (see Manufacturing Industry Directory, 1981). In order to obtain a sample of 100, regarded as statistically acceptable, companies were chosen which employed a range of between 8,000 and 150 personnel. It is conceded that at the lower end of the range it is unlikely that the companies could be regarded as large but there is, in fact, a relatively small industrial sector in South Australia from which to choose a sample.

The broad industrial classification of those companies selected is as follows:

- Engineering;
- Producers of foodstuffs and beverages;
- Manufacturers of clothing or textiles;
- Manufacturers of synthetics;
- Miscellaneous (for example, asbestos manufacturers, lens manufacturers).

Initially, the project co-ordinator contacted each company by telephone. It was not always possible to speak with the most senior executive (for example, managing director), neither was it possible in terms of good relations and efficiency to dictate with whom the initial telephone conversation was to be held. Consequently, it was often the case that the senior personnel officer was the initial contact and respondent. However, in a number of instances, the secretary of the company or managing director expressed a desire to personally complete the questionnaire.

Having made the initial contact, explained the rationale of the study and established whether the company was willing to assist, the conversation was followed with a visit from a female research assistant. The study was explained in more detail but the following information was not conveyed:

- that the study was directed to corporate offences;
- that the attitudes to offences against the environment were of primary importance.

Generally the company representatives were told that this study was one stage in a range of surveys which would eventually include the general public and the government sector.

Confidentiality was assured and the respondent was not obliged to identify either the company or its activities. It was also pointed out that a company view was not being sought; rather the personal attitudes of senior executives was required.

Having elaborated upon the study and answered any questions, the research assistant left the questionnaire with a self-addressed stamped envelope and requested the respondent to complete and return.

It should be pointed out that industries located outside Metropolitan Adelaide were not contacted due to excessive travel costs entailed. Consequently, heavy industries such as BHP (Whyalla) and BHAS (Port Pirie) are omitted from the study. Similarly, the pulp and paper manufacturers (Apcel Pty. Ltd. and Cellulose Australia Ltd.) in the south-east of the State are excluded.

The response from the 100 executives who agreed to complete the questionnaire was 92%. One of the questionnaires was returned too late for inclusion in the analysis. Within the deadline for receipt of responses, 47 responses to questionnaire A; 44 to questionnaire B.

Analysis of Returns

A computer programme was run to analyse the returns in the following way.

For each category of questionnaires and for the total, the following calculations were made:

- The ranking for each offence (scenario) by numbers of respondents;
- The sum of the scores applied by the broad categorisations of industry for each offence as well as the mean, the standard deviation and the variance for each category;
- The ranking of each offence by the number of respondents who so ranked with the summed score for that ranking, the mean, standard deviation and variance;
- A similar calculation to the above, but by category of industry (see above);
- The mean rank and standard deviation for each offence (scenario) by total number of respondents;
- For the purpose of the study, the mean (for rank and score) and standard deviation (for rank and score) derived from individual responses were regarded as the most important data.

TABLE I

QUESTIONNAIRE A - RESULTS

OFFENCE [1]	MEAN RANKING	STANDARD DEVIATION	ORDER OF RANK	MEAN SCORE	STANDARD DEVIATION	ORDER OF SCORE	RELATIVE SERIOUSNESS
Sausages	13.57	3.98	14	111.96	189.33	16	2.2
Credit	15.37	4.00	18	173.78	734.91	14	3.4
Cinema	5.83	4.27	3	495.15	1519.2	4	9.6
Odometer	14.68	3.30	16	96.11	170.89	18	1.9
Award Rate	10.24	3.93	11	208.71	446.03	12	4.1
Licensing Laws	16.80	3.06	20	80.83	196.63	19	1.6
False Advertising	10.32	3.61	12	251.89	746.92	8	4.9
Bribery	7.28	3.20	6	244.13	450.96	9	4.7
Livestock	12.11	4.84	13	215.33	506.76	11	4.2
False Statements	8.81	4.02	9	255.19	512.18	7	5.0
Face Cream	7.06	3.17	5	383.6	704.5	6	7.5
Bankcard	15.21	4.19	17	157.81	439.97	15	3.1
Sump Oil [2]	7.55	3.81	7	426.45	1023.94	5	8.3
Workers Compensation	9.02	4.36	10	201.64	371.25	13	3.9
Fruit Fly	8.47	4.31	8	229.17	500.34	10	4.5
Building Regulations	3.57	2.95	1	564.68	1547.82	2	11
Mercury [2]	6.28	4.38	4	574.85	1606.15	1	11.2
Assault	16.25	4.77	19	51.4	84.4	20	1
Brakes	4.02	2.94	2	522.79	1495.77	3	10.2
Noise [2]	14.04	3.41	15	111.66	192.10	17	2.2

[1] For a more detailed description of the scenarios, see Appendix I.

[2] Specifically environmental offences.

TABLE II

QUESTIONNAIRE B - RESULTS

OFFENCE[1]	MEAN RANKING	STANDARD DEVIATION	ORDER OF RANK	MEAN SCORE	STANDARD DEVIATION	ORDER OF SCORE	RELATIVE SERIOUSNESS
Sausages	14.65	3.61	19	48.14	79.13	15	1.74
Credit	13.77	3.93	16	53.23	92.66	14	1.92
Cinema	3.79	2.43	2	153.52	245.00	3	5.53
Odometer	13.11	3.83	13	62.27	103.83	11	2.25
Award Rate	12.60	4.07	12	64.30	102.37	12	2.32
Licensing Laws	17.16	3.31	20	27.70	37.12	20	1
False Advertising	13.93	3.49	15	42.45	44.49	19	1.53
Bribery	6.86	3.35	4	105.09	118.90	10	3.79
Livestock	11.79	4.24	11	65.07	94.73	13	2.35
False Statements	7.59	3.51	6	120.5	176.99	4	4.35
Face Cream	7.07	3.50	5	106.25	147.99	7	3.84
Bankcard	13.57	3.70	14	47.52	53.11	18	1.72
Sump Oil[2]	8.91	4.16	8	80.41	127.44	9	2.91
Workers Compensation	8.93	4.80	9	91.00	131.41	8	3.28
Fruit Fly	7.84	3.52	7	108.80	168.60	5	3.93
Building Regulations	2.09	1.76	1	272.82	412.05	1	9.85
Mercury[2]	10.45	5.12	10	91.64	165.46	6	3.31
Assault	14.07	5.16	18	44.28	59.29	17	1.6
Brakes	4.07	2.40	3	171.5	314.77	2	6.19
Noise[2]	13.98	3.75	17	47.88	60.20	16	1.73

[1] For a more detailed description of the scenarios, see Appendix II.

[2] Specifically environmental offences.

TABLE III

QUESTIONNAIRE A: MEAN SCORE - ADJUSTED. EXTREMES OMITTED

(n = 40 - 42) Median Split - Punitiveness

OFFENCE[1]	MEAN SCORE (ADJ.)	ORDER	ORDER UNADJ.	MEAN MEDIAN SPLIT	ORDER	MEAN MEDIAN SPLIT	ORDER
Sausages	4.72	14	16	1.42	17	7.43	15
Credit	3.63	17	14	1.19	18	5.35	18
Cinema	11.20	3	4	3.07	4	20.15	3
Odometer	4.17	15	18	1.47	16	7.44	14
Award Rate	5.96	13	12	2.40	12	9.53	13
Licensing Laws	2.35	20	20	1.04	19	3.72	20
False Advertising	6.04	11	8	2.65	10	9.78	12
Bribery	8.54	8	9	3.16	3	15.05	8
Livestock	6.38	12	11	1.67	14	11.32	11
False Statements	8.59	7	7	2.63	11	14.54	9
Face Cream	9.00	6	6	2.84	5	15.17	6
Bankcard	3.43	16	15	1.47	15	5.58	17
Sump Oil[2]	9.93	5	5	2.72	8	17.13	5
Workers Compensation	7.19	10	13	2.75	7	12.07	10
Fruit Fly	8.63	9	10	2.72	9	15.13	7
Building Regulations	13.33	1	2	3.61	1	23.05	1
Mercury[2]	10.92	4	1	2.80	6	19.05	4
Assault	2.53	19	19	1.03	20	4.03	19
Brakes	12.83	2	3	3.44	2	22.22	2
Noise[2]	3.85	18	17	1.89	13	6.00	16

[1] For a more detailed description of the scenarios, see Appendix I.

[2] Specifically environmental offences.

TABLE IV

QUESTIONNAIRE B: MEAN SCORE - ADJUSTED. EXTREMES OMITTED

(n = 36 - 37) Median Split - Punitiveness

OFFENCE[1]	MEAN SCORE (ADJ.)	ORDER	ORDER UNADJ.	MEAN MEDIAN SPLIT	ORDER	MEAN MEDIAN SPLIT	ORDER
Sausages	2.17	19	15	1.32	16	3.24	19
Credit	2.89	15	14	1.26	18	4.27	16
Cinema	6.87	3	3	2.69	2	11.29	2
Odometer	2.91	14	11	1.38	13	4.52	14
Award Rate	2.76	16	12	1.54	10	4.29	15
Licensing Laws	1.57	20	20	1.00	20	2.17	20
False Advertising	2.62	18	19	1.29	17	3.89	17
Bribery	5.16	4	10	2.01	5	8.47	4
Livestock	3.10	11	13	1.54	11	4.95	12
False Statements	5.02	5	4	1.95	7	7.92	5
Face Cream	4.86	6	7	2.07	4	7.80	6
Bankcard	3.95	12	18	1.36	14	5.03	11
Sump Oil[2]	3.90	9	9	1.68	9	5.78	10
Workers Compensation	4.25	8	8	1.89	8	6.75	8
Fruit Fly	4.59	7	5	1.96	6	7.37	7
Building Regulations	8.43	1	1	3.17	1	13.98	1
Mercury[2]	3.42	10	6	1.53	12	5.90	9
Assault	3.00	13	17	1.17	19	4.92	13
Brakes	6.95	2	2	2.42	3	11.24	3
Noise[2]	2.64	17	16	1.36	15	3.78	18

[1] For a more detailed description of the scenarios, see Appendix II.

[2] Specifically environmental offences.

Information as to the perceived seriousness of the offences in each questionnaire is derived from two sources of data; the scores attributed by individuals to each offence and the respective rankings provided by ordering those data. Mean scores and mean rankings are provided by dividing totals by numbers of respondents in the case of each scenario. The results appear in Tables I and II. The mean scores have been numbered 1 - 20 in descending order of seriousness. The mean rankings have been similarly numbered. Tables I and II provide, in relation to questionnaires A and B respectively, the following information for each offence:

- mean ranking, standard deviation and order of rank;

- mean score, standard deviation, order of score, relative seriousness.

In relation to mean scores, relative seriousness has been calculated by dividing each mean score by the lowest mean score (see Sellin and Wolfgang, 1964, p.288). Bearing in mind the fact that extreme individual scores in some cases distorted calculations of mean scores, adjustments were subsequently made by which all scores for each respondent were reduced to a range of 1-50. Both adjusted and unadjusted scores have been tabulated and analysed. Any falling outside this range were, for the purpose of this approach to data analysis, rejected. It was then possible to further standardise each respondent by reducing to a basic minimum score of one. This was achieved by dividing the lowest score on each questionnaire into each other score on that questionnaire.

A median split was then produced for mean scores for each offence. Consequently, some measure of relative punitiveness of respondents could be obtained (see Tables III and IV).

Mean rankings derived from questionnaires A and B are illustrated in Figures i and ii respectively, in descending order of seriousness. Ninety-five per cent confidence intervals have been hatched for each ranking. It is believed that, in this study, mean rankings are more reliably analysed than mean scores, for no limit was set for scoring by respondents in order to identify the level of punitiveness of

respondents. It was considered that the provision of a benchmark was adequate. This did not prove to be the case. As indicated above, an attempt has been made to adjust mean scores by omitting obviously extreme scoring for particular offences.

6. RESULTS

6.1 Questionnaire A: Results - Environmental Offences

Results obtained for the environmental offences are as follows:

TABLE V

Offence	Mean Ranking	Standard Deviation	Order of Rank	Mean Score	Standard Deviation	Order of Score	Relative Seriousness
Sump Oil	7.55	3.81	7	426.45	1023.94	5	8.3
Mercury	6.28	4.38	4	574.85	1606.15	1	11.2
Noise	14.04	3.41	15	111.66	102.1	17	2.2

6.2 Questionnaire B: Results - Environmental Offences

Results obtained for the environmental offences are as follows:

TABLE VI

Offence	Mean Ranking	Standard Deviation	Order of Rank	Mean Score	Standard Deviation	Order of Score	Relative Seriousness
Sump Oil	8.91	4.16	8	80.41	127.44	9	2.91
Mercury	10.45	5.12	10	91.64	165.46	6	3.31
Noise	13.98	3.75	17	47.88	60.20	16	1.73

Figure i: QUESTIONNAIRE A - MEAN RANKING OF OFFENCES

Descending order of seriousness; 95% confidence intervals

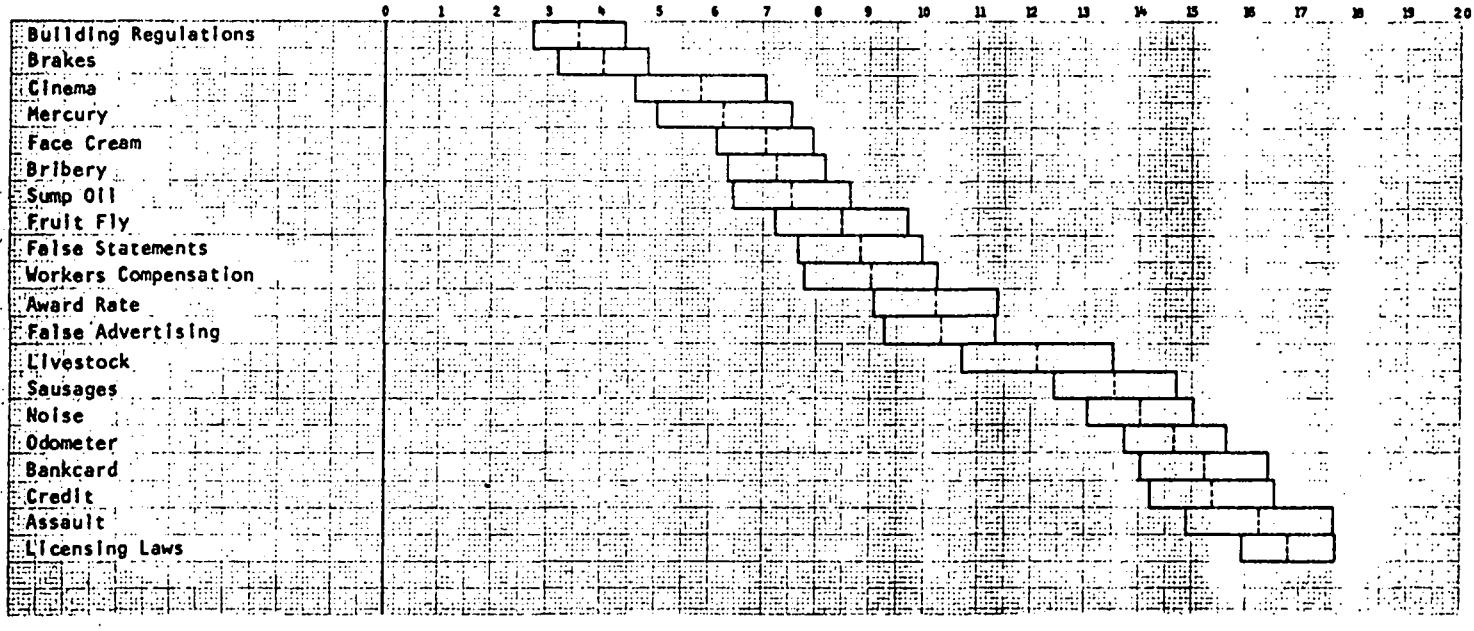
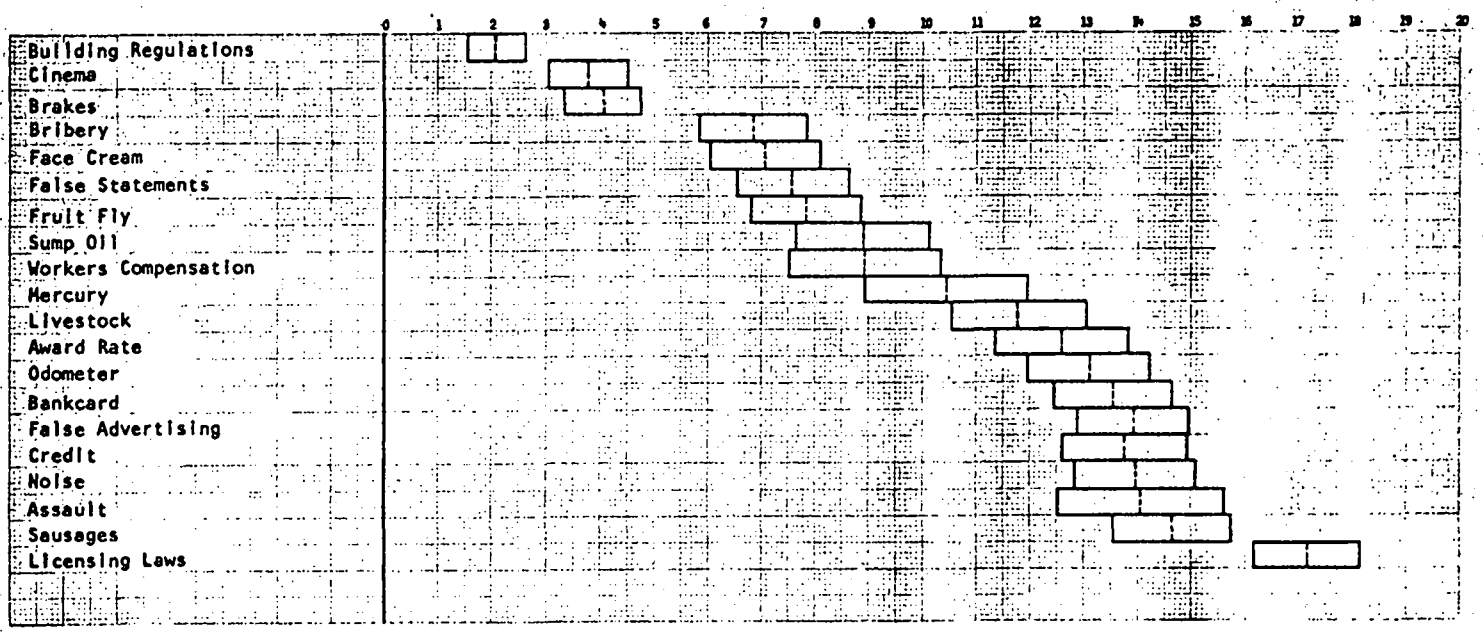


Figure ii: QUESTIONNAIRE B - MEAN RANKING OF OFFENCES

Descending order of seriousness; 95% confidence intervals



7. ANALYSIS

The results have been analysed in terms of mean ranking, mean score and relative seriousness. Questionnaires A and B are separately analysed.

7.1 Questionnaire A - Analysis

The mean rankings (see Table I) for the environmental offences were as follows:

Mercury contamination	6.28
Pollution of a Waterway	7.55
Excessive industrial noise	14.04

Comparisons with other offences ranked by respondents may be drawn as follows:

Mercury Contamination

- Mean Ranking

The offence of illegally importing a face cream which causes skin complaints to ten users ranked 7.06. Failure by a company to install emergency exits in three of its twelve cinemas received a mean rank of 5.83. In descending order of seriousness, the mean rankings of the three offences are numbered as follows:

Failure to install emergency exits	3
Mercury contamination	4
Illegally importing noxious face cream	5

Consequently, the offence of contaminating canned fish with high levels of mercury is regarded as a relatively serious offence.

The standard deviation for this offence was relatively high (see Table V), indicating a considerable degree of disharmony amongst respondents as to the seriousness of the offence.

- Mean Score

The mean adjusted score of 10.9232 for this offence (see Table III) compared with the offence of major water pollution (9.93) and failing to install adequate emergency exits in cinemas (11.2). The order of adjusted mean scores for the three offences was 4, 5 and 3 respectively. The order of unadjusted score (see Table III) for the offence of major mercury contamination was 1, indicating that certain respondents scored the offence extremely high. This is verified to some degree by the extreme of scoring between low and high punitive subjects (2.8 and 19.05, respectively).

- Relative Seriousness

Based on calculations observed from unadjusted scores (see Table I), the offence of selling canned fish with a mercury content three times that permitted by law had a relative seriousness value of 11.2. A value of 11.0 was obtained for the offence of injuring three people as a result of disregarding building regulations. Failure by a bus line to adequately maintain braking systems on all of its coaches received a value of 10.2 and failure by a company to install emergency exits in three of its cinemas attracted a value of 9.6.

The common denominator in all these cases appears to be the risk of serious personal injury to the public and in this respect the results may be regarded as unremarkable.

Pollution of a Waterway

- Mean Ranking

This offence, which entailed a large discharge of pollutant and significant downstream damage to flora and fauna, received a mean rank of 7.55. It compares with the offences of receiving bribes (mean rank 7.28), a breach of fruit fly regulations (mean rank 8.47) and the offence of illegally importing a noxious face cream (mean rank 7.06). Rank order for these offences is as follows:

Illegally importing noxious face cream	5
Receiving bribes	6
Polluting a waterway	7
Breaching fruit fly regulations	8

There was a reasonable degree of consensus between respondents as to the seriousness of the offence (S.D. 3.81).

- Mean Score

The mean score for polluting a waterway was 426.45 with an order of 5. The higher score order compared with rank order is explained by high scoring from individual respondents. The adjusted mean score was 9.93, also with an order of 5.

- Relative Seriousness

This offence received a relative seriousness rating of 8.3. This compared with the offence of illegally importing a noxious face cream (7.5) and, possibly, failing to install appropriate emergency exits in a cinema (9.6).

Excessive Emission of Industrial Noise

This offence entailed an extreme emission of industrial noise in a mixed residential/industrial area late at night. The level of noise emission was stated in the scenario to be three times that permitted by law. Calculated from the Industrial Noise Control Regulations (S.A.), the actual decibel count would be 150 d B(A); five decibels above the threshold of pain and 20 decibels above the noise levels generated by a jet aircraft taking off.

- Mean Ranking

The offence received a mean ranking of 14.04 which compares with the offences of contracting to purchase sausages with an illegally high

fat content (13.57) and tampering with a motor vehicle odometer to effect a sale (14.68). The degree of agreement amongst respondents was considerable (S.D. 3.41).

- Mean Score

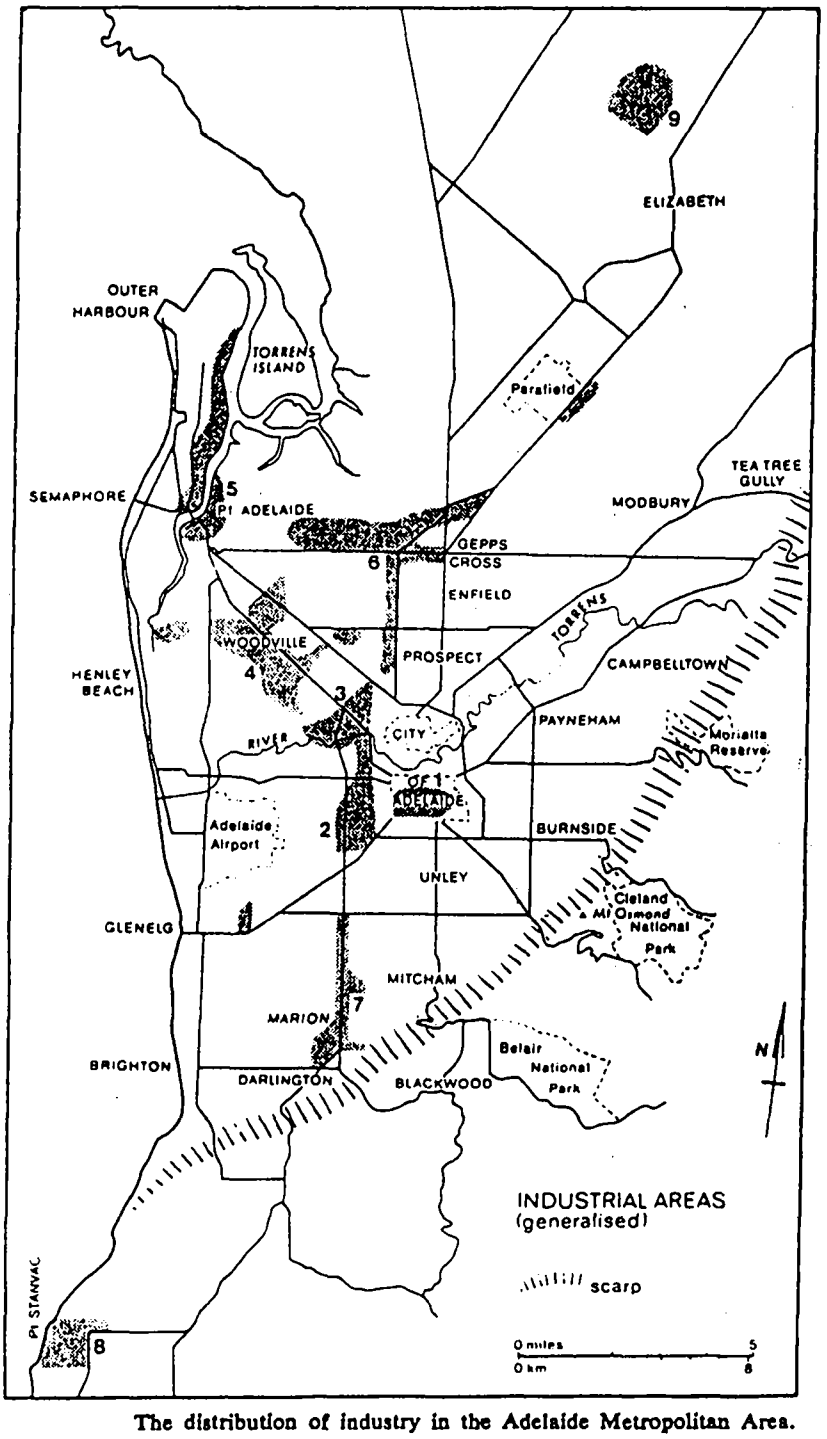
The mean unadjusted score for this offence was 111.66 with an order of 17. The mean adjusted score was 3.85 with an order of 18.

- Relative Seriousness

The relative seriousness rating for this offence was 2.2. Understandably, this compared with the offence of including an illegally high fat content in sausages (2.2) and tampering with an odometer (1.9).

Of all the environmental offences included in the scenarios, this result was perhaps the most remarkable. As stated above, the level of noise emission was extreme. The result may be explained in a number of ways. It is conceivable that in the population, generally, there is little comprehension of noise levels, measurements and thresholds. Consequently, stating that emission of noise occurs at a level three times that permitted by law may result in no conceptualisation of the amount of noise and the relative discomfort arising. It may also be the case that industrial executives regard noise generally as a concomitant of industrial practice and consequently perceive noise pollution as something to be borne by society (or a sector of it) as an externalised cost of production. It should be noted that most industry is located in defined urban areas (see Figure iii) and it is, therefore, a particular element of a population which is likely to be discomforted by environmental pollution of this nature. It would be of value to establish what proportion of executives who responded live in mixed residential-industrial areas and which live in exclusively or largely residential suburbs.

Figure iii



The distribution of industry in the Adelaide Metropolitan Area.

Source: Report of the Committee on Environment in South Australia, 1972

It has been stated that "man has been aware that excessive noise is an unsociable and unnecessary aspect of community life" (University of Adelaide, University of Southampton, 1979, p.3.5). It is clear, however, that annoyance caused by noise is to a large extent subjective and experiential. The authors of the publication referred to above examine work by Rice (1974) in which subjects are asked to judge different noises. Although an examination of the process is "still speculative", the authors state that "it seems to indicate that in a laboratory situation, subjects produce judgements which are a combination of the stimuli presented together with a complex interaction of their experience with these noises in a real life situation" (University of Adelaide, University of Southampton, 1979, p.3.7).

Bell, Fisher and Looms (1978) indicate that the three most important factors in determining the effects of noise on behaviour are probably loudness, predictability and the ability or power to control the noise.

The complexity of issues involved with perceiving noise as a source of annoyance render it impossible to provide any confident explanation of the rating of the noise offence in this study.

Whatever the rationale of the response, it is clear that in questionnaire A (as in questionnaire B) excessive noise pollution is regarded as a minor offence.

7.2 Questionnaire B - Analysis

The mean unadjusted rankings for environmental offences were as follows:

Mercury contamination	10.45
Pollution of a waterway	8.91
Excessive industrial noise	13.98

Following the method of analysis of the results obtained through questionnaire A, comparisons with other offences appearing in the questionnaire may be drawn as follows:

Mercury Contamination

- Mean Ranking

The two offences ranked closest to the offence of mercury contamination (see Table II) are transporting livestock in overcrowded conditions (mean rank 11.79) and failing to purchase workers compensation insurance (mean rank 8.93). The order of rank of these offences was 11 and 9 respectively. Mercury contamination resulted in an order of rank of 10.

Despite the marginal nature of the contamination, the offence was not regarded as minor by those who responded to questionnaire B.

There was considerable disagreement as to the seriousness of the offence as indicated by a mean standard deviation of 5.12. Discrepancies in order of adjusted and unadjusted scores would indicate that some respondents regarded the offence as most serious and scored accordingly.

- Mean Score

The mean adjusted score (see Table IV) for mercury contamination in questionnaire B was 3.42. This compared with fraudulent use of a bankcard (3.05) and transporting livestock in poor conditions (3.10). The order of adjusted score for the offence was 10 with fraudulent use of a bankcard and transporting livestock in poor conditions having orders of 12 and 11 respectively. The order of unadjusted score for the offence of mercury contamination was 6. This discrepancy is explained by excessive penalties being applied by a small minority of respondents.

The order of scores for this offence (see Table IV) between high and low punitive subjects was 12 and 9 respectively. The adjusted scores between high and low punitive subjects were extreme (1.53 and 5.9, respectively).

- Relative Seriousness

Based on unadjusted score (see Table II), the offence of selling canned fish with a mercury content marginally higher than that permitted by law had a relative seriousness value of 3.31. The offence failing to purchase workers compensation insurance had a relative seriousness value of 3.28. Bribery attracted a value of 3.79 and localised pollution by sump oil, 2.91. Offences attracting the highest values were those which clearly imperilled human safety or caused injury, viz., failing to install sufficient emergency exits (5.53), failing to maintain brake systems on coaches (6.19) and disregarding building regulations (9.85).

Pollution of a Waterway

- Mean Ranking

Pollution of a waterway resulting in localised damage (mean ranking 8.91) compared with failing to purchase adequate workers compensation insurance policies (8.93) and, possibly, importing fruit in contravention of fruit fly regulations (7.84). The offence has a higher mean rank than that of mercury contamination (see above). Although not ranking with the personal injury (or risk) offences which have generally been ranked high, this environmental offence is not perceived by respondents as warranting low rank. A mean standard deviation of 4.16 would indicate some measure of disagreement as to the seriousness of the offence although adjusted and unadjusted orders of score (see Table IV) were identical.

- Mean Score

The mean adjusted score for this pollution offence is 3.9. Failing to purchase adequate workers compensation attracted an adjusted score of 4.25 and, as indicated above, mercury contamination 3.42. The order of adjusted score for the offence was 9, as was the order of unadjusted score.

The order of score between high and low punitive subjects was 9 and 10, respectively, although, again, the adjusted scores between high and low punitive subjects was extreme (1.68 and 5.78, respectively).

- Relative Seriousness

Calculation of relative seriousness based on unadjusted scores resulted in this offence receiving a value of 2.91. As indicated above, this compared with the offences of failing to take out adequate workers compensation policies (3.28) and mercury contamination (3.31).

Excessive Industrial Noise

- Mean Ranking

This offence attracted in questionnaire B a mean rank of 13.98. This compared with obtaining credit by misrepresentation (13.77) and common assault (14.07). It is also worth noting that contracting to purchase sausages with a fat content marginally higher than that permitted by law attracted a mean ranking of 14.65.

- Mean Score

The mean adjusted score for this offence was 2.64. The score was similar to that obtained by the offences of false advertising (2.62) and failing to pay the appropriate award rate (2.76). The order of adjusted score for the offence of emitting excessive noise was 17. In relation to the unadjusted score, the offence attracted an order of score of 16. The similarity would suggest that there was a general tendency away from extreme scores. The standard deviation *vis-a-vis* mean ranking was not notable (3.75).

Punitive subjects produced a mean score approximately three times higher than the less punitive (3.78 and 1.36, respectively).

- Relative Seriousness

This offence can be calculated to be 1.73 times more serious than a trivial breach of licensing laws. It is perceived to be similar in seriousness to common assault (1.6), fraudulent use of bankcard (1.72) and purchasing sausages with illegally high fat content (1.74). Generally the offence of marginally excessive noise pollution is regarded as not serious.

8. CONCLUSIONS

8.1 Contamination by Mercury

In questionnaire A, the offence of severely contaminating canned fish with mercury was regarded as a serious offence. It tended to be agglomerated with offences which entailed serious risk of personal injury to human beings. There was, however, considerable disagreement between respondents as to where the offence should be ranked according to its seriousness. There was an extreme of scoring between low and high punitive subjects.

In questionnaire B, a similar offence but with contamination only marginally higher than that permitted by law was not regarded as so serious, but nevertheless, was not regarded as a minor offence in the context of the questionnaire. There was considerable disagreement as to the seriousness of the offence as indicated by the mean standard deviation and discrepancies in order of adjusted and unadjusted scores.

Generally, therefore, mercury contamination of foodstuffs was regarded by the respondents at worst as a very serious offence and at best as one which could not be regarded as minor.

8.2 Pollution of a Waterway

In questionnaire A, the offence of polluting a waterway through the discharge of sump oil was not regarded with the same severity as offences which directly endangered human life or safety. Nevertheless, it was generally regarded as a relatively serious offence. It had a mean rank comparable with that of mercury contamination. There was a considerable degree of consensus amongst respondents as to the ranking of the offence.

The same type of offence, but with considerably less discharge and resultant damage, was not regarded by respondents to questionnaire B as warranting low rank. It had a higher mean rank than that of

mercury contamination in the same questionnaire. The results indicated some measure of disagreement as to the seriousness of the offence.

8.3 Excessive Industrial Noise

This offence, in questionnaire A, was not regarded as serious despite the very high emission level. There was considerable agreement between respondents that the offence could not be regarded as serious.

Very similar results were obtained in questionnaire B with a similar measure of agreement amongst respondents as to the seriousness of the offence.

8.4 General Conclusions as to Responses

Offences such as mercury contamination and pollution of waterways are generally regarded by senior executives in South Australian manufacturing industry as relatively serious crimes. This does not apply to the offence of emission of excessive industrial noise and raises the issues of why this environmental offence should be viewed differently from others. Such an apparent discrepancy may be attributed to the following factors:

- difficulty of comprehending the significance of stated noise levels;
- a tendency to regard such emissions as an incident of normal industrial practice;
- in the context of the "scenario" methodology, pollution and contamination offences being more tangible, therefore quantifiable, than noise offences.

Whatever the reasons, the perception amongst senior industrial managers of noise offences warrants further investigation.

8.5 Controlling Industrial Pollution

Indications from the survey are that senior management in South Australian industry regard environmental offences with risk of serious personal injury as not being trivial and, in certain instances, as serious. For various possibly idiosyncratic reasons, noise pollution was not regarded with the same gravity.

The level of industrial pollution in South Australia has encouraged the promulgation of statutes to control various forms of discharge and emission. It may be assumed that pollution still occurs, perhaps to a lesser degree, and that the recent legislation has not eradicated the problem. There would appear to be some dichotomy between the personal views of senior management and the actions of companies *vis-a-vis* the environment. This contradition may be variously explained away. Clearly, there must be an assumption that polluting activities are not usually deliberate. They are more likely to arise as a result of negligence, or 'necessity' in the instant case. It is also likely that the series of decisions which contribute to the polluting activities of particular corporations are made by a variety of personnel, each with different interests and which result in 'best-fit' solutions which may subordinate environmental considerations to economic and commercial factors.

What value, therefore, is the deterrent factor in ensuring that companies will comply with regulatory standards for emission and discharge? It would appear likely that on a personal basis, the fear of loss of reputation and a perception of certain environmental offences as serious may combine to dissuade individuals (in isolation) against the commission of environmental offences. The same arguments will not necessarily apply in the case of corporate offences, not because directors would not be embarrassed, but because the decision-making process cannot necessarily be attributed to particular individuals. Also, the penalties would have to be such that they become a significant economic burden.

The possible personal concern of senior management at environmental risk would appear to argue for close personal contact and educational approaches by administering agencies. It also vindicates the current

philosophy of negotiating appropriate licence conditions rather than attempting to coerce companies into conformity with the use of sanctions.

The inability to precisely identify the particular actions contributing to or causing environmental damage would support the maintenance of a doctrine of strict liability in relation to pollution offences. Nevertheless, the expressed personal concerns of senior management at actions which cause environmental damage may argue for introducing personal liability for directors, at least, of companies which pollute or contaminate in contravention of existing regulation.

9. FURTHER STUDIES

It would be valuable for this study to be replicated using samples of the public and of the public service, in independent studies. This would provide the opportunity to compare perceptions of different sectors of the community to the same offences.

However, to correct the flaw in the methodology adopted for this study (see page 15), it would be necessary to amend questionnaire B such that either the environmental offences, or remaining (non-environmental) offences, remained constant between the questionnaires.

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Type of Industry (optional - see accompanying letter) .....

.....

OFFENCE SCENARIOS - RATING SHEET SCORE

1. A major retail chain store contracts to purchase sausages with a fat content 25% higher than that permitted by law. ☐

2. An architectural firm wishes to obtain credit from a bank in order to open another office. The firm's finance section knowingly over-states its capital assets by 5%. ☐

3. A company owning 12 cinemas fails to install adequate emergency exits in three of them. ☐

4. A used motor vehicle firm with four major city outlets sells a sedan claiming it has travelled only 12,000 km. In fact, the firm has tampered with the odometer and the car has travelled 16,000 km. ☐

5. A large manufacturer of rubber goods pays its 100 employees 25% less than the award rate for a period of two years. ☐

6. For a period of 18 months, a chain of retail liquor stores continually breaks the licensing laws of a State by selling liquor outside the hours specified in its liquor license. ☐

7. An agricultural machinery firm operating three factories, manufactures a mechanised grape-harvester. The company claims in its advertising that the machine will harvest a minimum of 3 hectares of grapes per day. In fact, the machine is capable of harvesting only 0.5 hectares per day. ☐

8. A senior local government officer permits the development of high rise flats in return for personal payment from the applicant company. ☐

9. For a period of two years a livestock firm exports cattle overseas in grossly overcrowded conditions. ☐

10. A mining company states in its prospectus that it has discovered very high grade copper ore in the near north of South Australia. In fact, the ore is of only moderately high grade. Potential investors do not know this. ☐

11. A cosmetics distributor operates outlets in two States. For a period of 18 months, it imports a face cream containing a chemical which is a prohibited import. Ten users develop skin complaints attributable to the chemical. ☐

12. A twenty year-old woman fraudulently uses a bankcard to obtain $100 worth of clothes. ☐

13. An established firm of interstate hauliers deposits 5000 gallons of used sump oil into a major metropolitan river. Permanent damage occurs to reed beds, other vegetation and waterbirds for a distance of four kilometres downstream. ☐

14. A firm of engineering consultants with offices in three States fails for a period of 12 months to take out\workers compensation for its employees. ☐

15. A major supermarket chain imports fruit across State borders for a period of 3 years in contravention of fruit fly legislation. ☐

16. A building contractor constructs a building in disregard of building regulations. It collapses, injuring three people. ☐

17. A large fish processing company sells 20,000 cans of fish with a mercury content three times the level permitted by law. ☐

18. A forty year-old man, after an argument in a hotel, hits another man about the head with clenched fists. The latter suffers slight face cuts but requires no medical attention. ☐

19. An interstate bus line owning 20 coaches fails to adequately maintain the brake systems on all of its coaches. ☐

20. A sheet metal factory employing 70 workers operates in a mixed industrial/residential area. It continuously emits noise late at night at three times the level permitted by law. ☐

Type of Industry (optional - see accompanying letter) .....

.....

OFFENCE SCENARIOS - RATING SHEET

SCORE

1. An agricultural machinery firm operating three factories, manufactures a mechanised grape-harvester. The company claims in its advertising that the machine will harvest a minimum of 3 hectares of grapes per day. In fact, the machine is capable of harvesting only 2 hectares per day. ☐

2. An interstate bus line owning 20 coaches fails to adequately maintain the brake systems on two of its coaches. ☐

3. An architectural firm wishes to obtain credit from a bank in order to open another office. The firm's finance section knowingly over-states its capital assets by 25%. ☐

4. A used motor vehicle firm with four major city outlets sells a sedan, claiming it has travelled only 12,000 km. In fact, the firm has tampered with the odometer and the car has travelled 28,000 km. ☐

5. A large fish processing company sells 20,000 cans of fish with a mercury content marginally higher than that permitted by law. ☐

6. A twenty year-old woman fraudulently uses a bankcard to obtain $1,000 worth of clothes. ☐

7. A building contractor constructs a building in disregard of building regulations. It collapses, killing two people. ☐

8. A cosmetics distributor operates outlets in two States. For a period of 18 months, it imports a face cream containing a chemical which is a prohibited import. 100 users develop skin complaints attributable to the chemical. ☐

9. An established firm of interstate hauliers deposits 50 gallons of used sump oil into a major metropolitan river. Permanent damage occurs to reed beds and other vegetation in the vicinity of the discharge. ☐

10. A major retail chain store contracts to purchase sausages with a fat content 5% higher than that permitted by law. ☐

11. A company owning 12 cinemas fails to install adequate emergency exits in any of them. ☐

12. A large manufacturer of rubber goods pays its 100 employees 5% less than the award rate for a period of two years. ☐

13. A forty year-old man, after an argument in a hotel, hits another man about the head with clenched fists. The latter is concussed and suffers slight face cuts. He is hospitalised for two days. ☐

14. A senior local government officer permits the development of high rise flats in return for personal payment from the applicant company. ☐

15. For a period of 2 weeks, a chain of retail liquor stores continually breaks the licensing laws of a State by selling liquor outside the hours specified in its liquor license. ☐

16. A sheet metal factory employing 70 workers operates in a mixed industrial/residential area. It continuously emits noise late at night at a level half as much again as that permitted by law. ☐

17. A mining company states in its prospectus that it has discovered very high grade copper ore in the near north of South Australia. In fact, the ore is very poor grade. Potential investors do not know this. ☐

18. A major supermarket chain imports fruit across State borders for a period of six months in contravention of fruit fly legislation. ☐

19. A firm of engineering consultants with offices in three States fails for a period of 4 years to take out workers compensation for its employees. ☐

20. For a period of 2 months, a livestock firm exports cattle overseas in grossly overcrowded conditions. ☐

DAVID A. COLE
LL.B. (Adel.)

SOCIAL AND ENVIRONMENTAL PLANNING CONSULTANT

Cecil Mansions
1/118 Rundle Street
KENT TOWN SA 5067
Telephone (08) 42~~8308~~
428836

Dear

The enclosed questionnaire is the basis of a study being financed by the Australian Criminology Research Council.

The study is designed to identify the range of attitudes in our society to a variety of offences.

The study is in its first stage and constitutes an examination of the attitude of the private sector to various crimes. In turn, it is anticipated that the views of the public sector (public service) and a representative sample of the general public will be assessed.

It would be of value to the study to know the type of industry with which you are concerned. Whether you provide this information is entirely optional. Nevertheless, should you be prepared to do so, you are requested to fill in the space at the top of the Rating Sheet using the following categories:

Foodstuffs and Beverages
Clothing, Footwear, Leathergoods, etc.
Timber and Paper Products
Chemical, Drugs, Petroleum Products
Asbestos, Cement, Clay and other Mineral Products
Basic Metal Products
Fabricated Metal Products
Transport Equipment
Machinery and Equipment
Sporting, Optical, Photographic, Medical
Rubber, Plastic and Fibreglass
Jewellery, Ornaments and Trophies

Your assistance in completing this questionnaire would be greatly appreciated. Your anonymity is assured. Identification of the respondent is of no value to the study. The letter appearing in the top right-hand corner of the Rating Sheet simply identifies one of two sheets which will be used in the survey.

You are requested to complete the questionnaire and return it to the above address as soon as possible. A stamped addressed envelope is enclosed.

Thanking you in anticipation.

Yours faithfully,

D.A. Cole, LL.B.

INSTRUCTIONS

Please read through the following questionnaire before attempting to complete it.

You are presented with a series of scenarios which, in reality, constitute criminal offences.

You are requested to complete the questionnaire by assigning a numerical score to each offence, depending upon your view of its seriousness. You may assume that travelling in a vehicle at 75 kph through a 60 kph speed zone would attract a score of 10. You should use this as a base score to assist you in rating the other offences.

You may award as high or low a score as you wish to the described offences provided you do not award a negative score (e.g., -9).