



Judge Gordon Whiting

Environment Judge, New Zealand

Author's disclaimer – this paper is entirely my responsibility. The views I have expressed should not be attributed to nor visited upon my colleagues in the Court or anyone else for that matter. Nor do I in anyway claim that the views or speculations are original. They will have been voiced somewhere before, but I have attempted to focus them on the process with which I am familiar – the law.

A paper previously presented to the New Zealand Acoustical Society, at their Biennial Conference, November 2008

Introduction

[1] As a Judge of the Environment Court for the past 11 years, I have worked every day at the coalface of environmental law. Environmental law is not just the problem of lawyers and social scientists. Environmental decision-making, if it is to achieve an appropriate environmental outcome, needs input from a wide range of intellectual disciplines, including accountancy, anthropology, biochemistry, chemistry, design, economics, the engineering disciplines, geography, geology, information science, law, marketing, medicine, physics, planning, psychology, surveying, tourism, and zoology. In fact, I can not think of a discipline that does not have a role to play.

[2] As a Judge of the Environment Court, I have appearing before me almost every day experts from one field or another. Many of them are

of world-wide eminence in their intellectual fields. The experience is both interesting and rewarding. It is also humbling to receive evidence from minds often much more brilliant than mine. It is even more humbling, indeed sometimes daunting, to then have to adjudicate on any conflict. It is the range of intellectual disciplines that continually appear before our Court, that makes our work exciting and interesting.

[3] I therefore find it enjoyable when an organisation such as yours facilitates the chance to interact with environmental professionals. I am a great believer in environmental professionals interacting with each other. This in turn facilitates an “holistic” approach to sustainability, by bringing the numerous academic disciplines together. It has the effect of fostering collaborative multi-disciplinary pathways, by de-fragmenting what have, in the past, tended to be fragmented

areas.

[4] The management of natural and physical resources is a complex interaction between suppliers, users, human behaviour, social and cultural processes, economic forces and scientific research. This complex interaction is like a giant jigsaw puzzle. You cannot change the picture of the puzzle by focussing only on individual pieces. Wind turbines are a topical example. The turbines need engineering expertise to work out the mechanical and electrical requirements. But we also need to consider other things, including:

- the value of the landscape;
- cultural issues;
- the noise impact;
- alternative energy sources or using present energy resources efficiently; and
- other environmental impacts.



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[5] Environmental law is the legal framework within which we have to work. For our purposes, it is the relevant legislation and Court-made concepts that we have to apply in the decision-making process. Environmental law has come a long way over the past 50 years. It was not that long ago that large infrastructural and energy developments could be authorised by the stroke of a pen. In 1958, the Tongariro Power Development was all done on the strength of two orders in Council. It involved:

- the diversion of the headwaters of the major rivers sourced from the flanks of Mt Ruapehu and Mt Tongariro – the Whanganui, the Whangaehu and the Tongariro;
- the creation of dams and lakes, and kilometres of tunnels and canals;
- the construction of two hydro power stations; and
- the construction of the township of Turangi.

There was not one word of public participation allowed for.

[6] On the other hand, its consenting process involved 51 witnesses, 25 sitting days and five days of site visits¹. Some say that the stroke of the pen was more efficient. Others say – at what cost? Some say the hearing process is inefficient. Others say it is necessary to sort out what are complicated issues. There is thus a tension between the desire for efficiency and economic expediency on the one hand, and the time needed for informed decision-making on the other. It is this tension which underlies the fabric of environmental law.

[7] Environmental law raises two important issues:

(i) How far should the law be expected to promote the environment ahead of individual personal rights and property rights? Environmental law does not fit comfortably with traditional English law jurisprudence – where the Court's principal role is to protect an individual from the excesses of the State.

This leads to the second issue:

¹ See Ngati Rangi Trust and Ors v Manawatu-Whanganui Regional Council, Environment Court A067/2004.

(ii) Environmental law is incorporated within public law as opposed to private law. An important principle of public law is that an individual's interest should only be suppressed if it is in the public interest. This raises the question – to what extent is the public interest important when considering the environment? In other words, where is the threshold when private rights give way to public interest?

[8] There is a real difficulty in developing legal principles which apply environmental ethics and values. Environmental law juxtaposes two difficult concepts:

- the environment; and
- the law.

The environment is physical, chemical and biological. The laws of nature are constant: for example, the law of relativity. They reflect values that are intrinsic to it.

The law is not constant. It depends on the society that creates it. It is a fiction of the human intellect. The law reflects the values of society. These can change over time. Values underlie the law, but are extrinsic to it.

[9] As Professor Fisher states:

It is thus a challenging exercise to make rules which deal with interactions, not only among humans, but also between humans and the several other million species sharing the earth².

[10] Resource allocation decisions give rise to issues that reflect a conflict, in the main, between economic and environmental objectives. This conflict tends to polarise minority groups on both sides. On the one extreme we find writers such as Rachael Carson who, in 1962, wrote a celebrated book "The Silent Spring". A couple of extracts from that book reflect the view of environmentalists:

As man proceeds towards his announced goal of the conquest of nature, he has written a depressing record of destruction, directed not only against the earth he inhabits but against the life that shares it with him.

...

Over increasingly large areas of the United States, spring now comes unheralded by the

² See Fisher, Environmental Law, Text and Materials, 1993, page 1.

return of the birds, and the early mornings are strangely silent, where once they were filled by the beauty of bird song.

[11] The depressing record of destruction itemised in “The Silent Spring” applied to the United States of America. However such destruction is not confined to the United States. It is widespread around the world, including New Zealand.

[12] In Queen Charlotte Sound on 17 January 1770, Joseph Banks, a naturalist on Cook’s first expedition to the south seas, caught a last vibration of primordial New Zealand – a land where bush grew to the waters edge and the trees were filled from ground level to canopy with copious bird and insect life. Banks wrote in his diary:

This morn, I was awakd by the singing of birds ashore, from whence we are distant not a quarter of a mile, the numbers of them were certainly very great who seemed to strain their throats with emulation... Their voices were certainly the most melodious wild musick I have ever heard, almost imitating small bells, but with the most tunable silver sound imaginable.

[13] For all its exuberance and beauty, one of Banks’ successors would write:

That dawn chorus was a mere echo of what could have been heard 400 years before, for by 1770 around half of New Zealand’s bird species were already extinct. Gone were the great booming calls of the moa, the screaming, mewling and cawing of a billion sea birds (which even in Banks’ day were banished from the main islands), and the unknowable sounds of the native ducks, giant geese, and yard-high flightless rails, native crows and giant harriers.

[14] These creatures were gone, along with the flightless wrens and the giant eagles, because the first human inhabitants had carried with them to New Zealand rats and dogs, and the ability to hunt and to make fire. And further extinctions would be triggered by the very visit that allowed Banks to hear that still impressive remnant of the dawn chorus. Thirty two New Zealand bird species disappeared after the arrival of New Zealand’s first human inhabitants; another nine would follow as a result of European migration.

[15] Such is the tide that environmentalists attempt, sometimes ardently, to stem.

[16] At the other extreme, we find politicians such as the late President Ronald Regan, who trumpeted big business, and who said in a speech to the Indiana Congress in 1962:

If the Federal Government had been around when the creator was putting his hand to this State, Indiana wouldn’t be here. It would still be waiting for an environmental impact statement.

Such cynicism underlies the clarion call of those who advocate progress at all costs. A cynicism that echoed today – including in New Zealand.

[17] Because of the polarisation, Parliament tends to be seen to intervene to a minimum extent, and then often with mere timidity. The Courts have thus been given the role, not only of developing environmental jurisprudence based on moral and ethical values involving the environment, but also of dealing with overall environmental justice issues. Should such issues be the province of the Courts – or should it be the province of the ballot box?

The Resource Management Act 1991

[18] The Resource Management Act is the basis of New Zealand’s environmental law. We should remember, however, that it is not the only piece of environmental legislation in New Zealand. It was born in 1991 into the family of pre-existing environmental legislation. While it is true, that it replaced about 50 previous environmental statutes relating to land, air and water resource management, it is still not a stand-alone piece of legislation. Major pieces of environmental legislation have been passed since the Resource Management Act came into being, including: the Biosecurity Act; the Energy Efficiency and Conservation Act; the Hazardous Substances and New Organisms Act; the Foreshore and Seabed Act; the Hauraki Gulf Marine Park Act; and the Waitakere Ranges Heritage Act.

[19] The Act reflects many of the international community’s concerns about the environment, expressed through international conferences from the Stockholm Conference in 1972 to the Rio Declaration in 1992, including such fundamental principles as:

- sustainability;
- intergenerational equity;
- ecological diversity;
- community wellbeing; and
- recognition of indigenous rights.

[20] At the time of the Act’s inception, it was considered to be at the cutting edge of environmental law legislation. Compared with many countries today, it probably still is. However, we must not be complacent. It would not be right to say that all is well with environmental law in New Zealand. Clearly it is not – if success is reflected in the criticisms of the Act – and, as you all know, they abound.

The Environment Court

[21] The statutory body set up as a final arbiter in matters of fact in environmental law is the Environment Court. It is a specialist body, consisting of Judges appointed from the legal profession and Commissioners appointed from the wide range of environmental professionals.

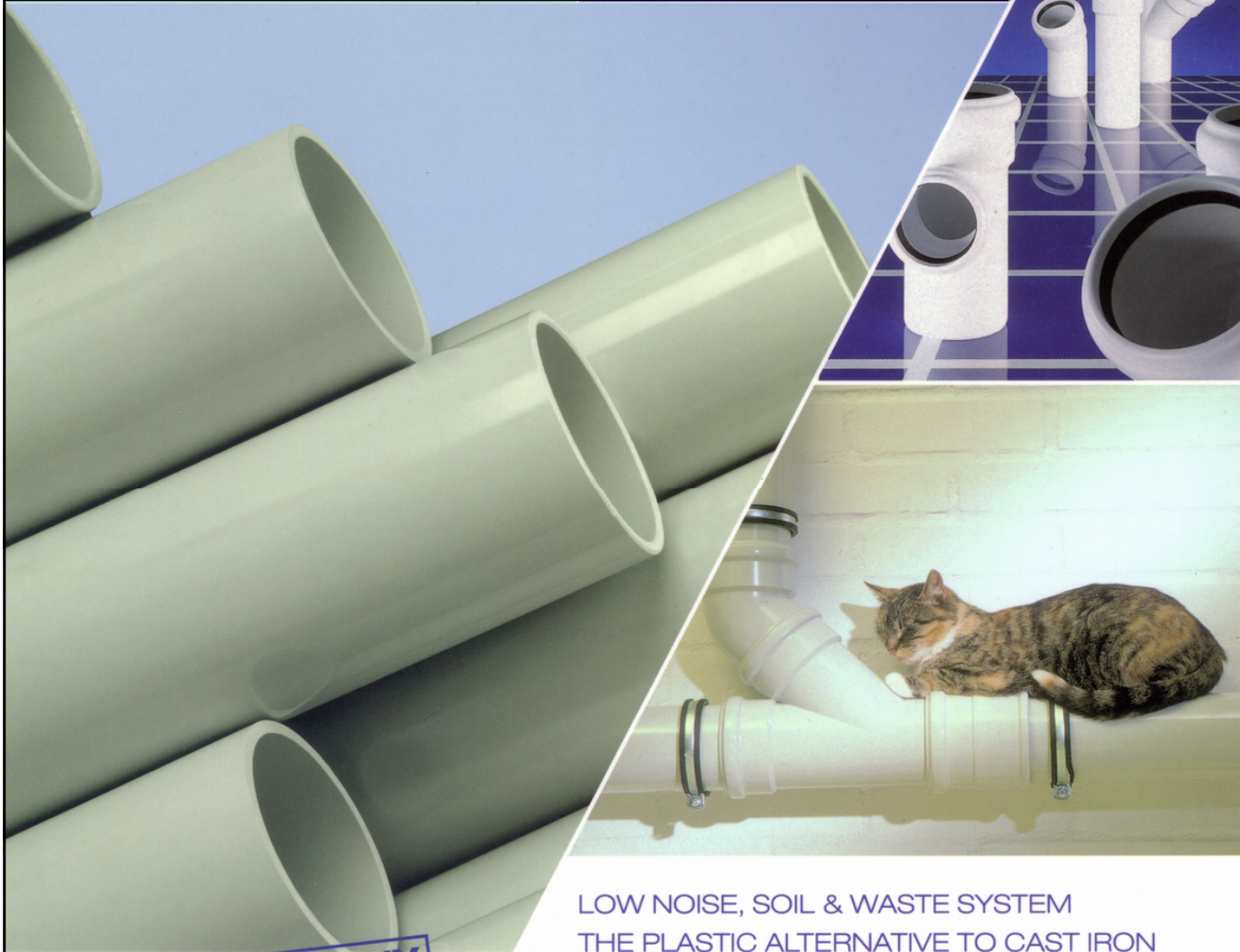
[22] The Court reflects the multi-disciplinary input that is needed for environmental decision-making, if it is to achieve an appropriate environmental outcome. Environmental decision-making differs, in both process and substance, from decision-making in the civil and criminal Courts. The Environment Court is a creature of statute, set up by the Resource Management Act. The Act recognises this difference.

[23] So far as process is concerned, section 269 of the Act provides that the Environment Court may regulate its own proceedings in such a manner as it thinks fit. Section 276 provides, among other things, that the Environment Court—

- (i) may receive anything in evidence that it considers appropriate to receive;
- (ii) may call for anything to be provided in evidence which it considers will assist it to make a decision or recommendation;
- (iii) may call before it a person to give evidence whose opinion will assist it in making a decision or recommendation; and

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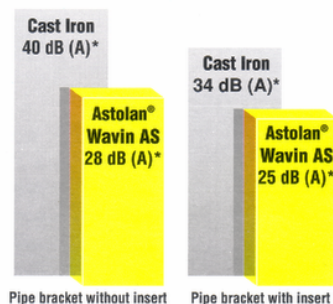
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(iv) is not bound by the rules of law about evidence that apply to judicial proceedings.

[24] The text of sections 269 and 276 make it clear that the Environment Court has a very wide discretion as to how it regulates and conducts its proceedings – that is, without procedural formality, provided it is consistent with fairness and efficiency – and what evidence it receives, noting, in particular, that it is not bound by the rules of law as to evidence.

[25] There is thus an accumulative emphasis on the Court hearing such evidence as it thinks fit, not being bound by the rules of evidence, and regulating its procedure as it sees fit³. These powers are wider than those of a Commission of Inquiry under the Commission of Inquiry Act 1908. Sections 269 and 276 reflect both the nature of the Court itself and its work.

[26] As to the Court itself, I have already referred to the fact that it is a specialist Court. The members of the Court are appointed for their experience and knowledge. They are thus expected to search the whole range of their collective experience and apply it to the evidence before them. In assessing the evidence and drawing inferences the Court is entitled, unlike other Courts, to use its own expertise relevant to the exercise of its statutory power⁴. It is this application of collective expertise that assists in giving the Court’s decisions integrity. The specialist nature of the Court enables it to determine the probative value of the evidence without the need to apply the strict rules of evidence.

[27] As to the nature of the Court’s work, this is best encapsulated in section 5, which sets out the purpose of the Act. It is to promote the sustainable management of natural and physical resources. Sustainable management is defined in section 5, and a set of hierarchical principles is given for guidance in sections 6 to 8 of the Act.

3 Canterbury Regional Council v Christchurch City Council [2000] NZRMA 512 at paragraph 23
4 See Stop Action Group v ARA (Auckland Regional Authority) 3178, Chilwell J, High Court, Wellington, M514/1985

[28] The matters in Part 2 of the Act set the statutory framework within which the substantial issues that come before the Court have to be decided. Unlike most civil or criminal litigation, which is about past events, the important matters arising out of Part 2 are about future events. They are forward looking. They are preventative, precautionary and proactive.

[29] Differently from most civil litigation, proceedings are not simply about the rights of a small number of parties. They are about people and communities and future generations; they include cultural, religious, and scientific issues as well as economic. Many of the substantial matters before the Court are matters which require the Court to engage in a careful consideration of wide-reaching matters that are often of interest to the general public at large, or to a particular community, cultural or religious group.

“...To date the Court’s perception of the degree of success of expert witness caucusing is mixed. The majority of the outcomes of caucus meetings have not met an expectation that, in general, pre-hearing caucusing will lead to simplification of the Court’s task at the subsequent hearing, and a reduction in required sitting time...”

To apply the rules of evidence rigidly would unduly constrain a specialist Court from receiving evidence which may help it to make a decision or recommendation.

[30] It is against this background that I now wish to turn to the role of the expert witness.

The Expert Witness

[31] The core work of the Environment Court is listening, evaluating, and making determinations on evidence. The evidence we receive comes from both lay people and experts. By far the majority of the evidence we hear is from experts. The best known feature that distinguishes the evidence of the expert from that of the layperson, is that the expert is permitted to offer opinions to the Court as to the meaning and implication of evidence.

[32] Because it is likely that such opinions may have a significant bearing

upon the outcome of litigation, the Courts have long been concerned to ensure that those opinions are offered by reputable people following recognised disciplines of knowledge. The Courts have also been sensitive to any trend that could result in “experts” usurping the tribunal of fact’s function of deciding on the facts, and what inferences or predictions should be drawn.

[33] In response to those concerns, five rules of evidence, which specifically apply to the reception of expert evidence, have evolved under the common law. These are strictly, though somewhat unpredictably, applied in the criminal Courts, but rather more leniently in the civil, family and environment jurisdictions.

[34] These rules are as follows:

(i) The “expertise rule”: Does the witness have knowledge and experience sufficient to entitle him or her to be held out as an expert who can assist the Court?

(ii) The “common knowledge rule”: Is the information sought to be elicited from the expert really something upon which the tribunal needs the help of any third party, or can the tribunal rely upon its own general knowledge and common

sense?

(iii) The “area of expertise rule”: Is the claimed knowledge and expertise sufficiently recognised as credible by others, capable of evaluating its theoretical and experiential foundations?

(iv) The “ultimate issue rule”: Is the expert’s contribution going to have the effect of supplanting the function of the tribunal to decide the issue before the Court?

(v) The “basis rule”: To what extent can an expert’s opinion be based upon matters not directly within the expert’s own observations?

[35] Not surprisingly, with the rapid advance of knowledge, these common law rules are frequently being stretched as Courts grapple with the problem of how to apply them to new developments. However, a knowledge of the rules is not enough. Expert witnesses need to remember that, while

the Court is made up of members drawn from different intellectual disciplines; outside their respective disciplines, the members are generalists. **Unless the facts of a case can be presented intelligibly and persuasively, then all the expertise has no point.** Cases need to be well prepared and well presented.

[36] It is important to recognise that, while sound preparation may culminate in the courtroom, many disputes are settled before a hearing. Consequently, experts can make a significant contribution both inside and outside the courtroom. The likelihood of a settlement can usually only be assessed once a case is thoroughly understood and prepared.

[37] For an expert involved in litigation before the Environment Court, there are generally six phases of a dispute:

- (i) the expert provides advice to an applicant as to whether a proposal is technically feasible and, if so, whether any adverse effects generated by it can be adequately addressed by appropriate conditions;
- (ii) if there are likely to be adverse effects, the Council's expert (and, if the proposal is opposed, other experts) may be appointed to peer review any recommendation made by the applicant's expert;
- (iii) the experts may then be needed to assist the respective legal teams to understand the technical issues likely to

be raised by the other parties;

- (iv) the experts should then caucus (and, if directed by the Court, must caucus) in an endeavour to identify the areas of agreement and disagreement and where there is disagreement the reasons why;
- (v) the experts then need to be prepared for both evidence-in-chief and cross-examination; and
- (vi) the experts then give evidence at the hearing.

[38] Because of our historical adversarial approach to litigation, phase four – the caucusing of experts – has, in the past, been under-utilised. It is only recently that the caucusing of experts has been undertaken at all. Fortunately, it is now becoming more frequent.

[39] The Environment Court's Code of Conduct for Expert Witnesses is set out at paragraph 5.1 and succeeding paragraphs of the Court's Consolidated Practice Note⁵. Paragraph 5.4 of the Practice Note, headed **Directions to Confer**, states that the Court may, on its own initiative or on the application of any party, "direct that groups of expert witnesses caucus to attempt to agree on matters in their respective fields and to narrow issues between them". According to the Practice Note, such a direction, if made, usually occurs "after the exchange of primary statements of evidence".

[40] Commenting on the success of such caucusing, the Principal

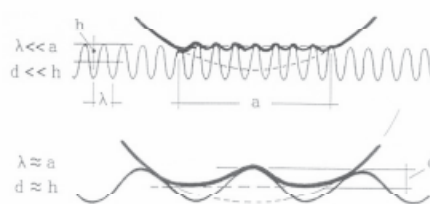
Environment Court Judge, John Bollard, in a recent editorial to the "Resource Management Bulletin" had this to say:

To date the Court's perception of the degree of success of expert witness caucusing is mixed. The majority of the outcomes of caucus meetings have not met an expectation that, in general, pre-hearing caucusing will lead to simplification of the Court's task at the subsequent hearing, and a reduction in required sitting time.

It appears to the Court that the rigour and objectivity to be applied in identifying and assimilating relevant information, views, and counter-views has tended to be lacking. The process should produce a succinct exposition of a finally agreed position with supportive reasoning, or, failing agreement, a clear statement of each expert's residual position and supporting reasons coupled with reasons for disagreement with other participants. Instead rather inconclusive outcomes have occurred.

[41] From my own personal experience, I would not be quite so critical. I have, in recent times, found that the caucusing of experts has been very successful, resulting in much reduced hearing time. In a case earlier this year, involving a complex regulatory regime to control nitrogen discharges from land uses into Lake Taupō, there were 22 expert witnesses from the scientific, economic and planning disciplines. Caucusing of the witnesses occurred prior to the hearing as part of the case management process, and further

5 [2006] NZRMA 357, 373



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caucusing took place during the hearing. The caucusing resulted in many issues being settled – thus almost halving the estimated sitting time.

[42] More recently, in a case in which I was involved, caucusing took place by experts in three disciplines – acoustical engineering, traffic engineering, and wastewater engineering. The three acoustical engineers reached agreement on all issues and the three traffic engineers reached agreement on all but one issue.

[43] Thus, personally, I have found that caucusing has been a significant benefit, especially when the caucusing experts succinctly identify the issues, both contested and uncontested, and give clear reasons for disagreement.

[44] In an endeavour to assist in the caucusing of experts, the Principal Judge has proposed the possibility of the Court's mediation service being extended by making Environment Commissioners available to act as facilitators at caucus meetings of experts.

The facilitator's role would be to assist the participants in maintaining their objective roles as experts and to focus on the matters that need to be addressed between them. The Judges would be pleased to hear feedback as to whether such a process would be helpful to experts, their clients and the Court.

[45] Another matter that would be of benefit by way of feedback is the timing of caucusing. Should it be, as the Practice Note now states, after the exchange of primary evidence or would it be more effective if it occurred at some other time – for instance, prior to

the exchange of evidence? This would, perhaps, facilitate a timely disclosure of the contested issues which could, in turn, facilitate a modification of the experts' respective positions before they have to record their position in their evidence.

[46] Importantly, whatever the stage at which caucusing takes place, each expert should have seriously considered the issue or issues in the proceedings to such an extent that caucusing can occur against a background of informed knowledge by all participants.

[47] I would now like to say a few words about the hearing.

The Hearing

“...It is important that the witness's understanding of the legal position corresponds with that of legal counsel. But note, that it is for counsel to persuade the Court of the soundness of the legal position propounded...”

[48] Presenting evidence as an expert, like advocacy, is an art that some people possess inherently. But for most people, it is developed gradually with the benefit of practical experience as a witness, careful self criticism, and yet more experience.

[49] Speaking of advocacy, the cardinal rule for an expert witness is not to give the impression of being an advocate. To do so runs the risk of sacrificing independence and objectivity.

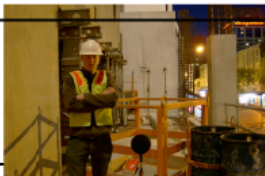
[50] As I have said, and it is worth repeating again, all the expertise in the world is for naught, if the evidence is

not presented in an intelligible and logical manner. To do so, the witness must understand the legal framework within which the Court's decision is to be given. The witness must also have a good grasp of the facts of the case, the scientific and technical opinions of other witnesses, and the relevant considerations under the Resource Management Act. All of these must be drawn together in a coherent and orderly manner.

[51] It is important that the witness's understanding of the legal position corresponds with that of legal counsel. But note, that it is for counsel to persuade the Court of the soundness of the legal position propounded. The expert resource management witness cannot be blamed if, having followed counsel's advice as to the legal position, he/she proceeds to formulate his/her evidence and arrives at an opinion against the background of that position, when that position later proves to be an error.

[52] Traditionally expert witnesses of the same discipline give evidence on a party by party basis. This means that the first party presenting its case calls all of its witnesses which may include a number of experts from different disciplines. The next and subsequent parties do the same. Thus the Court may hear an acoustical engineer give evidence for an applicant one week, hear another acoustical engineer give conflicting evidence for another party another week and sometimes a third party or fourth party with similar time intervals. This practice makes

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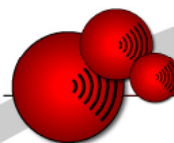


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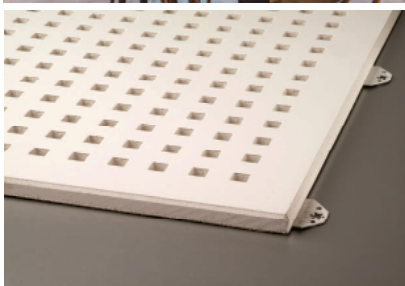
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it difficult for the witnesses who may have to attend Court on more than one occasion. It also makes it difficult for the Court, having to assess the evidence of the expert witnesses when there are considerable gaps between their giving of evidence.

[53] There are thus increasing suggestions that the Court should employ the contemporaneous evidencing of experts – or “hot-tubbing” as it is called in Australia. This involves all of the experts of the same expertise being sworn in together. A structured discussion between the Judge, counsel and the witnesses then follows. This is a method that has been used widely by the Land and Environment Court of New South Wales. “Hot-tubbing” is currently on the agenda for discussion in this country, not just for the Environment Court, but also other Courts exercising civil jurisdiction.

[54] While there has as yet, not been a lot of support for “hot-tubbing”, the Court has on occasions received evidence from experts of the same discipline “out of order” and sequentially so as the Court can hear the evidence of the experts of the same intellectual discipline in one unbroken period of time. This has advantages both to the experts and to the Court.

[55] I would now like to say a few words about environmental noise assessment.

Environmental Noise Assessment

[56] There are many sounds within our environment – some naturally occurring and some resulting from human activity. Some of these sounds are considered desirable, some are essential and some are unwanted. In general, natural sounds are considered desirable, such as birds twittering, the roar of the surf, and wind in the trees. Some human sounds, particularly speech, form an important part of normal living. On the other hand, sound generated by industry and transportation is, by and large, regarded as undesirable. Annoying environmental noise is loosely defined as “unwanted sound”. However, difficulties can arise from this definition because some sounds may be unwanted to some and wanted by others.

[57] Environmental noise can be a source of nuisance within the community, particularly to residents. Noise can cause annoyance, can interfere with speech communication, and can give rise to stress which may have an effect on the physical health of individuals.

[58] The reaction to noise is highly individual, some people being highly sensitive to noise while others are almost unaware of it. The reaction to noise also depends upon the activity that the person is involved in at the time, and the surrounding environment. Consequently, no analytical approach is able to predict the degree of annoyance experienced by one individual as a result of a specific noise. Nevertheless, analytical procedures have been developed to describe noise, to measure noise, to predict noise and to interpret the appropriate community reaction to noise.

[59] The main measures of noise, the procedures for measurement of noise, the prediction of noise levels and the assessment of environmental noise are well known to you all. The A weighted decibel – measured in dBA – is normally applied when measuring environmental noise. It represents the frequency response of the human ear over the audible frequency range.

[60] Of all the issues that come before our Court, noise can be the most difficult for the layperson to comprehend. While the dBA levels can be measured with some precision, it is difficult for a layperson to translate dBA measurements to reality. In other words, what does 40 dBA represent and to what extent does it differ from 30 dBA or 80 dBA?

[61] The layperson is more than often confused. That confusion is further confounded by the apparent anomalies that are introduced by the decibel scale, which is based on the logarithmic function. These apparent anomalies include:

(i) The apparent loudness of noise is not linearly related to the decibel scale. For example, 50 dBA is considered generally to be about twice as loud as 40 dBA; and equally 80 dBA is twice as loud as 70 dBA. In more general terms, a 10 dBA increase in level is approximately equivalent to a doubling

of apparent loudness.

(ii) When two noises occur simultaneously, the resulting level cannot be determined by arithmetically adding the two levels of the two individual noise sources. For example, if two cars, each producing a level of 80 dBA at 7 metres, pass a point 7 metres away simultaneously, the resulting level is 83 dBA (not 160 dBA). In summary, when two equal sound levels occur simultaneously, the resulting level is only 3 dBA higher than one of those sound levels taken alone. A second example is where two noises occur simultaneously producing 70 dBA and 64 dBA, respectively. In this case, the resultant total level is 71 dBA: that is, an increase of 1 dBA on the noisier sound level.

[62] On many occasions, the Court is confronted with the situation where two or more noise experts agree that, with appropriate conditions, the noise of a proposal will not be obtrusive – nevertheless, those likely to be affected are not convinced. I put this down to two reasons:

- (i) a failure to fully grasp and understand the noise evidence; and
- (ii) a fear of the unknown on what is nearly always a sensitive and stressful issue.

[63] The challenge, therefore, for the noise expert is to ensure that the facts relating to noise are presented simply, intelligibly and in a way that is easily understood. For example:

- (i) speak as much as possible in non-technical terms;
- (ii) where technical terms are used, explain their meaning as simply as possible;
- (iii) provide a glossary of terms;
- (iv) provide a chart which sets out typical noise levels in A weighted decibels; and
- (v) structure the evidence in a logical and natural way, bearing in mind the lack of knowledge of your audience, which often includes distraught lay people who are afraid simply because they do not understand.

[64] Your task is not easy. I have

touched on just a few of the many difficulties that you, as acoustical experts, have to confront when assessing environmental noise. Although there has been research into community reaction to noise, particularly well-defined noises such as aircraft noise and road traffic noise, it is not possible to determine the reaction to one individual to a particular noise in a particular environment without asking the person in question.

[65] You have to deal with a myriad of situations involving community reaction to a particular noise in a particular environment. You have to apply methods that deal with many situations including the intrusiveness of noise, amenity noise levels, tonal or impulsive noise, noise duration, sleep arousal, and noise attenuation. All of the methodologies that you apply, while logical and scientifically based, are complicated to the ordinary lay person. All I can say is, best of luck.

Conclusion

[66] The role of the expert witness is

changing somewhat. In the interests of the demand for efficiency there is likely to be a greater use of the requirement for experts of the same discipline to caucus. This enables the contested issues to be narrowed, thus limiting the evidence that needs to be brought before the Court.

[67] There are increasing suggestions that the Court should employ the contemporaneous or sequential evidencing of experts.

[68] I hope that these random thoughts spark some reaction for debate. Within the legislative framework, we are all committed to using our respective areas of knowledge in an endeavour to achieve a sustainable outcome. To reach that goal needs a collaboration across disciplines. Our environment is so inter-linked – as I have said, like a giant jigsaw puzzle. You cannot change the picture of the puzzle by focussing only on individual pieces. Unless you involve people from different forms of knowledge, you may find that the Emperor has no clothes – it is not going to work because of a mismatch

with another part of the environment. The result will be that peoples' desires, aspirations or preferences will not be realised. □

Judge Gordon Whiting is based in the Environment Court at Auckland. Judge Whiting graduated BA(Economics) and LLB from Otago University in 1967 and was admitted to the Bar in 1968. He has a Certificate in Mediation from Harvard University and is a Fellow of the NZ Arbitration and Mediation Institute. He is a former Chairman of Partners in a Whangarei legal firm and specialised in civil and commercial litigation, criminal jury trials, town planning, resource management and tribunals. He is a former member of the Auckland District Law Society's Disciplinary Committee, a former Northland Council representative on the ADLS and a former Convenor of the



Upcoming Events

2009

Jan 11–17, Santiago, Chile
**ICU2009, International
 Congress on Ultrasonics 2009**
icu2009@fisica.usach.cl

Jan 16, Bristol
**One day meeting on Wind
 Turbine Noise**
linda.canty@ioa.org.uk

Mar 31–Apr 2, Loughborough
**5th International Conference on
 Bio-Acoustics**
linda.canty@ioa.org.uk

Apr 5–8, Southampton
**NOVEM2009, Noise and
 Vibration: Emerging Methods**
NOVEM2009@isvr.soton.ac.uk

Apr 19–24, Taipei

ICASSP09, IEEE International
 Conf. on Acoustics, Speech &
 Signal Processing
info@icassp09.com

May 18–22, Portland, Oregon
157th Meeting of ASA
asa@aip.org

Jun 15–17, Espoo, Finland
**EAA Symposium on
 Auralisation 2009**
tapiro.lokki@tkk.fi

Jun 17–19, Aalborg, Denmark
Wind Turbine Noise 2009
www.windturbinoise2009.org

Jul 5–9, Krakow, Poland
**ICSV16, 16th International
 Conf. on Sound & Vibration**
icsv16@icsv16.org

Aug 23–26, Ottawa
Inter-Noise 2009
secretariat@internoise2009.com

Oct 26–28, Edinburgh
**Euronoise 2009 “Action on
 Noise in Europe”**
www.euronoise2009.org.uk

Nov 23–25, Adelaide
**AAS Annual Conference
 “Research to Consulting”**
www.aas2009.com

2010

Aug 23–27, Sydney
**ICA 2010, 20th International
 Congress on Acoustics**
www.acoustics.asn.au