

# Social Audit

SPRING 1976

An independent assessment of  
a company's activities, as  
they affect employees, consumers,  
and the local community.

*On the Avon Rubber Co. Ltd.*



# Social Audit

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## About this organisation

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The directors of Public Interest Research Centre Ltd. are: Christopher Zealley (Chairman), Andrew Phillips and Oliver Thorold.

The enquiry reported in this issue was carried out by Maurice Frankel, David Imberg, Angela Kaye, Peter MacMahon, Charles Medawar and Rodney Stares. The editors were Medawar and Frankel.

The cartoons are by **Merrily Harpur**. The cover was designed by **David Garland**.

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## Future of Social Audit

This double issue of *Social Audit* — which deals exclusively with the work of the Avon Rubber Company Ltd. — is the last in our 'journal' series of reports. In future, *Social Audit* reports will be published on an occasional and 'one-off' basis. In the past *Social Audit* has been available only to subscribers; from now on it will be made available for general sale.

Our subscription lists were closed in the Summer of 1975 in anticipation of this change in policy — which has been forced upon us by lack of funds. Our financial position is more precarious than ever — and certainly not strong enough at present to allow us to plan research, or take subscriptions, for a year or more in advance.

Most subscribers end their subscriptions with this issue. Those who have paid for issues beyond this can choose either to receive a full refund, or to use their credit against the purchase of future publications. All subscribers will be notified shortly of the arrangements we are making.

We have every intention of continuing our work in the future, if this can possibly be done.

## Acknowledgements

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# Social Audit on Avon

R. H. Gray

Most sections of this report have been organised into three parts: an introduction, which includes details of yardsticks of performance used; a report, which includes statements (or representations) of fact; and a discussion, which summarises and comments on the main findings.

## Contents

<b>INTRODUCTION</b>	2	<b>Training</b>	41
Background to the enquiry		<b>Women</b>	45
Disclosure and cooperation		Equal pay and the shop floor	
Interpretation		Equal pay and the staff	
		Equal opportunity	
		Special facilities	
<b>AVON'S BUSINESS</b>	5	<b>Race Relations</b>	49
Character of the Business		Policies	
Organisation and activities		Employment practices	
Management style		<b>Employment of Disabled</b>	52
Use of Resources	7		
Financial performance			
Competition			
Investment	8	<b>CONSUMER PRODUCTS AND SERVICES</b>	
Diversification		First-life Car Tyres	54
Acquisitions and mergers		Remould Car Tyres	59
Financial Accounting	9	Avon Safety Wheel	62
Annual reports		Motorway	63
Exports and imports		Avon Inflatables	65
The Avon board		Advertising and Public Relations	68
		Government and Military Contracting	71
<b>AVON'S EMPLOYEES</b>	12		
Pay and Fringe Benefits		<b>THE ENVIRONMENT AND LOCAL COMMUNITY</b>	
Payment systems		Air Pollution	73
Wage negotiations		River Pollution	75
Earnings and hours		Waste Disposal	79
Job evaluation		Scrap tyres	
Fringe benefits		Toxic Waste	
Job Security	21	Non-toxic waste	
Manpower planning		Energy Use and Conservation	83
Redundancies		External Noise	85
Closures		Community Involvement and Donations	86
Participation and Alienation	24		
Consultation		<b>RESPONSE FROM AVON</b>	88
Union facilities			
Industrial relations			
Health and Safety	29		
Frequency of accidents			
Safety organisation			
Relations with Factory Inspectorate			
Noise			
Chemical hazards			
List of hazardous chemicals in use			

# Introduction

## Preamble

This report describes the way in which a major British company has interpreted and discharged its responsibilities to its employees and to consumers, to the people who live with it, and to the physical environment in which they live — and, indeed, to anyone who might be affected by what the company has done. The report represents a unique, if not definitive, attempt to describe the major social costs and benefits of a company's business operation.

The report is unique, in that it was conducted on terms to which no other company has ever before agreed. The enquiry was carried out by Public Interest Research Centre (PIRC) on its own initiative and at its own expense — but it was accepted by the company's senior management as an experiment for all parties concerned, and throughout the enquiry PIRC was given extensive co-operation both by management and by trade union representatives. In addition, PIRC was allowed access to confidential data on the company held by various government departments and other bodies; and detailed enquiries about the company were made in the local community and elsewhere.

The company was given no right to require that any particular information be included or excluded from the report — though it reserved and exercised the right to withhold certain kinds of information and, in particular, information related to its competitive standing. It was, however, proposed by PIRC that the company and trade union representatives should see the report before publication, and be given the right to reply to it. (Their comments appear on pp. 88 and 89.)

The aim of the report goes beyond a description of what a single company has done, at a certain point in time. The report has been prepared also: (i) to show to what extent it may be possible to assess what, in social terms, a company gives to and takes from the community in which it operates; (ii) to advance understanding about the practical problems and possibilities that may be involved in making assessments of this kind; and (iii) to establish precedents for the disclosure of more, hard information about what companies do, why they do it, and to what general effect.

## Background

The Avon Rubber Company Ltd. was one of about 100 companies invited to co-operate in an enquiry of this kind. Of the 40 or so companies to respond, only Avon agreed, in principle, to co-operate; others came forward with expressions of regret, together with more and less detailed accounts of the importance they attached to their 'wider responsibilities' and of their heavy commitments to the running of their businesses.

The approach to Avon and to these other companies was made in the form of a short personal letter addressed to the Chairman or Chief Executive, which was sent together with a copy of the Social Audit report on Tube Investments Ltd., shortly after its publication in March 1974. The letter referred to the fact that the report on Tube Investments had been prepared without the benefit of any significant co-operation from the Company, and indicated that PIRC would be anxious to secure co-operation from a management in any further enquiries of this kind. No suggestion was made that PIRC was intending to enquire into the work of any particular company — whether or not co-operation was given.

The letters were sent to a wide variety of companies, mainly in manufacturing industry. Avon was included as being of

particular interest for several reasons. For example, the Company had survived to be the only major independent tyre manufacturing company in the UK: and at the same time ran a fairly diversified operation. Then, because it was involved in a relatively dirty and potentially dangerous industry, it clearly had exceptional responsibilities to its employees and to the environment. In addition, Avon was a major employer in at least two small communities — one, virtually, a 'company town'. And, finally, the Company had major responsibilities to consumers, in both the manufacture and retail distribution of motor car tyres. However, no decision to enquire into Avon's work had been taken, or even contemplated as a probability, before their initial response was received. It was this reply from the Company, which suggested they might co-operate, which proved decisive.

To the extent that Avon was self-selected — in that it agreed in principle to co-operate, when under no specific pressure to do so — this report cannot be considered as an account of typical 'big business'. There can be little doubt that the Company would have put up more resistance than it did, had it not been fairly confident that it could 'stand up to' such scrutiny as was proposed. Quite apart from this, the Managing Director and also the Head of Publicity (at the time of this enquiry) appeared personally interested in, and curious about, the proposed study. Without their support for it, it is most unlikely that it would have proceeded — though the decision to participate was collectively taken by the executive board and the Chairman.

## Methods and timing

The terms of the enquiry were defined and agreed by mid-1974. Brief introductory visits to each Avon site were then arranged and, thereafter, a period of eight weeks was spent on background research, and on preparing questions which were to be raised in interviews.

Interviews covering some 40 different 'study areas' were then arranged with both managers and trade union representatives, at each of the five main factory sites. Each interview was scheduled to last, on average, about 1½ hours; and was to be tape-recorded. The Company agreed that two rounds of interviews should take place. It was hoped to complete one round by the end of 1974; to spend about eight weeks analysing the material so obtained and pursuing other enquiries; and then to return for a shorter, second round of interviews, in order to verify data and pick up loose ends. It was envisaged that the enquiry would last a total of 9 months.

In the event, the first round of interviews had not been completed by the end of January 1975 and, shortly thereafter, the Company asked that the second round of interviews be abandoned, and that further requests for information be submitted in writing. Detailed written requests were then made. Several weeks later, in April 1975, the Company called a meeting to explain that they faced serious financial problems, and to say that they could not consider spending any further time on the enquiry, other than on absolutely essential requests for information which they might easily provide. The written requests for information that had been submitted were accordingly greatly simplified, and re-submitted to the Company by early May.

Some parts of the Avon Group responded to these requests; others gave no indication of doing so. Under these circumstances, PIRC proposed a cut-off date, in mid-July 1975: this produced some further information, though considerably less than was needed, or than had been hoped for.

The draft report was nearing completion in mid-August 1975 — by which time the study had been running for nearly a year — when it was announced that the Managing Director and Finance Director of the Group had resigned. It was reported that their resignations had been prompted by disagreement over the 'speed and manner' by which the Group might reduce its dependence on the motor industry: according

to the newly-appointed acting Managing Director, 'We proposed the progressive reduction of tyre manufacture. They wanted a speedier rate of implementation.' The implications of this have not been discussed in detail in this report. Nevertheless, in recording events in the Group to mid-1975, this report will clearly indicate the background to this 'management reorganisation'.

It should be noted that the Avon Group MD referred to in this report is Mr. John Swanborough: he was MD until shortly before the completion of this enquiry. Mr. Peter Fisher (an internal appointee) had succeeded Mr. Swanborough as Group MD by the time the draft of this report was delivered to Avon.

### Disclosure and co-operation

There can be little doubt that this enquiry was cut short primarily because of the Company's deteriorating economic position; it may also have been due in part to the fact that the first round of interviews unavoidably took longer than had been anticipated.

It should also be said that, in general, the co-operation given by the Company management, and the information they provided, were of great value. A considerable amount of information was given — almost certainly far more than the large majority of companies would even contemplate in this situation — and this must reflect much credit on Avon.

At the same time, there were some distinctly disappointing aspects to the enquiry. Among a number of notable examples, we would cite the following:

- A few first round interviews with Avon managers were never held, though requested at the outset of the enquiry.
- The amount of information provided by some companies in some areas was extremely limited. In particular, Avon Tyres proved extremely reluctant to provide information on the consumer side.
- Some Avon companies — and notably Avon Rubber Co. (Bridgend) — provided in full the supplementary information requested of them after the first round of interviews. Others provided relatively very little.
- Important information which may have reflected poorly on Avon appeared in some cases to have been deliberately withheld.

At Avon Medicals, for example, the Company responded to two requests for 'copies of the results of any tests carried out by or for the water authority' on the effluent discharged to the sewers. Though 11 such tests had been carried out during the preceding year, Avon Medicals supplied details of only three — those identified in the chart below:

Effluent discharges from Avon Medicals

Date of sampling	Source	pH (limit 6-12)	Suspended solids (limit 400ppm)	Chemical oxygen demand (limit 600ppm)
15.7.74	Avon	8.5	6	0
8.8.74	Water Authority	7.9	72	5,735
25.10.74	Avon	8.3	5	5
19.12.74	Avon	7.7	2	0

The three results provided by Avon represented three of the last four tests made. The fourth was the only one in that year described as being 'unsatisfactory' by the Severn Trent Water Authority, being nearly ten times above their upper limit.

### Government Secrets

In this connection, reference should be made to the co-operation and information received from certain government departments and other establishments, indirectly concerned with this enquiry. Most central and local government agencies and other bodies hold information about the performance of individual companies — and this is almost always classified, or otherwise treated, as 'commercial in confidence'.

At PIRC's request, Avon wrote to a number of these agencies, authorising them to release the information they held about the Company, and inviting them to co-operate in the enquiry. However, the fact that such authorisation had been given did not mean that full information was provided in each case. In particular, the Alkali Inspectorate — which is responsible for the prevention and control of industrial air pollution — unconditionally refused. Other agencies were more or less guarded:

- 'These files and reports are confidential to the Chief Alkali Inspector and it is not our policy to show their contents or to give information about them to anyone outside the Department. We cannot make an exception in this instance.'
- 'It is not the practice of the (Monopolies and Mergers) Commission to make their papers available for purposes unconnected with an enquiry . . . files which have been preserved after the completion of an enquiry contain not only documents provided by the parties, but documents prepared in this office which may contain confidential material from more than one source. It would not be practicable to reorganise these records in order to assemble separately those documents which contain exclusively evidence provided by your company.'
- ' . . . while the Department (of the Environment) would not wish to be unhelpful, there would be difficulties, as I am sure you realise, in making official records freely available to PIRC.' (cf. 'I am sure you will understand'. Social Audit, Vol. 1, No. 3, pp. 9-10.)

In general, local authorities proved far more willing to provide information than did most central government departments. Birmingham Corporation, gave particular assistance, by bringing forward the date on which they would normally have checked noise levels and the arrangements made for the storage of hazardous materials, at Avon Medicals — simply to provide information in time. In addition, full co-operation was received from all water authorities: they gave complete access to their test data, files and inspectors' reports.

The contrast between the behaviour of local and central government agencies could be explained by a number of factors — among them, the nature of information held, and the pressure on them to release it. So far as the second point is concerned, it may be worth quoting from a memorandum found in the files of one agency. A member of the authority's staff had commented on the letter they originally received from Avon, saying:

*'I believe that we should accede to their (Avon's) request, allowing involvement only of the PIRC staff and in the hope that not too much attention will be paid to the . . . Authority by PIRC.'*

*'I think we would find ourselves in this and similar situations in a most unenviable political situation if we refused them access to our files, except so far as these relate to public security, and I believe we should write to the Managing Director of Avon in these terms.'*

They did.

### Interpretation

Finally, something should be said about what this report does and does not do.

The assessment made of Avon is a conventional one — in that reference is made mainly to standards that the Company has set itself; to standards defined in law; or to recognised codes of practice — as well as to standards believed to be appropriate in the case of each of the major affected interests, i.e. employees, consumers, and members of the local and wider communities. Less emphasis is placed on the rights of shareholders. Their interests relate almost exclusively to financial, rather than social, performance — and they are also, at least in theory, relatively well protected by custom and in law.

While the Company's affairs have not been examined from any particular political (or partisan) standpoint, there is an

emphatic bias in this report in favour of the disclosure of information, as a means to full social accountability. It has been taken as axiomatic that this or any company should be prepared to disclose relevant information about its policies and practices, when these may significantly affect wider interests.

It is acknowledged that good reasons may exist as to why certain kinds of information should not be disclosed. (The need to protect personal privacy is one and in recognition of this, as well as for other reasons, individuals have not generally been named in this report.) On numerous occasions, Avon gave reasons for not disclosing certain kinds of information, and in many cases it was possible to appreciate the Company's point of view.

This is not, therefore, an objective account of the Company's work; but an independent one. It is also a critical (i.e. questioning) account: there would have been no point in producing anything else.

The criticisms made of Avon in this report have not been tempered in recognition of the Company's unprecedented decision to discuss its work openly. At the same time, these

criticisms must be seen in perspective. In particular, we trust readers will recognise that it proved impossible to confirm Avon's claim that, in many respects, its policies and practices were well in advance of industry generally. Whatever we might be inclined to believe, we could not accept such assertions on trust and — in the absence of comparable published information about the activities of virtually every other company in the UK — neither could such claims be verified. We believe, however, that readers with experience of industry will find that, on balance, there is much evidence in this report to support Avon's claims. Certainly, everyone should accept that it would be patently unfair to expose Avon to special criticism, simply because that Company is open and others are not.

Finally, it must be stressed that no attempt has been made at any stage to produce a 'balance sheet', involving judgements as to whether some social cost may be justified in the light of another benefit. The purpose of this report is to provide as much information as possible, to allow this to be done. But readers must make these assessments for themselves.

## AVON GROUP LEGAL STRUCTURE

### AVON RUBBER COMPANY LIMITED

incorporating:  
Catering services  
Group administration  
Melksham site services  
Publicity  
Secretarial

### NON-DIVISIONAL SUBSIDIARY OPERATIONS

Anglo Plast AS  
Avon Creators Limited (Associated)  
Avon Safety Wheel  
Avon Technical Services Limited  
East Africa operations  
RFD Group Limited (Associated)

### DIVISIONAL SUBSIDIARIES

#### AVON TYRES LIMITED

Avon Tyres (N.I.) Ltd  
Avon Tyres Ireland Ltd  
Avon Tyres Overseas Ltd  
Walker Radial-Pty Ltd  
Avon Reifen (Deutschland) GmbH  
Avon Rubber AS  
Avon Rubber AB  
City Dack Center AB  
Avon Suisse SA  
City Pneu AG

#### MOTORWAY TYRES & ACCESSORIES LIMITED

Motorway Tyres and Accessories (Scotland) Ltd  
Shaw Tyre and Battery Co Ltd  
Connolly Tyre and Battery (City Tyre Co Ltd)

#### AVON PROCESSED POLYMERS LIMITED

#### AVON RUBBER COMPANY (BRIDGEND) LIMITED

#### AVON INDUSTRIAL POLYMERS LIMITED

Avon Ames Ltd  
Société Française des Caoutchoucs  
Spencer Moulton (Associated)  
Avon Lippiatt Hobbs Ltd (Associated)  
Avon Industrial Polymers (Overseas) Ltd  
Avon Illinois Inc  
Avon Rubber SA

#### AVON INFLATABLES LIMITED

#### AVON MEDICALS LIMITED

Avon Medicals Overseas Ltd  
Avon Medicals GmbH  
Dravon Medical Inc

# Avon's Business

This section of the report is divided into four parts: the first describes briefly the character of the business, while the remaining three deal principally with the Group's economic performance. The main questions raised in this report are:

- (i) What does Avon do, and how has it been organised to do it?
- (ii) How effectively has Avon utilised its assets and the efforts of its employees?
- (iii) What investment decisions have been taken, and why?
- (iv) How have the Group's directors accounted for their actions, and to whom?

## 1. Character of the business

In the 1976 'Times 1000', the Avon Group is ranked as the 301st largest industrial company in the UK; and its principal activity is described as tyre manufacturing. Though a major company, Avon is at the same time a relatively small and hard pressed competitor in an industry dominated by multinational corporations such as Dunlop, Goodyear, Firestone and Michelin. And while tyre manufacture and distribution have accounted for the larger part of the Group's business, Avon is also a major supplier in several smaller and more specialised markets. Avon companies dominate in the supply of aerosol gaskets, aircrew oxygen masks and naval diving suits; and they have major shares in the markets for inflatable craft, hovercraft skirts, car engine cooling hoses, windscreen wiper blades and certain kinds of disposable medical equipment. Neither of these lists is exhaustive.

Throughout its 90 year history, Avon's prosperity has been closely linked to that of the UK motor industry. However, in the more recent past, Avon has made concerted efforts to diversify its operations by becoming more 'market oriented' — applying its basic technical skills, in the moulding, bonding and extruding of rubber, in non-tyre markets. Despite the

recent growth of the tyre distribution side, and the notable success of two units on the non-tyre side, the losses sustained in other non-tyre activities left the Group still very largely dependent on the motor industry by the time of the oil crisis in 1973. At the time of writing, tyres accounted for more than 70 per cent of turnover (see Table 1), and another 10 per cent (approximately) of turnover involved sales of rubber components to the motor industry.

**Table 1. Group sales and pre-tax profits from tyre and non-tyre activity 1970 and 1974**

Activity	Performance in 1970		Performance in 1974	
	Turnover	Profit	Turnover	Profit
	(£ millions)		(£ millions)	
<b>Tyre interests</b>				
Manufacture	17.4	1.1	31.4	0.4
Distribution	8.0	(0.3)	15.7	0.5
<b>Non-tyre interests</b>	17.6	0.6	17.1	1.0

The two successful attempts to diversify on the non-tyre side were made by the units manufacturing inflatable craft (with a 153 per cent growth over five years) and medical equipment (104 per cent growth over three years). The fact that both units had succeeded when operating largely independently of the main part of the business accounted, in part, for a recent decision to decentralise activity in the Group.

In late 1974, the Group was reorganised into a holding company and seven separate (UK) subsidiaries (see p. 4). Local managements were thereby given more freedom than before — for example, to take initiatives in their own specialised markets, or to raise money on their own account — though they remained accountable to the holding company.

The manufacturing side of the Group now operates from five sites in the UK; while on the distribution side, Motorway Tyres and Accessories Ltd. have 180-odd depots nationwide. Avon also has factories in Belgium and in Kenya; and marketing operations elsewhere overseas. Unfortunately, it was not practicable to make enquiries about these operations — and this survey relates entirely to Avon's business in the UK, outlined in Table 2.

**Table 2. Location and principal activities of Avon Group, on 1 October 1974**

### MELKSHAM, Wiltshire (3,500 employees)

**Avon Rubber Company Ltd.**, the holding company, incorporates group administration, catering, secretarial, publicity and Melksham site services. The holding company is responsible also for certain non-divisional operations: Avon Safety Wheel, Avon Technical Services Ltd., Avon Creators Ltd., Anglo Plast A/S and East Africa operations.

**Avon Tyres Ltd.**, the principal operating company in the Group, is responsible for all tyre activities, other than the manufacture of remoulds and retail distribution.

**Avon Processed Polymers Ltd.** is involved in the purchasing and initial preparation of rubber used by Avon Tyres and other subsidiaries in the Group.

**Avon Industrial Polymers Ltd.**, though based at Bradford-on-Avon (*q.v.*) operates a unit on the Melksham site, which is involved in the manufacture of a range of industrial products, e.g. rollers for office machinery, grips for golf clubs, and rubber components for use in agriculture.

### BRADFORD-ON-AVON, Wiltshire (1,200 employees)

**Avon Industrial Polymers Ltd.** manufactures a wide range of rubber components — for example, for cars, domestic equipment, aerosol packaging, military vehicles and railway rolling stock. AIP's subsidiary, **Avon Lippiatt Hobbs Ltd.**, is involved in the development and application of sealing compounds for the gas industry.

### BRIDGEND, Glamorgan (640 employees)

**Avon Rubber Co. (Bridgend) Ltd.** is involved in the manufacture (and to some extent also the marketing) of remould tyres, processed materials for other remoulders, axle and suspension units for agricultural use and synthetic sports surfaces. The Company also markets a wide range of industrial and recreational footwear.

### LLANELLI, Dyfed (385 employees)

**Avon Inflatables Ltd.** operates from two sites in the Llanelli area. They make inflatable liferafts, boats and dinghies for the leisure market, life jackets and marine clothing.

### BIRMINGHAM (550 employees)

**Avon Medicals Ltd.** contracts mainly with the Department of Health and Social Security for the supply of disposable blood-administration equipment; and the Company also makes disposable dialysis coils (filter units) for artificial kidney machines.

Until late-1974, over 300 employees worked at a nearby factory, which operated as part of the former industrial products division — now Avon Industrial Polymers Ltd. This factory has since been closed.

### READING, Berkshire

**Motorway Tyres and Accessories Ltd.** have their head office in Reading, where approximately 150 people are employed. Another 950 employees work in the Company's depots, retailing tyres, car batteries and other motor accessories.

As this Table indicates, the Group's operations have been concentrated in Melksham and Bradford — two small towns in rural Wiltshire, which are situated some five miles apart. In both towns, either Avon or the plant it has since acquired has been the major employer since well before the war. The economic and social welfare of both communities depend greatly, therefore, on the survival and growth of the Group — and, particularly, on the more vulnerable tyre side of the business.

Avon's presence in Bridgend is similarly important, if not to the same extent. The Company ranks as the major employer in the town — which is situated in a development area, where unemployment rates have traditionally been high.

The main parts of the Avon Group have been referred to in this report as **Melksham, Bradford and Bridgend**; and **Inflatables, Medicals and Motorway**. The town Bradford-on-Avon has generally been referred to only as **Bradford**.

### Management style

The style of the Avon Group, and its shape, to some extent reflects the strong personal commitment of the (former) Managing Director to a set of ideas he described as 'open culture'. Open culture embodies the belief 'that people of all intellectual and social levels are willing and anxious to work; that people have a high degree of inherent imagination and creativity, which they can use; that people are basically responsible and, indeed, that they seek responsibility; and that finally, given the development of goals with which people can freely associate, they will give of their best without the need for coercion and traditional "carrot and stick" management methods'.

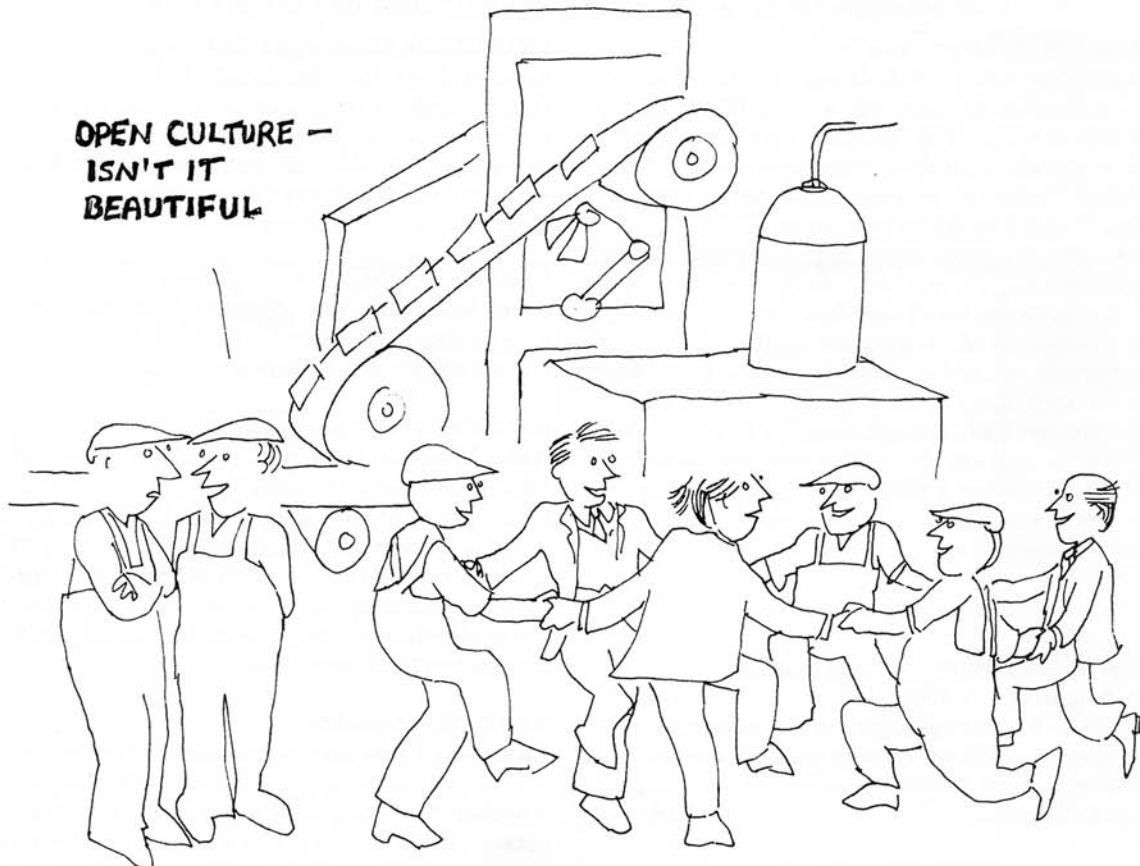
In defining open culture, Avon's Managing Director referred also to a style he sought to avoid. He suggested that 'Many organisations believe that people do not willingly wish to work — do not wish to co-operate with their employer. Such organisations are typified by excessive inspection, bureaucratic systems for checking minute details, forms of organisation where authority is clearly defined to the last detail, where no person is allowed to overstep the marks of his precise job definition, where power and authority is concentrated in as few hands as possible.'

The main expression of open culture appeared to be at Melksham. There was evidence of its influence elsewhere, though this was apparent only among some of the most senior employees. This was not surprising, however, for it is in the nature of this philosophy that, if it is not embraced, it cannot be imposed — even on, say, the management of a subsidiary run on wholly autocratic lines. The MD made it clear that: 'it would be a contradiction in terms to force people to be open. To try and get those people who are relatively autocratic to run their departments in a different way would make them very uncomfortable and much less efficient.'

Whatever emphasis Avon may have placed on individual initiative and responsibility, to a considerable extent decision-making processes are conventional. Each company management has, for example, been expected to produce five-year plans, and to regularly update the forecasts and strategic planning proposals made in them. In addition, formal procedures exist for vetting any major investment proposal; and various committees have been regularly convened for decision-making at both Group and company level.

In decision-making at the highest level — which involves the most senior personnel from throughout the Group — considerable emphasis is placed on 'collective responsibility'. One effect of this is to avoid giving individual board members any particular responsibilities, on behalf of the others — and, instead, to emphasise a shared responsibility for decision-making. The MD claimed that when decisions were made in this way, as 'the product of almost a political process, constant debate, then the right decisions tend to emerge.'

It was said that such decision-making was directed towards finding 'a certain equilibrium between profit maximisation and "open culture"' — and the nature of the commitment to financial objectives was described by the Managing Director as follows: '... our only sanction for existence is that we should make sufficient wealth out of the materials that we take in at one end of the company and push out as products and services at the other. If we cannot add enough value to those materials and services then we have no viability, no reason to exist. That has to come first. The stronger we can be, the more successful financially, obviously the better protection we can offer people.'





The MD also suggested that management was uniquely qualified to offer such protection, once it was in a position to do so. In discussing the question of the Group's broader responsibilities — to employees, consumers, suppliers and members of the local and wider communities — he suggested that the Avon management might be considered 'potentially ... the only part of the Company which is unbiased.'

But for all these explanations, several points remained unclear: how would management interpret its wider responsibilities when subject to economic constraints? And to what extent was 'open culture' considered a means to the end of generating (longer term) wealth? Or as an end which could be achieved through the generation of wealth?

No summary answers to such questions can be provided. But some answers may be provided in the following reports.

## 2. Use of resources

A company's overall economic performance is often measured by the ratio of its yearly profits (before tax and interest) to the total capital invested (or employed) in the business. The capital employed by the Avon Group — in the form of plant, machinery, buildings, cash, stocks and the amount owed by debtors less the amount owed to creditors — amounts to some £30 millions.

In Table 3, Avon's economic performance — measured by its 'return on capital employed' — has been compared with the returns made in manufacturing industry generally, over the last five years.

**Table 3. Capital employed and profits**

	Avon		Manufacturing industry (quoted companies only)	
	Profit (a) before tax and interest £m	Avon Capital employed £m	Avon Return on capital employed %	Return on capital employed (b) %
1970	2.01	22.28	9.0	12.1
1971	2.94	23.89	12.3	13.7
1972	2.66	24.64	10.8	15.5
1973	3.09	25.37	12.2	17.6
1974	3.13	30.22	10.4	16.9(c)
1975	1.13	29.64	3.8	(d)

Notes (a) Avon's financial year ends in September. However, for the purpose of comparison it has been assumed — in this table and the following tables — that Avon's financial year ends in December. (b) Business Monitor M3, available from HMSO. (c) Provisional figure only. (d) Not available at time of going to press.

While the performance of the whole Avon Group has been relatively poor, clearly some operations have been more profitable than others. In Table 4, return on capital employed is shown for those three operations for which separate financial accounts have been published in the past.

**Table 4. Return on capital employed for three Avon subsidiaries**

	Motorway (c) %	Medicals %	Bridgend %
1970	(7.6)	(a)	13.6
1971	6.5	(a)	21.4
1972	11.6	20.8	17.7
1973	16.7	86.3	(15.5)
1974	22.1	47.7	(b)

Notes (a) Medicals did not operate as a separate company before 1972. (b) Bridgend's accounts for 1973/4 were not available at Companies House at mid-1975, and have not apparently been filed. (c) Figures exclude Motorway (Scotland) before 1973.

However, the use of return on capital employed as a performance indicator has serious drawbacks. In particular, it

involves the use of profit — a figure which may be calculated in a number of different ways and which includes subjective estimates of items such as depreciation and stock values. A more consistent and reliable indication of performance may be given by comparing the value of a firm's output with its costs for labour and for capital. This can be done by assessing the 'value added' — the difference between the sales value of the goods produced by a firm and the value (or cost to the firm) of the materials used to make them.

From the data in Table 5, it will be seen that the Group's use of labour resources has been below the average for the rubber industry and for manufacturing industry generally. The value added per Avon employee has increased by 50 per cent over the past five years. Yet wages and salaries have increased just as fast, with the result that Avon's value added per pound of wages and salaries has not increased at all.

**Table 5. Value added per employee**

	Avon (a)		Rubber industry (b)		Manufacturing industry (b)	
	VA per employee £	VA per £ of wages/salaries £	VA per employee £	VA per £ of wages/salaries £	VA per employee £	VA per £ of wages/salaries £
1970	1,708	1.31	2,565	1.96	2,305	1.89
1971	2,130	1.37	2,721	1.93	2,536	1.88
1972	2,293	1.35	2,995	1.93	2,935	1.94
1973	2,465	1.32	3,344	1.85	3,312	1.97
1974	2,603	1.30	(c)	(c)	(c)	(c)

Notes (a) Avon's figures were derived from the Group's published accounts. As a result, the figures are not absolutely accurate because they could not be adjusted for differences in stocks of raw materials and fuels at the beginning and end of each year. The Company promised, but failed to supply, this information as well as information relating to capital expenditure on vehicles, and net fixed assets overseas. However, the effect on the value added figures is almost certainly very small and would not affect the overall trend of Avon's performance. (b) Report on the Census of Production, available from HMSO. (c) Not available at time of going to press.

The Group's performance in using its physical assets (value added per £ of capital employed) has not been calculated because comparable industry-wide figures were not available.

### Competition

Avon's economic performance must to some extent be evaluated in the light of the market conditions in which its subsidiaries operate.

Avon's policy of diversifying away from tyre manufacturing can be seen as an attempt to find markets in which it could gain maximum advantage from its size and technological capabilities — and thereby reverse the situation it has faced on the tyre side, of intense pressure from overwhelming competition. As the Group management explained, on the non-tyre side: 'We are quite consciously looking all the time for products where, if you like, there is a barrier to other people competing — but when our skills and maybe our size will put us inside the barrier.'

On the tyre side, however, Avon operates as a relatively small independent — only just within the 'market barrier', in the company of five major multinationals. It has been disadvantaged both by the economic strength of the competition, and by its inability to benefit from the economies of scale in tyre manufacture. In addition, its position in the market has been affected by the following factors: (i) there has been little product differentiation in the industry, i.e. all tyres are round and black; (ii) there has been virtually no competition on price between leading brands; and (iii) tyre manufacturers have increasingly controlled tyre distribution and sales through outlets they own.

Though there are some inherent and apparent similarities between different brands and types of tyre, there are also some

significant differences between them. However, the industry generally has played these down, in particular by providing consumers with very limited hard information about the real merits of the different kinds. Moreover, the industry has avoided competition on specific performance qualities — notably wear or grip — to an extent which would clearly suggest collusion. (See also p. 59.)

So far as price is concerned — according to a 1973 Monopolies Commission report on Parallel Pricing (Cmnd. 5330) — ‘both the level of, and changes in, wholesale and recommended retail prices have displayed a persistent uniformity between the different sellers for many years . . . price changes initiated by the leader have usually resulted in speedy responses by all the other sellers.’ Though the industry followed Dunlop’s lead in abandoning recommended retail price lists since that report was published, it has been established in this enquiry that substantially the same situation exists today.

Avon’s response to the entry by other tyre manufacturers into the distribution and sales market was to establish its own relatively small chain of outlets, which trade under the name ‘Motorway’. Again, Avon was forced to follow the lead made by Dunlop and the rest of the industry: had it not done so, it seems most unlikely that its tyre manufacturing business would have survived.

However, the industry’s avoidance of price competition has probably helped the tyre manufacturing side to survive. Avon has not been in a position to benefit from the economies of scale available to the Group’s competitors and would not, therefore, have been in a position to compete on price.

On the non-tyre side, the success of Avon Inflatables can be attributed both to its investment in material and production technology, and to the fact that it has operated in a relatively new and growing world market. Similarly, Avon Medicals has succeeded mainly by overcoming the problems associated with labour-intensive mass production in sterile conditions.

Avon Medicals has done most of its business with the Department of Health and Social Security — in competition with only one other manufacturer. Though Medicals has claimed that its business with government has involved contracts which were ‘at the bottom of what we consider to be a reasonable profit margin’ — the Company’s overall profitability (return on capital), over the period 1972-1974 has ranged from 20 to 86 per cent.

Further references to Avon Medical’s work in this field are made in the report on Government Contracting, p. 71. Reference has also been made in that report to Avon’s involvement, in the early 1960s, in restrictive practices on the tyre side.

In the course of this enquiry, evidence was also found of an ‘unregistered’ agreement involving Avon, which might be considered ‘registrable’ under the provisions of restrictive trade practices legislation. (Agreements between companies that are covered by this legislation are not, in themselves, necessarily illegal — though a failure to register details of such agreements invariably is.)

At Bridgend, it was said that Avon and Dunlop had an agreement whereby Dunlop manufactured a range of footwear for Avon, and Avon marketed it. (The agreement was made in the early 1970s, at a time when this sector of the footwear industry was working at an estimated 60 per cent capacity, so some measure of rationalisation was clearly called for.) It appeared that the agreement between these two companies involved undertakings by Avon not to manufacture, and also ‘not to solicit business on a price level’ in certain markets. It is not possible to say that such terms clearly make the agreement ‘registrable’ by law; but it was thought quite probable they did.

#### Patents, know-how

Finally, it was intended to report on the extent to which the Group has depended on other companies’ know-how, for

manufacturing under licence; how Avon itself has benefited from the sale of know-how; and what restrictions the Group made on the applications of its own technologies by other licences. The nature of any such restrictions would have indicated whether the Group’s technological know-how has represented a significant barrier to competitors in Avon markets. In addition, an assessment might have been made of the effects of such restrictions on the balance of payments and technological dependence — particularly of developing countries.

However, while a fair amount of information was made available about the number and general nature of registered patents, Avon decided it was not able to provide information about the terms of licensing agreements. The Company said: ‘It is normal practice when licensing technology, to impose secrecy restrictions on the licensee. Avon accepts and imposes such restrictions’. It has, therefore, not been possible to report on this subject.

### 3. Investment

Apart from the fact that the Group has been too small to compete effectively in the tyre market, it has not invested sufficiently in the plant and equipment that would allow it to operate more efficiently. Avon employees have, by and large, worked with older, less efficient machinery than their competitors. Although the amount invested each year by Avon (measured as £s invested per employee) has increased substantially over the past five years, it is still below the average for the rubber industry — though not for manufacturing industry in general. See Table 6.

Table 6. Capital expenditure per head

	Avon £	Rubber industry (a) £	Manufacturing industry (a) £
1970	104.4	289	269
1971	228.2	405	281
1972	236.3	376	266
1973	379.5	425	315
1974	460.5	(b)	(b)

Notes (a) Report on the Census of Production. (b) Not available at time of going to press.

Avon has been limited in the amount it could invest. Its profit levels — between 9 and 12 per cent (see Table 3) — have been too low either to generate sufficient funds internally or to attract finance from external sources.

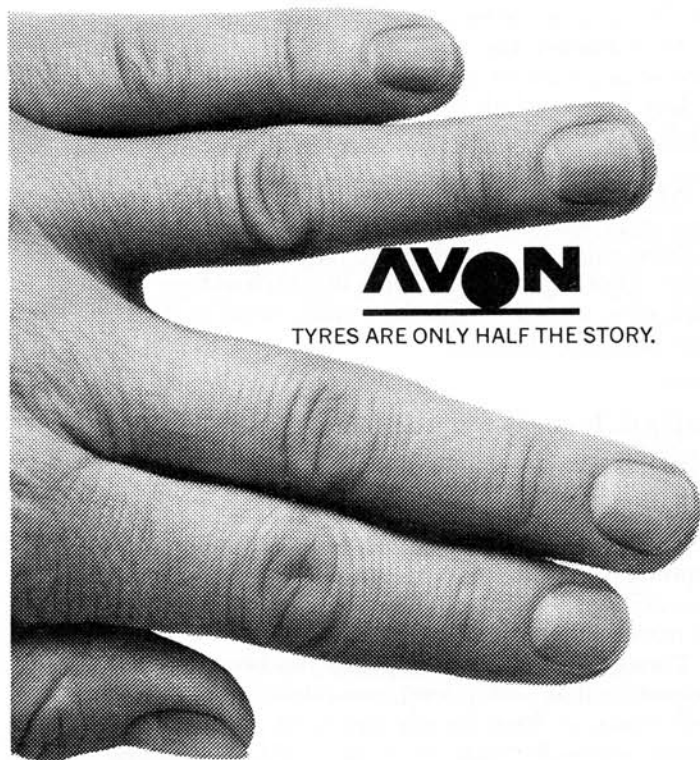
At the same time, more than half of the Group’s after-tax profits have been paid to shareholders as dividends. In the light of the Group’s recent performance, the directors might have considered it justifiable to pay no dividends at all. Over the last ten years the Group has paid out over £5.7 million in dividends while borrowing an extra £8.8 million in order to keep the business going. The interest payments on these loans have drained the Company of cash which might otherwise have been invested in plant and machinery. The fact that dividends have been paid can be attributed, in part at least, to the directors’ concern that the share price be maintained at a level sufficient to deter takeover attempts.

It will be clear that Avon has to some extent been involved in a vicious circle. To raise funds to invest (by borrowing, or through the sale of stock) it would need to be more profitable; but to be more profitable it would need more funding, and it would need to invest in something beyond its traditional business. Certainly, Avon could not rely on expansion on the tyre or motor side to break this cycle and to keep afloat.

Avon's last major investment on the tyre side was in 1967; and was not a success. Shortly after committing itself to a heavy investment in a new factory and plant for the manufacture of radial-ply tyres, in Washington, Co. Durham, Avon ran out of cash — and was forced to abandon the project. Though Avon sold the site and plant to Dunlop, for £1¼m., it made direct losses estimated at £¼m., and heavy indirect losses besides.

Since then, the prospects of investing profitably on the tyre and motor side have grown progressively worse — and, since the oil crisis, have been very poor indeed. Thus, Avon has to diversify more, and more rapidly than before, on the non-motor side, in order to survive.

The question is, however, how much will Avon be able to diversify, and how fast — and this, in turn, depends as much as anything on the state of the economy generally. If Avon fails to diversify sufficiently, it will face a serious decline and perhaps a take-over — yet to avoid this possibility it could suffer some disintegration of the Group. Undoubtedly Avon would at least have considered the possibility of financing further diversification by selling off some profitable part of the Group — almost certainly on the motor side and probably, therefore, Motorway. Some action of this kind might well prove necessary, if the economy fails to recover at the rate the Avon management have gauged.



### Acquisitions and Mergers

The emphasis that Avon has placed on expansion on the non-tyre side has been reflected in the several mergers and acquisitions that have taken place in the fairly recent past.

But this is not to say that Avon's management deliberately set out to diversify in this way. Though nearly half of the Group's present business activity is associated with companies acquired since the early 1950s, no planned attempts have been made to acquire outside interests as part of the Group's growth strategy. The Group management said that there was no definitive policy on acquisitions, and that forward planning had not taken into account any acquisitions that might have

been made. In short, the management described their past policies as 'opportunistic'; they said that in future they would consider any reasonable offer made.

Avon have attempted three major acquisitions since 1964. The take-over of two factories owned by David Moseley and Son Ltd. — which took place in 1964, on the initiative of Moseley — proved to be probably the least successful.

Avon thereby acquired a factory in Manchester, which made conveyor belting and industrial hose; and another in Birmingham, which made a variety of rubber and plastic products. Avon shareholders were told that the benefits of the Moseley take-over would be: 'first the wider range of products the combined companies could offer, secondly, the co-ordination of production and distribution, and finally the benefits to be expected from pooling the resources of the two companies in management, technical knowledge and research.'

The Manchester factory was closed down in 1971, and the Birmingham factory in 1975. An internal management report identified Avon's failure in the Manchester operation as being due to 'the inadequate overall and continuous analysis of the business performance by qualified people leading to the setting and controlling of appropriate long-range plans'. In both factories, Avon had incurred substantial losses over a period of several years, having failed to develop a sufficient range of new products to replace the original ones — many of which had become obsolete or unprofitable. The Avon Group did, however, benefit from the growth of the small medical equipment business which had been part of the Moseley group, and which is now Avon Medicals.

Avon's second major acquisition in the last decade was Kerrys Tyre Service Ltd., which was bought piecemeal and finally taken over in 1968 — to form the basis of what has since become Motorway Tyres and Accessories Ltd., a successful network of tyre distribution outlets.

Avon's most recent acquisition — a 22 per cent stake in the RFD Group — was made in 1973.

Avon's management said that they had before then 'cast acquisitive eyes at RFD' — because it made a wide range of products which complemented those made by Avon Inflatables. But RFD's management had apparently resisted such overtures, and Avon's stake in the Company was made as a direct outcome of an offer telephoned to them by a stockbroker. Because Avon bought its way into RFD in this way on the open market — at a cost of around £1m. — it was obliged to buy its stake effectively on the strength of published information about the Company's standing.

Shortly after, it was announced that serious errors had been made in the preparation of the RFD accounts, and that large losses, rather than profits, had been incurred. Thereafter, share dealings in RFD were suspended, and Avon became 'locked in'. In the meantime, they put two Avon directors on the RFD board — partly to establish the true financial position, and partly to examine the Company's activities in more detail.

At the time of going to press, the RFD Group was showing marked signs of recovery. Avon, however, was short of cash and in no position to take up more shares in the company. The Group sold its shareholding (at an overall loss of £400,000) and put the proceeds into maintaining its own business.

### 4. Financial Accounting

This section deals specifically with the question of the accountability of the Group's directors to Avon shareholders — to whom directors are responsible in law for the stewardship of the Company's assets. This is done by reference to (i) the disclosure of information about the way in which the business has been run; and (ii) the procedures adopted for the appointment of directors.

The Group said its policy was to disclose rather more information than the minimum required by law — but not so much as to jeopardise their competitive position. (It may be worth

mentioning that this PIRC enquiry was allowed by management on the assumption that no information would be provided by the Company which would not, in principle, also be available to shareholders. This restriction was made in accordance with the Company's listing agreement with the Stock Exchange.)

In practice, the additional information provided in Avon's annual reports has been limited to (i) an expanded breakdown of sales made in each main sector of the business; and (ii) the presentation of a 'flow of funds' statement, in annual reports published since 1971, which shows the source and application of cash during the past year. In adopting such a 'flow of funds' statement Avon was in advance of general practice.

Avon management took the view that shareholders were better served by accurate reporting in the financial press than by lengthy annual reports. The Company maintained 'open house' for stockbrokers' analysts but said that it provided them with no more information than was available to all shareholders.

The management appears to have had relatively little contact with the shareholders — over the last six years, a meeting with major institutional shareholders has taken place every other year.

While Avon annual accounts would appear, in general, to have given a relatively clear picture of the business, some shortcomings can be identified:

- The Group — like most companies — has not yet produced 'inflation-adjusted' accounts. The management said they were anxious to do so and claimed that their internal accounts did include provisions for inflation.
- Balance sheets for recent years have identified as an asset 'Goodwill' valued at £303,084 — but no explanation of this item has been provided. This 'Goodwill' can be traced to the annual accounts for 1968; it represents the difference between the sum the Group then paid in order to acquire a small chain of garages (Kerrys) and that company's book value. The accounts provide no explanation for the Group's failure to write-off all, or any part, of this sum.
- There has been no valuation of the land and buildings owned by the Group since 1965. The accounts have stated that these assets are worth more than their book value — but that a revaluation would not be justified as the properties are required wholly for manufacturing purposes. This statement appears to contravene the spirit, if not the letter, of Section 16 of the 1967 Companies Act and leaves shareholders in no position to assess whether or not these assets could be put to more profitable use.
- Although the accounts have shown sales and profit figures for each of the Group's main activities, no separate figures have been given for the net assets employed. As a result, the relative efficiency of the different sectors in the Group could not be assessed. The relevance of such information for the Avon Group, in particular, has already been illustrated.

Avon's annual reports, like those of other companies, have emphasised the Group's past performance — often in the absence of adequate information about future plans. For example, in the Chairman's statement in the 1974 report, some reference was made to the Group's cash shortage though none was made to the management's plans for dealing with it.

While the past performance of the Group would give some indication of performance in the future — which is the aspect of the business with which shareholders and other affected interests would be most concerned — their usefulness in doing so is clearly limited. Indeed, Avon management stated that the accounts prepared for shareholders served no useful internal purpose; and said that they would not be compiled, if not required by law.

For the purposes of controlling and assessing the Company's performance, management have used forecasts and budgets which have incorporated assumptions about manning levels and wages, rates of capital investment and many other

such factors. As in most companies, management has regarded such data as confidential, but Avon employees have often been informally told about general trends.

In the future, as and when the accounts of the individual Avon companies are published, some further useful information should become available. As separate legal entities, each subsidiary company will be required by law to file audited accounts at Companies House. Three Avon subsidiaries are already required to do so, as they were incorporated well before the reorganisation of the Group in Autumn 1974. Their accounts have been examined and, at mid-1975, the following (unremarkable) omissions were found:

- **Motorway** (auditors: Thomson, McLintock). The 1974 accounts did not include details of the cost and depreciation of fixed assets — as required by Schedule 2 of the 1967 Companies Act — nor was any statement of accounting policies attached.
- **Avon Tyres** (auditors: Deloitte) had filed accounts which did not appear to comply with Section 14(3) of the 1967 Companies Act which requires accounts to give 'a true and fair view' of the company's affairs. The accounts stated that Avon Tyres had traded under the name of Henley and that it had made profits of more than £370,000 on sales of only £2.15 million using capital of only £480,000 — in other words, most of Avon's profit on the tyre manufacturing side was being generated by one-tenth of tyre sales. In fact, Henley is the brand name of Avon's 'second-line' range of tyres which are sold through the same channels as all other Avon tyres and the Henley range is not nearly as profitable as the accounts state.
- **Avon Rubber Co. (Bridgend) Ltd.** (auditors: Deloitte) had filed no accounts for 1974.
- **City Tyre Co. Ltd.** — a subsidiary of Avon Rubber Co. — (auditors: Deloitte) had filed no accounts for 1974.

While the liability for presenting the required information rests with the directors of the companies concerned, the auditors might be considered to have assumed some responsibility (if not in law) by certifying that each of these accounts, in their view, complied with the requirements of the Companies Acts 1948 and 1967.

## Exports, Imports and Commodity Trading

All Avon companies had filed information about the value of their export trade, as required by law. Exports by the Avon Group increased by about half between 1970 and 1974. This represents a virtual standstill in real terms — taking inflation into account — and is slightly below the average for exports by all manufacturing industries.

Though no particular emphasis has been placed on export achievement at Group level, two subsidiaries — Medicals and Inflatables — have greatly increased their export trade in recent years. Between 1970 and 1974, Inflatables' exports increased from £370,000 to £1m. while Medicals' exports increased from virtually nothing to £486,000. Both companies have applied, on several occasions, for Queen's Awards to Industry, though without success.

There was no data in annual reports about the companies' net levels of exports. In its activities overseas, Avon has relied mainly on the provision of local finance, rather than invest its own (UK) funds abroad. However, in 1974, Avon imported about £6m. worth of raw materials, so although its gross exports amounted to some £11m., its net exports were worth approximately £5m.

When purchasing rubber and other commodities, it was said that the Group bought almost exclusively on the 'physical market' to meet short-term needs — and that it had not and would not become involved in speculative trading of any kind. It may be of interest to note that this policy was formally

adopted by the Avon main board in mid-1974 — following the publicity given to the substantial losses made by other companies involved in speculative trading.

### The Avon Board

At the beginning of 1975, there were six executive, and four non-executive, directors on the Avon main board. It was said that no formal selection criteria existed for the appointment of directors.

Avon's executive directors — who have generally been appointed from within the Group — are not required to offer themselves for re-election (by shareholders) once they have been appointed, so there is no limit to the length of their term of office. By contrast, non-executive directors are subject to re-election, on average once every three years.

The non-executive directors on the Avon board, at the time of this enquiry, included two men with experience in engineering, one lawyer and one City banker. The Avon board has not considered the appointment of directors representing the Company's workers, consumers, or local or other affected interests. No detailed assessment could be made of the extent, if any, to which directors' own interests might conflict with those of the Group. Directors' shareholdings in other companies were not examined, neither was any attempt made to enquire about the significance of the other directorships held by the four non-executive directors.

None of the directors had large shareholdings in the Group — the largest shareholding belonged to the Managing Director who would have been entitled to dividend payments amounting to £258 in 1974.

### Postscript

It was intended to report on Avon's political and fiscal relations with government. However, Avon did not provide sufficient information to show what amounts of money have flowed both to and from the Group, through government. And the information provided about political relations with government was thought not to justify any detailed reporting.

Basically, the Group said it had taken few if any direct initiatives to make known its views and interests to government — mainly because it was felt by senior management that the efforts made by successive governments to 'consult' interested parties were fundamentally insincere. The Group suggested that, from its point of view, no purpose would be served by seeking a dialogue with government — when dialogues could not in fact take place. Governments may consult, it was argued, but they take little heed of the representations that may be made.

### Discussion

This brief review of Avon's business was limited in particular by the lack of information provided by the Group. In some areas, the information requested was withheld, because it was considered commercially sensitive. In others, Avon had simply not collected the information that was required.

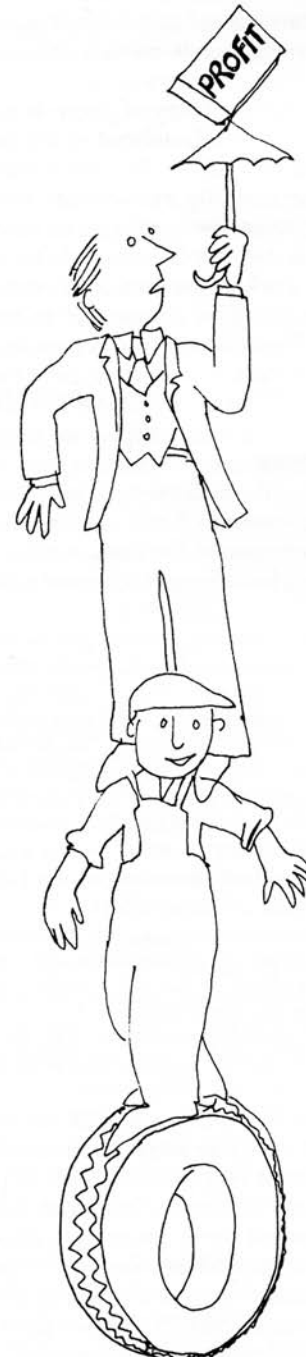
On the strength of the information that was obtained, it would appear that the following would be the most significant points about the Group's operations:

- The Group has lacked a coherent strategy for its growth and development. The absence of such a strategy is particularly evident in (i) the Group's 'opportunistic' (and unsuccessful) approach to acquisitions, and (ii) the recent boardroom changes caused by unresolved differences over the Group's future.
- Avon's ability to diversify on the non-tyre side is clearly critical to its survival as an independent business. Despite some successes in diversification, Avon's continued dependence on the motor industry would appear to make it highly vulnerable. The Group cannot be considered at present to offer great security of employment, in particular for

employees on the tyre side.

- While Avon's management style would appear to have unusual and refreshing aspects, there was little evidence of 'open culture' beyond Melksham; in any case, with the recent resignation of the Managing Director, management style may change significantly in the future.
- In its use of assets, the Avon Group has had a relatively poor record; and the Group's investment record has been similarly disappointing.
- In competition against major multinational tyre manufacturers, Avon has had little freedom of manoeuvre; the direction of its business has been largely dictated by conditions in the industry generally. However, on the non-tyre side, Avon appears to have largely succeeded in its aim of reversing the circumstances by which it suffered in the tyre market. In particular, Avon Medicals has managed to operate within a market in which its size and technological abilities have deterred serious competition.

Finally, it was not possible to establish — by reference to any explicit policy, or evidence of consistent practice — what Avon had determined its commitments to outside interests should be. It remains to be seen — by reference to past practices of different companies in the Group — how and why such commitments may, or may not, have been made.



# Pay and Fringe Benefits

From each according to his or her ability. But to each according to what? It is Avon's stated policy to encourage employees to develop their abilities to the full. But how are their efforts, abilities and needs rewarded?

This section of the report deals not simply with the question of earnings levels, but with the different payment systems used for different groups of employees and the ways in which payment systems may be used to influence employees' behaviour.

## Payment systems

It is generally accepted that workers get wages and salaries beget staff. It should be recognised that wages and salaries amount to much more than means of disbursement. The ways in which money is paid — as opposed to the amount earned — reflects to a considerable degree the attitudes and expectations a company has of its employees. These, in turn, are bound to influence the way employees feel about the company.

The payment of a salary implies trust by the company that an employee will give above the minimum level of performance, and that he or she will hold a certain loyalty to it. The salaried employee can expect in return, the security of stable and predictable earnings levels as well as some degree of job security and promotion prospects.

**Wage earners enjoy few if any of these benefits. Wage payments are usually fairly rigidly related to the number of hours worked and to levels of output; they are often associated with work that is not intrinsically rewarding. Wages, more than salaries, represent a discipline as much as a reward.**

Wage systems may be flexible enough to allow employees the opportunity to work more and earn more; but they are also flexible enough to allow companies to pay less for lower output. This flexibility allows companies to restrict output when times are bad, but it may also penalise the employee whose output drops — for example, with increasing age. In a traditional wages system an employee may effectively be demoted with increasing age — whereas the salaried employee in the same position will usually simply not be promoted.

In a typical wage system a basic rate is paid for a 40-hour week and bonuses are earned for output above certain agreed levels. There are three broad types of bonus payment:

- **Individual schemes** invariably involve 'piecework' — that is payment for each unit of output produced. On the one hand, they allow individual employees a relatively high degree of control over their work at any time; they may lead to increased output, and they may allow high levels of earnings to be made. On the other hand, the rate of work in such schemes may not be conducive to either quality or safety; and these schemes may set workers competing against each other for jobs where it is easier to generate high earnings.
- **Group schemes** — involving anything from a small work unit to an entire department, allow individual employees rather less scope to earn high bonuses, but reward group effort.
- **Factory schemes** pay out bonuses related to the overall efficiency of a plant. Such schemes focus on organisation and methods of production — rather than on effort or output of individual employees and may allow trade unions the opportunity to become involved in long-term investment and planning decisions. On the other hand the individual will have less control over day-to-day earnings levels.

Two further points should be made about all such schemes. First they tend to be effective over relatively short periods of time, and need constant reappraisal. (This is particularly true of individual schemes). Secondly, none can be effective unless there is growing demand for a company's products. Finally it should be noted that employees generally use the flexibility that many wage payment systems allow, not to take maximum earnings all of the time, but to spread their workload and achieve relatively stable earnings over long periods of time.

## Differentials and job evaluation

One of the most critical elements in any payment system is the relative status of different jobs, and the differentials in pay between them. To a large extent, both are determined by the supply and demand for particular skills and cannot be controlled by individual companies.

The formal process by which individual companies (and sometimes industries) determine the relative earnings for particular jobs is known as job evaluation. Job evaluation entails an assessment of the relative 'worth' of different jobs of the same general type — using criteria such as skill required, responsibility involved, physical conditions and effort and concentration demanded. Although such schemes may be seen to be 'scientific', they tend also to legitimise the value of the market — for example by paying more for scarce skills.

Obviously, the value of such schemes — which are now widely used — depends on their acceptability to all employees concerned and their design and implementation should be agreed with employee representatives before their introduction.

By agreeing openly the basis on which different jobs are to be rewarded, the scope for arbitrarily paying one employee more than another — for any reason — is reduced.

## Wage Negotiations in Avon

(i) **Staff.** Avon operates a system designed to set salary levels for all but the most senior staff, throughout the Group. The policy which underlies this system is based: 'on the principle of paying a fair and competitive minimum rate for the adequate performance of a job, plus an amount over and above that rate which is dependent upon individual performance.' This salary system was introduced in 1970, and based on an eight-grade job evaluation scheme.

The application and coverage of the scheme throughout the Group has varied greatly, in particular since the Group Personnel Department was axed, early in 1972.

For example, Melksham, Medicals and Inflatables all reported that they had found it necessary to depart from the Group scheme, in order to keep salaries for some specialist staff in line with market rates. Medicals said they were seriously considering the possibility of setting up their own scheme in the future.

There were considerable differences also in the procedures used by the different companies for the regrading of staff. Clearly defined procedures existed at Melksham and Bradford; and at both companies individual employees and their staff representatives have been involved in evaluating jobs. (The situation at Melksham was complicated, in that the union branch secretary was also a senior work-study engineer, involved in the implementation of the job evaluation scheme. Though conflicts could in theory have arisen as a result of this, none apparently had.) At other Avon companies, however, the implementation of the Group job evaluation scheme had been left to management — and neither individual employees, nor their representatives, were involved. At Medicals and Motorway no staff union had been organised; while at Bridgend, the union had not apparently sought to become involved. At Inflatables, however, the staff representative had asked the management for information about the grading of different jobs, but this had been refused. (See p. 25.)

Management and unions at Group level have also recommended procedures for merit rating. Once a year, the performance of each staff member was to be reviewed by his or her superior and — subject to there being money available — an appropriate award was then to be made. Again, practice has varied widely from plant to plant, formal appraisals being the exception rather than the rule. In particular, most junior managers and clerical staff receive the same, small annual award. Senior managers are not graded under this scheme but do have their salaries reviewed each year.

(ii) **Works.** The Avon Group has no machinery to coordinate payment systems and earnings levels for its 5,500-odd manual workers. Accordingly, manual workers' earnings, and the systems by which they are paid, are negotiated at plant level.

However, some employment conditions (e.g. overtime rates) are common throughout the Group because of Avon's involvement in industry-wide agreements. The Group is represented by the British Rubber Manufacturers' Association — and workers by the national organisation of the Transport and General Workers' Union — in industry-wide negotiations which take place each year. The forum for these negotiations is the rubber industry's National Joint Industrial Council (NJIC). The NJIC negotiations establish minimum rates for pay, overtime, holidays and shift work for the rubber industry. Avon, as one of the industry's largest employers, has invariably paid above these national minima.

### Earnings and hours

Staff within the Avon Group are paid for a 36½ hour week — though some work more. For example, supervisors on the shifts work 40 hours, and are paid extra for doing so; and senior managers may be expected to work overtime, unpaid.

Manual workers do a basic 37½ or 40-hour week. Some, like the predominantly female employees at Medicals and Inflatables, work a five day week. However, most of the rubberworkers at Melksham, Bradford and Bridgend rotate between morning, afternoon and night shifts, once a week. Occasionally, they may be moved at shorter notice when there is heavy absenteeism, or when production bottlenecks occur.

It is generally acknowledged that shift working and, in particular, frequent changes in shift patterns — and therefore in sleeping and working times — interfere with the body's natural rhythms as well as individuals' social and family life. Shift workers generally get less sleep, and suffer more stress and stress-related illness, than their daywork counterparts. (*Work is Dangerous to Your Health*, Stellman and Daum, Vintage Books, Random House, 1973.)

All manual workers (other than day workers) got payments for shiftwork — and, together with payments for overtime, these added considerably to basic rates of pay. This was particularly true for male rubberworkers at Bridgend and for service staff at Motorway depots who worked long hours, so that up to 12 per cent of their total earnings came from shift and overtime pay. Some indirect workers at Bradford put in particularly long hours, the most extreme example being the security men who often worked 60-70 hours per week. (Bradford was also the only site which provided such detailed information on working hours for its employees.) Rubberworkers at Melksham have consistently received higher wages and worked shorter hours than their counterparts elsewhere in the Group. See Table 1. Average rates of pay of rubberworkers at the three main plants — Melksham, Bradford and Bridgend — have been well above the average for the industry but pay at Medicals has been below the industry average.

The Group did not supply sufficient information on staff salaries to allow comparisons to be made. See Table 1. The Group's published accounts show that directors' income (before tax) has not changed over the last four years but that directors at Medicals and Motorway have received large increases.

All manual workers (with the exception of the maintenance engineers at Melksham) are required to clock in and out each day. Lateness is usually penalised by loss of pay, and persistent lateness results in formal warnings which may lead to dismissal. There is no formal system for checking staff employees' attendance or timekeeping; persistent lateness is usually dealt with informally between each employee and his or her supervisor, but may also lead to disciplinary action.

Maintenance engineers at Melksham, unlike all other manual employees in the Group, have been granted 'staff status'. They receive salaries and fringe benefits in the same way as staff employees and, instead of overtime payments, are given time off in lieu. However, they are still required to sign in and to work on shifts around the clock.

### Payment systems for works employees

This part of the report draws attention to what were considered to be the outstanding features of the various payment systems for works employees that have been used by different Avon companies. Unlike the Group-wide salary system for staff, the works schemes differ, sometimes significantly, from plant to plant. The schemes place varying emphasis on attendance, effort, consistency and other factors. These in turn, can be influenced by competitive pressures, market preferences (such as high quality rather than low price), and also management and union attitudes.

At Melksham, Bradford and Bridgend, the payment systems used for rubberworkers were in the past comparable — at least to the extent that, until 1970, all three companies paid by individual piecework, and all found this system very unsatisfactory. To a greater or lesser extent, the managements of these companies had to contend with spiralling wage costs, stagnant or decreasing productivity, and perpetual conflict over the assessment of piecework rates, which took considerable time and effort to resolve. So far as the trade unions were concerned, piecework had its advantages — for example it gave individual workers a good measure of control over their own levels of earnings — but it was also disliked because it could lead to sharp fluctuations in earnings levels, and to considerable (and sometimes wholly inequitable) differentials between the earnings of different employees.

During 1970, the management and union at each company negotiated over the introduction of a new payment system:

**Melksham** introduced a Factory Improvement Plan (FIP), which involved the payment of a fixed basic wage and a bonus related to factory output. Under FIP, cost savings were split 50-50 between the Company and the employees — who received

HE SEEMS TO HAVE  
GONE ON TO NIGHTS  
AS WELL ....



Table 1. Weekly earnings (£) and hours of Avon employees

Male Rubberworkers									Staff <sup>3</sup>								
Weekly earnings <sup>1</sup>				Hours worked				Weekly earnings <sup>1</sup>				Hours worked					
	1974	1973	1972	1971	1974	1973	1972	1971		1974	1973	1972	1971	1974	1973	1972	1971
Melksham	51.0	47.2	44.0	NS	41.5	42.0	43.4	NS	Melksham	NS	NS	NS	NS	NS	NS	NS	NS
Bradford	52.0	41.3	40.6	35.8	45.3	42.9	45.2	44.3	Bradford								
Bridgend	58.4	46.9	38.6	38.4	47.1	45.6	41.3	43.5	graded								
Medicals <sup>3</sup> —									(M & F)	33.4	NS	NS	NS	37.5	NS	NS	NS
extruder									Non-								
operator	45.4	42.0	38.5	NA	40	40	40	NA	graded <sup>4</sup>								
labourer	27.3	25.2	24.3	NA	40	40	40	NA	(M only)	96.2	NS	NS	NS	37.5	NR	NR	NR
quality									Bridgend								
control	39.0	36.0	33.8	NA	40	40	40	NA	graded (M)	41.9	NC	NC	NC	37.5	37.5	37.5	37.5
Rubber									graded (F)	27.0	NC	NC	NC	37.5	37.5	37.5	37.5
Industry									Non-								
Average	46.8	40.2	36.6	32.3	43.3	43.3	43.0	41.8	graded <sup>4</sup>								
									(M only)	69.7	65.5	60.9	56.4	NR	NR	NR	NR
Female Rubberworkers									Medicals								
Weekly earnings <sup>1</sup>				Hours worked				Weekly earnings <sup>1</sup>				Hours worked					
	1974	1973	1972	1971	1974	1973	1972	1971		1974	1973	1972	1971	1974	1973	1972	1971
Melksham	31.6	29.1	25.5	NS	34.7	36.8	39.6	NS	graded (M)	44.2	NC	NC	NA	37.5	37.5	37.5	37.5
Bradford	32.9	27.1	21.4	18.7	37.7	39.5	34.6	35.2	graded (F)	29.9	NC	NC	NA	37.5	37.5	37.5	37.5
Bridgend	24.5	26.3	21.9	19.8	32.4	41.8	39.9	40.8	Non-								
Medicals <sup>3</sup> —									graded <sup>4</sup>								
canteen	26.6	19.4	17.4	NA	40	40	40	NA	(M only)	75.0	66.2	62.1	NA	NR	NR	NR	NR
general									Motorway								
assembler	27.8	24.3	23.7	NA	40	40	40	NA	Head								
group									office								
leader	32.2	25.9	24.6	NA	40	40	40	NA	managers								
charge-									(M & F)	52.9	NS	NS	NS	36.25	36.25	36.25	36.25
hand	32.8	27.0	25.2	NA	40	40	40	NA	Clerks,								
Inflatables	NS	NS	NS	NS	NS	NS	NS	NS	typists								
Rubber									(M & F)	22.5	NS	NS	NS	36.25	36.25	36.25	36.25
Industry									Branch &								
Average	29.0	23.0	20.1	17.4	38.8	38.3	39.3	38.6	regional								
									managers								
									(M & F)	36.1	NS	NS	NS	44	44	44	44
Male Engineers <sup>2</sup>									Directors <sup>5</sup>								
Weekly earnings <sup>1</sup>				Hours worked				Weekly earnings				Hours worked					
	1974	1973	1972	1971	1974	1973	1972	1971		1974	1973	1972	1971	1974	1973	1972	1971
Bridgend—									Avon								
engineering									Group	126	111	121	120	NR	NR	NR	NR
unit <sup>3</sup>	46.4	41.2	NA	NA	40	40	NA	NA	Motorway	147	132	64	38	NR	NR	NR	NR
Bradford	54.4	48.8	42.9	NS	46.4	47.3	49.1	NS	Bridgend	86	78	60	NA	NR	NR	NR	NR
Medicals <sup>3</sup>	46.4	39.9	35.9	NA	40	40	40	NA	Medicals	150	113	67	NA	NR	NR	NR	NA

1. At July each year except Medicals (September).
2. Only Bradford and Medicals supplied information requested about earnings of maintenance engineers.
3. Where information on actual hours worked was not supplied, it has been assumed that staff worked 37½ hours each week and works employees 40 hours.
4. Non-graded staff are senior personnel whose jobs do not fit into the Group job evaluation scheme.

5. Information taken from published accounts filed at Companies' House. The figures do not include any dividend income which directors might receive as shareholders in the Group.

NA — Not applicable. NC — Not calculated because basic information was not supplied by Melksham. NR — No records kept by the company. NS — Information not supplied.

equal payments in the form of a permanent increase in their hourly wage rates.

But, from the company's viewpoint, FIP failed. In particular, it was found that the bonus payments were too small and paid too infrequently to have any discernible effect on productivity. In addition, individual employees had no real control over the bonus earnings they received. Accordingly, a new payment system — the Productivity Bonus Scheme (PBS) — was devised, and introduced in 1974.

Under PBS, performance was assessed separately in each of 20 areas in the factory — and employees in each area received 100 per cent of wage-savings due to increased productivity, as a once-and-for-all cash bonus paid each month. The acceptance of PBS would, in part, have been due to the considerable effort made by the management and union to explain the scheme to all employees. The Factory Improvement Plan (FIP) had been accepted by shop-floor representatives largely on trust. However, PBS was explained to groups of 20 employees, by the head of work study and his staff together with union

wage negotiators, in meetings which were held each morning and afternoon, non-stop over a period of five months.

No assessment could be made of the viability of PBS because the scheme was introduced only shortly before this enquiry began. After a promising start — output rose by 10 per cent in the first month following the introduction of PBS — the scheme was effectively suspended as a result of a serious downturn in product demand. However, the PBS scheme did not deal with the problem of the differentials in basic wage rates for different jobs. The basic rates which applied at the time of this enquiry derived from the rates earned under the old piecework system — and they have never been systematically assessed through job evaluation. The management and union at Melksham have agreed on the need for job evaluation — which would allow simplification of what is now an extremely complex shop-floor pay structure. However, they have yet to agree on a design of a job evaluation scheme which would correct anomalies in the existing system but without disturbing many other traditionally accepted rankings.



Bradford scrapped its piecework system in 1970, in favour of a scheme which paid a high basic hourly wage and a small bonus related to the factory's total output. The factory's output was defined as the total works cost (materials + wages + overheads) of the goods produced in any one period; bonuses, paid for each period that total works cost exceeded a pre-set target, were *permanently* incorporated into employees' pay, increasing their hourly wage rates. Under this system, employees received bonus payments not just for increased output, but also because of increases in the price of raw materials which led to increased works costs. The effect of this, together with the payment of bonuses on a cumulative basis, would have been to bankrupt the Company in the short to medium term. Accordingly the scheme was modified in 1972. The unions accepted that bonus payments be made on the basis of adjusted works cost, and be paid monthly as a once-and-for-all lump sum, in return for the payment of bonuses at output levels about 8 per cent lower than before.

The revised scheme did not, however, bring about a significant increase in productivity, as the management had hoped. There were three main reasons for this:

- Individual work rates had little if any perceptible effect on the total output, or on the amount of the bonus, and there was therefore virtually no incentive for employees to meet factory production targets. (In 1974, the Company had to meet increased demand through high overtime and additional recruitment.)
- An extra time allowance (15 per cent) which had originally been negotiated to compensate employees on machine-controlled work (as they had less control over their work rates) ended up being extended to all employees.
- Under the 1970 agreement, once an employee reached a level of output commensurate with maximum earnings (performance known as '100 per cent') he or she would continue to be paid at that rate, so long as performance did not drop below 68 per cent. Though management said that very few people had abused this system, the flexibility it allowed made it impossible for supervisors to have any tight control over work rates.

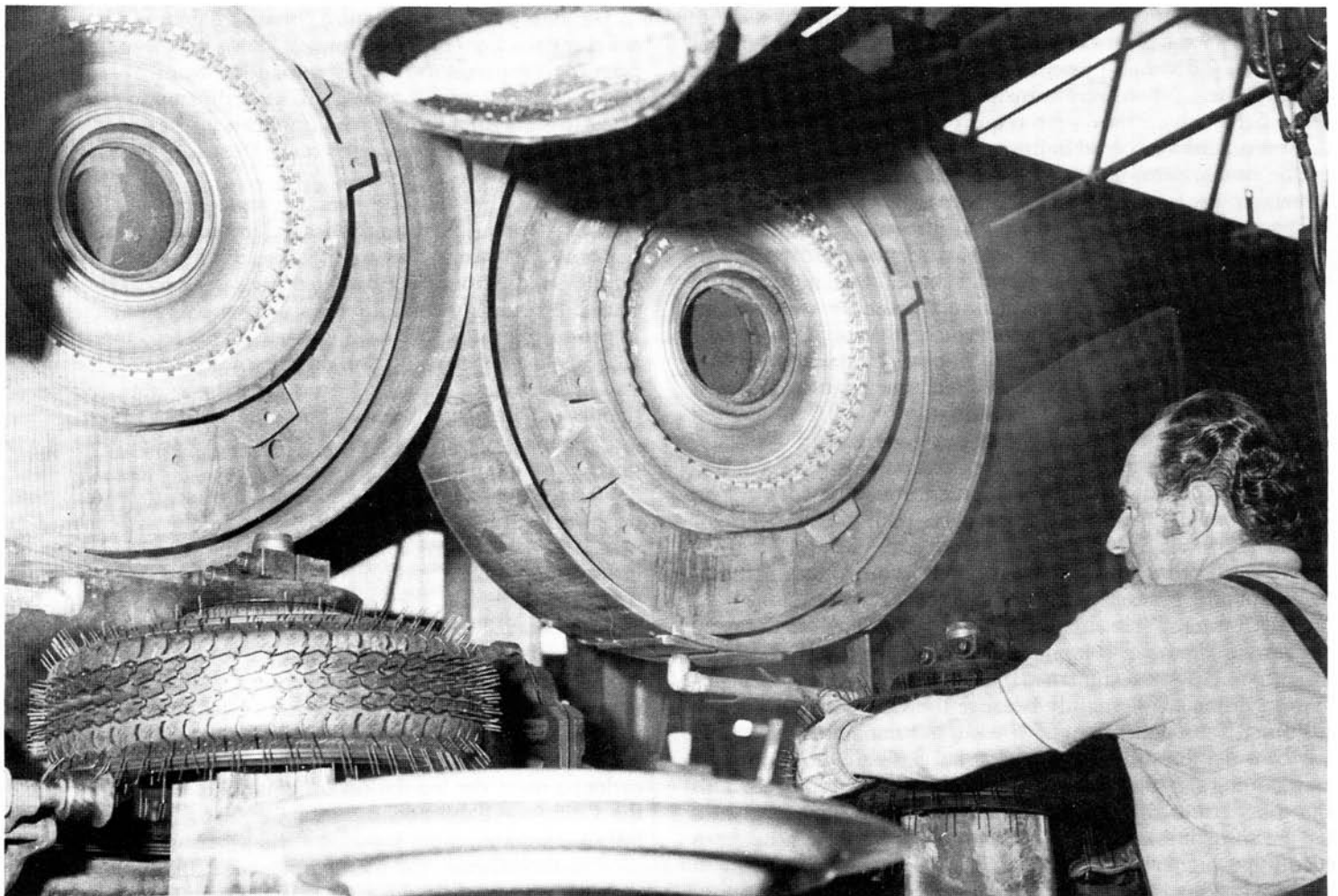
As things stood in mid-1975, both management and union wanted changes in the system. Management was anxious to tie earnings levels more closely to output; while the union wanted a scheme which would allow individuals greater scope for controlling their level of earnings.

In addition, management made it clear it would wish to introduce job evaluation on the shop floor. The employees have resisted these proposals, for fear that job evaluation would undermine traditional shop-floor pay differentials.

Bridgend replaced its individual and small-group piecework system with a scheme described as similar to 'measured day work'. But, whereas measured day work guarantees stable earnings for an agreed *and measured* minimum output, Bridgend had no facilities for the measurement of work performance. Workers at Bridgend have questioned not simply the accuracy, but also the validity, of management tools such as work study; and, as a result, the Company has been unable to adjust the rates for different jobs, to take account of the introduction and use of new materials and machines, and the resulting improvement in work methods.

As the introduction of new methods and materials allowed employees to produce more, over a given time — and because the new system provided no incentive for producing above a minimum — employees came increasingly to spend less and less time on productive work. This system created some especially 'slack' jobs: this had the advantage of allowing older and slower-working employees to transfer to these jobs and maintain full earnings, but it also made it possible for some others to draw maximum pay for working far less than a full shift.

Throughout 1974, management tried to correct what they considered to be a highly unsatisfactory situation. They made several proposals for increasing minimum rates of work, in return for the payment of cost-of-living awards — but repeatedly met with opposition from employees, who held that cost-of-living awards should be paid independently of



payments for increased productivity. The management finally conceded this demand in early 1975 and, at the same time, secured the union's agreement to some voluntary redundancies, following a decline in sales.

However, the underlying problems remained unresolved. Despite repeated efforts, the management had failed either to introduce work measurement or to gain workers' willingness even to consider changes in production methods and rates as and when necessary.

The engineering unit at Bridgend operates independently. Most employees have been paid a relatively low basic wage, with an incentive element which has amounted to some 40 per cent of earnings. However, indirect workers (such as store-keepers or drivers) get a high basic rate and a small bonus; while a small group of tyre fitters are paid entirely by piecework. Some of the workers on high bonus rates have probably used this system to take high earnings, but the majority appear not to have done so. See Table 2.

**Table 2. Bridgend Engineering Unit—Distribution of Earnings**

Earnings £/week	Number of employees	
	September 1973	September 1974
20-30	9	6
30-40	15	15
40-50	20	38
50-60	19	29
60-70	2	9
70-80	1	3
80-90	1	3
	67	103

There has been continual negotiation over piecework rates in the engineering unit. These rates have been estimated by the unit's work-study engineer, and have been frequently checked by shop stewards. In addition, time study sheets have been available to individual employees.

**Medicals.** Until 1968, the (mainly women) employees were required to assemble complete blood administration sets from a number of different components — and they were paid for this on an individual piecework basis. After a reorganisation, in 1968, the women were transferred to work alongside conveyor belts, where they were required to perform any one of the several tasks involved in the assembly of a complete set.

The new system, under which employees were paid a fixed hourly wage for measured day work, led to considerable increases in productivity. However, this was probably almost entirely due to the reorganisation of work, and not specifically to the new system of payment. Under the new system, employees were performing very simple, essentially mechanical tasks — and the conveyor belts kept work flowing continuously to and from their hands. The work itself is inherently unstimulating — and under the new system, probably even more so than before.

In 1972, a bonus element was incorporated into the payment system, in an attempt to increase productivity, which had not changed significantly since the measured day work system began. From 1973, annual bonuses were paid to employees for output above agreed levels. The bonuses have been relatively small: they were worth 3 per cent of employees' basic earnings in 1973; and 1 per cent of earnings in 1974.

The Company has since taken on work study staff, in an attempt to devise a system by which productivity could be increased. However, the management said they faced problems in doing so — mainly because the Company's principal customer, the Department of Health, has made it clear it does not consider incentive schemes to be generally conducive to maintaining the high quality standards that are required. This and other constraints on the Company would, in part, account for the sometimes elaborate measures that have been taken to encourage higher rates of work. For example, management has used a system for the hourly measurement of output,



*Final assembly at Inflatables*

partly in order to help excite competition between the women on different conveyor belts.

Apart from the 1972 modification to the measured day work system, the only other major change came in 1974/5 with the introduction of a job evaluation scheme. As with Avon Inflatables, job evaluation was introduced as a means of complying with equal pay legislation; and, similarly, it was worked out in full consultation with employees. Management said that the scheme would add 16 per cent to the Company's wage bill — £80,000 a year, when implemented in full.

The effect of job evaluation, briefly, has been (i) to widen differentials between the highest and lowest paid; (ii) to upgrade supervisors (predominantly women) and also engineers (all men); and (iii) to downgrade extruder-operators, again, all men. The implications of this scheme for equal pay are further discussed on p. 46.

**Inflatables.** The 200-odd works employees — also mostly women — get a fixed hourly wage, amounting to roughly 85 per cent of earnings, and are paid the rest as bonus. In its present form, the bonus is calculated each week by assessing output of the individual employees, and then averaging these data to get an output figure for the whole plant. No employee gets a bonus if *average* production falls below an agreed minimum; and no individual is paid a bonus if her/his output falls below that level. The maximum payable under this scheme is 15p for every hour worked; and the average payment for 1974 was said to be 11p an hour.

Management said that, while they wished to reward both teamwork and individual effort — as in the system used at present — they were considering placing more emphasis on individual effort, by introducing small-group incentive schemes. They said they had been deterred from doing this before because of the problems involved in creating new differentials. While there were only three grades of shop floor employees at the time of this enquiry (skilled and unskilled workers and sewing machinists), job evaluation will allow new job gradings to be established in the future.

The job evaluation scheme which was introduced in 1975, in order to meet the legislation on equal pay, was said to make the Company liable for an extra £40,000 a year on its wage bill. At the same time, it was said that, because of the criteria used in this scheme, the men employed at Inflatables will still be 'relatively' more highly paid than women. See p. 46.

**Motorway.** The 150 or so employees in Head Office at Reading are all salaried — as are the Company's managers and sales representatives, based at the depots. Other depot employees are paid an hourly wage — and all depot employees receive bonus and overtime payments as well.

The rates paid to all depot employees (other than branch managers) have been fixed at local level, and vary according to the size and location of the site. However, the rates paid to tyre-fitters have apparently also been influenced as a result of twice-yearly discussions, held on a semi-formal basis between personnel managers within (about two-thirds of) the industry. The meetings have been arranged in order to discuss the implications of the very high demand for good tyre fitters: the meetings have almost certainly involved the pooling of information, though Motorway's personnel officer stressed that they had involved no 'conscious' lining up of pay, and that 'we discuss wages and salaries so we can make the thing nice and clean'.

## Job evaluation

Several references have already been made to job evaluation schemes. These schemes have usually been proposed by management, in order both to promote a sense of fairness among employees, and to simplify the wage or salary structures.

All of Avon's job evaluation schemes were designed by outside consultants; and all offered a pre-determined range of factors. In the schemes used at Medicals and Inflatables, and in a scheme considered but rejected at Bridgend, the weightings given to the various factors were determined by shop-floor representatives. However, no-one at Avon seemed to know how the weightings had been arrived at in the older Melksham works scheme and the Group-wide staff scheme.

All the schemes awarded points to compensate for physical discomfort (e.g. noise, dirt, working posture) but the scheme for works employees at Melksham was the only one to take into account also 'mental disagreeableness' — e.g. isolation, monotony, nervous tension, etc. The Melksham scheme was, in addition, the only one to compensate for unusual or extended hours.

All the schemes awarded more points for those jobs which involved greater mental or physical variety. As a result, more repetitive work is downgraded — in all schemes — while more varied, and therefore probably more interesting, work is upgraded.

None of the schemes compensated for differences in job security, promotion potential, intrinsic interest (except Melksham) or opportunity to control effort and working hours.

Medicals and Inflatables used the same job evaluation scheme; yet the two shop-floor committees allocated very different weightings to the five factors involved. To some extent, this may have been due to differences in the kinds of work at the two sites; though it appeared that the women at Inflatables had given a particularly high ranking to jobs involving the lifting of heavy weights (traditional men's work). See Table 3.

**Table 3. Weightings allocated to different factors in Avon job evaluation schemes**

	Medicals	Inflatables	Melksham	Group (staff)
	%	%	%	%
Skill and education	13	12	40	45
Range of work	37	31	16	35
Responsibilities	30	26		
Effort	14	23	16	15
Working conditions	6	8	28	5
Totals	100	100	100	100

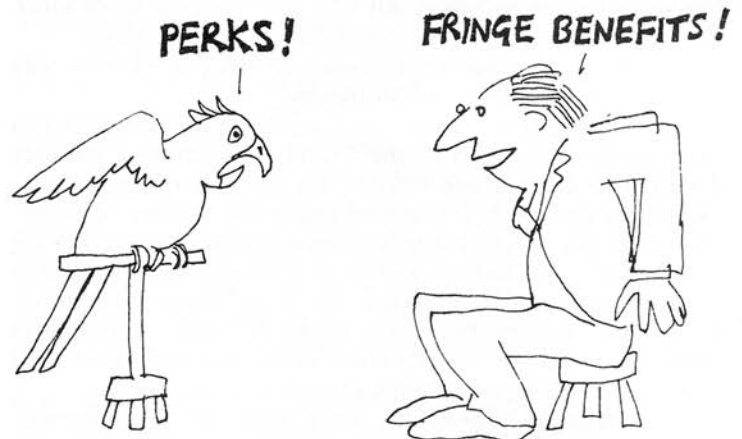
Note: No information on weightings was provided about the scheme rejected at Bridgend. The figures shown for the Melksham and Group schemes are not entirely comparable, because of slight differences in the definitions used for the five factors involved.

The job evaluation 'package' produced by PA Management Consultants for Inflatables and Medicals tended to favour supervisory and managerial responsibility, as a result of a form of double counting. For example, points were awarded under the heading 'Range of Work' both for assigning work to others and also for the responsibility of supervising others. Similarly, double counting appeared to have been used in the case of responsibility for materials, and also for plant or tools.

But whatever the design of the scheme, it is clearly most important that employees should decide what weightings are given to the various factors involved. One of the reasons for the partial failure of the Group staff job evaluation scheme is that it was imposed — with assigned weightings — on plants with different ranges and kinds of jobs, which have different relative status at the different sites. In addition, neither the staff nor their representatives, at Medicals, Inflatables and Bridgend, had been formally involved in assigning different jobs to the different grades used under the Group job evaluation scheme.

There is no scheme at all at Motorway, and therefore no way in which employees throughout the country, working in depots of varying size, can know that they are being fairly paid in relation to one another.

## Fringe Benefits



Fringe benefits are being regarded less and less either as expressions of an individual employer's benevolence, or as inducements offered only to staff employees. As successive incomes policies have left fringe benefits as the only possible means of increasing employees' overall remuneration above a certain level, they have been increasingly used as part of formal reward and discipline systems, for both manual and staff employees.

The three most important 'fringe benefits' are probably holidays, pensions and sick pay, but there are many others besides. At Avon Group and company level, information was obtained about benefits which ranged from share-option schemes to pre-retirement courses, and from subsidised transport to removal allowances.

• **Holidays.** All companies said they observed Group policy on staff holiday entitlement — though significant variation was found between practice at the different sites. In particular, holiday entitlement was linked to length of service at Bridgend and Inflatables; while Motorway employees were allowed 3 weeks annual holiday, rather than the normal 4 weeks and 2 days.

Avon works employees have been entitled to the NJIC minimum, except at Melksham — where an additional week's holiday was negotiated in 1971, when the Company sought to introduce staggered holidays in order to eliminate the annual works shut-down. (In the event, the Company found it was unable to maintain adequate manning levels during the holiday period, and so had to revert to the shut-down system.)

The Table below indicates how holiday entitlements may differ. It should be noted that staff are allowed much more flexibility than works employees over the timing of holidays, as they are not directly involved in production processes which require continuous attendance.

**Table 4. Avon staff and works holiday entitlements (in days) in addition to the 7 statutory holidays allowed each year**

Staff	Melksham	Bradford	Bridgend	Inflatables	Medicals	Motorway
	22	20(a)	22	20(b)	22	15
Works	23	18	18(c)	18	18	15

**Notes:**

- (a) 22 days for employees with 5 years service or more.
- (b) 22 days for employees with 3 years service or more.
- (c) 17 days for employees in the engineering unit.

● **Sick pay.** All Avon staff are covered by a sick pay scheme which provides: (i) 8 weeks on full-pay, and a further 20 weeks on half-pay, for staff with at least six months service; and (ii) 12 weeks on full-pay, then 28 weeks on half pay, for those with five years service or more. All staff are required to produce medical certificates for absences of more than three days.

**Avon works employees are covered by sick pay schemes only at Melksham, Bradford and Motorway.**

The Melksham works sick pay scheme was introduced in 1971, at the instigation of the TGWU, as part of a package designed to compensate workers for the loss of bonus payments that had been anticipated under the Factory Improvement Plan (see p. 18). Initially, payment was made during the first three days of absence, and employees were not required to produce the traditional medical certificate. (State benefits are not payable for the first three days.) However, a three-day limit was introduced shortly after, as the original scheme was found to have been persistently abused by a few workers.

The Melksham scheme has since been run — reportedly without any serious problems — by a committee which has majority union representation. In addition, an independent Benevolent Committee exists to help in cases of long-term hardship, beyond the coverage of the sick-pay scheme, by administering funds contributed equally by the Company and the employees.

**Under the Melksham scheme, works employees receive the same benefits as staff employees, but:** (i) no payment is now made for absence of under three days; (ii) full weekly pay excludes overtime and shiftwork payments, which could amount to some 10 per cent of a worker's total earnings; and (iii) no payments are made to women for six months before or after childbirth.

**The Bradford union has requested a sick-pay scheme similar to the unusually good one at Melksham.** The Company offered instead a 'half way house', which was rejected as inadequate — and, at present, works employees at Bradford are paid at the rate of only £3 a week for the first 10 weeks of sickness absence, and half that for the next 10 weeks — for illness involving five days or more away from work. This scheme is funded jointly by employees — who each contribute 13½p a week — and the Company, which contributes 2½p per employee, each week. In addition, the Company said it had made ad hoc payments in some individual cases involving long-term illness and hardship.

**Motorway employees are either graded as senior staff** — in which case they get Group benefits — or as junior staff and depot employees. After six months employment, they get full pay for four weeks' absence through sickness and half-pay for another eight weeks, in any one calendar year.

**Bridgend has no sick pay scheme for works employees.** The management, trade unions and employees all felt that a sick-pay scheme would be abused. Neither the rubberworkers' nor the engineers' union expressed great interest in a sick pay scheme.

The Company has made ex-gratia payments to employees thought to be suffering from particular hardship. Payments have been made from a benevolent fund financed by employees' voluntary contributions and supplemented by the Company.

**At Inflatables, payments for sickness absence have been made at the discretion of the management, and only when absence is certified as being directly caused by injury sustained at work.** No payments are made for the first three days of absence; thereafter, employees receive £2 a day for seven days, and £1 a day for the next 18 days. The Company provided no information about the costs (if any) incurred under this scheme in the recent past.

The TGWU at Inflatables have asked management for an improved scheme, and have proposed that a committee be established to safeguard against possible abuse. The management had not agreed to this; they reportedly said that abuse would make the scheme too costly.

**Finally, no sick-pay scheme operates at Medicals; and the union has expressed little interest in having one.** The Company said they had been thinking about the introduction of a works sick-pay scheme, but that they considered this to be a bargaining point: the head of personnel said they intended to offer to introduce a sick pay scheme, in part as an inducement to the union to agree to withdraw from the industry's NJIC.

● **Pensions.** The Avon Group runs separate pensions schemes for works, staff and executive employees. The only difference between the scheme for staff and executives is that male executives may retire with full benefits at the age of 60, rather than 65. On the other hand, there are considerable differences between the schemes for staff and works employees:

**Staff pay higher contributions than works employees.** Works employees contribute 2 per cent of their earnings; while staff pay 5½ per cent of their 'pensionable salary' (annual earnings less £600).

**Staff pensions are based on salary during final years of service, and are therefore better protected against inflation before retirement.** The annual pension paid to works employees is 1¼ per cent of accumulated earnings during service; while staff receive 1½ per cent of their 'final pensionable salary' multiplied by the number of years in service. ('Final pensionable salary' is calculated as the average of the best consecutive three years' pensionable salary, during the employee's final ten years of service.)

**In the event of death before retirement, the dependents of staff employees receive larger lump-sum payments than dependents of works employees — and they get a proportion of the deceased employee's pension.** The dependents of a works employee who dies in service receive the employee's total contributions, plus a lump-sum payment equal to 1½ times his/her latest annual earnings. However, the dependents of a staff employee who dies in service get the employee's total contributions; plus a lump sum payment equal to 3 times the pensionable salary (in the case of a married man) or twice the pensionable salary in all other cases. In addition, the dependents get a regular pension, equal to one-third of the employee's expected pension at the normal retirement date.

Avon management said they were committed to closing the gaps that existed between these two schemes; and that the rate at which this could be done would depend both on the financial position of the Group, and on the willingness of works employees to increase their contributions.

At the same time, Avon has made substantial ex-gratia payments, both to increase all pensions which have been hit by inflation, and to compensate certain ex-employees or their dependents, whose pension entitlements had been particularly low. The extent of such support has been considerable: over the past five years, ex-gratia payments made by Avon have

averaged some 40 per cent of Group expenditure on pensions (excluding National Insurance contributions). For the year 1975/76, Group expenditure on pensions was estimated to run to £450,000; while the estimated amount of ex-gratia payments was put at £208,000.

Avon said there were two reasons for making ex-gratia payments — rather than using funds to buy secured insurance policies, through which benefits could be provided in the same way as in a standard pension scheme. First, it was said that the Group preferred to pay as and when the need arose, instead of making a large initial investment into a pension fund. Secondly, the Group said it valued the greater flexibility this allowed in dealing with cases of individual hardship.

However, under the ex-gratia payment system, the future security of both employees and pensioners could be at risk if, say, the Group ran short of cash and/or were taken over. There would be no contractual obligation on the Group, or on its present or future owners, to continue making these ex-gratia payments.

● **Disability insurance.** Avon employees who become permanently disabled as a result of an accident at work have received no pay or pension from the Company — other than that provided for in its sick-pay schemes. However, exceptions are made for salesmen on the road and test drivers and for employees involved in fire-brigade duties, security work, and the testing of inflatable boats and gas-pipe seals. These employees are all insured for a maximum of five times their annual salary, in the event of loss of eye(s), limb(s) or permanent disability.

● **Share option scheme.** In 1974, Avon introduced a savings-related share option scheme. Employees could contract to pay a fixed sum each month (up to a maximum of £20) over either five or seven years — after which they got their money back plus interest, and had an option to buy Avon shares. The scheme provided that shares could be bought either at 90 per cent of their Stock Exchange price when the contract came into force, either five or seven years before — or at their £1 nominal value, if the Stock Exchange price was below £1. (At mid-July 1975, Avon shares were quoted at 35p).

From the point of view of the Group, the scheme represents an opportunity to borrow at relatively low interest rates. From employees' point of view, however, the interest rates — about  $8\frac{1}{2}$ -9 per cent — would not compare favourably with other investment schemes which offered more flexibility and greater security. Obviously, employees could have no guarantee that they might benefit from exercising an option to buy Avon shares.

● **Canteens.** It has been Group policy to subsidise canteens, so that employees pay only for food (and not for canteen staff, equipment or overheads). However, each company said it had also subsidised the cost of food — rather than pass on to employees in full several recent sharp price increases.

At Melksham, Bradford and Bridgend, there are separate canteens for staff or senior staff.

● **Social and sports facilities.** Melksham and Bradford have extensive facilities, which are widely used; these are supported through subscription by employees, and through subsidies from the two companies concerned. At Melksham, for example, the Company has paid for a full-time manager and for part-time clerical help, and made an annual donation to the sports and social club — which is open to all employees at Melksham (and their spouses) and to employees from Bradford.

Rubberworkers at Bridgend have a social club, which has been subsidised by the Company to the extent of an estimated £1,500 a year. Engineering unit workers are members of this club, but are seeking to set up their own. At Inflatables, management said that most employees attended their husbands' social activities, and for this reason were less interested in facilities the Company might provide; nevertheless, the Company had organised several events, each year.



*'We can offer you £40 a month and 3,000 fringe benefits per year.'*

Medicals provided no up-to-date information about their facilities; while Motorway have none.

● **Subsidised transport.** An estimated one-third of all employees at Melksham use the Company's bus service, which has been subsidised at a (1974) cost of about £45,000 a year. At Bradford, some staff are eligible for transport allowances, but it is not known on what basis these may be given. Finally, Inflatables introduced a subsidised bus service, in January 1975; it operates in a five mile radius, and costs employees who use it 70p a week. No transport allowances were made at Medicals, Motorway or Bridgend — though the TGWU at Bridgend said they were considering pressing for transport subsidies in the future. Some employees — such as sales personnel and senior executives — were entitled to company cars, but the Group provided no information on the cost of this benefit.

● **Removal allowances.** Under Group policy, staff recruits may get help in finding accommodation. In addition, employees who are asked to move from one Avon company to another are eligible for assistance with removal expenses, and for a resettlement allowance equal to 5 per cent of annual salary, plus £100.

● **Product rebates.** Avon, like many other companies, allows employees to buy company products at substantial discounts.

● **Pre-retirement courses.** Melksham is the only plant in the Group to organise courses designed to help older employees adjust to living in retirement.

## Discussion

Avon is probably no different from many other companies in operating payment systems which distinguish sharply between staff and works employees. Throughout the Group most works employees are subjected to close, and continuous inspection of their work rate, application and timekeeping; and their earnings are cut when their performance falls below required levels.

Works employees in Avon have also been subjected to wage cuts for reasons beyond their own control. Fluctuations in the demand for Avon's products have, on many occasions in the past, led to reductions in overtime working or reductions in the working week to four days or less. As a result, works employees have suffered substantial loss of earnings and — more than staff — have borne the brunt of the economic decline.

By contrast, staff employees are trusted to attend regularly and punctually and to apply themselves diligently to their work. Many of them are expected to derive satisfaction from

the work itself. In times of economic decline their salaries are paid in full and they are less likely to lose their jobs.

Avon companies have invested large amounts of time and money in the design and administration of wage payment systems for works employees, but often without achieving a desired level of productivity. Union representatives at the different plants have been involved, to a varying extent, in the design of payment systems. At Melksham, in particular, the TGWU has had a large say in the schemes' design and implementation. Yet Avon's wage payment systems, like those throughout industry, have generally:

- Failed to bring about increases in productivity beyond the short term.
- Deteriorated within a period of two to three years to the point at which major revision or replacement became essential.
- Proved very expensive to replace with new schemes. Avon company managements have typically been forced to 'buy out' old systems, before being able to introduce new ones.

Each of the systems examined was based on an offer by management of increased earnings for increased output; and, in each case, the response by employees demonstrated that they were not concerned to increase earnings by increasing output to any significant extent. The failure of each system could be seen to be largely due to the almost universal (but not conspiratorial) attempts made by employees to regulate their work in such a way as to achieve an acceptable level of earnings for what was considered to be an appropriate effort.

It would appear that, whatever it is that is wrong, it is unlikely to be the payment system as such. What would appear to be causing the failure of these systems is the nature of the work and the way in which it is organised.

**Most Avon employees do work which involves the application of routine physical skills (learned usually after only a few weeks of training) which make few demands of their abilities, and offer little scope for personal commitment. Such work is done by most people out of necessity rather than choice. So long as this situation prevails, payment systems will invariably be used as discipline as well as reward.** Indeed, rising standards of education, and expectations of interesting as well as well-paid work, are likely to lead to harsher disciplinary systems if the same work is to be done.

Avon management has adopted several approaches to this problem. At Bradford, emphasis has been placed upon training and 'indoctrination' (see p. 28), while at Melksham the extension of the staff sick pay scheme to works employees was seen by senior management as a step towards self-discipline, although middle managers thought otherwise. The site manager at Melksham told us that, 'some middle management undoubtedly felt that the sick pay scheme was the end of all discipline in the plant. . . . What they can't see from their worm's eye view is that sick pay is the start of discipline because it requires self-discipline. . . . Traditional disciplines are dying'. However, as we say elsewhere in the report, none of the Avon companies has tackled the problem head-on, by attempting to radically change the nature and organisation of work so that employees are given greater control.

**The fringe benefits available to works employees were, in general, inferior to those for staff. The major differences were:**

- **Holidays.** Melksham and Motorway were the only units at which works and staff holidays were comparable. Elsewhere, staff had longer holidays than works employees. (See Table 4.) Staff employees also had greater freedom as to when they took their holidays.
- **Sick pay.** All staff were covered by a reasonable (but not generous) sick pay scheme and works employees at Melksham received similar payments. However, works employees at Bradford and Inflatables received very low benefits while those at Bridgend and Medicals received none at all.
- **Pensions.** The Group-wide schemes gave better protection against inflation to staff pensions and provided more generous death benefits to dependants of staff.

At the same time, there were significant differences (in earnings and fringe benefits) between works employees at the different Avon plants. In particular, workers at Melksham were better off in a number of important ways:

- Melksham workers received higher wages, and worked shorter hours, than other Avon workers. Only in 1974 did workers at Bridgend earn more than those at Melksham; and they had to work an extra six hours a week to do so.
- Maintenance engineers at Melksham have negotiated 'staff status' — they receive salaries and all fringe benefits available to staff.
- Melksham workers were entitled to longer holidays — one week more than the industry norm.
- Melksham's works sick pay scheme was outstanding.
- Sports and social facilities at Melksham were well in advance of those elsewhere in the Group.

In addition, all employees at Melksham benefited from the Company's pre-retirement courses.

It was not possible to establish whether or not these advantages represented the material benefits of 'open culture'. They were certainly not related to profitability — other Avon subsidiaries have been far more profitable than Melksham.

Avon's expenditure on its pension schemes has, on average, amounted to less than 3 per cent of the total wage and salary bill — well below the norm (10 per cent) for those companies which provide generous occupational pensions. The main shortcomings in Avon's schemes were:

- Pension entitlements build up relatively slowly. Good schemes provide a pension equal to one-sixtieth of earnings for each year of service. Avon's provisions were one-sixty-sixth for staff and one-eightieth for works employees.
- Death in service benefits were relatively low.
- Most employees were not covered by disability insurance in the event of permanent disablement.

We had hoped to report here on the question of pay differentials between all employees in the Group, but essential information on staff salaries at Melksham, Bradford and Inflatables was not supplied. We were, however, provided with details of the job evaluation schemes in use at most of the sites, which allowed us to examine the criteria by which differentials were established. It appeared that:

- Some of the schemes favoured managerial and supervisory jobs through a form of double counting of their responsibilities.
- With the exception of the Melksham works scheme no account was taken of monotony, nervous stress or the working of unusual hours.
- The way in which the factors in all the schemes had been pre-selected led to the more interesting and varied jobs being upgraded and the more monotonous jobs being downgraded.
- None of the schemes compensated for lack of job security, promotion opportunities, or control over effort and working hours.

We began this report by asking the question, 'From each according to his or her ability. But to each according to what?' It is clear that Avon employees generally are not rewarded on the basis of need — though there were exceptions to this rule, particularly at Melksham. The Melksham works sick-pay scheme — believed to be outstanding of its kind — clearly has met a need, though this need has been ignored elsewhere in the Group, both by management and trade unions.

Furthermore, it is clear that most employees would not even begin to use all their abilities in the work they do. Neither would they be compensated for this as a result of job evaluation — for while job evaluation schemes appear to allow employees to rank jobs according to their own preferences, they also tend to legitimise market-determined differentials.

The wages and salaries paid to Avon employees are, in other words, determined largely by the general demand for their particular skills. Neither Avon employees, nor their representatives, have fundamentally questioned the criteria by which pay levels have been set.

# Job Security — Manpower Planning and Redundancies

Relatively few companies have used manpower planning techniques to determine how many employees, and with what skills, they will need in order to be able to operate effectively in the future. Most companies have relied instead on their ability to recruit extra labour when work is plentiful and to lay off or make employees redundant when work is scarce.

The redundancies that result from this approach often cause widespread and intense hardship for employees, as well as serious disruption for local communities.

Legislation has in the past been designed to facilitate redundancies so as to allow mobility of labour from traditional, declining industries to faster growing sectors of the economy. The 1965 Redundancy Payments Act provided payments for redundant employees, to help overcome their resistance to redundancy and ease their financial situation while seeking new work. Under the Act, workers with more than two years service receive minimum payments related to their wage, previous earnings and length of service. However, the Employment Protection Act is designed to require employers to give unions and the Department of Employment substantial periods of notice before redundancies are implemented.

Trade unions have pressed for national economic policies which will lead to full employment, but they have not questioned the need for some redundancies. Instead, they have recommended procedures (as have the Department of Employment and other official bodies) for minimising the impact of redundancies — for example, through prior consultation with unions; extensive notice of redundancies; preference for voluntary redundancy, decreased recruitment and 'natural wastage'; compensation payments, and assistance with finding new jobs. However, the TUC has also emphasised the need for unions to be involved before redundancies become necessary and has recommended that officials be given information about company manpower plans.

## Manpower planning in Avon

None of the Avon companies has a formal policy on manpower planning; though there has been some informal planning of management succession, and formal arrangements have been made for staff employees' training needs at least one year in advance. In addition, the three major companies in the Group have attempted to predict shop-floor manning levels up to at least one year ahead, as part of the budgeting and production planning process.

Avon's two South Wales companies — Inflatables and Bridgend — have both received low-interest loans from the Department of Industry — available to firms planning to create new jobs in these areas. As a condition of receiving a loan these companies are required to provide five-year plans, specifying the number of new jobs to be created.

Neither Inflatables nor Bridgend appeared willing to allow any detailed examination to be made of their loan applications; it was therefore not possible to establish how accurate their manpower forecasts had been. However, Inflatables said they had underestimated their manpower requirements in making such applications, in order to give themselves some leeway; and they claimed, in practice, to have met or exceeded the forecasts they made.

In addition, all companies have been required to submit '5-year plans' to the Group; these are prepared and revised each year. Bradford's plan was the only one in which even rough estimates had been prepared of the Company's future manpower needs — the Company had projected increasing the workforce by eight new staff and 80 new works employees, by 1977/8. At the other extreme, a senior manager in one of the other companies explained that their plans included no estimates of manpower needs, saying: 'I don't honestly think (the Group) cares a bugger whether we do it with 100 people or 200 people. . . .'

In the absence of effective manpower planning, the question of union involvement hardly arose. However, at Melksham and Medicals, union representatives said they considered manpower planning to be essentially a management prerogative, and for this reason would not seek to become involved; and this situation may have been true elsewhere. At Bradford — the one company to have attempted the forecasting of longer-term needs — the Personnel Director said that, until the union representatives had received the further training he thought they required, he would not be prepared to discuss the Company's longer-term plans with them. It was not established whether the Company intended to provide this training; or whether the union representatives would welcome it. Staff union representatives from at least two Avon companies were not even aware that 5-year plans were regularly produced.

## REDUNDANCIES

Between 1969 and 1973 there have been some 1,000 redundancies within the Avon Group. Most of these have arisen through plant closures rather than within (now) existing parts of the Group, and in the two smaller and economically more healthy Avon companies there have been none at all.

**Medicals** has dealt with short term fluctuations in demand either by limiting recruitment or by taking on extra employees to work a 'twilight' shift. The Company has no policy on redundancies.

**Inflatables** has also never declared redundancies, though on occasions short time working has been introduced. The Company said that, in the event of any redundancies, they would follow the Group policy — though no such policy exists.

**Melksham** has followed written redundancy procedures, agreed with both staff and shop-floor unions. Both define measures which may be taken to avoid redundancies — these include cutting down on recruitment, rigid application of the retiring age, reduced overtime, redeployment and short-time working — and both provide for severance payments to be made in accordance with the Redundancy Payments Act. In practice, however, works employees made redundant have usually received additional payments, as follows:

Length of service (in years)	Number of weeks' pay
0-5	2
5-10	4
10-15	6
15-20	8
etc.	etc.

Payments made to redundant staff were said to have been comparable but cases have been treated on an individual basis. In any case, the Melksham management have used this scale only as a guideline; and there has been no commitment to make these payments for all redundancies. The Company explained this, saying that they wished to retain the freedom to make larger payments to individuals, when appropriate, without being committed to these as new minimum payment levels.

Melksham has called for voluntary redundancies on several occasions; and in the recent past has made people redundant against their will on two occasions. Both related to the introduction of a new shop-floor payment system.

- In the first case, in 1970, the Company declared 56 maintenance engineers redundant, while 190 of them (AUEW members) were on unofficial strike. The strike had been declared in support of the engineers' demand for increased pay, following the introduction of a new payment system agreed between the Company and the TGWU, the main union on the Melksham site. It was during — and as a direct result of — this strike that the Company discovered the plant could be maintained with fewer men; and this information was used not only to declare the redundancies, but to break the strike.
- The second redundancy involved 50 foremen, and arose when the Company decided to eliminate completely one layer of supervision, when implementing the 1970 payments system which allowed for greater autonomy on the shop-floor. In this case, the Company decided not to consult the foremen about the proposed redundancies and they were given no warning at all. In the event, only seven foremen were actually made redundant; the remainder retired early, or found new positions on the site.

It should be added that the head of personnel on the Melksham site has served as a member of the Department of Employment's Local Employment Committee. Partly as a result of this, the Company is said to have made a point of taking on workers made redundant by other firms in the area, whenever it has proved practicable to do so.

**Bradford** staff are subject to the same redundancy procedures as have been used at Melksham. There is no written redundancy procedure for works employees, though there has existed a tacit understanding that the same procedure would be followed.

The size of the Bradford workforce increased steadily, by some 40 per cent, between 1970 and 1974. There were virtually no redundancies at Bradford until the end of 1974 when, as a result of the deepening economic recession, the Company went on to a four-day week. After several weeks of this, the Company proposed a number of voluntary redundancies, in order to get the plant back on to full-time work.

At a union branch meeting this proposal was considered, and unanimously opposed. The proposal for redundancies was opposed not only on principle, but for three other reasons. First, the union did not accept that the making of redundancies was essential to returning to full-time work — in that management had proposed making only 32 redundancies (representing about 4 per cent of the workforce) in order to allow the remainder to work an extra day (i.e. do 20 per cent more work). Secondly, there was resentment over the fact that the Bradford staff continued to work and be paid full-time, while works employees were on a four-day week. And, finally, the union claimed that this short-time working would not have been necessary, had management not recruited vigorously a few months earlier, at the end of the national three-day week. The union claimed they had advised management against recruitment at that time, suggesting alternatively that the Company should introduce a new incentive payments scheme to boost productivity. Instead, recruitment continued, and employees had worked heavy overtime.

Though the branch had rejected management's proposal for redundancies, they found 'the majority on the shop-floor want(ed) to get rid of some people, so that they can go back to full-time working'. This, in turn, clearly led to some further bitterness. As a union branch official put it: 'We've been all the bastards under the sun for the last six weeks for fighting redundancy . . . People that are safe, with long service, are saying "Get them out" . . . They'll win in the end. Self preservation, isn't it? You find out who are the trade unionists in this factory after a little while of this pressure.'

In the event, 32 voluntary redundancies were sought (and were made) in January 1975; there were 92 applicants for redundancy, in all.

**Bridgend** has drastically reorganised its business on several occasions over the last 20 years. There were major redundancies in 1958, after the Government abruptly suspended its contracts for the manufacture of gas masks, and the Company went into footwear. However, since then, the Company has moved from footwear into tyre remoulding, and has incorporated on site the engineering business transferred from High Wycombe, without major upheaval. Over this whole period, the size of the workforce has remained largely unchanged — though its composition has changed from being predominantly female to predominantly male, and there have also been many changes in the range of skills required.

Bridgend's transition from one business to another, and the Company's ability to serve as a Group overflow for activities peripheral to the main tyre and components business, have been achieved in part with government aid. However, there has been very little manpower planning, partly because the Company has found it relatively easy to recruit employees, as it is situated in an area of high unemployment.

The numbers of redundancies created in the recent past have been: three (1970), five (1971), thirteen (1972), twenty-one (1973). More recently, recruiting on the rubber side has stopped and, in 1974, the Company called for 40 voluntary redundancies, on terms which provided no payments over and above the statutory minimum.

Lay-offs occurred at Bridgend towards the end of 1974 when the Company asked shop-floor employees (but not staff) to bring forward one week of their holiday from Whitsun to Christmas because there was a shortage of both orders and cash. The workers refused and demanded a threshold payment of £1.20 per week which had just been paid to Melksham workers.

The Company then announced without warning that about 80 people in one section of the factory would be laid off for the pre-Christmas week, and that the money saved in wages would be used to pay all works and staff employees the £1.20 threshold increase. The lay-off angered many shop floor employees who felt that the Company had saved relatively little money through the lay-offs and that the loss of earnings for the men involved could have been shared more equitably throughout the plant.

## CLOSURES

The absence of any Group policy on redundancies is underlined by the different treatment received by workers made redundant at the three Avon closures — at High Wycombe, Manchester and Birmingham — that have taken place since 1970.

- **High Wycombe.** Avon claimed to have made sustained attempts, around 1970, to improve the performance of their subsidiary, J. W. & T. Conolly Ltd. However, they said they had not been able to achieve better than a break-even situation; and in 1972 decided to sell off the High Wycombe site, and transfer the operation to Bridgend. Two reasons were given for this transfer: (i) the High Wycombe site was said to be about twice as big as was needed for the operation; and (ii) it was thought that overhead costs could be reduced by moving to Bridgend, where there was ample room because of the run-down of footwear production.

The redundancy arrangements that were made closely followed the procedures recommended by the TUC and other bodies. Shop stewards were told of the situation in November 1972, and the formal announcement that the Company was to run down production during the following April and May was made to works and staff employees in January of 1973.

The terms and conditions of redundancy were agreed with union officials and severance payments, related to length of service, were paid in addition to those made under the provisions of the Redundancy Payments Act.

In addition, a committee was set up to consider cases of individual hardship and, after the Department of Employment



was brought in, in January 1973, employees were allowed time off with full pay to seek alternative employment. All but one of the employees who had been made redundant were said to have found alternative work — the High Wycombe area was suffering from an acute labour shortage at that time.

**Additional severance pay at J. W. & T. Conolly, 1972**

Length of service (years)	Number of weeks' pay
0-5	2
5-10	3
over 10	4

● **Manchester.** David Mosely & Son ran into trouble soon after its acquisition by Avon in 1964. Despite extensive reorganisation, and the creation of 270 redundancies between 1967 and 1970, the management failed (for reasons outlined on p. 9) to improve the situation — and in November 1971, the Avon board decided to close the factory down.

The Department of Employment, and district union officials were told of this decision, in confidence, shortly before the date on which the announcement was to be publicly made. Avon did not disclose their intentions to the workforce or to local union representatives, in part, it was said, because there had been a number of sit-ins in the Manchester area at that time — and the management wanted to avoid any possibility of similar action at the David Mosely plant. As a management report on the exercise made clear, the closure was to be presented — and had to be accepted — as a fait accompli:

‘— the closure decision, though reasoned and openly explained, must at once be taken as irrevocable and non-negotiable.

— the terms offered must be seen in total to be generous enough to command acceptance immediately; and the conditions attached to them fair with regard to the need to retain commitment during the run-down period.

— each individual must know at once that all the factors which affected him had been foreseen and fully considered by the Company and the action which was planned for him.’

The 500-odd employees were told about the closure on 30 December and, on the same day, 70 of them, who were no longer needed, were given their cards. (A management report on this closure commented, some time after this event, that: ‘This was rather brusque treatment. It was justified in that it helped to establish positive control from the start.’) On the same day, Avon put out a press release, which carried the announcement of the closure that the Group Chairman was to make at the Avon AGM, on the following day.

The terms and conditions of the redundancies — and, in particular, the lump-sum severance payments — were made relatively generous, largely to minimise any opposition to the closure. In addition to payments made under the Redundancy Payments Act, works employees who had served for up to one year received one week's pay; while other works and staff employees received half a week's pay for each year of service, if they were aged under 40 — and twice that amount if they were 40 or over. However, under the terms of a confidential arrangement, used throughout the Avon Group, the senior staff at David Moseley received up to three times these amounts.

The Company and the trade unions also set up a ‘hardship’ committee but, in the event, little extra money was paid out. By May 1972, when virtually the whole workforce had been made redundant, nearly 20 per cent of them were still unemployed. The local Department of Employment reportedly considered this to be a better than average success rate.

● **Birmingham.** Since Avon acquired the Mosely (Capon Heaton) rubber works in Birmingham in the mid 1960s, the plant had produced little profit and gradually gone deeper into the red. In 1974 it was closed down, without prior consultation with the unions.

In addition to their statutory redundancy pay, employees received severance pay equal to about 50 per cent of their legal entitlements. Employees with less than two years service (who were therefore not legally entitled to redundancy pay) received minimum payments of £80 for men and £60 for women.

A hardship committee, with a budget of 1 per cent of the normal payroll, was established; the Department of Employment was called in and employees were given two days off for interviews; and vacancies in other parts of the Group were advertised and employees interviewed on site for prospective jobs.

## Discussion

Although the stated objective of many Avon companies was said to be, in the words of Bridgend's Managing Director, ‘to keep as many people in jobs as we can’, none of the companies had any formal mechanism for putting this policy into practice. Both the number and the types of jobs available have been determined by short term needs, and manpower planning has barely been used within the Group. As a result, Avon companies have often resorted to lay-offs and redundancies giving little or no prior warning to the workforce.

The effect on the community of cutting the workforce may be severe, as fewer jobs become available to school leavers and the level of local unemployment consequently rises. This is likely to be particularly marked at the three main Avon sites which are all situated in areas with either little alternative employment or where there is a high level of unemployment.

**Where redundancies have taken place, they have often been characterised by:**

- little or no warning;
- voluntary rather than compulsory redundancy, except where plant closures have been involved;
- severance pay above the legal minimum;
- early retirement on full pension for older employees;
- more favourable terms for senior staff than for other employees.

This approach may have proved tempting to individual employees, as evidenced by the large number of volunteers for redundancy at Bradford in 1974. It would at the same time have reduced the likelihood of trade union opposition to redundancies.

The unions themselves appear to have shown little interest in becoming involved in future planning at company or Group level, and as a result the size of the Avon workforce does not seem to have been a subject for discussion or negotiation. As long as this situation continues it is likely that the unions will be limited to negotiating for better redundancy terms rather than larger numbers of secure jobs.



# Participation . . . and Alienation

One of the main aims of the Avon management style known as 'open culture' was said to be to improve the quality of the working environment by encouraging some form of worker 'participation' or involvement in decision-making. When the Group's Managing Director introduced the notion of 'open culture', in 1969, he emphasised that such participation could benefit employees and the Company alike:

' . . . by encouraging the involvement of people in the organisation, not only will we be creating a situation which will be very much more satisfying in every sense to those people who are taking part, but (we) will also increase the company's financial performance, through increased productivity.'

This report accordingly looks at the evidence there was of employee involvement in decision-making at the Avon companies; and at the nature and extent of the information and facilities provided for employee representatives at each site.

It would appear likely that 'the involvement of people in the organisation' was conceived almost exclusively in terms of employees' participation in the decision-making which would most immediately affect them — but not in any longer-term strategic planning. Nevertheless, in interviews, the Group management suggested they would be prepared to consider some greater employee involvement, and might be prepared to provide employees with information of the type envisaged in Planning Agreements. The management said they had never, in fact, been asked for such information — probably, they thought, because employees were more interested in the short-term future of their own companies, rather than in the future planning of the Group.

At the same time, the Group management suggested that they would wish to exercise care in involving employees more fully in investment planning — in order to avoid 'uncertainty and rumour' that could be caused by the premature disclosure of plans which might never in fact be realised. It was suggested that such participation could, at the same time, cause problems — in that, 'management is cast in a role, and if they are not seen as living up to it then it is disconcerting . . . Management is supposed to know precisely where it is going. . . .' Similarly, the Group management supposed that 'shop stewards are cast in the role of fighting management; hence, to be seen to be co-operating with them creates problems.'

The Avon Group were said to be 'advocates of strong stable unions'. Their policy has been to negotiate, wherever possible, with a single union at each plant; and employees were said to have been 'encouraged to join the appropriate union'.

Avon works employees, other than in Motorway, are virtually 100 per cent unionised — rubberworkers in the Transport & General Workers Union (TGWU) and engineers in the Engineering Section of the TGWU, the Amalgamated Union of Engineering Workers (AUEW), or in the Electrical, Electronic, Telecommunications and Plumbing Union.

Avon staff, other than at Medicals and Motorway, are estimated to be between 30 and 70 per cent unionised. Most belong to ACTS, the staff wing of the TGWU — which is recognised by the Group. However, in the engineering unit at Bridgend, there are also members of TASS (the staff wing of the AUEW); while some Bradford staff belong to ASTMS (Association of Scientific, Technical and Managerial Staff) — and neither of these unions are officially recognised at Group level. There appeared to be no union members among the staff at Medicals or Motorway. (Bless you.)



*Strikers outside the Melksham factory in 1911. The TGWU branch was formed as a result of the strike.*

## Machinery for consultation

All Avon companies, other than Motorway, have established machinery for consultation between the senior management and elected employee representatives — though in most cases this did not appear to have been used to any great effect. For example:

- Bradford's Joint Consultative Council, which has met monthly, was set up to provide 'a regular means of promoting maximum efficiency of operation and the best interests of all employees. . . .' In interviews, both management and union representatives stated that the Council had not in the past been satisfactory, and it had accordingly been reconstituted in 1974. Management suggested that this had improved the situation, though union representatives said they were still partly dissatisfied — complaining in particular at the relative lack of information they received about the Company's future planning.

- At Bridgend, on the engineering side, there has been no formal consultation between the management and the staff union (TASS), because the union has not been officially recognised at Group level. However, TASS representatives said they believed that the management would secure recognition for them in the future.

- The Joint Works Council for the rubber works at Bridgend has not served as a focal point for communication between management and unions; meetings have been held only every two months, and have not been attended by representatives of the staff union, ACTS. Staff representatives explained that they did not participate because they felt meetings had been dominated by factory issues; in any case, they suggested that most of their problems could be solved on an individual basis, as and when they arose, and without involving union representation. (It should be added that the Union had internal problems which may have prevented representatives from playing a fuller role. At the time of this enquiry, the branch had no Secretary and the Chairman had recently resigned because of lack of support. In their absence, the Union's affairs were being handled by a skeleton staff.)

- The Liaison Committee at Medicals appeared to have been used mainly for the airing and resolution of minor problems, rather than as a two-way channel for communication and consultation on more substantial issues. The Commercial Director described the Committee as 'purely a mouthpiece for complaints for problems which aren't specifically "union" '; while the Production Director suggested it had developed also as a 'rip-roaring and yelling session' which allowed representatives to 'get their frustrations out'. In theory, Committee meetings have been held monthly but, in practice meetings have been scheduled only when management felt they were needed. No meeting had been held between June 1974 and January 1975, when this enquiry was in progress.

• Meetings of the Joint Works Council at Inflatables have been held approximately once a month, but shop floor representatives have been involved also in the weekly meetings of the 'Productivity Committee'. In theory, the Productivity Committee has been supposed to deal with relatively minor issues, leaving the JWC free for discussion about more important matters; however, according to the TGWU Branch Secretary, the Joint Works Council has not discussed major issues, and for this reason she has not normally attended its meetings.

Melksham's Joint Works Council — whose main stated aim is 'to promote a sense of justice and well-being throughout the site' — did indeed appear to have served as the main forum for 'communication and consultation between management and employees on all matters of mutual concern except wages'. There were two main features of the Melksham JWC which distinguished it from any other consultation machinery in the Group.

1. The shop floor representatives elected to the Melksham JWC were responsible for handling much of the work that would, elsewhere, traditionally be handled by union shop stewards. The union organisation at Melksham is unusual, in that there are no shop stewards, as such (elected by each department). Instead, there are union 'negotiators' who are elected on a factory-wide basis — and who represent the whole factory, rather than individual departments, on all wage-related issues. Representations on other matters are made by shop floor representatives who are elected by each department to the JWC.

2. The JWC at Melksham has some executive powers, and some control over certain internal factory budgets. As a general rule, matters agreed at the Melksham JWC are implemented by the management; and issues on which no agreement is reached are taken up in union negotiations. The JWC deals with issues ranging from the factory layout and overtime allocation to accident prevention and discipline. Much of the Council's business is handled by six sub-committees who between them allocate some £250,000 a year. One major sub-committee, run entirely by JWC representatives from the shop floor, has had complete discretion over the allocation of about £45,000 a year, for improving working conditions in the plant (though the Company is still responsible for providing a reasonable working environment). Another sub-committee controlled the works' sick-pay scheme, and was responsible for paying out around £140,000 a year.

#### Facilities and information

All staff and shop-floor representatives at Melksham — whether they serve as negotiators, JWC members, or both — have been allowed as much time off work as they have needed. The Company has paid the average factory wage, plus 15 per cent, to six union negotiators and the Branch Secretary, enabling them to work full-time on union affairs. In addition, all 'normal' facilities (office, telephone, etc.) have been made available to them.

Representatives at the other Avon companies had mostly been provided with full administrative facilities; and been given sufficient time off to organise union affairs. However, there were exceptions:

• TGWU representatives at Bradford said they had been refused time-off to make contact with union representatives at the Company's new factory in Belgium. They felt this to be important, in view of the fact that the Belgian factory had been set up effectively as an extension of the Bradford operation — and that agreements between the two provided that Bradford would get half of the work placed with the Belgian factory by continental car manufacturers.

• At Medicals, the TGWU representatives had not been given

office space; but they accepted that this was due to a general shortage of space. Similarly, the AUEW convenor at Bridgend had no office and no notice board, at the time of this enquiry — though this was probably partly due to the general upheaval which had accompanied the moving of the engineering unit from High Wycombe to Bridgend.

• The staff representative at Inflatables suggested he had not been given adequate time off work to organise the union's affairs. He said also he had been refused permission to take time off to attend the quarterly Group meetings of the Joint Staff Industrial Relations Council (JSIRC) — and that he had requested, but not received, copies of the JSIRC minutes. The management said that the staff union representative was free to attend those meetings which dealt with issues directly affecting the Inflatables staff, but that the staff might otherwise be adequately represented by the Union's full-time officer for the Dafen area. At no other Avon company has a full-time union official acted on behalf of a locally elected representative at meetings of the JSIRC — a body whose constitution provides for membership of 'Branch Secretaries of units where ACTS have recognition'. (Our emphasis.)

The staff representative at Inflatables complained also that he had been refused access to some information. The Inflatables' management agreed that the representative had been refused information about job grading — 'he would be doing his own grading and comparing it with ours' — yet this information appeared to have been made available to staff representatives at all other companies in the Group. The staff representative also said that he had never been informed (before being told, well after the event, by PIRC) about the decision to merge male and female pay scales in the Group job grading system — though he had frequently asked the management at Inflatables for details of action to be taken to comply with the provisions of the Equal Pay Act.

The management at Inflatables said they 'believed in keeping all employees fully informed'; though they said they would want to withhold some information on the grounds of commercial sensitivity. They added, however, that they had made some such information available to the TGWU local full-time official, 'in confidence'. They said they would not have been prepared to disclose this information to the Company's own union representatives, not only because of commercial

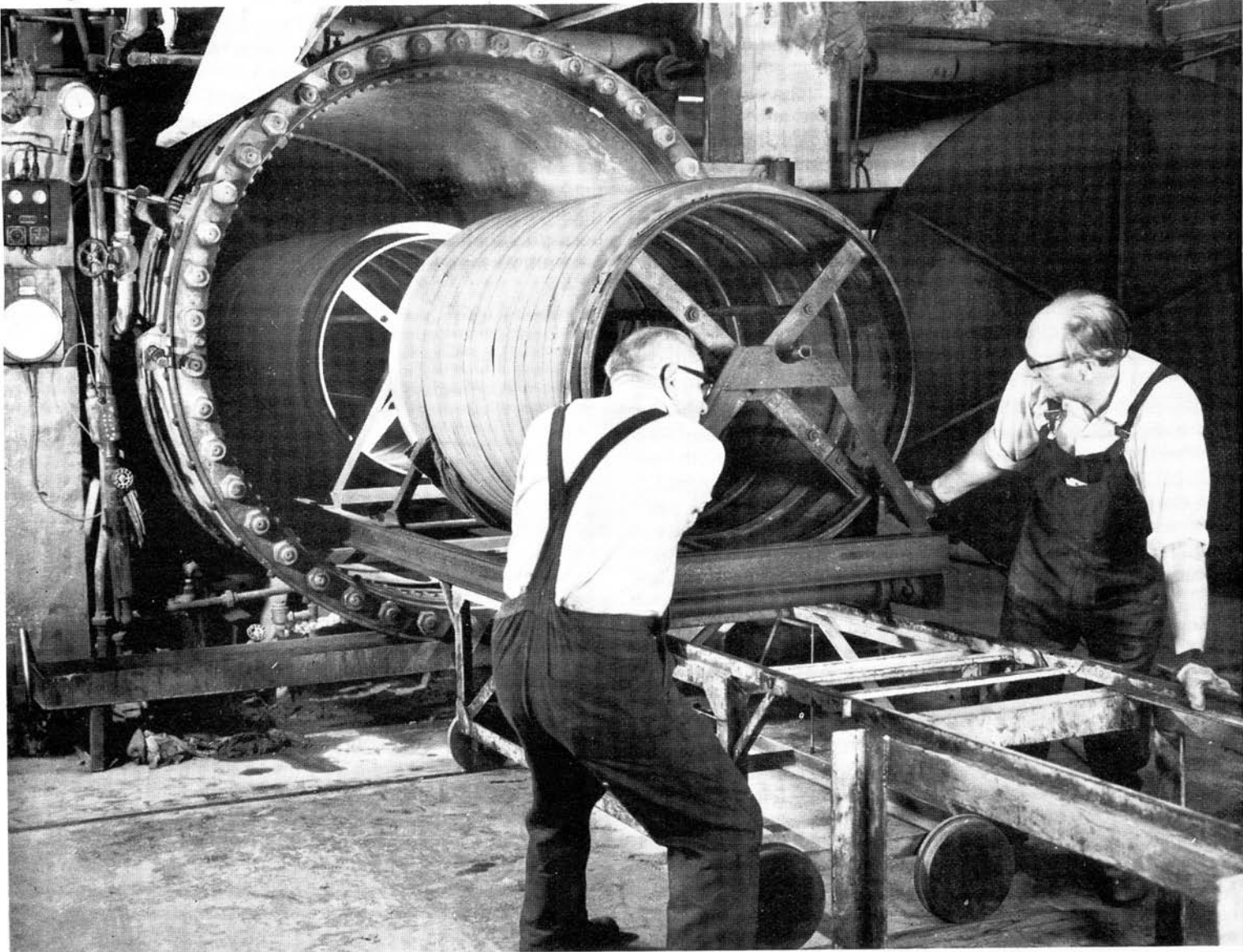


sensitivity, but also because they thought their own representatives would 'not want that much detail'. It was not clear why the management thought such information would be more secure with the union's full-time officer — but the Company's TGWU representatives in any case indicated they had received all the information they had asked for.

The only other complaints about lack of information were heard at Bradford — where the TGWU representatives said they had received relatively little information about the Company's future planning — and also at Bridgend. The TGWU at Bridgend claimed, for example, that the management had told them that profit performance figures for the Company were not available (though the Company had regularly filed accounts — up to 1972/3 — at Companies House).

While other union representatives stated that they had never been refused information, it should be pointed out that they may not always have asked for much information in the first place. For instance, the staff union representatives at Bridgend suggested they had not requested regular information about the Company's financial affairs and prospects, as they considered they were kept adequately informed by *Avon News*. (The house journal, *Avon News*, has contained some financial information, though it has not been designed principally as an alternative to local consultation: 'The nudes (in *Avon News*) are excellent examples of glamour photography' — British Association of Industrial Editors.) More seriously, no union representative in the Group had ever seen their company's one- or five-year plans (nor had any been consulted in drawing them up) and at least one representative was unaware that such plans even existed.

*Placing material into an autoclave for curing.*



## Industrial relations

None of the companies reported any significant lost-time through industrial disputes. Most appeared to have experienced high levels of sickness absence and labour turnover — in at least some factory areas, and at some time — though only Bradford and Bridgend had compiled such data in any useable, comprehensive form. In spite of the absence of such data there were clear indications of troubled labour relations in some plants. At Bridgend, for example, there was evidence of considerable mistrust between the management and the shop floor in the rubber unit. In part, this reflected a bitterness over the lay-offs which took place over Christmas 1974, shortly before enquiries were made on site. The management said that, while things generally ran smoothly, negotiations were difficult because, they thought, the union had limited control over its members. According to management, the Union was prepared to follow established negotiating procedures, though the members on the shop floor had been 'just throwing the (rule) book away'. As a result, management said they had had to spend an increasing amount of time in direct consultation with shop-floor members — and had been able to rely less and less on the Union to communicate their position to the shop floor.

The Union accepted there had been breakdowns in procedure, but stressed that their job was not to lay down policies to be adopted by their members, but to represent their members' views. The Union was also critical of Bridgend management; the unhelpfulness they said they had experienced from the personnel department, over individual workers' problems; and about the difficulties they had experienced in

negotiating with shop-floor supervisors. They claimed they had found some supervisors to be ill-tempered, arbitrary in their decision-making and generally unresponsive. The Bridgend management would seem to have acknowledged some weakness in the quality of shop floor supervision, in the assessments they have made of some supervisors' capabilities and training requirements, outlined in the Company's Survey of Training Needs for 1972. (See p. 44.)

*'The supervisor's got another of his little headaches.'*



The supervisors, in turn, expressed little confidence either in the behaviour of the shop floor employees, or in the ability of the Union to control its members. The supervisors suggested that the situation at Bridgend demonstrated a clear failing in the concept of 'open culture'. Such criticism of open culture had been made by a number of junior and middle managers, elsewhere in the Group — but the feeling was expressed most strongly at Bridgend, where the supervisors suggested that the shop floor employees neither wanted, nor were capable of exercising, the responsibilities which open culture encouraged them to assume.

There was evidence of some ill-feeling at Bradford too — though this did not appear to be nearly as strong as at Bridgend. The TGWU's criticisms of the Bradford management were made largely by reference to the superior arrangements they believed to exist at Melksham — and also to the attitude of the Group's senior management, based there. For example, in describing the Group's MD — 'He looks at a man and says he's a man, not something that's been poured out of a cornflakes packet' — one representative was clearly implying criticism of some of the senior managers in his own plant.

By contrast, at Melksham, the union has not only been involved in some factory decision-making; it has also played some significant part in the day-to-day managing of the factory. According to the Branch Secretary:

'Occasionally you get a chap saying "I can't bloody well do this"; and you know damn well they can. So we call Time Study in. This is where they can work for us. It might have gone through your minds actually that it's our job to get the highest rates we can for every job. In fact it's not really. We've got to keep the thing on an even keel. If job A is working as hard as job B then it would be wrong in our opinion to put job B's money higher than job A's . . . If you don't do this sort of thing there will be anomalies all over the place.'

On the other hand, the Union felt that decisions about a company's viability should be left to management, as should the allocation of jobs between different plants. This issue arose early in 1975 when the Birmingham factory was shut down and work transferred to both Bradford and Melksham. Most of the women's jobs went to Bradford although Melksham had, for some years, been short of women's jobs. The Branch Secretary said:

'Management have usually made the decision about what jobs should go where. We've been a bit reluctant to interfere with the freedom of management in that field and at the same time criticise them for their inefficiency. If you're going to involve yourself that much in management then you're denying yourself the facility to criticise bad management . . . There's a stage at which you must say "Well, that's your job, you do it".'

The situation at Motorway is fundamentally different from that at any other Avon company — in that employees are not represented by trade unions, and there exists no formal procedure for consultation.

According to the Motorway management, both the TGWU and the General and Municipal Workers Union have attempted to recruit depot employees — with the permission of the management, and during working hours — but the response was reportedly low. Motorway's management suggested three reasons for this:

- Motorway comprises small units, widely spread. There are on average fewer than ten employees at each of the 180 depots.
- Turnover of staff has been relatively high.
- Pay and conditions at Motorway have been relatively good and, at the time of the recruitment drives, compared favourably with those in similar organisations which were unionised.

At the time of this enquiry, there were said to be ten unionised depots. The staff at Head Office had no trade union representation, however — and no approaches had been made to them to join.

The Motorway management said they communicated information to employees both through *Avon News*, and through branch managers, who receive quarterly progress reports from the Company's MD. The Personnel Director also said he thought there was, in fact, no need for consultation with employees, so long as the Company continued to expand.

## Discussion

1. On the manufacturing side, all companies had some machinery for consultation, though only at Melksham did this appear to have been used to any great effect. Worker representatives at Melksham had some control over certain internal factory budgets, and in other areas they had either assumed control from management or shared it with them. The benefits of such arrangements are obvious; the possible drawbacks, less so. The Union was well aware that the 'price' of this control had been responsibility — to some extent for implementing decisions that would otherwise have been taken by management, and for ensuring the smooth running of the factory. At the same time, they said they had been reluctant to question management activity in other areas — e.g. in forward, strategic planning — because they believed they might thereby get too close to management, and then become effectively unable to criticise them. Only the unions at

Melksham faced this dilemma, for only relatively limited procedures for consultation existed elsewhere.'

2. In no case had Avon employee representatives apparently played any significant part in the shaping of the companies' longer-term plans. There would be several likely reasons for this: (i) the unions had not been invited to participate; nor often provided with even the basic information they would have needed to do so effectively; (ii) the unions had not always requested such information; nor, probably, had many representatives received the kind of training that would have given them the confidence to demand it; (iii) shop floor representatives — unlike the staff union representatives — negotiated at company rather than Group level — in part because they have been anxious to retain the freedom to negotiate independently. But this lack of negotiation or consultation at Group level has meant that unions have been in no position to influence or effectively question decisions that may be vital to them.

3. Avon unions have generally been given the facilities they have needed, and such information as they have asked for. But there were exceptions to this general rule — and notably at Inflatables, where the staff union representative complained that management had denied him both the time, and some information he needed to effectively carry out his work. It appeared, at least, that this representative had received considerably less co-operation from the management at Inflatables than had any other representative, elsewhere.

\* \* \*

All this leads to the further question: has participation materially affected the situation for employees generally — and, in particular, for ordinary production workers on the shop floor?

This question has been extremely difficult to answer for two reasons, at least. First, there would have been insuperable problems (for us, at any rate) in measuring 'job satisfaction' and then relating it to the degree of participation there appeared to be. Secondly, we had limited contact with shop floor employees; and far more with their representatives. Moreover, it seemed it would be very difficult to judge the value of participation, in particular to employees whose work was inherently undemanding or unsatisfactory — or otherwise barely tolerable. (Is progress really made by introducing schemes which enable employees to tolerate such work more readily?) But, for all this, there was ample evidence that:

- Throughout the Group, there were jobs which were considered deadly, either because of the monotony, or because of the physical working conditions — or both. At Bradford, for example, the management referred in a recent Survey of Training Needs to the high levels of labour turnover on the 'machine-controlled repetitive units'. These have involved employees in 'mindless repetitive routine' in a work environment described as 'oppressive' — not simply because of 'problems of heat and extraction (of fumes)', but also because employees have no effective control over the operation of the machine. Instead, it controls them, at least to the extent that they have had to stagger meal and other breaks in order to keep the machine continuously in production.
- By and large, Avon managements appeared to have taken action to deal with such problems only when the extent of worker dissatisfaction became evident, if not through direct protest then in the form of unusually high levels of labour turnover or absenteeism.
- When such problems had arisen, the response by management amounted often to manipulating workers, rather than changing work routines. For example, the management at Inflatables learned, in 1974, that some 50 per cent of new starters were leaving the Company within three months of joining. They decided thereafter no longer to employ women under the age of 21 — as these were thought least likely to tolerate factory work. Some consideration was given to

changing production methods, but the Company had decided not to attempt any changes. According to the personnel manager: 'Really, we're not in the economic climate to experiment with different production methods. . . . Our main task is to maintain people on full employment.'

Then at Bradford, the management considered a number of ways of dealing with the oppressive work environment, described above — recognising the need to improve what they described as 'prospects for the satisfaction of ego-relevant needs of work'. In all of the methods the Bradford management considered, there was 'a proviso that the group (of employees involved) accept the responsibility of keeping their machine running continuously over the three shifts'. According to the Company's Survey of Training Needs: 'Increased responsibility will certainly encourage a more responsible outlook and attitude. Attitude training, even indoctrination, must not be overlooked in consideration of the future'.

In such cases, it would appear that the degree of participation between Avon's senior managements and employee representatives would make no great difference to the experience of individual operators, given the nature of much of the work they are required to do.

Certainly, it would appear ambitious to suggest — as the Group MD did, when explaining the introduction of 'open culture' in 1969 — that under a system like open culture, employees generally would enjoy their work. What the MD actually said on that occasion was that he believed that 'people can enjoy their work provided the environment in which they work allows people to apply their intelligence, to be creative, to take responsibilities. . . .'

Relatively few people at Avon would appear likely to work in such an environment. Nevertheless, 'open culture' should probably, at the very least, be credited as an attempt at an advance on alternative attitudes, which may well have prevailed more widely in the Avon Group — but which the Personnel Director at Motorway expressed most forthrightly of all. 'There are a number of jobs,' he said, 'that are fairly mundane — and in all honesty they are tackled by fairly mundane people. If you like — Mickey Mouse jobs for Mickey Mouse people.'



# Health and Safety at Work

One of the most important obligations of an employer is to provide a working environment in which employees can work without danger to their health or safety. This report examines:

- the frequency of accidents at Avon companies
- safety staff, organisation and accident prevention techniques
- relations with H.M. Factory Inspectorate
- the control of noise
- the control of chemical hazards.

## Frequency of Accidents

By law, all accidents involving the loss of three or more days from work because of injury must be reported to the Factory Inspectorate. Tables 1-5 show the number of '3-day' accidents at Avon factories. The figures are based on information obtained from the Factory Inspectorate, which in some cases showed a higher level of accidents than figures supplied by the companies themselves (e.g. Avon Medicals) and in other cases showed lower levels (e.g. Bradford). It has not been possible to present more detailed and useful statistics as these have not been supplied by Avon.

It should, however, be pointed out that the figures for the level of accidents in the rubber industry are drawn from a wide range of manufacturing processes in which the work done often bears little relationship to work at Avon companies. The industry average figures nevertheless remain one of the few yardsticks which can be used in examining Avon's accident levels.

The accident statistics show that:

- Accident levels at Bridgend have been consistently twice as high as the industry average.
- There has been a threefold increase in the levels of accidents at Avon Inflatables since 1970. In 1974 its accident levels were double the industry average.
- Bradford's accident rate has been cut by about half since 1970 though it was still above the industry average in 1974.
- Melksham's accident rate has been consistently higher than the industry average.
- Only Avon Medicals has significantly lower accident levels than the industry average.
- Only about one in eleven '3-day' accidents has been investigated by the Factory Inspectorate.

Most of the accidents investigated by the Factory Inspectorate at Melksham or Bradford involved injuries to the arm or hand — usually bruises, cuts, fractures, or crushed fingers. In 1974, two Melksham employees suffered accidents which severed a finger. Other accidents caused back and other strains as well as friction and electric burns.

Reportable accidents at Medicals were usually described as 'handling accidents' (for example, the entry of a hypodermic needle into the finger of an employee) or 'slipping accidents'. Only one machine accident was reported between 1972 and 1974. The most common accidents at Inflatables were cuts from the knives used to cut boat fabric, and muscular strains from cutting fabric.

A more detailed analysis of accidents causing loss of at least one working day was provided by Bradford for 1974. This showed that a total of 38 'lost time accidents' occurred during the year resulting in the loss of 786 days' work. The most common category of accident identified was 'excessive muscular effort' (249 lost days), followed by 'falling material' (186), 'collisions' (149), 'hand tools' (68), 'persons falling' (46), 'machinery' (38), 'corrosive agent' (13), 'heat' (3) and 'other causes' (34).

Table 1. Number of 3-day accidents at Melksham

Year	No. of 3-day accidents	No. of accidents investigated by HMFI	No. of works employees <sup>1</sup>	Incidence of accidents per 1,000 employees	Rubber industry accident incidence
1970	136	8	2,045	66.5	46.4
1971	162	24	2,045 <sup>2</sup>	79.2	41.3
1972	135	26	2,030 <sup>3</sup>	66.5	41.4
1973	148	14	2,093 <sup>3</sup>	70.7	46.6
1974	124	10	2,403	51.6	38.9

Table 2. Number of 3-day accidents at Bradford

Year	No. of 3-day accidents	No. of accidents investigated by HMFI	No. of works employees <sup>3</sup>	Incidence of accidents per 1,000 employees	Rubber industry accident incidence
1970	68	3	588	115.6	46.4
1971	57	9	614	92.8	41.3
1972	40	1	745	53.7	41.4
1973	50	1	807	61.9	46.6
1974	39	5	844	46.2	38.9

Table 3. Number of 3-day accidents at Bridgend

Year	No. of 3-day accidents	No. of accidents investigated by HMFI	No. of works employees	Incidence of accidents per 1,000 employees	Rubber industry accident incidence
1970	32	0	334 <sup>2</sup>	95.8	46.4
1971	42	1	334	125.7	41.3
1972	30	0	359	83.6	41.4
1973	46	3	417 <sup>4</sup>	110.3	46.6
1974	41	2	465 <sup>4</sup>	88.2	38.9

Table 4. Number of 3-day accidents at Avon Medicals

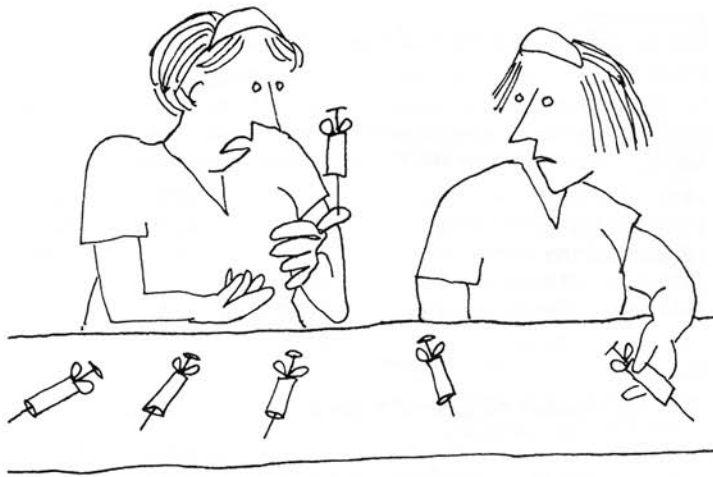
Year	No. of 3-day accidents	No. of accidents investigated by HMFI	No. of works employees	Incidence of accidents per 1,000 employees	Rubber industry accident incidence
1972	2	0	261	7.7	41.4
1973	2	0	307	6.5	46.6
1974	4	1	475	8.4	38.9

Table 5. Number of 3-day accidents at Avon Inflatables (North Dock and Dafen factories)

Year	No. of 3-day accidents	No. of accidents investigated by HMFI	No. of works employees	Incidence of accidents per 1,000 employees	Rubber industry accident incidence
1970	4	0	155	25.8	46.4
1971	4	0	130	30.7	41.3
1972	6	0	188	31.9	41.4
1973	19	1	274	69.3	46.6
1974	21	1	270	77.8	38.9

### Notes

1. Number of employees in September each year unless otherwise indicated.
2. Estimated.
3. Number of employees in June or July.
4. Number of employees in October. Includes employees in Engineering Unit — not strictly speaking part of 'rubber industry'.



*'Union rules stipulate I must now sleep for 100 years . . .'*

### Accident investigation

Personal injuries to employees at all Avon companies are reported in special accident books, generally by the nurse where a nurse is employed. However, only at Melksham is the accident book regularly monitored by the safety officer.

Melksham, Bradford and Bridgend investigate all lost time accidents (though the definitions of such accidents used at each factory seem to vary). But Medicals and Motorway investigate only 3-day accidents. All companies except Avon Inflatables and Motorway investigate accidents with a report form which seeks comments and recommendations from persons involved, although the views of the area trade union representative are recorded only at Melksham, while only Bradford's form requires written confirmation that any necessary remedial action has been taken.

### Monitoring accidents

Melksham, Bradford and Bridgend compile monthly statistics on the levels of lost time accidents, which are then sent to the British Rubber Manufacturers' Association (BRMA).

The safety officers at Melksham and Bridgend stated that they attached little importance to statistical analysis and questioned the value of statistics in preventing accidents. However, Bradford appeared to make greater use of statistics than these two companies and regularly circulated its frequency rates to senior managers as well as publishing them prominently on a special sign at the main factory entrance. The company also compiled 6-monthly statistics of reportable (3-day) accidents and its health and safety committee monitored any trends in these figures.

Accident statistics at Bridgend appear to have been of specific use in preventing accidents, and on one occasion a high frequency of lifting injuries was detected in one department and traced to excessively heavy rolls of rubber. The weight of these rolls has since been more carefully controlled.

### Safety organisation

Avon's safety arrangements are organised on a company, rather than on a Group, basis. There is no centralised safety department and although three Group functions — fire, supplies control and training — deal with certain aspects of safety and health, they do so in an advisory rather than an executive capacity. At the time of this enquiry there were plans to appoint a full time Group medical adviser who would presumably also act in an advisory capacity.

All Avon companies except Medicals and Motorway employ safety officers. Melksham was the only site where the safety

officers (three of them) worked full time; the senior officer there also held the Institute of Industrial Safety Officers' professional qualification.

All companies except Medicals and Motorway retained the services of a local doctor — and all but these two employed qualified nurses as well. Though Bradford and Bridgend employees work nights — and Inflatables has an evening shift — the nurses on these sites attended only by day.

Under the Health and Safety at Work Act 1974, employers are now obliged to prepare and publish a policy on safety, which should include the name of the director or manager responsible for its implementation. This Act had not come into force at the time of this enquiry, although many authorities on safety have long advocated the need to publish safety policies. At the time of this enquiry only Melksham and Bridgend had published written safety policies. Although Bridgend's complied with the requirements of the Rubber and Plastics Industry Training Board, neither met the requirements of the new legislation. All Avon companies reported that they were preparing new safety policies.

### Consultation with employees

The Roben's Report on Safety and Health (1972) defined the problem of improving safety performance as a matter for more 'efficient management'. At the same time it recognised that 'real progress is impossible without the full co-operation and commitment of all employees . . . (workpeople) must be encouraged to participate fully in the making and monitoring of arrangements for safety and health at their place of work'. The report encouraged the appointment of employee safety representatives and the establishment of joint employee-management safety committees. This principle has been embodied in the Health and Safety at Work Act which requires firms to set up safety committees if requested to do so by worker safety representatives.

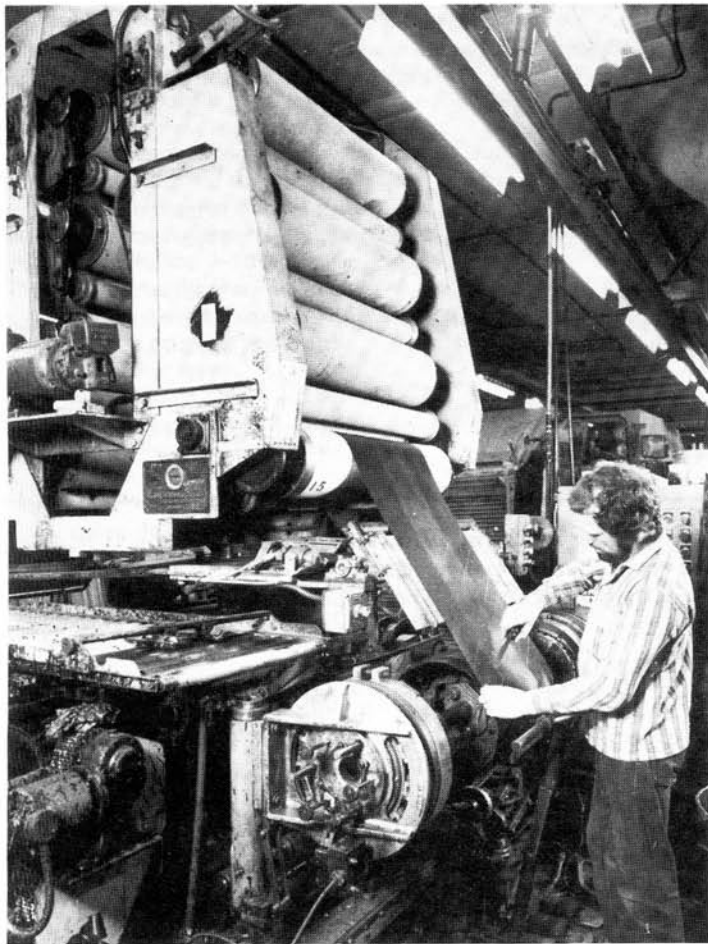
The recommended functions of such committees have been described by the Chief Factory Inspector and in a joint statement made by the CBI and the TUC. Amongst other duties they should consider the causes of accidents and recommend action to prevent them, study accident statistics, periodically inspect the workplace and participate in the drawing up of safety rules and the training of new starters. No less than half the committee members should be shop floor representatives who should be trained in accident prevention.

Joint consultation on safety and health has existed at Melksham and at Bradford for some years. At Bridgend, however, there had been no active safety committee until 1974, while at the time of this enquiry there was no safety committee at either Avon Medicals or Avon Inflatables. Safety matters at these companies were said to be raised at meetings of the normal factory consultative committees where management and union representatives discussed general matters. (But see p. 37 for comments on the effectiveness of these committees.) Medicals' union convenor had reportedly suggested that the factory Liaison Committee take a specifically active interest in safety and that members of the committee act as safety representatives. This proposal had not been effectively acted upon at the time of this enquiry, largely because of the failure to hold meetings at all during most of 1974. Management at Avon Inflatables suggested, during this enquiry, that they did intend to establish a safety committee.

Of the existing safety committees, Melksham's is the most developed. Overall policy is set by a factorywide joint committee while a number of area Accident Prevention Committees meet each month. Bradford, however, has a single committee for the whole factory, which also meets monthly; while Bridgend has two separate committees for the rubber and engineering works which meet every one to two months.

At least half the members of these committees are made up of shop floor representatives. At Melksham, rotation of shop floor membership is encouraged and a special experiment was





in progress, at the time of this enquiry, in which the tyre department's committee had been subdivided into a number of smaller area committees in order to involve more employees in safety matters. By contrast, membership of safety committees at other Avon companies is fixed — at Bradford, for example, it is changed only every two years.

Motorway has no arrangements, either at head office or at depots, for consultation on safety and health and there are no provisions for safety inspections. Only a very limited examination of health and safety arrangements at Motorway depots has been made in this enquiry and little further reference to Motorway is made.

Some degree of employee initiative in safety is said to be encouraged by suggestion schemes operated by Avon companies. These schemes invite employees to put forward ideas for cutting costs and reward useful suggestions with a cash payment based on the estimated saving to the company. Because safety suggestions often do not cut costs, a fixed award of £3 or £4 is made for safety suggestions which are put into practice. The value of these awards is considerably lower than awards for other suggestions which, at Melksham, amount to three months of the estimated saving to the company.

Arrangements for joint union-management safety inspections exist at Bradford and Bridgend, but not at Melksham — though such inspections were said to take place informally there. At Bradford, three safety committee members including two union representatives, accompany the safety officer on an inspection of a different part of the factory every two months. An inspection report is sent to the managers responsible (though it is not otherwise publicised in the factory) and one month later the same team carry out a follow-up inspection to ensure that remedial action has been taken.

None of the Avon companies used conventional survey or sampling techniques of hazard detection, nor had they adopted comprehensive systems of accident prevention based

on the reporting and analysis of all accidental occurrences, whether or not they cause injury or damage. However, at the time of this enquiry Melksham was considering introducing such a system and had called in consultants for advice.

### Hazard spotting

Safety officers at each factory are responsible for carrying out regular tours of the factory to check for hazards. In addition, employees at the three main rubber factories are encouraged to report hazards using special cards or log books. At Melksham, hazard survey cards containing lists of likely hazards are available throughout the factory. Safety books or cards are checked by the safety officer to ensure that action has been taken.

However, at Bridgend, some shop floor employees maintained that the safety officer did not carry out the reported weekly inspections and said that hazard books were not regularly checked. Two log books were produced which showed that items had not been initialled by the safety officer although they had been entered considerably more than a week earlier. Employees also complained that hazards, such as oil leaking onto the floor or faulty brakes on a fork-lift truck, had been left unremedied for long periods of time.

### Vetting new machinery

New machines are vetted for safety before they may be used by all Avon companies. However, only Melksham and Bridgend have a written vetting procedure requiring the signature of the safety officer before new equipment can be introduced. Bridgend has operated such a system since 1969 when the Company was prosecuted by the Factory Inspectorate, after an accident caused by an inadequately guarded conveyor, and fined £100. Although there is no formal vetting system at other Avon companies, the safety of new machinery is the responsibility of the safety officer and/or works engineer.

### Protective equipment

Protective equipment such as gloves, overalls, goggles and ear muffs are provided free of charge at all Avon factories to those employees who might need them (although they do not always make use of them). Employees whose work requires the wearing of protective boots have to buy these themselves, at all Avon companies. However safety boots are available at a subsidised price at Melksham and at Bridgend. Bridgend in fact requires safety boots to be worn as a condition of employment in the engineering works and a larger subsidy is available to employees in this area. Similarly goggles must be worn as a condition of employment in some areas of the engineering works at Bridgend and in some parts of the Bradford factory. In general, the wearing of other safety equipment is not required in this way.



## Relations with HM Factory Inspectorate

As part of the enquiry, interviews were held with members of the Factory Inspectorate staff, to discuss the frequency and nature of visits to Avon factories and details of compliance with the Inspectorate's recommendations and any enforcement action.

The Inspectorate was not prepared to reveal details of any recommendations it had made, and although all Avon companies promised to supply copies of their correspondence with the Inspectorate, copies of such correspondence were obtained only at Bridgend.

The Factory Inspectorate's information showed that Avon's Melksham factory has been kept under continuous surveillance by the Inspectorate, with visits every one or two weeks. Other Avon factories had received far less attention and, at the time of this enquiry, the Bridgend rubber works had not been inspected for nine months and the Bridgend giant tyre buffing works had not been visited for 15 months.

Until 1972, the Factory Inspectorate's policy was to subject all factories to a general inspection of all hazards, every four years. It has since abandoned this policy and now selects 'priority factories' for general inspections. The Melksham and Inflatables factories were said to be considered 'priority factories', the latter because of the fire risk from solvents. See Table 6.

Two Avon companies, Bridgend and Inflatables, have been prosecuted by the Factory Inspectorate since 1969. The circumstances of these prosecutions are described on page 31 and page 35. According to the Inspectorate, Bridgend has also operated in breach of the Woodworking Machinery Regulations by allowing untrained operators to operate machinery which was in any case not properly guarded. An accident occurred on equipment covered by these Regulations in June 1974, and the article of machinery removed several months later. The Inspectorate also stated that it had not been notified by the Bridgend company when production began at the

Table 6. Number of Inspections of Avon companies by HM Factory Inspectorate

	No. of inspections by HMFI	Period	Date of last general inspection
Melksham	130	1970-74	1971/2
Bradford	42	1970-74	1971
Bridgend			
— Rubber works	7	1973-74	1968
— Giant tyre buffing works	3	1971-74	None
— Engineering works	5	1974-75	1973
Medicals	14	1972-74	1974
Inflatables			
— Dafen	11	1972-74	1974
— North Dock	8	1973-74	1973

engineering works in 1973, although notification is required by law. (The Company earlier stated to PIRC that it had notified the Inspectorate.) The Inspectorate had also apparently not been informed of the transfer of the tube shop from Melksham to Bridgend.

Although details of the Factory Inspectorate's recommendations were not disclosed by the Inspectorate, Bradford reported that the Inspectorate had raised the question of communication within Avon Industrial Polymers (Bradford, part of Melksham and, at that time the Birmingham factory — which is now closed). AIP factories were asked to communicate details of safety matters which might have more than local significance. No such communication takes place within the Avon Group.

### Information to employees

Some Avon companies have at times informed trade union representatives of action taken as a result of Factory Inspectorate recommendations. No Avon company had regularly informed trade union or safety committee representatives of all Factory Inspectorate recommendations.

## Noise

People working in noisy factories may suffer from annoyance and stress which can indirectly cause accidents. Regular exposure to high levels of noise leads to permanent loss of hearing.

Noise intensity is measured in decibels on a logarithmic scale (the 'A scale') on which an increase of 10dBA means that noise levels are increased by a factor of 10 and an increase of 20dBA means that the level of noise has increased a hundred-fold. There is no legal limit on the levels of noise permitted in industry but the Department of Employment has issued a code of practice recommending that over a continuous eight hour period of exposure, noise levels should not exceed 90dBA. For longer periods of exposure the recommended limit is correspondingly lower.

According to the code, people working at noise levels above this limit should wear ear protectors and the areas should be marked-off as ear protection areas. These should be only temporary measures.

The DE's 90 decibel limit has been criticised as being too high. (Working at this noise level is equivalent to being exposed all day to two rock drills, full blast, at 50 feet.) It has been estimated that hearing damage begins at 80 decibels, and at the 90 dBA limit 10 per cent of the workforce is in danger of losing one third of their hearing. Significantly, the Dutch government has recommended a limit of 80dBA — one-tenth

the limit in the UK. (Kinnersley, *Hazards of Work*, 1973.)

Avon has an Industrial Noise Control Unit which operates as an independent unit providing a commercial noise control service for industry. The Unit has no responsibility for noise control at Avon factories though it may advise them and in 1974 it carried out surveys at Melksham, Bradford and Bridgend.

**The Unit found levels of noise at or above 90 decibels at all three sites surveyed. Copies of the Unit's reports on Melksham and Bradford were promised to PIRC but not supplied. It has therefore not been possible to identify areas in these factories where noise may present a danger to hearing.**

The Safety Officers at Melksham and Bradford stated that operators in areas where noise was high had been told of the risks and advised to wear ear muffs, however these areas have not been marked with warning signs.

Bradford's Safety Officer stated that the company had modified machinery in certain areas of the factory as a result of the report and intended to reduce noise levels to below 85 decibels. No details have been supplied of any modifications to machinery at Melksham. The Safety Officer stated that a new survey would be carried out by an outside consultant in the future. Details of the Noise Control Unit's findings at Bridgend were supplied to PIRC. The survey, completed in January 1975, identified the following areas:

1. Areas that will cause hearing damage:
  - tube shop extruder — 97dBA
  - car tyre buffing machines — 100dBA
  - Robinson mills in calender shop — 93dBA
2. Areas that might cause hearing damage:
  - mixed compound granulator — about 90dBA
  - tread extrusion shop (running slow) — 89dBA
  - floor cleaner/scrapper — 95dBA
3. Areas where noise level is 'just acceptable':
  - power house — 90dBA
  - Banbury mill area — 89dBA
  - calender shop (excluding Robinson mills) — 85-89 dBA
4. Areas with no noise problem
  - inspection areas
  - tyre building area
  - tyre curing area
 all below 85dBA
5. Areas not included in study:
  - tyre crumbing plant
  - truck tyre remoulding areas
  - shoe sole blanking areas

The report contained detailed recommendations for action. At the time of this enquiry it was too early to report on progress towards implementing these recommendations. However, it was stated that ear muffs were available to operators in noisy areas. During the enquiry a number of visits were made to the factory and, in many areas — including the trade union office — noise levels were so high that conversation could be held, if at all, only by shouting.

No noise surveys have been carried out either at Avon Medicals or at Avon Inflatables and managements at these companies stated that no major sources of industrial noise existed at their factories. However, pneumatic tool operators at Inflatables have been supplied with ear muffs, although noise levels from this source have not been measured.

With the exception of the Bradford company, none of the Avon companies has carried out its own noise monitoring. At Bradford, noise monitoring has not been systematic and the Company has not kept records, as recommended by the Department of Employment's code of practice on noise.

## Chemical hazards

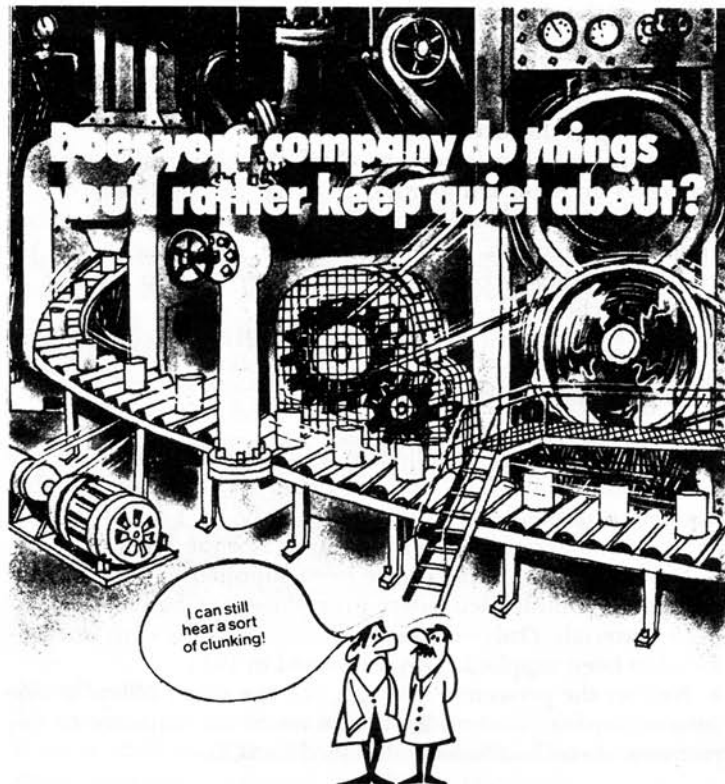
Thousands of chemicals whose health hazards are not fully understood are used in industry and new materials are being introduced all the time. Many of these chemicals may:

- be poisonous if swallowed
- cause skin disease (dermatitis) if handled
- cause respiratory disease if inhaled
- cause cancer if inhaled or absorbed through the skin.

A great number of chemicals are used in the rubber industry and Avon itself uses more than 350 different chemicals. One of the substances used in the past by Avon and by the rubber industry illustrates the dangerous chemical hazards that may occur.

After the second world war a chemical called beta-naphthylamine, used by rubber manufacturers to stop rubber perishing, was shown to have caused bladder cancer in rubber workers and was withdrawn from use in 1949. In 1965 a former Avon employee died of bladder cancer. The inquest into his death attracted national publicity for it revealed that:

- There had been what the medical journal *The Lancet* called 'an epidemic of bladder tumours' amongst Avon workers at Melksham. Fourteen cases had been diagnosed by 1965 and seven deaths had occurred.
- None of the previous deaths had been reported to the coroner and no claims for industrial injury benefit had been made — suggesting that men affected had not been informed of their rights.
- The dead ex-Avon employee had been exposed only indirectly to beta-naphthylamine. The chemical was thought to have been released



Is your company one of the big noises in industry? One of those places where you can't hear yourself think, or other people talk. Full of jumpy, irritable staff, unrest and inefficiency. Plagued by ever-complaining neighbours and ever-decreasing profits. If it is, we'd like a quiet word with you. About Avon Industrial Noise Control. We have a team of highly skilled engineers using the most up-to-date techniques and equipment. So very quickly and very quietly we can sort out all of your problems. Which is well worth shouting about, isn't it?

**AVON**

## Avon Industrial Noise Control

Avon Rubber Company Limited, Melksham SN12 8AA, Wiltshire  
telephone Melksham (STD 0225) 703101 telex 44142

into the factory air when rubber 'curing bags' made with beta-naphthylamine were used.

• For reasons which *The Lancet* called 'quite inadequate' Avon had twice rejected the British Rubber Manufacturers' Association's advice to send exposed workers for cancer screening. (One of Avon's reasons was that it did not want to alarm its workers.) Avon began screening only in 1965.

More recently, a report by the government's Employment Medical Advisory Service (*British Journal of Industrial Medicine*, 1974, 31, 140-151) has revealed a high level of lung cancer amongst workers in some jobs within the tyre manufacturing industry.

In the light of these very disturbing findings, this report examines what measures Avon has taken to protect its employees from chemical hazards.

## Chemical vetting

No raw material may be used in the Avon Group without the approval of the Supplies Control Department (SCD) at Melksham; but SCD does not deal with engineering supplies such as lubricating oils and fuels or with raw materials used at Avon Medicals.

SCD monitors reports of health hazards using information from the BRMA, suppliers and specialist research bodies though it does not carry out any experimental work of its own in this field. The Department is responsible for publishing and updating a list of industrial health hazards associated with all Avon raw materials together with the TLVs (Threshold Limit

Values — the maximum permitted concentration for 8-hour exposure) where these exist. It is also responsible for preparing memos which recommend precautions for handling specific materials, and for circulating information on the monitoring of the factory air.

This information is sent to chief chemists and personnel managers at Avon companies. It is the responsibility of the personnel manager (or safety officer) to ensure that this information is acted on. Supplies Control Department has no executive authority other than the power to veto the use of hazardous chemicals.

Little evidence has been supplied to PIRC to confirm that Avon companies are well informed by SCD on the health hazards of their raw materials.

- No list has been supplied to PIRC which details all the health hazards and TLVs of raw materials. The only list that has been supplied was produced in early 1971 and lists only hazardous materials — not the hazards, nor the TLVs.
- No recent memoranda have been supplied to PIRC which describe recommended safety procedures for handling particular materials. Only one memorandum, dealing with isocyanates, has been supplied. This was issued in 1971.
- Neither the personnel manager nor the safety officer at one Avon company (Bridgend) were aware of the existence of any memoranda on health hazards issued by SCD.

### The 'no carcinogen' policy

According to the technical director of SCD: 'Acutely toxic materials will not normally be approved for use. If however, a pressing case is made for the use of such a material, SCD will only give this approval after informing the Chief Chemist and Personnel Officer of the factory concerned of the dangers involved and the recommended procedures for safe handling. Under no circumstances will approval be given to materials suspected of having even the slightest carcinogenic risk.'

On the basis of this policy, SCD has advised that employees can be given 'a categorical assurance that no raw materials are used anywhere in the Avon Group which might have any risk of cancer . . .' (Original emphasis)

However, examination of Avon's November 1974 index of raw materials revealed not only that suspected carcinogens (cancer causing substances) are used in the Group but also that recognised carcinogens are used.

These carcinogens are identified in Table 7. The list may not be comprehensive as many of Avon's chemicals are listed by their trade names and could not be identified.

No discussion of the circumstances in which these materials are used has been held and it is therefore not possible to describe to what extent, if any, workers are exposed to these carcinogens. However, Avon has supplied some examples of the

Table 7. Suspected and recognised carcinogens used in the Avon Group (November 1974)

Suspected cancer causing substances	Recognised cancer causing substances
Cadmium stearate	Aromatic and naphthenic process oils
Diethyl thiourea (*)	Copper dimethyl dithiocarbamate
Ethyl thiourea	Lamp black
Ethylene oxide	Norwegian talc and talc
Formaldehyde	Octylated diphenylamine (*)
N-nitrosodiphenylamine	Paraffin wax
Rapeseed oil	Zinc dibutyl dithiocarbamate
Red lead oxide	Zinc diethyl dithiocarbamate
Red iron oxide	Zinc dimethyl dithiocarbamate
Resorcinol <sup>1</sup>	

SOURCE: *Dangerous Properties of Industrial Materials*, N. I. Sax, Van Nostrand Reinhold, 1975; and for materials marked <sup>1</sup> *Work is Dangerous to Your Health*, J. M. Stellman and S. M. Daum, Vintage Books, 1973. Substances marked (\*) are closely related to materials which are either suspected or recognised carcinogens.

way in which it deals in practice with carcinogens or hazardous materials.

1. **MOCA** is the abbreviation for an organic chemical used in the production of polyurethane. During a visit abroad several years ago the technical director of SCD heard that MOCA had been incriminated as a liver carcinogen. On his return, the company withdrew MOCA from use in the space of one week and transferred production to an alternative process. Avon believes it was the first company to ban this chemical and the BRMA now strongly advises against its use.

It was the availability of a viable alternative that made the withdrawal of MOCA possible. SCD's technical director stated that had there been no alternative the company would probably have continued to use MOCA after taking 'rigorous steps' to enclose it.

2. **Ethylene thiourea (ETU)** is an accelerator used in the curing of rubber. Studies carried out by the manufacturers of ETU in 1969 found that it produced thyroid cancer and birth defects in rats. They therefore advised users of ETU to provide respirators to those in contact with it and to remove women of child bearing age from areas where ETU was used. In response to these findings Avon has banned the use of ETU powder altogether. The chemical is still used at Bradford, but in a paste form so that dust which could be inhaled is not produced. Women do not work with the paste form of ETU.

During 1973 a doctor practising in the town of Corsham, five miles from Melksham, reported that over a 5-year period an unusual number of infants (18) had been born in Corsham with defects of the central nervous system, particularly spina bifida. This represented the highest frequency of such defects yet reported — 19.8 cases per 1,000 births compared with the average for Wiltshire of 3.7. In considering possible causes the doctor pointed out that four of the fathers of abnormal babies worked in the nearby rubber industry and three of the mothers in plastics. (See: *The Practitioner*, July 1973, 75-81.)

The doctor wrote to Avon about this and later met representatives of the Company (whom he said were most co-operative) and the BRMA's medical adviser. The technical director of SCD stated that 'the general view was that the total evidence he'd got, the sort of sampling of the population, wouldn't stand up to a strict scientific scrutiny'. Avon pointed out that they had co-operated in BRMA and government surveys of occupational cancer and believed that this was a more appropriate way of detecting unrecognised causes of cancer.

3. **Talc (Calcium Aluminium Silicate)** has been widely used in the rubber industry as a dusting agent. It causes scarring of the lungs similar to asbestosis and can be fatal. In the past at least one Avon employee, formerly employed in the tube shop at Melksham, is known to have died from talcosis.

The quality of talc bought by Avon is controlled by SCD and is said to contain very little free silica. The policy of Melksham and Bradford is to progressively eliminate the use of talc and replace it with chalk or zinc stearate. (See list of hazardous materials on p. 40.) However at the time of this enquiry talc was still used in some areas at Melksham, particularly in extruding areas. It still remains in some parts of Bradford especially in the mill where it is said to be dusted on by hand.

Talc is also used in the tube shop, recently transferred to Bridgend from Melksham. The technical director of SCD has inspected the tube shop at Bridgend and stated that house-keeping measures to control talc were not as good as they had been at Melksham and needed 'considerable improvement'.

A report on talc use has been prepared for Melksham by a medical specialist. A copy of this report was requested by PIRC, but not supplied and it is therefore not possible to state whether any recommendations made in it have been followed. More seriously, this report had not been seen by the safety officer at Bradford. It is not known whether the report has been seen at Bridgend.

Talc levels at Melksham have been monitored and are said

by the safety officer to be extremely low. It was not possible to confirm this as copies of these results could not be inspected by PIRC because of shortage of time.

No monitoring of the levels of this very dangerous material in the factory air had been carried out at Bradford or at Bridgend.

4. **Isocyanates** were being used at Melksham in the manufacture of polyurethane (an area of expansion at Melksham) and in various adhesives used at Melksham and Bridgend in the recent past.

Isocyanates are irritants which affect the respiratory system and may produce symptoms similar to acute asthma. Individuals may suffer from these symptoms after exposure to only tiny quantities of isocyanates if they have become 'sensitised' to the material.

Materials containing isocyanates used within the Avon Group in 1974 included: Desmodur R, Desmodur L, Desmodur 15, Vulcabond TX and Chemlock 231.

SCD has produced a memorandum on the use of isocyanates referring users to BRMA recommendations. In addition a report on the use of isocyanates has been produced for Melksham by a medical specialist. All employees working with isocyanates at Melksham have been examined every six months by a nurse (the BRMA recommends monthly examinations). At least two cases of sensitisation have occurred and the employees concerned have been transferred to other areas.

The levels of isocyanates in the factory air at Melksham have been monitored and the safety officer stated that they were low and within the TLV. This could not be confirmed as, because of shortage of time, records of sampling were not inspected. There had been no monitoring of isocyanates elsewhere in the Avon Group.

5. **Toluene** is a solvent with irritant properties. It is also a powerful narcotic and persons exposed to it may show signs of intoxication. It may also cause liver damage.

Toluene was used at Avon Inflatables factories until 1974. Union representatives have suggested that young boys employed on boat washing at the factory had been deliberately inhaling toluene from gauze pads (and were as a result transferred from the job) while it has also been suggested that one individual removed toluene from the factory and sold it to children outside.

In the summer of 1974, two female employees fainted, reportedly from over-exposure to toluene. As a result of these incidents Avon Inflatables was prosecuted — unsuccessfully — by the Factory Inspectorate who claimed that the method of use of toluene did not protect the health of employees. At the court hearing the Company claimed that it could not have known that toluene was going to be used in toxic quantities. However, tests taken by the Company after the incidents showed that while toluene levels were *on average* within the TLV at both factories, they equalled or exceeded it on five occasions between September and December 1974.

Avon Inflatables has now replaced toluene with another solvent and SCD's technical director hoped that toluene could be replaced at other Avon companies. Levels of toluene have also been monitored at Melksham but not elsewhere.

### Avon Medicals

Avon Medicals' raw materials are not controlled by SCD, partly because SCD's expertise is in rubber manufacture and not in plastics. It was not clear what, if any, special arrangements for vetting were made at Avon Medicals. One senior manager, for example, stated that no chemicals were used other than ethylene oxide, PVA glue and two solvents. However an examination of the company's Index of Raw Materials for 1974/75 revealed other materials with toxic properties. (These are included in the list of toxic materials below.)

One hazard which has been examined at Avon Medicals is vinyl chloride monomer — the substance used to make PVC which was recently found to be a carcinogen. Avon Medicals

use PVC and have asked their supplier to test whether any residual vinyl chloride might be given off. According to Avon Medicals the suppliers were unable to detect any trace of the monomer.

### Engineering supplies

Hazards associated with lubricating and fuel oils are not vetted by Supplies Control Department although certain oils can cause dermatitis or cancer. Responsibility for buying these materials lies with engineering or supplies departments in consultation, it is said, with safety officers.

Some years ago a survey of precautions for the handling of oils was carried out at Melksham following the discovery that scrotal cancer had been caused by contact with mineral oils. A copy of this survey was requested by PIRC but was not supplied, and it was therefore not possible to examine what precautions were in use.

A list of oils used at Melksham, Bradford and Bridgend was separately requested from each company but was not supplied. It was therefore not possible to describe which hazardous oils were used at these sites.

### Monitoring

Monitoring of chemicals in the factory air had taken place only at Melksham and at Avon Inflatables. Dust monitoring equipment had been used to measure talc levels at Melksham and this equipment included a personal sampler which can be worn by an operator and records total exposure during a working day. Isocyanate levels at Melksham have also been monitored and so have levels of solvents or adhesive fumes. The results of these measurements were not inspected by PIRC.

At Dafen, measurements of solvent levels have been taken and results for the first month of sampling, January 1975, showed low levels — well within the TLV.

No other monitoring takes place in the Avon group. Safety officers at Bridgend and Bradford did not have even the simplest equipment for monitoring fumes or dusts.

### Industrial disease

No statistical evidence on the incidence of industrial disease amongst Avon employees was supplied. However, it is known that a number of former Avon employees have died from bladder cancer contracted at work; that there has been at least once case of talcosis amongst Melksham workers; and that an insulating engineer who had worked at Bridgend until 1960 and had been in contact with asbestos at the factory, died of asbestosis in 1973 or 1974. The Factory Inspectorate has stated that they had been told that the majority of asbestos material at the factory has now been replaced.

The union convenor at Melksham stated that he had observed what appeared to be an unusual incidence of heart attacks and deaths from lung cancer amongst retired employees from one department in the factory. He stated that he had unsuccessfully sought advice from the BRMA's medical adviser and had then contacted his union for an opinion. No investigation appeared to have been initiated either by the BRMA or by Avon.

### Information to trade union representatives

Although a good deal of information had been passed to shop floor representatives at safety committee meetings, they did not appear to have received:

- copies of monitoring results where monitoring has taken place
- comprehensive information on chemicals used and their associated hazards.

It is not clear whether or not trade union representatives have asked for this information.



A former Avon employee is presented with a cheque for £20,400 by the TGWU branch secretary at Melksham. The money was paid by ICI, who used to manufacture beta-naphthylamine, as compensation for bladder cancer contracted at work. This man's cancer was discovered in 1965 when Avon began cancer screening of exposed employees — but the compensation was not paid until 1974, following a nine-year legal battle by the TGWU.

## Discussion

Accident levels for two Avon companies (Bridgend and Inflatables) have been more than double the industry average. Accident levels of this sort should be intolerable. Bradford's accident rate, though improved, is nevertheless around the industry average, while Melksham's is significantly above. However, there is no reason to consider the industry level as an acceptable or desirable level.

Some of the main causes of accidents in industry, are unsafe machinery, poor safety organisation and payment systems which — as happened at Bridgend in October 1974 — encourage speed at the expense of safety.

On that occasion an operator cut his hand with a blade used to trim tyres on a spinning machine. Trade union representatives stated that for safety reasons the job specification required the machine to be stopped while each tyre was removed, but that the piecework rate was set by timing the machine running continuously. This meant that an operator knocked the spinning tyre off the machine with the blade which could on occasions be jerked out of his hand. (The wall behind the machine is scarred with blade marks caused in this way.)

According to management, the Factory Inspector was not prepared to state that this method of operating the machine was unsafe but he did say it could be improved by an automatic take-off. (The Factory Inspector could find no record of this conversation though he confirmed that it took place.) The Company did not attempt to modify the machine but instead erected a screen behind it to prevent the blade bouncing back if it flew off.

After repeated pressure from trade union representatives the job was retimed by management and the time allowed increased. However, management 'bought back' this extra time as part of the productivity deal introduced in 1975. This meant that operators would have to return to the original method in order to maintain their earnings.

So long as accidents are blamed on 'carelessness' rather than on the organisation of work, it is unlikely that a comprehensive approach to accident prevention can be adopted. Such an approach would, for example, involve a thorough analysis of accident statistics — both to detect hazards and to monitor the success of accident prevention measures. It is probably significant that many Avon safety officers regarded accident statistics as of little value to their work (although the crude '3-day' accident statistics showed that accident levels were high) whereas Bradford, the company which paid most attention to statistics, is also the only company whose accident levels have improved over recent years.

Melksham is relatively well staffed with safety personnel but staffing at other Avon companies may well be inadequate. The part-time safety officers at these companies did not appear to enjoy the status or influence of Melksham's safety officer and one safety officer frankly regretted the lack of staff, resources and management support he received.

Only Melksham had qualified nurses available at all working hours. Shift and evening workers at other companies, who are in any case more likely to suffer accidents than day workers, were not covered by nursing staff.

Avon Medicals has repeatedly refused trade union requests to employ a nurse. One of the company's managers stated: 'We had a nurse before. She did waste an awful lot of everybody's time. . . . A trained nurse does open the floodgates for the malingerers. We have plenty of problems with the first aiders dealing with malingering, let alone a works nurse. . . . I think eventually we shall probably have to have one but I know when we do she won't earn her keep.' This attitude should be contrasted the views of Avon Inflatables' management who stated that they believed it was 'absolutely essential' to employ a nurse for a female workforce and employed two nurses — one at Dafen and one at the North Dock factory (where only 40 employees were employed at the time). The nurses provided a general welfare service which included family planning advice.

Joint consultation on health and safety was given low priority at smaller Avon companies, though it was well-established at Melksham and Bradford. The high accident rate and the use of hazardous solvents should certainly have been discussed at Avon Inflatables in the past. Because of lack of time it was not possible to examine safety committee minutes at Melksham and Bradford. Bridgend's minutes, however, indicated that while attention had been paid to relatively peripheral matters — such as the provision of films, badges and footwear — essential matters such as introducing talc monitoring had not been raised.

Safety committees at Bradford and Bridgend were the only ones to have provided joint inspections of the factories — though the adequacy of inspections at Bridgend had been questioned. Joint inspections are important and should be a regular feature of all safety committees.

Avon has no Group safety department. This is surprising as Avon does have a Group fire executive and is probably ahead of most of industry in this aspect. Two of Avon's safety officers stated that they believed there was a need for a Group safety department provided it had authority to ensure that its recommendations were implemented. Such a department could usefully begin a comprehensive system of accident detection and prevention at all Avon companies.

It is perhaps significant that the main Avon board has also been reluctant to appoint a director with specific responsibility for safety and health. The board has preferred to rely on 'collective responsibility' for these issues, though again safety officers disagreed, believing that a specific show of interest from the top would motivate all levels of supervision.

Almost certain hearing damage would face workers who continued to work at noise levels found in parts of Avon factories at the time of this enquiry; though all companies had taken, or said they would take, action on noise. However, no Avon com-

pany had followed the Department of Employment's advice and clearly marked high noise areas as 'ear protection areas' allowing no-one to enter without adequate ear protection. No Avon company — other than Bradford — had its own noise monitoring equipment and it is doubtful whether Bradford's had been properly used.

The Department of Employment's 90 decibels level should not be regarded as an 'acceptable' level since workers can suffer hearing damage if continuously exposed to this intensity of noise. Bradford has stated that it aimed to reduce noise levels to 85 decibels — two-thirds lower than the recommended minimum level — and other Avon companies should aim to achieve at least this standard.

Toxic chemicals should be banned or strictly controlled before workers collapse from over-exposure — not afterwards as the Factory Inspectorate allege happened at Avon Inflatables. Inflatables' management claimed they did not know there was any risk from their method of using toluene — and the court found them not guilty. But the Factory Inspectorate maintained that the Company 'had a system of work which to any reasonable person would have shown that you were inhaling large quantities of toluene . . . whether the woman was overcome was immaterial, it was a method of work that should not have occurred in the first place.'

Avon does employ specialists in the field of health and safety but they have no authority within the Group. Supplies Control Department has advised companies to monitor hazardous materials in the factory air but three Avon companies did not even possess monitoring equipment. The head of SCD had, for example, observed that talc was not being properly handled at Bridgend — but it was not part of his job to inspect the Bridgend factory and he had no authority to see that precautions were improved.

Giving specialist departments purely advisory roles in this way will be ineffective if local managements are unaware of, or ignore, their recommendations. For the arrangement to work properly, a formal system of monitoring health and safety performance and holding local management fully responsible for the records of their own units may be needed.

Communication within the Avon Group on health and safety issues is poor. SCD's circulars containing information on hazardous materials had not been seen at Bridgend, while a medical report on talc prepared for Melksham had not been seen at Bradford, though talc is also used at that factory. The different factories in the Group often share common problems but the safety officers did not meet nor did members of safety committees. By contrast there was an annual fire officers meeting and personnel managers met monthly.



*Warning sign recommended by the Department of Employment for use in areas where noise levels exceed DE limits*

Many Avon workers were exposed to potentially dangerous fumes and dusts which were not monitored in the factory air. Apart from some monitoring at Melksham and at Inflatables none of the substances with TLVs used by Avon companies and listed on pages 39-40 had been monitored.

Despite its 'no carcinogen' policy, Avon did use cancer-causing materials. The example of MOCA (page 34) suggests that if withdrawing a carcinogen meant abandoning production then Avon would probably continue to use it, with precautions. This is precisely what has happened with ETU. In this case Avon used a suspected carcinogen, but in a form which it believed would prevent workers from accidentally being contaminated.

The policy is open to further interpretation because experts often disagree about whether there is enough evidence to suspect a substance of causing cancer.

No evidence has been obtained to suggest that Avon workers have been dangerously exposed to carcinogens — indeed the above examples suggest that the Group has gone out of its way to avoid using dangerous materials.

Nevertheless, the 'no carcinogen' policy described by Avon to its employees was severely misleading and likely to lead to complacency in handling hazardous chemicals.

A good deal of important information on health and safety at Avon was requested by PIRC but not supplied. This information included:

- detailed accident statistics
- correspondence with the Factory Inspectorate
- medical reports on the use of talc
- reports on noise levels at Melksham and Bradford
- recent lists of chemicals used within the Avon Group and their associated hazards
- lists of oils used by Avon companies.

Important information on health and safety has not regularly been supplied to trade union representatives at Avon. Although safety committees, where they existed, examined accident statistics, trade union representatives did not receive:

- results of monitoring
- full information on all health hazards
- details of Factory Inspectorate recommendations.

Some of the information not supplied to PIRC may also not be available to trade union representatives. For example Bradford's safety officer stated that the report on noise levels at the factory had been acted on and 'filed away' because 'if it gets into the wrong hands it can create an awful lot of problems'.

The Factory Inspectorate is now required to keep employees or their representatives 'adequately informed about matters affecting their health, safety and welfare' and should inform them of details of the hazards they face and of action the Inspectorate has taken. However, while the Factory Inspector may be useful he cannot be relied on to keep conditions under close scrutiny. The Inspectorate investigated only 18 out of 229 3-day accidents at Avon companies in 1974.

**Trade union or safety representatives should insist on receiving full information on all hazards from their managements. They should be wary of general assurances that the existing procedures for safeguarding safety and health are adequate.** Employee representatives should:

- examine the list of toxic substances used by Avon (pages 39-40) and find out which are used in their factory. They should also obtain from their managements details of the composition of materials normally identified only by their trade names.
- find out what precautions chemical suppliers, the BRMA, SCD and other bodies have advised management to take
- check that these precautions are being observed
- where they are not satisfied with precautions ensure they are improved and insist that management regularly monitors the levels of these materials in the air. Monitoring should be done in the presence of union representatives and they should be given copies of all results.

Where existing safety and health arrangements are not adequate, trade union representatives should consider building up their own safety organisation. Suggestions for doing this can be found in *The Hazards of Work: How to Fight Them* by Patrick Kinnersley, Pluto Press, 1973. These include:

- carrying out their own safety inspections
- inspecting accident and sickness records for patterns. Trade union representatives at Melksham have already informally monitored serious illness amongst ex-employees.
- calling in outside experts for advice where necessary
- carrying out their own monitoring. Some forms of monitoring equipment are quite cheap to buy.



## Hazardous materials used in the Avon Group

Because of the inadequacy of information supplied, it has not been possible, as was originally hoped, to present a comprehensive list of all hazardous materials used in Avon and of the precautions used in handling them. However, the following list briefly describes the known health hazards of some Avon raw materials. The list is taken largely from Avon's November 1974 list of raw materials, though where other sources have been used these have been indicated. Most of Avon's raw materials are described only by their trade names: it has not been possible to identify the chemical constituents of such materials and they have regrettably been omitted from the following list.

Information about the known health hazards of materials has been drawn from recognised authoritative sources, primarily *Dangerous Properties of Industrial Materials* by N. I. Sax, Van Nostrand Reinhold, 1975, and *Documentation of the Threshold Limit Values*, American Conference of Governmental Industrial Hygienists (ACGIH), 1974. Where any other sources have been used they have been indicated.

Threshold Limit Values (TLVs) — the maximum permitted concentration of substances in the air to which it is believed workers may be continuously exposed over an 8-hour period — have been shown wherever these exist, and in some cases the TLVs used abroad have also been shown. The TLV is shown in terms of the weight of the substance, in milligrammes, per cubic metre of air ( $\text{mg}/\text{m}^3$ ).

The British TLVs, used by the Factory Inspectorate, are drawn from those produced by the American Conference of Governmental Industrial Hygienists. This body does not carry out its own tests and the evidence is sometimes scanty, based either on the obvious observed effects on workers in industry exposed to a particular material or on a small number of



'*"Ham Sandwich"* is only the trade name — you don't know what carcinogenic substances might be in it . . .'

animal experiments. The ACGIH has admitted that some workers may be affected by concentrations below the TLV, and it should therefore not necessarily be assumed that the TLV is itself a *safe* level of exposure.

It should be noted that:

- This list is not complete.
- The list includes several well-known, widely-used chemicals in order to draw attention to their lesser-known properties.
- The inclusion of a material in this list is not meant to imply that it is being used without necessary precautions.

**Acetyl tributyl citrate.** Irritant. Gives off pungent fumes when heated.

**Aromatic process oils.** Many of these oils cause cancer of the skin, (especially the scrotum), lungs and stomach. Also cause dermatitis and lung damage. TLV:  $5 \text{ mg}/\text{m}^3$ . Complaints of nuisance may occur at half this level.

**Alumina white.** Fine particles can cause lung damage.

**Ammonia liquor.** Can cause severe eye damage and temporary blindness. Irritant. Possible cause of brain damage. TLV:  $18 \text{ mg}/\text{m}^3$ . Complaints of discomfort have been reported at this level. It can be smelled at one quarter of the TLV.

**Azocarbonamide.** Fire hazard. A related compound is a permitted food additive in the US.

**Barium zirconate.** Short term irritant effects on lungs and skin. Animal experiments suggest may cause lung damage.

**Cadmium stearate.** Health hazards unknown. However, cadmium compounds cause lung and kidney damage and are suspected to cause cancer of the lung and liver.

**Calcium hydroxide.** Caustic. Irritant. Can cause dermatitis.

**Caustic soda (Sodium hydroxide).** All forms are corrosive and burn, cause ulcers or scarring when concentrated. May cause damage to eyes and blindness. TLV:  $2 \text{ mg}/\text{m}^3$ . At this level 'noticeable, but not excessively, irritant'. USSR TLV:  $0.5 \text{ mg}/\text{m}^3$ .

**China clay (kaolin).** Prolonged inhalation of high concentrations may cause lung damage. TLV:  $10 \text{ mg}/\text{m}^3$ .

**Chlorine<sup>1</sup>.** Irritant. May burn skin. May cause lung damage. TLV:  $3 \text{ mg}/\text{m}^3$ .

**Copper dimethyl dithiocarbamate.** Recognised carcinogen. Gives off dangerous fumes on heating. Copper compounds generally are irritants. May cause damage to nervous system, kidneys and even death if swallowed.

**Cyclohexanone<sup>2</sup>.** Irritant. Dermatitis. Can damage liver and kidneys. TLV:  $200 \text{ mg}/\text{m}^3$ .

**Dibenzthiazyl disulphide.** If heated in contact with acids, gives off dangerous fumes.

**Dibenzyl ether.** Probably an irritant and narcotic.

**Dibutyl sebacate.** May be absorbed through skin. Decomposition product (butyl alcohol) is an eye irritant and may cause dermatitis.

**1-1-Dichloroethane<sup>2</sup>.** Liver injury in experimental animals. TLV:  $320 \text{ mg}/\text{m}^3$ .

**Di-2-ethylhexyl-phthalate (DOP).** Irritant if swallowed, inhaled or absorbed through the skin.

**Diethyl thiourea.** Health hazards not known but may be similar to ethylene thiourea (below) a related compound which may be a decomposition product.

**Diphenyl guanidine.** Animal experiments suggest this is a highly toxic compound.

**Dipentamethylene thiuram tetrasulphide.** Health hazards unknown. May be similar to tetramethyl thiuram monosulphide, which is a related compound.

**Diphenyl-p-phenylene diamine.** May cause allergic reactions. A related compound (p-phenylene diamine) causes lung damage, liver damage, eye damage and is a powerful skin irritant. TLV:  $0.1 \text{ mg}/\text{m}^3$ . Persons may become sensitised to this material and suffer asthma-like symptoms at much lower levels than the TLV.

**2-Ethoxyethanol** (cellosolve).<sup>1</sup> Eye irritant. Animal experiments show lung and kidney damage. TLV: 370 mg/m<sup>3</sup>.

**Ethyl acetate**.<sup>2</sup> Low concentrations irritating. High concentrations can cause permanent eye damage, liver and kidney damage, coma and death. TLV: 1400 mg/m<sup>3</sup>. Irritation has been reported at half this level. USSR TLV: 200 mg/m<sup>3</sup>.

**Ethylene oxide**.<sup>2</sup> Fire and explosive hazard. Irritant. High concentrations can cause lung damage. Suspected carcinogen. TLV: 90 mg/m<sup>3</sup>.

**Ethylene thiourea**. Suspected of causing liver and thyroid cancer. Also thought to cause anaemia and allergic skin reactions. Dangerous fumes if heated.

**Formaldehyde solution** (30 per cent). Suspected lung carcinogen. Symptoms of irritation, disturbed sleep and abnormal thirst on waking have been reported after exposure to levels below current TLV. Persons may become sensitised after repeated exposure and subsequently be affected by very small concentrations. TLV: 3 mg/m<sup>3</sup>. (USSR TLV: 0.5 mg/m<sup>3</sup>)

**Genitron**. Fire hazard.

**Glycerine**. Brief exposure affects skin, lungs, eyes, nose and throat. TLV (glycerine mist): 10 mg/m<sup>3</sup>.

**Graphite**. Prolonged inhalation leads to lung damage. May cause allergies.

**Hexamethylene tetramine**. May cause skin rash.

**Industrial alcohol**. Irritation of eyes, nose, throat, lungs. Cirrhosis of liver. Can be smelled at TLV. TLV: 1900 mg/m<sup>3</sup>.

**Lamp black** (soot). Recognised cause of skin cancer, especially of scrotum. Cancer of lung and general lung damage. TLV: 3.5 mg/m<sup>3</sup>.

**Linseed oil**. Can cause irritation and allergic reaction.

**Lithopone** (30 per cent zinc sulphide). Swallowing can lead to constipation and indigestion. Main danger is from contact with acid when hydrogen sulphide (bad egg smell) gas which can be fatal is released.

**Magnesium oxide**. Fumes and dust can cause lung damage. Fever, muscular pain, nausea and vomiting. TLV: 10 mg/m<sup>3</sup>.

**Methylene chloride**<sup>1</sup> (contained in Desmodur R). Very dangerous to eyes; dermatitis on prolonged contact with skin; a strong narcotic producing dulling of consciousness and intoxication. American TLV: 360 mg/m<sup>3</sup>.

**Methyl ethyl ketone** (MEK)<sup>2</sup>. Highly irritating. Absorbed through skin. Can cause collapse. Irritation reported at half TLV level. TLV: 590 mg/m<sup>3</sup>. (TLV Sweden: 440 mg/m<sup>3</sup>; TLV USSR: 200 mg/m<sup>3</sup>)

**Methyl isobutyl ketone**. Irritant. High concentrations can cause collapse and even death. Complaints of headache, nausea and irritation reported at exposure to TLV level. TLV: 410 mg/m<sup>3</sup>.

**Mica, Micronised 2/1**. Dust can cause severe lung damage. Lung damage observed after exposure to levels below TLV. American TLV: 20 million particles per cubic foot.

**Naphtha** (petroleum spirit). Can cause internal bleeding and liver and kidney damage. High concentrations lead to intoxication and coma. TLV: 400 mg/m<sup>3</sup> (USSR TLV: 100 mg/m<sup>3</sup>). Lower TLVs are thought to be appropriate for higher boiling point fractions.

**Naphthenic process oils**. Similar to aromatic process oils, above.

**Neoprene**. Vapour causes severe damage to lungs, kidneys and liver. Eye damage, skin inflammation, temporary loss of hair, anaemia, nervousness. TLV for related but less dangerous compound (chloroprene): 90 mg/m<sup>3</sup> (USSR TLV: 2 mg/m<sup>3</sup>).

**N-nitroso-diphenylamine**. Compounds of this type (nitrosoamines) are suspected of causing cancer.

**Norwegian talc and talc**. Recognised cause of cancer. Also causes lung disease. TLV: 20 million particles per cubic foot (mppcf) if free from asbestos. Fibrous talc, TLV: 2 fibres/ml.

**Octane**<sup>1</sup> (contained in rubber solvent and in solvent SBP.NO.3). Fire hazard and in high concentrations may cause intoxication and collapse. TLV: 1900 mg/m<sup>3</sup>.

**Octylated diphenylamine** (Octamine). A related compound and possible decomposition product, (diphenylamine) is a recognised carcinogen and also causes blood poisoning and dermatitis.

**Paraffin wax**. Recognised cause of skin cancer. Found to cause lung and stomach cancer in experimental animals. American TLV: 0.2 mg/m<sup>3</sup>.

**Perchloroethylene**<sup>1</sup> (contained in Chemlock 220). Vapour can cause irritation and injury to eyes. Can cause intoxication and collapse. May cause dermatitis, liver injury. TLV: 670 mg/m<sup>3</sup>.

**Peroxide**<sup>1</sup> (trade name 'Varox'). May irritate or burn skin. Fire hazard. TLV for hydrogen peroxide: 1.4 mg/m<sup>3</sup>.

**Phenol formaldehyde**. May lead to release of formaldehyde vapour (see above).

**Rapeseed oil**. For the cancer, etc., hazards of many oils see aromatic process oils above.

**Red iron oxide**. Inhalation of heavy iron oxide dust suspected of causing lung cancer. TLV: 5 mg/m<sup>3</sup> (iron oxide fume).

**Red lead** (lead oxide). Suspected of causing lung and kidney cancer. Also causes lead poisoning with symptoms of pain, diarrhoea, constipation, insomnia, headaches. American TLV: 0.15 mg/m<sup>3</sup> (USSR TLV: 0.01 mg/m<sup>3</sup>).

**Resorcinol**. Blood and nerve poison which is readily absorbed through skin in solvents. May cause eye damage and dermatitis. Some people may become sensitised to it and react to extremely low concentrations. A suspected carcinogen. American TLV: 5 mg/m<sup>3</sup>. (USSR TLV: 0.5 mg/m<sup>3</sup>)

**Silica**.<sup>1</sup>Inhalation of dust causes serious lung damage. TLV: 10 mg/m<sup>3</sup>.

**Sodium hypochlorite**.<sup>2</sup> This compound, and the chlorine fumes it gives rise to (see above) are corrosive and irritant.

**Sulphur**. Inhalation of dust can produce lung disease and damage. Some reports of skin inflammation from contact.

**Tetramethyl thiuram monosulphide**. May cause liver, kidney and brain damage. Danger increased in presence of alcohol. Symptoms of nausea, vomiting and collapse. Dangerous fumes given off if heated.

**Tetramethyl thiuram disulphide**. Single exposure in animals produced liver, kidney and brain damage. In presence of alcohol leads to violent vomiting, nausea and collapse. American TLV: 5 mg/m<sup>3</sup>. (USSR TLV: 0.5 mg/m<sup>3</sup>)

**Titanium dioxide**. Dust may cause lung damage. TLV: 10 mg/m<sup>3</sup>.

**Toluene**. Loss of appetite, sleepiness and collapse. May cause eye damage in high concentrations. May cause blood and bone marrow damage. TLV: 375 mg/m<sup>3</sup> (USSR TLV: 50 mg/m<sup>3</sup>).

**Trichloroethylene**<sup>1</sup>(also constituent of Chemlock 231). Irritant. Vapour may lead to headache, dizziness and collapse. Recent US evidence suggests may cause cancer.<sup>4</sup> TLV: 535 mg/m<sup>3</sup>.

**Tricresyl phosphate**. Extremely dangerous, particularly if swallowed, but also if inhaled or absorbed through skin. May result in permanent paralysis. First symptoms are stomach upset, nausea, abdominal pain. TLV: 0.1 mg/m<sup>3</sup>.

**Zinc dibutyl dithiocarbamate**. Recognised carcinogen. Extremely irritating to eyes, nose and throat. Dangerous fumes on heating.

**Zinc diethyl dithiocarbamate**. Recognised carcinogen. Extremely irritating to eyes nose and throat. Dangerous fumes on heating.

**Zinc dimethyl dithiocarbamate**. Recognised carcinogen. Extremely irritating to eyes, nose and throat. Dangerous fumes on heating.

**Zinc oxide**. Fumes give rise to fever. Reports of stomach upsets and dermatitis.

**Zinc stearate**. Inhalation of dust can cause lung damage. At least one death reported. American TLV: 10 mg/m<sup>3</sup>.

**Yellow iron oxide**. See red iron oxide above.

**Xylene**<sup>1</sup> (also constituent of Vulcabond TX, Chemlock 220, Bostikure A200, Chemlock 217 and Chemlock 231). May cause intoxication and collapse. Has been used as anaesthetic. Can cause blood, liver and kidney damage. Women may develop menstrual problems. Fire hazard.<sup>3</sup>

#### Notes

<sup>1</sup> This compound taken from a list of hazardous raw materials used in Avon in February 1971. It is not known whether such compounds have been used subsequently.

<sup>2</sup> This compound taken from list of raw materials used by Avon Medicals in 1974/5. May also be used elsewhere in Avon Group.

<sup>3</sup> Details of hazards taken from *Work is Dangerous to Your Health*, J. M. Stellman and S. M. Daum, Vintage Books, New York, 1973.

<sup>4</sup> 'Reactions Grow to Trichloroethylene Alert', *Chemical & Engineering News*, May 19, 1975, page 41.

# Training

## Introduction

The provision of sound industrial training is justified on two main grounds. It can ensure that employers have adequately trained manpower, which they need to achieve economic goals — while employees may benefit from increased safety, job satisfaction and improved career prospects.

But to say that training can work to the advantage of all parties concerned, does not necessarily mean that employers and employees will always agree on the objectives of training, or in their approaches to it. Training may be a method of adapting men to machines — or it may provide an opportunity for employees to secure greater autonomy at work.

The conventional guidelines for training practice are produced by the industry training boards — statutory bodies, governed by employers and trade union representatives among others, which publish detailed recommendations on training. The training boards also impose a levy on individual firms. Only employers who provide training that complies with the boards' requirements can claim this levy back, in the form of a training grant.

The Rubber and Plastics Processing Industries Training Board (RPPITB) — with which all Avon companies are registered — has published criteria for training which include:

- the publication of a training policy and the nomination of a senior manager responsible for its implementation;
- the preparation of annual surveys of current and future training needs, and reviews of the adequacy of existing training;
- the provision of practical training programmes, involving the use of trained instructors, particularly for new starters; and safety training for all employees;
- the provision of appropriate training for managers, technicians or engineering craftsmen.
- the maintenance of 'adequate training records'.

Other guidelines (e.g. the Code of Practice issued under the now repealed Industrial Relations Act 1971) make similar recommendations for the provision of training; while the TUC's guide for negotiators (Good Industrial Relations, 1971) recommends that 'trade union representatives and managements should act jointly to implement locally the agreed . . . training board recommendations'. The TUC also lays particular emphasis on the training of young workers, women and workers preparing for retirement — and on the retraining of all workers whose jobs have significantly changed.

This report on Avon accordingly reflects the conventional emphasis on the system of training used; but in the discussion section which follows it, reference is made to the purposes for which Avon's training is provided.

## The Avon Group

A Group Training Manager, with a staff of ten, is responsible for (i) the formulation of policy on education and training; (ii) the Group-wide co-ordination of training activities; and (iii) providing certain kinds of training.

(i) **Training policy.** Avon has a written Group training policy. The current policy was first published in 1972, and it commits all Avon companies to maintaining an 'open environment in which individuals can develop their abilities and skills to the ultimate benefit of the company and themselves'. The policy document contains detailed guidance on implementation, particularly for training of younger employees.

Avon's policy was formulated by the Group Training Department — reportedly after prolonged discussions with personnel and training managers from throughout the Group — and then approved by the Management Board. Trade

Union representatives were not involved before this final approval had been given.



The policy was said to have been distributed to all Avon managers, down to departmental level — and to be freely available to Avon employees, on request.

(ii) **Co-ordination.** Three managers in the Group Training Department were said to provide a specialised advisory and consultancy service for all Avon managers, and to ensure that all companies complied with their statutory obligations. In particular, the Department was said to be concerned that companies should submit annual 'Surveys of Training Needs' to training boards and be able to claim the full amount of training grant from them.

The Department stated that they aimed to provide a service for Avon managers rather than impose standards on them, and that this approach clearly depended on the willingness of local managements to co-operate with the Group. There was no evidence that this co-operation had not been given.

(iii) **Provision of training.** The Group Training and Development Department is also directly and indirectly involved in the provision of training. The Department is generally responsible for placing Avon employees on external training courses, and also arranges courses at the Group Training Centre in Melksham.

In addition, the Department is responsible for the recruitment and training of all student and graduate trainees.

 <b>AVON</b> <b>Group Training Centre</b>	 <b>AVON</b> <b>Group Training Centre</b>
<div style="border: 1px solid black; padding: 5px;"><b>MANAGING PEOPLE</b></div>	<div style="border: 1px solid black; padding: 5px;"><b>DEVELOPING THE EFFECTIVE SECRETARY</b></div>
<b>2-4 DECEMBER 1974</b>	<b>5-7 February 1974</b> <b>11-13 November 1974</b>

*Training by Sex? In 1974, ninety-three per cent of Avon's 'management and supervisory' training went to men.*

A general indication of the amount of training given by Avon companies is shown in Tables 1-5, which are based on Avon companies' annual grant claim forms. These tables, however, contain no specific reference to internal operative training as this information is not requested by ITBs. No information was received from Bradford-on-Avon.

# TRAINING BY NUMBERS

**Table 1. Training at Melksham**

Training Category	No. of trainees (a)				No. of training days	
	1972/73		1973/74		1972/73	1973/74
	M	F	M	F		
Correspondence & Evening courses	—	—	—	1	—	8
Training Young Persons	—	—	3	—	—	15
Management & Supervisory	143	1	86	7	380	367
Instructors	33	1	44	4	164	240
Operative training (external courses)	—	—	4	—	—	17
Technologists & Technicians	81	—	101	2	2,221	1,828
Training Officers	—	2	—	—	99	—
Craft training	32	—	71	—	4,177	3,140
Safety, Health & Fire	13	2	17	—	40	23
Commercial & Office	5	12	4	13	96	117
Industrial Relations	10	—	3	—	30	25
<b>Total</b>	<b>317</b>	<b>18</b>	<b>333</b>	<b>27</b>	<b>7,207</b>	<b>5,780</b>

**Notes for all tables**

- (a) The figures in these columns represent the number of separate grant claims under each training category; this may not be exactly the same as the number of persons trained, since more than one claim may be made for any individual.  
 (b) These figures exclude the first year's release for one apprentice toolmaker.  
 (c) Copies of grant claim forms supplied for 1972/73 are indecipherable and have, therefore, not been summarised.  
 (d) These figures exclude training days which were unintelligibly recorded on the grant claim forms.

**Table 2. Training at Avon Inflatables**

Training Category	No. of trainees (a)				No. of training days	
	1972/73		1973/74		1972/73	1973/74
	M	F	M	F		
Correspondence & Evening Courses	2	—	4	—	52	51
Management & Supervisory	4	—	8	—	12	34
Technologists & Technicians	3	—	5	—	78	108
<b>Total</b>	<b>9</b>	<b>0</b>	<b>17</b>	<b>0</b>	<b>142</b>	<b>193</b>

**Table 3. Training at Avon Medicals**

Training Category	No. of trainees (a)				No. of training days	
	1971/72		1973/74 (c)		1971/72	1973/74
	M	F	M	F		
Correspondence & Evening courses	—	—	4	—	—	36
Training of Young Persons	—	—	1	4	—	92
Management & Supervisory	16	1	11	3	37	31
Sales & Marketing	4	4	1	4	32	14
Technologists & Technicians	2	—	—	—	25	—
Craft	—	—	3	—	—	13
Safety, Health & Fire	—	—	1	—	—	1
Commercial & Office	—	1	—	—	3	—
<b>Total</b>	<b>22</b>	<b>6</b>	<b>21</b>	<b>11</b>	<b>97</b>	<b>187</b>

**Table 4. Training at Bridgend**

Training Category	No. of Trainees (a)						No. of training days		
	1971/72		1972/73		1973/74		1971/72	1972/73	1973/74
	M	F	M	F	M	F			
Management & Supervisory	38	1	19	—	17	—	89	43	63
Sales Representatives	—	—	—	—	3	—	—	—	13
Technologists and Technicians	12	—	16	—	10	—	261	352	180
Training Officers	—	—	2	—	—	—	—	21	—
Instructors	—	—	—	—	3	—	—	—	15
Craft Training	7	—	8	—	4	—	235	152	36(b)
Safety, Health & Fire	14	—	20	—	31	—	12	26	64
Commercial & Office	4	8	—	8	—	6	48	53	26
Industrial Relations	3	—	3	—	5	—	36	46	42
Metrication	8	1	—	—	—	—	37	—	—
<b>Total</b>	<b>86</b>	<b>10</b>	<b>68</b>	<b>8</b>	<b>73</b>	<b>6</b>	<b>718</b>	<b>693</b>	<b>439(b)</b>

**Table 5. Training at Motorway**

Training category	No. of Trainees (a)						No. of training days		
	1971/72		1972/73		1973/74		1971/72	1972/73	1973/74
	M	F	M	F	M	F			
Correspondence & Evening courses	1	—	1	—	—	—	—	—	—
Management & Supervisory	—	—	1	—	5	—	—	1	12
Sales & Marketing	61	—	34	—	25	—	112(d)	696	750
Technologists & Technicians	3	—	2	—	—	—	108	64	—
Instructors	7	—	8	—	13	—	35	40	65
Commercial & Office	—	—	—	3	—	—	—	15	—
<b>Total</b>	<b>72</b>	<b>0</b>	<b>46</b>	<b>3</b>	<b>43</b>	<b>0</b>	<b>255(d)</b>	<b>816</b>	<b>827</b>

## Training in Avon companies

With the exception of Inflatables (see below), all Avon companies have provided more than the 'acceptable minimum' of training — that is, at least enough to allow them to claim the maximum grant from the RPPITB.

In addition, all Avon companies have, since 1972, complied with the RPPITB requirement to produce annual Surveys of Training Needs, together with annual Training Plans outlining policies for the forthcoming year. These documents have all been approved by the RPPITB — though apparently subject to modifications in one or two cases. For example, Medicals had to allocate specific responsibilities for training to its Managing Director in order to comply with RPPITB requirements. (After giving appropriate assurances to protect personal information about individual employees, PIRC was given access to Surveys of Training Needs at Avon companies other than at Melksham and Avon Medicals.)

**The involvement of trade union representatives in the formulation and implementation of training policies has generally been negligible.**

Nevertheless, Avon's training has emphasised the involvement of employees. According to the Training Department, Avon, in conjunction with a professional training agency, was amongst the first in the industry to develop the new widely recommended system of operator-instructors. Under this system, specially trained operators analyse their own jobs and then prepare training manuals. In addition, supervisors and managers can make proposals for their own training and, with the approval of their immediate superior and site training manager, may obtain any training that they request. In theory, operators may also make such proposals though, in practice, their training needs are probably largely determined by the company managements. Operators may, however, receive financial support for attending courses in their own time, provided these are considered 'relevant to the needs of the individual and the company in the long term'.

## Forms of training

In this section, the work of Avon companies in (i) operator training; (ii) industrial relations training; and (iii) supervisor and manager training, is reviewed, with the aim of identifying any outstanding features, whether strengths or weaknesses.

(i) **Operator training.** At neither Melksham nor Bradford was it possible to establish what proportion of the workforce was 'covered' by training manuals. However, manuals were said to exist for the majority of jobs at Bradford and for 230 of the 550-odd jobs at Melksham. An internal 1973 survey at Melksham reported that there were no areas on site which were seriously lacking in job instructors; while a 1974 survey at Bradford indicated that some additional instructors were still required. At the end of 1974, there were some 200 trained instructors at Melksham and 43 at Bradford.

The Bridgend management said that all jobs requiring one week of training or more were covered by training manuals and job instructors. It was said that 30 job instructors were employed in 1974 — but the information management gave about the numbers of instructors trained was not confirmed by information in the Company's grant claim form. (Management said that 11 instructors had been trained in 1973; while the grant claim refers to the training of three. No explanation can be given for this discrepancy.)

Information from employees in the rubber works at Bridgend did not support management's claim that there were sufficient job instructors on site: there were complaints that job instructors were not always available and that training had been carried out by ordinary operators. In addition, it was said that the meetings which should have been held at the end of a training programme — between the trainee and his instructor, as well as the training officer and shop-floor representative — had either not taken place, or had been held without any union representative being present.

At Avon Medicals, it was said that all main sections in the factory were covered by training manuals, but no information was available either about the number of manuals in use, or about the numbers of instructors employed.

It should be added that the Company recognised, in their Survey of Training Needs for 1973/4, the need to set up appropriate training records. Steps have since been taken to do this, in conjunction with the local RPPITB.

The Survey of Training Needs which Avon Inflatables prepared in February 1974 — with extensive assistance from the Group — commented on the provisions made for operator training, as follows: 'The present training arrangements are becoming increasingly inadequate to deal with the (Company's) growth. Only five instructors now cover the two (factory) sites and management recognises that this is unsatisfactory; it is felt particularly important that four jobs — final assembly boats, panel/final join boats and buffing — are covered by trained instructors . . . The importance of these jobs is highlighted by an analysis of customer complaints. By far the most common of these is leaking seams, a fault over which the operator has a degree of control.'

The origins of the situation described here date back at least to 1970, when Inflatables commissioned Avon Rubber at Bridgend to draw up a comprehensive training programme for it. This report identified as first priority the need to arrange for systematic operator training. By mid-1973, the situation had not markedly improved; it is believed that no operator-instructors were employed at that time. The decision was therefore taken to send three employees on a job instruction course, and it was proposed that two should thereafter set up and run a small training school on site. It was planned that the school would be operational by early 1974. At the time of this enquiry, in early 1975, the proposed school was still not operational: the Company management said that the reason for this was lack of space. Trade union representatives, however, said that the management had responded to the several enquiries they had made, by saying that the problem was lack of funds.

In the meantime, Inflatables had not been able to claim a full grant from the RPPITB, because operators have not been trained by qualified instructors. In mid-1974, Group training staff had reviewed the situation and concluded that 'a job instructors' course should be mounted as soon as possible' — but by the end of the year no date for a course had been fixed.

Finally, there is the question of operator (i.e. tyre fitter) training at Motorway. Management said that training programmes existed for the various tyre-fitting jobs, and that instruction was given either by trained instructors — who divided their time between two or three depots — or by the depot foreman. In addition, foremen or senior fitters were said to have periodically attended external courses over the past three years. The Company said that some 44 new instructors had been trained between 1972 and 1974: however, the information contained in the Company's grant claim forms suggests that only 21 instructors were trained. See Table 5.

(ii) **Industrial relations training.** Employees at Melksham, Bradford and Bridgend, but not elsewhere, have been formally involved in industrial relations training.

At Melksham, training in industrial relations has traditionally been given to managers and supervisors, who have attended both external and in-company courses. In addition, trade union representatives on site have attended courses on general industrial relations, and financial appreciation.

In the past, Bradford's policy was to refuse leave of absence or financial support to trade union representatives who wished to attend courses on industrial relations. More recently, this policy has changed and — though no detailed information was given — it is known that shop stewards have attended such courses. In addition, the Company's industrial relations

manager and the works convenor jointly set up a special training programme for shop stewards in 1973. A further course for shop stewards was said to be planned for 1975.

Industrial relations training for trade union representatives at Bridgend has been increasingly developed over the past few years.

At the time of this enquiry, no union representatives on the engineering side had attended such courses. On the rubber side, however, 11 representatives have received, between them, 124 days of training in industrial relations over the past three years. See Table 4.

**(iii) Supervisory training.** The emphasis in supervisory training at Melksham (Avon Tyres) has, in the recent past, been directed at filling the substantial gap that was created in 1972, by the abolition of the level of 'foreman'. The aim in training has been to provide a pool of people who can work as shift managers on the tyre production side; and to help in 'bridging the gap' between operator and supervisor level. The Company believed that this gap related not only to knowledge and experience, but also to such questions as '... role; status; psychological approach to work; life style; attitudes and social relationships'.

Any employee aged 25 or over, with at least one year's experience, may be eligible for selection — which is by interview and a two-day formal assessment at the Group's Training Centre. By the end of 1974, five months after the start of this programme, three candidates had been selected and were undergoing training.

At Bridgend, particular emphasis had been placed on the training of a long-serving group of supervisors, who were appointed untrained. The background to the problems created by this situation have been described in the Company's 1972 Survey of Training Needs, as follows: '... The lack of

training on ... managing people, labour relations, leadership, decision-making, problem solving and accident prevention have in the past cost the Company dearly in such things as waste, rejects, labour turnover, machine downtime and production losses. Since 1968, steps have been taken to eliminate the above by sending supervisors on selected courses suitable to their training needs. This, however, is a small step in the right direction but it does not get to grips with the whole problem, i.e. training a selected candidate for foreman and superintendent position.'

No information is available on the action that may have since been taken to overcome these problems. Supervisors are known to have attended courses at the Group Training Centre; however, no opportunities have apparently been made for supervisors or potential supervisors to attend courses which would lead to formal qualifications in supervisory studies. Bridgend management pointed to the difficulty in arranging for this, in an operation based on shift work.

Inflatables has had no regular programme of performance appraisal for their supervisors or managers; yet this has been identified recently as a significant requirement. Following an assessment of the situation in the 1973/4 Survey of Training Needs, an appraisal system was introduced, but it was abandoned shortly thereafter. A report from the Group Training Centre in mid-1974 again stressed the need for an appraisal system, but the Company's response to this is not known.

Motorway has emphasised training of its sales force. The Company has made little use of the Group training facility, but has provided field training for salesmen, under the direction of district managers. The management acknowledged that this aspect of its work had been 'a hit and miss affair for years' and proposed to remedy the situation by introducing a systematic, written induction programme by the end of 1975.

## Discussion

**There is evidence within Avon of a firm — if uneven — commitment to training.** Perhaps the most important indication of this commitment is to be found in the existence and activity of the Group Training Department which, significantly, survived even after the disbanding of the Group personnel function in 1972.

However, the commitment to training found at Melksham was not reflected in all parts of the Group. Thus, though Avon was said to have been amongst the first to develop the system of operator-instructors this method of training had not been adequately developed at Avon Inflatables, though the Company had recognised the need to do so.

By law, Avon is required to pay a levy which can only be claimed back by providing training of a standard approved by the Industry Training Board — thus a certain amount of training 'costs' nothing to the company, which pays for it whether or not it uses it. With one exception, all Avon companies provided more than enough training to claim back their full training grant. The exception was Avon Inflatables who have in the past not used properly qualified job instructors.

**Training at Avon is an area of almost exclusive management prerogative.** The analysis of training needs and the implementation of training board recommendations at local level has entailed virtually no formal involvement by trade unions. This is particularly surprising as at the three main Avon sites consultation with employees on health and safety issues does take place. Training would seem to be an area where the interests of employees should certainly be directly represented.

**At two Avon plants, there was evidence of employee dissatisfaction with training arrangements.** At Inflatables, union

representatives expressed concern at the lack of time for training and the continuing failure to provide the proposed training school. At Bridgend, complaints were made about shortage of job instructors and about the interruption of training periods as a result of production pressures.

**The absence of serious manpower planning in Avon makes it impossible to properly plan training.** In fact, it is a principal objective of Avon's Group Training Policy that manpower planning and training should be closely co-ordinated. Employees' job security to a large extent depends on the adequacy of such planning and employee involvement in this area should be a priority.

**Despite the stated objectives of Avon's Training Policy, employees appear to be encouraged 'to develop their abilities and skills' primarily to meet the Company's immediate needs.** Training can, for example, be used to enable women (or members of minority groups) to obtain equal opportunity, but there is no evidence from the tables of grants claimed by Avon companies that their training has done anything but sustain the traditional demarcation between men's and women's jobs. Although Avon has provided some industrial relations training for trade union representatives, training can be used to do much more. It can widen employees' education and useful skills, it can break down divisive barriers amongst the workforce (e.g. between 'works' and 'staff' or between 'skilled' and 'unskilled') and it can increase employees' involvement and control over their work. Without employee involvement it is more likely that training will be used as a management tool to condition workers to accept dulling repetitive work.

# Women: Equal Pay and Opportunity

The Equal Pay Act of 1970 gave employers until the end of 1975 to end discrimination between men and women in pay and conditions of employment (including bonuses, shift and overtime allowances, holidays and sick pay). Discrimination in selection for jobs, training, promotion, dismissal and other benefits has also become illegal under the Sex Discrimination Act.

The Equal Pay Act requires employers to provide equal pay to men and women who are doing the same or broadly similar work. Women doing different work to that of men may also be entitled to equal pay provided their jobs have been rated as equivalent under a job evaluation scheme. Where jobs cannot be compared the Act requires that women should be paid no less than the lowest male rate.

This report examines:

- Earnings levels of female Avon employees.
- Avon's response to the Equal Pay Act.
- The provision of equal opportunity and special facilities for female employees in Avon companies.

## The shop floor

Throughout the Avon Group, the traditional segregation between 'men's work' and 'women's work' was found on the shop floor. Women were generally employed on trimming, machine sewing, light assembly, inspection and, in a few cases, machine operation. Nearly all other production jobs were done exclusively by men and were said to be too dirty, or too heavy, for women or they involved night shift working — from which women are excluded by law. The number of men and women employed by Avon companies is shown in Table 1.

Table 1. Numbers of full-time male and female Avon employees

	Works		Staff	
	M	F	M	F
Melksham <sup>1</sup>	2,273	169	844	283
Bradford <sup>2</sup>	692	147	251	86
Bridgend <sup>3</sup>	447	18	125	52
Medicals <sup>4</sup>	55	420	40	33
Inflatables <sup>5</sup>	51	225	35	29
Motorway (works + staff)	847	174		

1. November 1974.

2. September 1974 (works) and July 1974 (staff).

3. October 1974.

4. September 1974.

5. September 1973.

'Women's work' at Avon, as elsewhere in industry, was financially less rewarding than the work done by men. See Table 2.

In 1974, female average earnings at both Melksham and Bradford were between 61 and 64 per cent of male earnings — about the industry average. Since 1972 women had received substantially larger pay increases than men at Melksham and Bradford — though not at Medicals. At Bridgend, men's earnings rose considerably faster than women's — partly because men began to work longer hours while the women — whose jobs were being cut back — worked shorter hours.

Men's earnings at all factories were boosted by overtime and shift payments not available to women. However, a large part

of the difference in earnings was explained by the lower hourly rates of pay for women's jobs.

Table 2. Female average earnings (and hours worked) as a percentage of male earnings (and hours) at Avon companies, 1972-74  
For works employees only<sup>1</sup>

	1972 (hours)		1973 (hours)		1974 (hours)	
	%	%	%	%	%	%
Melksham	58.0	(91.2)	61.7	(87.6)	62.0	(83.6)
Bradford	52.8	(76.5)	65.5	(92.2)	63.3	(83.2)
Bridgend	56.7	(96.6)	56.1	(91.7)	42.0	(68.8)
Rubber Industry average	55.0	(91.4)	57.2	(88.5)	62.0	(89.6)

1. No figures supplied for Avon Inflatables or Avon Medicals.

## Response to the Equal Pay Act

There was no Group policy on equal pay for hourly paid employees and individual Avon companies were free to decide their own response to the Act. Interviews at Melksham and Bradford suggested that the Equal Pay Act would have little effect on women's earnings at these companies. Both companies appeared likely to introduce equal pay only for identical work, but not — in the absence of adequate job evaluation schemes — for equivalent work.

Melksham had identified only one job in which men and women did the same work and had brought the female rate for this job up to the male rate in June 1974. This affected a relatively small number of women who were already amongst the highest paid in the factory. Only one woman was earning less than the lowest male rate at Melksham in July 1974 and was therefore likely to qualify for increases to the lowest male rate. Melksham management planned no further action on equal pay. However, a job evaluation scheme had been used to evaluate jobs in the past, and it is possible that this could be used in the future as a basis for claims that women are working on jobs equivalent to men's jobs.

Company policy at Bradford was said to be to implement equal pay by the required deadline of 29 December 1975, but to do nothing before then. During Phase Two of the Conservative government's counter-inflation policy in 1973, the Company refused a union request to partially remove discriminatory differentials between men and women, as government policy permitted.

The Company has consulted the Department of Employment on equal pay and has been visited by a member of the DE's Manpower Advisory Service, although union representatives did not meet him. The Company has carried out an internal survey of areas in the factory where the Equal Pay Act will apply and has concluded that in many cases it should await the decisions of Industrial Tribunals before taking action itself. This report had not been made available either to trade union representatives at Bradford (at the time of this enquiry) or to PIRC.

The report was said to have identified a number of jobs in which men and women did identical work though these did not involve large numbers of women. In July 1974, 12 women at Bradford were earning less than the lowest male earnings — though it was not established whether these women were paid

lower hourly rates. It would appear that the effect of the Equal Pay Act will not be widely felt at Bradford.

Although Bridgend at one time employed nearly 1,000 women, the change from rubber products to remould tyres has eliminated nearly all female production jobs. At the time of this enquiry 16 such jobs remained; however, it appeared likely that all these jobs would disappear by the end of 1975. The Equal Pay Act will therefore have little if any impact on the shop floor at Bridgend.

The Act will, however, have considerably more impact at Avon's two mainly-female subsidiaries, Avon Medicals and Avon Inflatables, as both companies have responded to the Act by introducing new job evaluation schemes.

Both companies have introduced a scheme designed by the same firm of consultants who worked with management and union representatives at each company in evaluating jobs. The companies estimated that the resulting pay increases would be implemented by October 1975 and would add £80,000 to Medicals' annual wages bill and £40,000 to Inflatables'.

No details of rates of pay before and after job evaluation have been supplied by Avon Inflatables, though detailed information has been obtained from Avon Medicals. See Table 3.

Table 3. Number of male and female employees in each earnings bracket before and after job evaluation at Avon Medicals

Pence/hr	Before		After	
	M	F	M	F
60- 70	4	337	3	9
70- 80	4	4	—	306
80- 90	3	—	4	13
90-100	7	—	9	13
100-110	5	—	—	—
110-120	11	—	11	—
120-130	—	—	5	—
130-140	—	—	2	—

Under Medicals' job evaluation scheme:

- Female employees received an average pay increase of around 16 per cent and males got just over 9 per cent. All hourly paid female employees except canteen staff benefited from the increases, with the largest percentage increases going to female supervisors.
- The top paid men in the factory received increases of 24 per cent, but three of the five best paid jobs (all done by men) received no increase. The lowest paid male job, labourer, also received no increase.
- The majority of women — the 300 general assemblers — who were previously paid around £1 a week less than the lowest paid male received nearly £3 more than the male rate (which remained the same).
- The differential between the highest paid job in the factory (which is done by men) and (i) general assemblers, (ii) the highest paid female job, (iii) the lowest paid job in the factory, all widened by about 10 per cent.
- The average female hourly wage before job evaluation was 68 per cent of the average male rate. After job evaluation it was still only 72 per cent. Although women were responsible for all the main production jobs in the factory their jobs were still the lowest paid: all the highest paid jobs were still held by men.

Although no details of pay increases resulting from Avon Inflatables' job evaluation exercise were supplied, the evidence that was obtained suggested that the relative position of women would not change significantly.

For example, Inflatables' job evaluation committee — which decided how many points should be awarded for each job according to the skill, range of work, effort, responsibilities and working conditions involved — adopted a different approach to that of Medicals' evaluation committee.

Both committees used the same scheme but decided independently on the weighting of each of the five factors listed above, depending on how important they considered each factor to be in relation to the others. The ranking of factors decided at the two companies is shown in Table 4.

Table 4. Ranking of job evaluation factors at Avon Medicals and Avon Inflatables

Medicals	Inflatables
1. Responsibilities	1. Effort
2. Range of work	2. Range of work
3. Skill	3. Responsibilities
4. Working conditions	4. Working conditions
5. Effort	5. Skill

Significantly, 'effort' was considered the most important factor at Avon Inflatables but the least important at Avon Medicals. (Assuming 1 point is awarded for 'skill' in each case, Medicals considered an 'effort' point as worth only 0.85 of a 'skill' point while Inflatables gave each 'effort' point 1.58 times more weight than a point for 'skill'.)

In practice this may have meant that jobs requiring physical effort — traditionally those done by men — were given a greater boost in Inflatables' scheme while the skilled jobs, many of them done by women, were comparatively undervalued. The effect of this was confirmed by union representatives who stated that men retained the better paid jobs in the factory. This apparently reflected the deliberate policy of the union whose (female) convenor stated that while she was in favour of equal pay, in her opinion it was 'degrading' for a man to earn less than a woman.

VIVE LA DIFFERENTIAL!





## Staff

Avon has traditionally operated a Group-wide job evaluation and grading scheme with separate salary scales for men and women. Thus a man working on a Grade 4 job would receive at least £1,180 per annum (on 1.4.74) but a woman in this grade would be guaranteed only £1,099. Similarly, the maximum salary payable in each grade was higher for a man than for a woman.

Such schemes become illegal under the Equal Pay Act and as a result the Avon Group abolished the female salary scale in June 1975 raising all female employees to at least the male minimum for their grade.

However, this action may only have benefited the lower paid women in each grade. A woman at the top of, say, Grade 4 (earning £1,527 per annum) would not be guaranteed the maximum old male rate for this grade (£1,628) but only the minimum rate, which she would already have been receiving.

### The unions and equal pay

Trade union membership amongst hourly paid women in Avon companies was high, though fewer staff — whether male or female — held union membership.

The representation of women on union works branch committees varied. Most of the shop stewards at Avon Medicals and Avon Inflatables were women. Two out of 17 factory representatives at Melksham (where women comprised one-fourteenth of the workforce) were women — though there were no women amongst the six factory wage negotiators. However, at Bradford, where women made up more than a sixth of the hourly paid workforce, only two out of 22 places on the branch committee were filled by women. These two places were formally set aside for women who were elected on a factory-wide ballot of all women, and not on a departmental basis as were the majority of shop stewards. The two representatives at the time of this enquiry both worked on day shift, so women working on evening shift had no shop steward in their area.

The small number of hourly paid women remaining at Bridgend were, at the time of this enquiry, represented by one woman on a branch committee of thirteen.

**Staff and works trade union representatives expressed themselves in favour of equal pay, but often with reservations which suggested they had not pursued equal pay for their women members with great vigour.** Indeed, at virtually every interview with management on equal pay the allegedly low-key approach of the unions was commented on. For example, union representatives at Melksham stated that they had, for many years, attempted to maintain the level of female employment in the factory but felt that if management had to pay women the same wages as men they might prefer to employ only men.

At Bridgend, the TGWU branch policy was stated to be to support equal pay for women provided they accepted the same conditions of work as men, particularly shift-work. In fact, the official policy of the TGWU is that shift working should not be made a condition of equal pay.

Other union representatives suggested that women themselves did not want equal pay and, in one case, a union branch secretary suggested that wage increases resulting from the diligent pursuit of women's rights might threaten the long-term stability of the Company.

### Equal pay claims

The Equal Pay Act allows employees to claim equal pay if the same or equivalent work is done by a member of the other sex working in the same company or in any associated company which has the same terms and conditions of employment. However, according to the Department of Employment, 'it is unlikely that common terms and conditions would be found

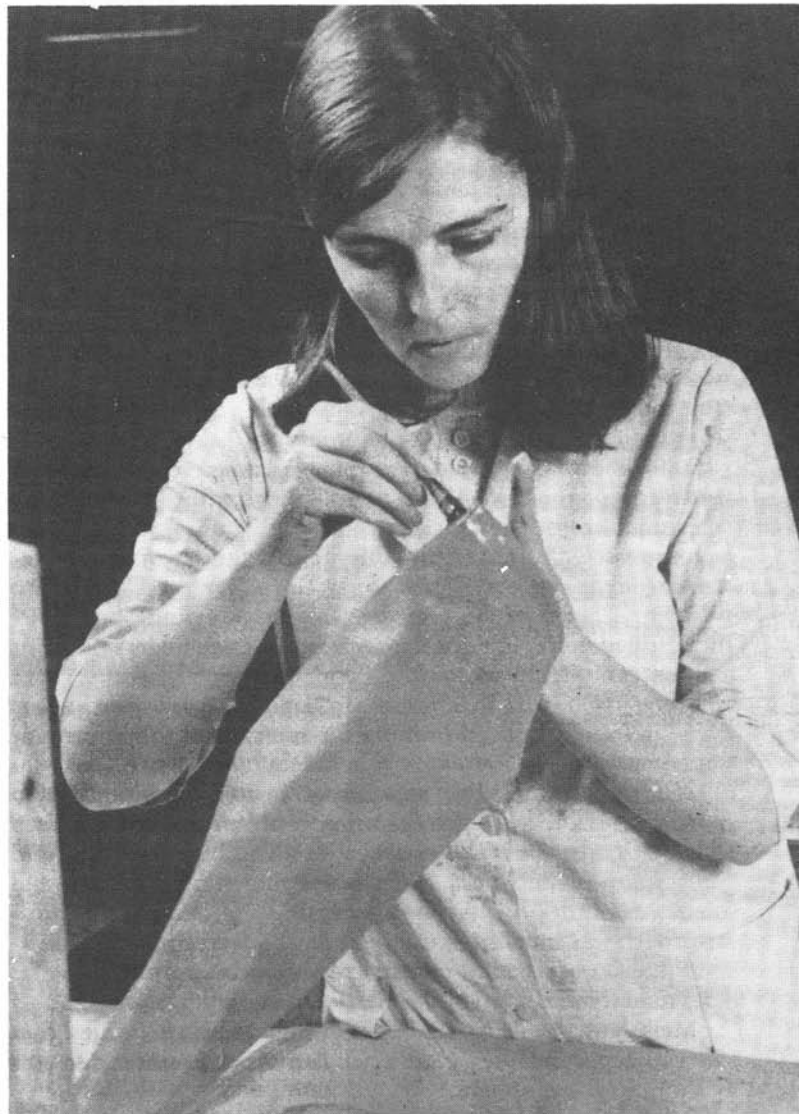
to apply in establishments that have substantial freedom to determine their pay and conditions'.

Since the reorganisation of the Avon Group into autonomous subsidiaries each Avon company has been free to draw up its own contracts of employment. This may largely prevent employees claiming comparability with employees in other Avon companies. For example, management at Avon Inflatables stated that while its old contract of employment had been 'fairly standard with others in the Group' it was drawing up new terms and conditions which would not be comparable. Clearly the reorganisation has allowed the new companies, either deliberately or incidentally, to eliminate opportunities for equal pay claims of this sort.

Nevertheless, some areas of comparability probably remain. For example, Avon staff (except at Motorway) share a common job evaluation and salary scheme which may allow comparisons between Avon companies. However, there has been some discussion, both at Avon Medicals and at Avon Inflatables, of introducing separate staff evaluation schemes and these may eliminate any existing comparability.

Another area of comparability may be found within Avon Industrial Polymers which is based at Bradford but also employs a substantial number of women at Melksham. Melksham's Personnel Manager stated that:

'... there has been virtually no transfer of female labour from Melksham to Bradford or *vice versa*. Hence, historically, wage rates are not compared by management or union. No consideration has therefore been given to comparability of work by AIP employees.'



Work at Avon Inflatables

Nevertheless, if AIP employees at Melksham and Bradford shared common terms and conditions of employment, women on one site would probably be entitled to claim equal pay with men on the other.

A similar situation may arise when Avon Medicals opens its new factory at Redditch. The new factory is regarded virtually as an extension of the existing Birmingham factory and may share Medicals' new job evaluation scheme.

Management have suggested that wage rates may be higher in Redditch than in Birmingham because the new factory will be located in a more competitive labour market. This could lead to a levelling-up of the rates paid in Birmingham, particularly if men are recruited at Redditch into jobs which are done exclusively by women at Birmingham. The Company has stated that it is planning to attract a largely female workforce at its new factory and does not expect to take on men as general assemblers. However, under the new Sex Discrimination legislation the Company may be compelled to recruit men should suitable applicants seek jobs.

### Equal opportunity

Managers at all Avon companies stated that female employees had the same opportunities as men, and that provided they had the necessary experience and qualifications no job, other than those requiring heavy work or shift work, was closed to them.

There is no evidence to suggest that this was not true for staff jobs, although very few senior positions in Avon companies were held by women. (For example, there were 16 men but no women in the top staff grade — Grade 8 — at Avon Medicals in 1974; while grades 7 and 8 at Bridgend contained 51 men but not one woman.) Furthermore, only a very small proportion of the grants claimed by Avon companies for employees sent on training courses or day release were for female employees. More than half the grants that were claimed for female employees covered training for traditional female jobs. (See p. 42.)

However, on the shop floor there was clear evidence of a firm, if informal, demarcation between male and female jobs. Management frequently stated that men and women had different natural or acquired skills which suited them for different jobs. Thus Bradford's management maintained that women have 'a more natural ability' for inspection work and that other jobs were particularly suitable for women because they required 'an extension of domestic skills'. Management at Bradford also suggested that many women came to work looking not for high wages or job satisfaction (as men were presumed to) but for social contact. Inflatables' management also stressed the different skills of men and women, maintaining that 'most of our operations are best suited to women... we get one or two males applying, but quite honestly men haven't got the dexterity in their fingers or wrists so we can't really consider them'. However, because of a shortage of female machinists, Inflatables' management said they had recently been looking for men to fill jobs normally taken by women.

Much of Avon's job advertising invited applicants of a particular sex to apply for jobs that could probably have been filled either by men or by women. Medicals' management said they were beginning to avoid specifying sex in adverts and some examples of Avon advertising illustrated that this approach was sometimes used. A recent advert for a Chief Programmer at Melksham referred to the successful candidate as 'the man (or the woman)'. But an advert for an Assistant Chef at Melksham, while not specifying the desired sex, noted that 'he will report to the Head Chef'. In other examples Avon's sex appeal was emphatic:

'Ladies — get ahead with Avon' — performance analysis clerk at Melksham.

'Ladies — your attention please' — light assembly jobs at Medicals.

'We want to hear from men to fill these two key positions' — Branch manager and service manager at Motorway.

'Female process operators' — Inflatables.

Such advertisements have become illegal under the Sex Discrimination Act.

### Special facilities

Many working women have not one, but two, jobs — apart from their paid employment they are also raising a family. According to the 1971 census, the woman was the main breadwinner in 16 per cent of households — and women made up nearly a quarter of the country's working population. To an often unrecognised degree, both the economy and the individual family rely heavily on the working mother.

Some special measures to protect women workers are contained in the 1961 Factories Act and associated legislation which forbids women to work at night and restricts the amount of overtime and total hours they may work, though an employer may obtain exemption from these restrictions. Other special provisions for women are contained in the Employment Protection Act which requires employers to give paid maternity leave to women with two years' service.

Managers at all Avon companies said they were not in favour of employing women on night-shift work. However, Melksham had obtained special exemption to allow women to work on shifts and required that all new female employees should be prepared to undertake shift work. Bradford had, on occasions, also obtained such exemptions but these had been used only in periods before holidays when extra working was needed for a short time.

Most Avon companies have, at times, employed part-time women workers on a 'twilight shift' between 6 and 10 pm, and some part-time employees were also found on the staff. They received the same hourly rates of pay as full-time workers doing the same work and, at Melksham and Motorway, also received the same sickness benefits as other employees. Part-time workers at Bradford are not eligible for sick pay unless they work 32 hours a week. The Group pension scheme is not open to part-time men but part-time staff women can join the scheme if they work at least 20 hours a week and part-time hourly-paid women can join if they work 30 hours.

Avon's compulsory Group pension schemes discriminated between men and women by setting different minimum ages for membership — 21 for men but 25 for women. The management maintained that considerable administrative expense was saved by excluding women under 25 as they tended to leave work for marriage or to have children. It was stated that when women joined the staff scheme at 25 their pension was calculated to include those years of service (between 21 and 25) when no contributions were paid.

Death-in-service payments under the staff pension scheme were largest for the dependents of married men but less for the dependents of married women or unmarried persons.

All Avon companies allowed female employees to take their holidays at the same time as their husbands (who might be employed by other firms), and at Melksham and Bradford this agreement had been formalised with the trade unions. However, there were no special arrangements for women who needed to take time off work, for example, when a child was ill. Women received the same treatment as men — staff were allowed three days' paid leave but hourly-paid employees had to take unpaid leave.

Three Avon companies stated that they had considered providing nursery facilities for employees' children — usually to attract female employees at a time of labour shortage — but none of the nursery schemes had been implemented.

Avon companies did not provide paid maternity leave, nor did they guarantee to keep a woman's job open during

pregnancy. However, with the exception of Bradford, management at all Avon companies stated that they would try and give preferential treatment to an ex-employee seeking re-employment after having a child. This was justified not only on compassionate grounds but also to make use of the skills and training already acquired by an ex-employee. Melksham's Personnel Manager stated that if an unmarried woman became pregnant and then needed to support herself and her child he would make every effort to keep her job open. However, union representatives at Bradford alleged that the Company had recently refused to keep a job open in these circumstances.

## Discussion

**Women workers at Avon — as in the rubber industry generally — earned substantially less than men and the Equal Pay Act will not greatly improve their position.** Although women have recently received larger increases than men at Avon, the differential between the sexes has not narrowed significantly (except at Bradford where women were initially earning far less in relation to men than elsewhere in the Group).

**Avon management at Melksham and Bradford have decided to introduce equal pay only for identical work.** This will affect only the very small number of women who do the same job as men — but not those women who do jobs as difficult or as skilled as jobs done by men. In the absence of a job evaluation scheme these women will not benefit from the Equal Pay Act.

**The two Avon subsidiaries with mainly female workforces have taken a much broader view of equal pay than the rest of the Group.** Avon Medicals and Avon Inflatables have both introduced job evaluation schemes which allow women's jobs to be compared with men's jobs, and both have fully involved employee representatives in comparing jobs. In both cases, this will add considerably to the company's wage bill though it may also avoid long, and expensive, disputes that might have taken place had a more piecemeal approach to equal pay been adopted.

**Group policy on the staff side has been to take only the minimum action needed to comply with the law.** Although the Group's separate female staff pay scale has been abolished, women have been guaranteed only the minimum rate in each grade and not equal pay with men in similar circumstances.

**Even where job evaluation schemes have been used to compare shop floor jobs, women still fill the lowest paid jobs in the factory.** Although women at Avon Medicals have received large increases they still get less than virtually all groups of men in the factory. The only change in the relative position of most of the women is that they now earn more, instead of less, than the three lowest paid men. Female union representatives at Avon Inflatables appear to have accepted that women should be paid less than men and their job evaluation has incorporated this view. (See page 17 for further discussion of the limitations of job evaluation.)



**The traditional segregation of men's and women's work — which often keeps women in low-paid jobs — has not been challenged at Avon.** This segregation is reinforced by attitudes on the shop floor and also by management views (for example, in job advertising). From management's point of view, anything which adds to the Company's costs is obviously not welcome during a difficult financial period, and equal pay may well be presented as a threat to jobs. According to a senior Melksham manager:

'Women are very conscious of the fact that if they press too strongly and say this job is similar to a man's — then for the benefit of the factory . . . if we are going to have equal pay, let's have men on it, because men can work round the clock rather than just on days.

'We have certain areas where this could be a problem — I'm not saying it is.'

However, a number of female union representatives were able to identify some jobs which they felt could be done by women as well as by men. If the trade unions are prepared to oppose the restriction of women to low-paying jobs — and the Sex Discrimination Act will make such opposition easier than it has been in the past — then it may be possible to challenge the prediction made by the Melksham manager who summed up discussions on equal pay by saying: 'Put it like this: there will always be higher rates in the factory and lower rates in the factory. Probably women will always do the lower-rated jobs and men will always do the higher-rated jobs.'

## Race Relations

'The pattern of discrimination against coloured workers in British industry . . . appears to be so widespread and pervasive that an innocent stranger (or frustrated black job applicant) could well believe that it is the result of a centralized directive, enthusiastically implemented, that the employment of coloured labour be restricted to those jobs that white men do not want.' (Nicholas Deakin, *Colour, Citizenship and British Society*, 1970.)

The discrimination described here has been confirmed by numerous studies. A report published by Political and Economic Planning (*Racial Disadvantage in Employment*, David J. Smith) in 1974, found that:

- 'There is a strong concentration of the minorities in non-skilled manual jobs and a low concentration in non-manual jobs.'
- 'an Asian or West Indian has to make more applications than a white person before finding a job.'
- 'there is still a substantial proportion of plants having high concentrations of racial minorities which do not have minority supervisors now and do not expect to have them in the near future.'
- 'There are a considerable number of plants in high (immigrant) concentration areas which employ only whites.'

The 1968 Race Relations Act made it unlawful for an employer to discriminate against a person on the grounds of race, colour or ethnic or national origins by refusing, or deliberately omitting, to employ him or to offer him the same terms and conditions of work and opportunities for training and promotion as are available to others in the same circumstances.

However, 'equal opportunity' cannot be achieved simply by avoiding illegal discrimination. According to the Department of Employment (*Take 7*, HMSO, 1972):

'active discrimination is not the only factor to be considered, nor is it the most important. Equal opportunity demands the absence of passive discrimination which is much more difficult

to identify and cure. Passive discrimination is the acceptance or tolerance by everybody, including coloured workers, of employment situations in which equality of opportunity is consciously or unconsciously denied; situations where employers see no reason to change things because they know of no protests or complaints and therefore assume that coloured workers are content with the existing situation.'

The need for such positive policies has been widely recognised. They should, according to the Department of Employment, be agreed with worker representatives; and it should be the responsibility of top management to have them sufficiently supervised and regularly monitored — and be seen to work in practice.

**More specifically, the Race Relations Board, the Institute of Personnel Management and other bodies have identified the need to monitor employment or recruitment patterns, and this may involve the use of personnel data to examine the ethnic composition of the workforce to ensure that coloured or immigrant workers have not been unjustifiably excluded from any area.**

In addition, the Department of Employment (*Take 7*) has laid particular stress on the question of language training: 'Language training for those coloured workers whose English is poor is probably the most useful aid to integration that an employer can provide.'

### **Policies**

No formal policy on the employment of racial minorities exists at Avon, either at group or company level. Each of the companies maintained, however, that their employment practices were based solely on merit and suitability for the job; and, in each case, top management expressed their confidence in the ability of their personnel staff to take decisions strictly on this basis.

Accordingly, none of the companies had felt it necessary to issue any special instructions to the personnel staff. Similarly, although job application forms in Avon contain details of place of birth, no company had attempted to establish either the ethnic composition of the workforce or the reasons why some job applicants had not been offered work.

In general, Avon managers suggested that, in the absence of any apparent race relations problem, such monitoring would serve no useful purpose. Some managers said that evidence of discrimination would become apparent without statistical data; while others suggested that, by keeping such records, they might invite racial discrimination by drawing attention to minority groups. Particular emphasis was placed on this point by the Managing Director of Motorway, who said he believed that any special reference to race might, in itself, spark off prejudice.

All this would, in part, explain why the question of race relations has not generally been discussed between Avon managements and trade union representatives. Two minor exceptions to this were understood to have occurred: at Bridgend — when the management discussed the passing of the Race Relations Act with union representatives in 1968 — and at Bradford, when the question was raised some time later, during an acute labour shortage. On this occasion, a union representative had reportedly asked whether the Company would be prepared to employ coloured labour; and he was told that they were.

### **Employment Practices**

In the absence of detailed information from the Group, it has been possible to report only generally on employment practices at Avon. Four areas were identified as being of particular importance: (i) the ethnic composition of the workforce; (ii) promotion practices; (iii) complaints; and (iv) language problems.

#### **(i) Ethnic composition**

In the absence of detailed information, Avon managers were asked to estimate the numbers of immigrant or coloured workers employed by their companies. Most Avon plants are situated in areas of low immigrant populations: the Melksham and Bradford factories are both in Wiltshire, while the Bridgend and Inflatables factories are in low immigrant areas in South Wales. However, Avon Medicals is situated in Birmingham where it might be expected to employ more coloured workers.

Melksham's mainly West Indian coloured employees were estimated to comprise some 2 per cent of the workforce; and it was further estimated that the proportion of coloured workers who had applied for employment in the recent past was somewhere in the order of 8 per cent. However, at the AIP plant at Bradford — which is only five miles from Melksham — there were said to be no coloured employees, and it was estimated that the Company had received only three applications from coloured workers in the past five years.

The Company stated that when immigrants first started applying for jobs at Melksham 'the foreign nationals and the coloured immigrants were beginning to bunch in certain areas. This was thought to be undesirable in the interests of good integration'. As a result the Company 'regulated the numbers coming in' so that they would 'not exceed the national percentage figures'. This policy is no longer pursued.

No estimates were provided of the ethnic composition of the workforce at Motorway (other than at the head office in Reading). At Avon Medicals, the head of personnel objected strongly, in principle, to monitoring the ethnic composition of the workforce; he had nevertheless taken steps to determine the number of Irish employees at the plant, after a recent IRA bomb attack in Birmingham. The Company 'guessed' that perhaps 20 of its 550 employees might be coloured.

The number of coloured employees at Avon's two South Wales factories — Inflatables and Bridgend — was described as negligible; and this was attributed to the low immigrant population in the surrounding areas.

In addition to coloured immigrants most of the Avon plants also employ a small number of Italian or Polish immigrants who settled in the UK shortly after the war.

#### **(ii) Promotion**

Each company was asked to identify the most senior position occupied by coloured employees. It was clear that minority groups have been under-represented in more senior positions. However, it was not possible to assess the significance of this, because no analysis of the several other factors which would affect an employee's prospects of promotion — e.g. length of service — could be made.

At Melksham, coloured people were said to be employed on the shop floor more often than on the staff 'because of their level of skills' but there were said to be no coloured employees in senior positions on the shop floor; there were none at or above the level of charge-hand at Avon Medicals; and at the old AIP factory in Birmingham, no coloured workers had been employed as supervisors, or at higher levels. On the staff side, several companies reported that Asian accountants were employed in fairly senior positions; otherwise, the most senior positions occupied by coloured employees were said to be a technologist at Melksham, and a service manager at one of Motorway's depots in North London.

Motorway's Managing Director said, however, that he would not be prepared to appoint a coloured salesman. He maintained that a coloured salesman 'would be crucified' in many areas of the country; and that hostile customer reaction would inevitably lead to decreased sales.

#### **(iii) Complaints**

Managers said they knew of no complaints from employees alleging racial discrimination. Some noted, however, that

coloured employees had, on occasions, been the subject of 'good natured' banter — to which, it was believed, they did not object.

It was learned from the Race Relations Board, rather than from Avon, that a complaint of unlawful discrimination had been made against the management of the old AIP factory in Birmingham. The complaint, made in 1971, was made initially to the rubber industry's NJIC, where it was determined that unlawful discrimination had not occurred and, on consideration of the case, the Race Relations Board decided not to entertain the complainant's further appeal to them.

In addition, the management at Avon Medicals gave information about an incident which had implications for race relations which took place shortly after a public house in Birmingham had been bombed by the IRA, in 1974. The management reported that some members of the workforce had objected to working with one of the Company's Irish employees, as they believed her to be an IRA sympathiser. The management at Medicals said they made it clear that they would not discharge the person concerned; and they told supervisory staff that any employee found fighting over the incident would be dismissed. No serious incident occurred.

#### (iv) Language

Provided job applicants can fill in time sheets, poor English would not be an obstacle to obtaining a manual job with an Avon company. No formal test of an applicant's ability to

## Discussion

**There is no evidence that unlawful discrimination has taken place at Avon, though only very limited information has been obtained. However, the comments of Motorway's Managing Director give some cause for concern.** Although he said that to his knowledge none of his coloured employees had experienced prejudice at work — and that he thought that in the absence of widespread unemployment, prejudice would be unlikely — he said he would not be prepared to 'crusade' by appointing a coloured salesman. Motorway has, reportedly, never received an application from a coloured person for a salesman's job. However, if the Company were to refuse to employ a suitably qualified coloured person on the grounds given in interviews, it would be committing an illegal act of discrimination.

Throughout the Avon Group, the absence of complaints from coloured workers appeared to have satisfied managers that no problems existed within their plants. Several managers said that the subject had never arisen, or been discussed, until this enquiry began; and the Managing Director of Motorway said he thought that any special attention to the subject, even the reference to it in an enquiry of this kind, was positively harmful. 'People like you make the situation worse,' he said. 'You make people think about situations which should not be thought about.'

Although there are very few coloured workers in the Bridgend area, and at the Avon factory at Bridgend, that Company's MD was the only person interviewed to recognise both that racial discrimination in employment was a problem, and that the problem was largely ignored: 'In spite of what people think about it, they tend to finish at the bottom of the pile.' The personnel manager at Avon Medicals did hint at the possibility of discrimination, in describing situations which had always left 'a nagging doubt' — but she acknowledged that they had yet to 'get to the root of the problem': 'I've had in the past coloured people come to me. They've said to me, "I want to hand my notice in". I ask "Why?" All they say is "I'd like a change". I say: "What made you take this decision?" . . . "Oh well, I'd really rather not say".'

**What evidence there was suggested that there were relatively high concentrations of coloured workers in less**

skilled positions. At Melksham (where more coloured workers are employed than in the rest of the Group put together) it was said: 'There is no reason for this except that coloured employees do not apply to be considered (for promotion)'. If qualified or experienced coloured people are reluctant to apply for positions then Avon's lack of positive policies and action on race may well be to blame.

The introduction of positive policies to ensure that no discrimination can occur would seem to be particularly appropriate at Melksham. The Company appears, in the past, to have operated a partial colour bar — which would certainly be illegal today — and this may have affected the subsequent position of coloured employees.

The preference shown at Avon Medicals for job applicants with friends or relatives already working at the factory may have excluded members of minority groups not previously employed there. There is also scope for enquiry into the reasons for the lack of coloured employees at Bradford. At the time of this enquiry there were no coloured employees at the factory (and, reportedly, no coloured job applicants) whereas at Melksham — which is only 5 miles away and draws its workforce from the same area — an estimated one in twelve shop floor job applicants was reportedly coloured.

Avon Medicals has admitted that the poor English of some employees may prevent them from understanding safety instructions and would give them only limited opportunity for promotion. The possibility of providing, or allowing time off for, language training for immigrant workers should certainly be considered in such circumstances. The problems of immigrant workers who speak poor English require a more sympathetic response than that of the Avon manager who said: 'They're coming to earn £30 a week . . . If nobody talks to them, they don't rate that as a great problem'.

Above all, it is clear that Avon companies, like very many others, have failed to introduce positive policies to deal with passive discrimination — a situation in which, according to the Department of Employment, 'employers see no reason to change things because they know of no protests or complaints and therefore assume that coloured workers are content with the existing situation'.

# Employment of the Disabled

An estimated 4-5 per cent of the country's workforce — perhaps 1½ million people in all — could be classified as disabled, within the meaning of the Disabled Persons (Employment) Act 1944. This Act defines as disabled someone who 'on account of injury, disease or congenital deformity, is substantially handicapped in obtaining or keeping employment . . . of a kind . . . suited to his (or her) age, experience and qualifications'.

This same Act defines employers' basic obligations to the disabled — and, in particular, to the 600,000-odd people who are Registered Disabled Persons (RDPs). (For personal, medical and other reasons, many disabled people do not register with the Department of Employment — and there is no requirement, and often no incentive, for them to do so.) The Act basically provides that anyone who employs 20 people or more should *either* employ a number of RDPs equal to 3 per cent or more of the total workforce; *or* apply for and obtain a permit which exempts them from this quota requirement, and allows them to take on other employees. The Act also requires employers to keep records of the total numbers of registered disabled people who are employed — and to make these available for inspection to the Department of Employment, on request.

In spite of this, the national unemployment rate for RDPs has consistently been about four times higher than the rate for all workers. There are three main reasons for this:

1. Most of the 60,000 companies in the UK employing 20 people or more do not fulfil the 3 per cent quota. About 40 per cent of firms operate under quota, but obtain permits allowing them to take on non-disabled employees — while about 20 per cent of firms fail to meet their statutory obligations, in that they employ under quota, and have no permission to do so.
2. Serious weaknesses have been recognised in the design of the law — which is now under review.
3. There have been shortcomings in the administration and enforcement of the Act. For example, between 1954 and 1973, only one firm was prosecuted for offences under the Act — though several thousand firms were known to be consistently in breach of the law.

The overall effect of the 1944 Act has therefore been very limited. Indeed, the Department of Employment has suggested, on the basis of a survey carried out in 1970, that: 'there is no positive evidence to suggest that the quota exerts a significant effect on the employment prospects of individual disabled people'.

The employment prospects of disabled people would therefore be determined almost entirely by the policies and practices of individual employers.

## Avon Group

Avon has no Group policy on the employment of disabled people; and this issue has not been formally discussed at the monthly meetings of the Group's Employee Relations or Training and Development Committees. Nevertheless, the different companies in the Group have several common policies and practices. For example, there have been no wage differentials between disabled and other employees: all have been paid 'the rate for the job'. In addition, none of the companies had adopted special procedures for the recruitment, training or promotion of disabled employees, and none had taken formal steps to measure their effectiveness at work. Most companies reported having occasional discussions about the

employment of disabled with trade union representatives; however, the unions were said to have been concerned with individual cases, rather than the company's overall policy.

No Avon company had a written policy covering employment of disabled people — though at Bradford and Bridgend, it was said to be formal policy to employ a 3 per cent or higher quota of RDPs. The other companies in the Group all employed below quota. See Table.

Employment of RDPs by Avon companies

	Total number in workforce (approximate number at 1.1.75)	Percentage of workforce who are RDPs
Melksham	3,500	1.5
Bradford	1,200	3.0
Bridgend	640	3.0
Medicals	565	1.77
Inflatables	385	0.78
Motorway	1,100	0.45

This data, however, gives little indication of several significant differences in the policies and practices of the six companies involved.

● **Melksham.** Site policy was said to be to employ as many disabled people as possible; at the same time, it was stressed that a tyre factory was not a particularly suitable environment for disabled workers. The site manager said the Company had considered setting up a sheltered work environment, but had decided against, first, because this might be seen as 'a place of no hope' and, secondly, because it was thought that isolating disabled workers might remove other peoples' responsibility for them — 'Out of sight, out of mind . . . rather like the old lunatic asylum'.

The site manager said that, wherever possible, the Company had tried to accommodate disabled people at work; and that special arrangements had been made to suit individual needs — such as the restructuring of work routines — as well as arrangements for the benefit of all disabled workers. These included, for example, the designation of certain jobs for the disabled, the provision of special car parking facilities, and an arrangement for disabled workers to leave ten minutes early, without loss of pay, so as to avoid being caught in the exodus at the end of shifts.

Though the Melksham site had for many years employed well below the 3 per cent quota, no applications had been made to the Department of Employment (DE) for permits of exemption — as the law requires. Indeed, between the early 1960s and November 1974, the Company had no contact at all with the local DE on the question of employing disabled people. The site manager said that their records had been inspected 'on several occasions during the 1950s and early 1960s' — when the Company did employ a quota. The Company had been issued with an exemption permit only after a meeting with the DE in November 1974.

● **Bradford's** head of personnel said that the Company met a 3 per cent quota partly because of the requirement implied in law, and also because of Avon's position in the community. As the only major employer in Bradford, it was said that Avon would be expected to employ disabled people, regardless of any legal obligation.

In other respects the facilities provided, and arrangements made, for disabled people at Bradford appeared generally the same as at Melksham. Bradford's head of personnel suggested that, on both sites, Avon's policies might be characterised as having emerged as a result of a genuine interest in the problems faced by disabled people which 'started off as pure paternalism'.

● **Bridgend.** Company policy was said to be to comply with the relevant legislation; but the clear impression was given that the Company understood the law to place on employers an unqualified obligation to employ at or above the 3 per cent quota. Be this as it may, the Company said it had always been above quota.

The Bridgend management said they had not so far found it necessary to make any special arrangements for employing disabled people; but they said they would certainly consider doing so, should the need arise.

● **Medicals.** In 1972, the Company took the initiative of contacting the local office of the DE, to seek advice about employing disabled workers. However, this was not followed by any significant increase in the proportion of RDPs on the workforce. At the time of this enquiry, the Company employed just over half of the 3 per cent quota; it had obtained exemption permits from the DE.

The Company's policy — to employ disabled people provided they could work effectively and be integrated into the workforce — had been greatly influenced by the fact that it operates a 'mobility of labour' clause for shop floor employees. This provides that any shop floor employee can be required to transfer to any one of the jobs on the shop floor, at any time — and the Company has considered that, although most of the work involved is clean and light, disabled employees could find it difficult to transfer from station to station.

Medicals said it allowed no exceptions to its 'mobility of labour' rule — even for the registered disabled — and maintained that if it did it could face irresistible pressure to make other exceptions which could lead to the breakdown of the whole system.

Management said that although there had been no formal contact with the union on this issue, it had been made clear, informally, that the union endorsed the Company's policy on mobility of labour. Medicals' union representatives, however, claimed that exceptions to the mobility of labour policy were made and had been accepted by other workers without any trouble. The union suggested that the Company could have employed more disabled people if it had wanted to; though they also said they had never known of anyone being refused work because they were disabled.

At the Avon Medicals factory in Redditch — under construction at the time of this enquiry — no special provisions had been made for the employment of disabled workers. The Company said that, as it intended to operate 'mobility of labour' at the new plant, the same provisions for disabled workers would be made as at Birmingham.

● **Inflatables.** The Company employed three RDPs — under 1 per cent of the workforce — at the time of this enquiry. Policy was said to be to employ disabled people when they could do the job, though the Company said it would certainly have tried to employ more disabled people if it had thought that unemployment among RDPs was considered a significant local problem.

The Company said it had assumed there to be no real problem, as the local DE had never approached it; and, shortly after the interview with PIRC, the management made contact with the local DE, to establish what the position was. (The Company indicated that the DE had described local unemployment rates for RDPs to be fairly low.)

In addition, the Company said it had contracted work to a local workshop for the disabled in the past, and that it would do so again in the future 'whenever possible'. Union sources,

on the other hand, said they had had the impression that this subcontracting had stopped, because management had not been satisfied with the rate of work.

● **Motorway.** Though the Company's employees are based at 180 different sites, the Company is nevertheless bound by the provisions of the Disabled Persons (Employment) Act, Motorway has obtained permits of exemption, allowing it to employ less than 3 per cent RDPs. At the time of this enquiry, Motorway's 1,100 or so employees included only five registered disabled persons.

The Company had no policy on employment of the disabled. Management said that while they had 'no conscious policy to say we don't employ' disabled people, they considered that the nature of the business made it difficult for them to do so. The personnel officer suggested that, while they would find it hard to employ disabled people in many positions, they might have employed more, had more RDPs applied to work for them.

The Company said it made no special arrangements for disabled employees; though it had made such arrangements in at least one individual case, which had involved a prolonged illness and recuperation.

## Discussion

**This enquiry was seriously limited by the absence of information** — in particular, about the positions in which disabled workers at Avon were employed. Nevertheless, some general conclusions may be drawn from this survey.

**Only two companies, Bradford and Bridgend, employed the 'statutory' quota of registered disabled persons at the time of this enquiry.** Melksham had for many years employed under quota and did not obtain exemption until shortly after this enquiry began.

However, some Avon companies, more than others, may employ *unregistered* disabled persons. For example, Melksham management appeared to have left it to the disabled workers themselves to decide whether or not to register, though Bradford actively encouraged disabled employees to register. According to Bradford's head of personnel, with an employee who, for example, developed a heart condition: 'It's a natural thing to register him, or at least seek to have him registered — one can't just do it automatically. But some feel very touchy about it...'

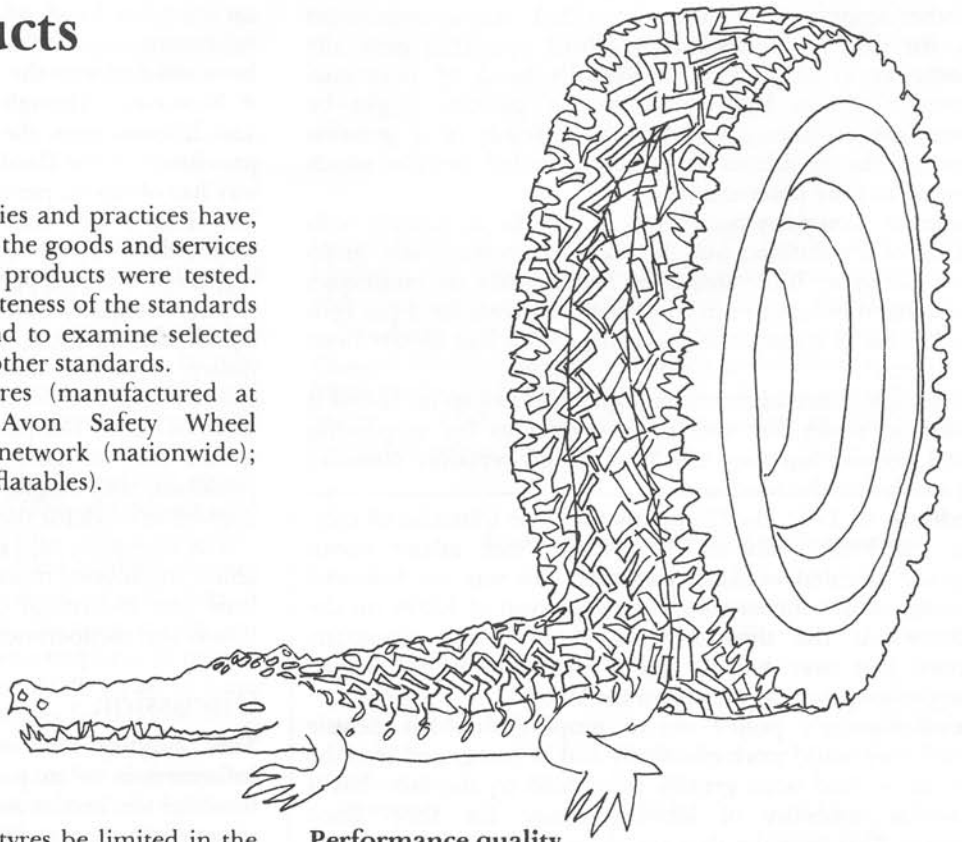
**Management at Melksham, Bradford and Bridgend suggested that their companies felt special responsibilities towards employing disabled persons.** However, the approach of other Avon managements appeared unduly passive. Motorway management, for example, suggested that the essential thing about the Company's approach was that it did not discriminate against disabled people. At Medicals and Inflatables the emphasis appeared to be on the need for the individual to adapt to the work, rather than on the companies' willingness to make allowances for the individual's needs. The impression obtained was that disability would be no handicap to employment provided it was no handicap to the individual. As Inflatables' management expressed it: 'If a disabled person approaches us for a job, and they are able to do that job, the fact that they are disabled is irrelevant...'

**This survey provided further evidence of shortcomings both in the design and the administration of the law on the employment of disabled.** Perhaps the most striking feature of this enquiry was the apparent inadequacy of the law in dealing with companies whose records in employing disabled people were poor.

# Consumer products and services

This report examines how Avon's policies and practices have, or might have, influenced the quality of the goods and services they provide to consumers. No Avon products were tested. Instead, we tried to judge the appropriateness of the standards the Avon companies set themselves; and to examine selected Avon products in the light of these and other standards.

This report deals with first-life tyres (manufactured at Melksham); remoulds (Bridgend); Avon Safety Wheel (Melksham); Motorway's distribution network (nationwide); and boats and life-saving equipment (Inflatables).



## 1. First-life car tyres

Avon insisted that enquiries about car tyres be limited in the following ways:

1. Avon was not prepared to give information which might (i) describe how its products compared with those of its competitors; or (ii) put Avon products at a competitive disadvantage.
2. Two interviews were held with the Managing Director and the Technical Director of Avon Tyres; but they did not allow these to be tape-recorded. These interviews not only proceeded slowly, as a result, but were confined to very general discussion. No interviews were held with any line managers on the tyre side, as had been allowed elsewhere.
3. No material was provided in response to requests for a considerable amount of supplementary information.

Accordingly, this report about the Group's major products is relatively brief; and it deals with the question of disclosure as well as the products themselves.

### Policy

The Tyre Company declined to make available a copy of the policy that had been used by the old Tyre Division (disbanded in the reorganisation in 1974); they said it was outdated, and could therefore be misleading and confusing. They agreed to provide a copy of the Company's new policy on product quality and safety, but did not do so.

The Company said its policy was, in outline, 'to play fair by our customers and suppliers' — and to try to satisfy customer demand by accentuating the road-holding qualities in their tyres. It was also said that the Company had offered consumers 'a little bit more appearance quality and performance quality' — because they were not able to advertise heavily, as could other manufacturers.

At the same time, Avon suggested that the performance quality of its tyres was determined largely by the requirements of the motor industry, rather than by consumers who buy in the 'replacement market'. Avon sells about 20 per cent of its output to the industry, as 'original equipment'; and they said they hoped to increase this to about 35 per cent, by 1980. It follows that the motor industry, rather than the motoring public, will continue to determine the performance quality of Avon tyres.

### Performance quality

Performance quality in tyres is influenced by three main factors: (i) the basic design of the tyre — for example, as a crossply, or textile or steel-braced radial; (ii) the detail of the design — e.g. the number of plies used, or the volume, distribution or pattern of the tread — and also the quality of construction; and (iii) the nature and quantity of the materials used in making the tyre.

By varying these three factors, numerous kinds of performance quality can be achieved — and, in particular, the road holding (grip) and road wear (life) of a tyre can be determined.

In tyres of the same basic construction, these two qualities are determined mainly by the mix (compounding) of the rubber in the tyre. By using different rubber compounds, either of these two basic qualities may be influenced — though, typically, either one can be enhanced only at the expense of the other. The more a tyre grips and clings to the road, the greater the friction between the two will be and, therefore, the greater the wear.

According to Avon, the motor industry is concerned mainly with the handling characteristics of tyres — with a variety of factors which range from wet and dry braking capability to parking torque. However, Avon said that a requirement for road wear performance was 'not generally specified'.

Avon claimed that its tyres were unsurpassed for road holding and for wet grip; and 'in the middle range' for wear. Neither claim could be properly assessed, because insufficient information was provided about both the specifications of Avon tyres, and the measures taken to ensure that production tyres conformed to them.

Independent reports on Avon tyres (mostly in motoring magazines) indicate that they do perform particularly well in wet conditions. However, there was little or no independent evidence by which to assess (i) what mileage an Avon tyre might give; or (ii) the extent to which Avon had necessarily down-graded the road wear performance of its tyres, in order to improve their grip.

The senior management at Melksham implied that Avon tyres might give less mileage than other brands, only because they were better than other brands on grip. However, Avon's middle management at Bridgend suggested that tyre mileage might to some extent be increased without sacrificing grip — simply by increasing the depth of the tyre tread.



Because this enquiry was cut short, it proved impossible to establish whether or not the tread on Avon first-life tyres had been designed to give maximum possible mileage — or whether even a marginal increase in their tread depth would lead to complications, such as the overheating of the tyre.

### Tyre standards and testing

There exist few legal or official standards for the construction and design of tyres. There is a British Standard specification for car tyres, but it is not high — and it is believed that Avon and other major manufacturers comfortably exceed this standard in meeting the requirements of the motor industry and the market more generally.

Requirements in UK law affect individual motorists, rather than tyre manufacturers. Motorists are required to fit and maintain tyres of a suitable type and free from any defect which might cause damage to a road surface, or danger to the occupants of the vehicle or to other road users. It is believed that regulations affecting tyre manufacturers may be introduced in the future under European law, but no proposals have yet been formally made.

The scope and future of such regulations would seem likely to be influenced by experience in the US, where a number of

attempts have been made since 1968 to introduce a Uniform Tire Quality Grading System. Broadly speaking, the proposals published under this scheme so far would require manufacturers to submit to a government agency samples of their pre-production car tyres, for testing and grading against a standard test tyre. Manufacturers would then be required to permanently label their production tyres with details of their speed rating, and their tread wear and stopping ability, relative to that of the standard test tyre.

The Managing Director of Avon Tyres suggested that, while the proposed regulations had appropriately identified the test parameters, they were otherwise fundamentally unsound. He emphasised that the performance of tyres in precisely defined test conditions would give no reliable indication of performance in road use, when tyres are driven in many different ways and in many different conditions. Indeed, he suggested that the existence of such a standard might encourage some manufacturers to 'cheat' — by developing tyres which performed well in test conditions, but not elsewhere.

On the other hand, the MD of the Avon Group — when interviewed in his capacity as President of the British Rubber Manufacturers Association, in 1973 — said: 'There is an overwhelming case for an agreement on standards for tyres. . . .'

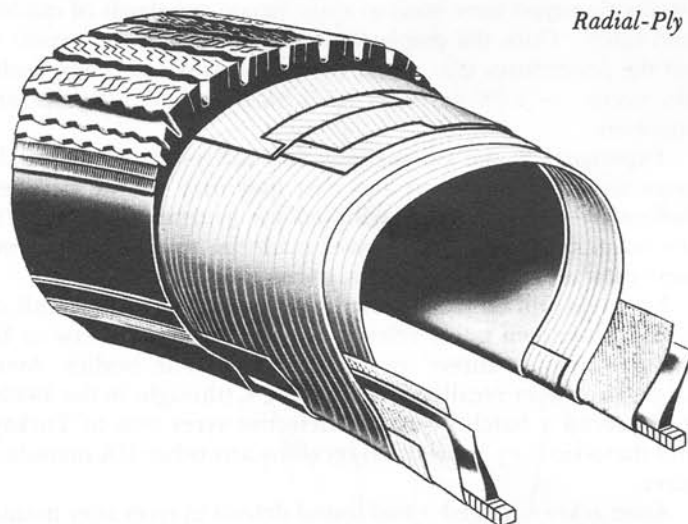
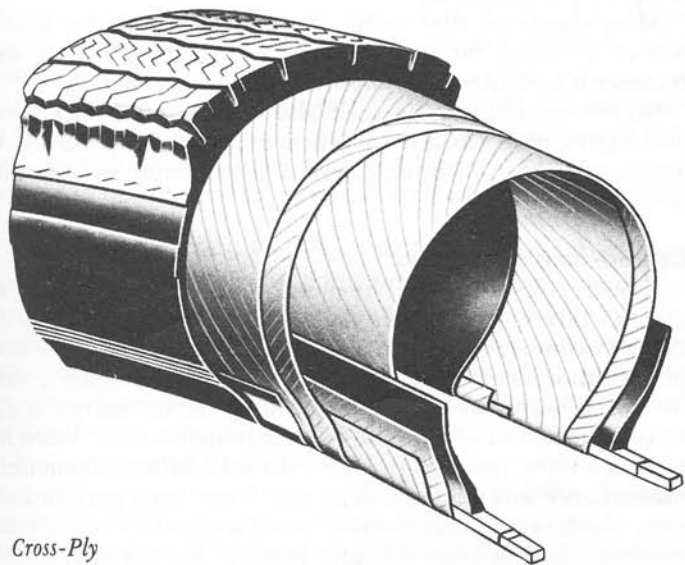
## Note on tyre construction and design

There are three basic elements in a tyre — the beads, the casing and the tread. These are separately prepared, and consolidated towards the end of the manufacturing process, when tyres are built by hand.

**The beads** — bands of high-tensile steel wire, wrapped in rubber-coated fabric — form the internal diameter of a tyre, and hold the tyre to the wheel by fitting tightly against its rim.

**The casing** comprises layers (plies) of rubber-coated fabric. To avoid chafing — and the relatively rapid deterioration this would produce — the fabric used in each layer is not cross-woven, but has cords or strands which run in one direction only. When a tyre is built, each layer is arranged so that the strands run first in one direction, then in the other — providing a strength equivalent to that of a cross-woven material.

**The tread** is an extruded wedge of rubber with tapered sides, which forms the final 'layer' of the tyre. When it is bonded to the tyre, the tread surface is smooth: the pattern is formed when the whole tyre is cured in a hot mould, in the final stage of manufacture.



In the UK, tyres are built to one of two basic designs — cross-ply and radial-ply. The main feature of radial tyres is the textile or steel-wire strands they contain, which greatly increase tyre life.

**Remould tyres** are made by buffing (abrading) some of the tread and sidewall rubber off used tyres, and then sticking a new tread and sidewall veneer on to the old casing. Provided the casing is good — i.e. of sound construction and design, and not too old — a tyre can be remoulded twice or more. Indeed, aircraft tyres are traditionally remoulded over and over again, because their tread wears very fast.

The life of a tyre depends on the original strength of a casing, the extent of damage it has received through abuse, and on its age. About 6 years after a car tyre is first made, the degradation of the tyre rubber (in particular by ozone in the air) is such as to make remoulding positively unsafe.

\* \* \*

Readers who wish to obtain further information — to supplement this very basic account of tyre manufacture and design — might refer either to the publicity departments of one of the major tyre companies, or to the Automobile Association's publication 'Know about your Tyres' (1971. Available from the AA Publications Department, Fanum House, Basingstoke, Hants. Price 35p, post free, or 25p from AA Bookshops).

He expressed little confidence in the ability of 'official testing organisations' to organise such tyre approval, without turning it into 'a very long winded business' — but he reportedly raised no objections of the kind referred to by the MD at Avon Tyres.

The MD at Avon Tyres further demonstrated his conviction that specific tests had no general relevance, by indicating that all the independent test reports on Avon tyres that he had seen had been consigned to his waste paper basket. He maintained that such reports (in motoring journals, etc.) had in no way influenced his Company's policies or practice.

Nevertheless, Avon has carried out extensive road and laboratory tests on its own, and competitors' tyres. It was explained that these allowed Avon to make realistic assessments of tyres — because they were tested under what Avon considered to be appropriate conditions, and tested continuously to allow comparisons over time. The Company was not prepared to release details of any of these tests.

### Quality control and safety

Avon was prepared to discuss only in very general terms the quality control and on-line test procedures that were used to ensure that tyres were built to appropriate standards of quality and safety. Thus, the emphasis in this section of the report is on the procedures that might be followed, if and when faults do occur — and particularly if safety-related defects are involved.

**Experience in the US suggests that safety-related defects in tyres are fairly common; and that they may not be detected before tyres have been distributed for general sale.** In 1973, for example, over 120,000 tyres made by ten different firms were recalled for safety reasons, as required by law.

*No provision or recommendation is made for the recall of tyres with known safety-related defects either in UK law or by the tyre manufacturers' or distributors' trade bodies.* Avon said it had never recalled tyres in the UK (though, in the 1950s, it did recall a batch of wholly defective tyres sent to Turkey) and they said they knew of no recall by any other UK manufacturer.

Avon acknowledged it had found defects in tyres after manufacture, but the senior management maintained that the large majority of these were not safety-related, and that they had usually been detected early enough to be dealt with by 'freezing stocks'. No details were supplied of the circumstances in which such action had been taken; and access to the 'weekly reports on defects', circulated to appropriate Avon managers, was not given.

In the absence of information from the senior management at Avon Tyres, this issue was raised at Group level. The Group MD suggested: 'what we are asking you to accept, in a sense, is that our people are capable of exercising sufficiently intelligent professional judgement to protect the consumer. . . .' While it was not possible to establish how this judgement had been, or would be, exercised, it did seem clear that a recall would be organised only in very exceptional circumstances. Avon Tyres, for example, had no recall procedure: the management thought they would probably seek 'some sort of publicity', though they were not optimistic about the effect this would have.

Avon said it was able to monitor defects generally, by maintaining comprehensive records of 'service returns' for three years after the introduction of any new model of tyre. In this system — which was said to be similar to the systems used by other major tyre manufacturers — Avon technical personnel examine all defective tyres returned to the Company by consumers (through sales outlets), and then classify the various defects found in each model of tyre. This system was said to be sufficiently reliable to allow the Company to accurately predict the distribution and nature of defects in any tyre, during the

first three years of its 'market life', on the basis of the service returns for the first few months.

Again, the question of access to information about defects was raised at Group level, rather than pursued with the senior management of Avon Tyres. The Group MD said he thought that the publication of detailed information about defect levels would unduly discredit the Group.

The Group MD also maintained that consumers never thought in terms of buying equipment which might be defective — and very possibly did not want to: 'Nobody buys a tyre saying: "I have a one, two or three per cent (chance of) failure"; everybody buys a tyre saying, "this is a good product and it's not going to fail". So, if we are labelled as a company with an X per cent level of premature failure, we automatically have a worse product in the consumer's mind and in the dealer's mind than everybody else. . . . No tyre company acknowledges that it has any failures at all: there are no national statistics to put our figures into context.'

However, the Group MD was not concerned only about the effects of a unilateral disclosure of information. He made it clear he would not want such information published under any circumstances:

Avon: ' . . . if this were published in the absence of any equivalent data of other tyre companies, we would obviously look rather bad, in that we would be admitting we had premature failures, where nobody else would be. . . .'

PIRC: 'Would you publish these figures if everybody else did?'

Avon: 'No, I don't think so.'

PIRC: 'Because of "tarnished image", again?'

Avon: 'Yes, why advertise it? . . . So long as your customers are properly dealt with, what benefit is it to you?'

### Guarantees and complaints

*Service returns would give only a general guide to the performance of tyres in use. They would certainly underestimate the incidence of defects.* They might also give a distorted picture of the defects which occur — as reports are made only when consumers identify faults and suspect them for what they are, and then take appropriate action to have them remedied.

The fact that Avon tyres are not sold or supplied with any form of written guarantee would certainly deter consumers from seeking redress from the Company — particularly if the defect appeared to be relatively minor, and was identified in a tyre with some wear.

Though Avon (like most other major manufacturers) gives no written guarantee, they will make a 'concession allowance' on tyres returned to them, when defects are judged to be the result of poor manufacture or design. The cash allowance that is given is related to the estimated amount of useable life left in the tyre — and when calculating this, Avon claimed they erred on the side of generosity.

Avon suggested that under this system consumers would receive a refund 'in a matter of days'; although there was evidence it normally took considerably longer than this.

No information can be given about the way in which these procedures have worked in practice, as access to the complaints registers — though agreed in principle — was not given.

### Uninformed consumers

'Everyone connected with the motor industry — including car manufacturers, tyre makers and retailers, the Department of the Environment, the AA — deplors the confusion and public ignorance (about tyres). . . . Information which is vital for the car owner to know is either not given on the tyre at all, or is expressed in — for him — a meaningless code. When he buys new tyres, the motorist is usually told nothing about their maintenance and limitations in use. Some high performance tyres which can be dangerous if mixed with others of a similar construction (but using different bracing) are not even identified for what they are. . . .'

'All these, and many other, shortcomings are both recognised and accepted by most reputable members of the tyre industry. They say the only real answer is to educate the public properly in tyre choice and care — a task which they claim is beyond their own resources.' (*Drive*, the magazine of the Automobile Association; July 1973, pp. 38-44.)

The AA has suggested that tyre manufacturers might themselves improve this situation by identifying on tyre sidewalls, 'in clear, unequivocal language', minimum information which should include:

- Date of manufacture. (Information which is reportedly 'vital' for the safe retreading of first life tyres.)
- Maximum speed capability. (At present, three different letter codes — or the absence of a code — may be used to indicate the 16 different maximum speeds above which certain kinds of tyre should not be run.)
- Type of construction — e.g. tubed or tubeless; remould; crossply or textile or steel-braced radial. (It is illegal to drive on some combinations and, according to the AA, potentially dangerous or undesirable to drive on others.)

There is no legal requirement on a tyre manufacturer to include any of this information — in code or otherwise. On Avon car tyres it is included, mostly in code which would not be intelligible to the average motorist.

In an interview with the MD of the Avon Group (July 1973), *Drive* suggested that this information should be presented, uncoded, on all car tyres. The Avon MD reportedly replied: 'There is already a fair amount of congestion on tyre sidewalls. In any case, I doubt whether many motorists would benefit because they are still very naive about the subject.'

The AA, among others, has suggested also that car tyres should have tread wear indicators (TWIs) — markers which are built into a car tread, and which become exposed when a tyre wears down to a certain (relatively unsafe) level. In the *Drive* interview, the Group MD was reported to have said that there were 'insuperable problems associated with (their) manufacture and performance'. However, TWIs are now used in some Dunlop tyres — and are required by law in the US on all tyres manufactured since mid-1968. Avon tyres are sold in the US — under the brand name 'Bolide' (the French word for 'thunderbolt') — and are presumably fitted with TWIs.

Avon — and other tyre manufacturers — could also usefully provide information on tyre maintenance with the tyres they sell. Though the tyre manufacturers' trade association, the BRMA, has produced a leaflet on tyre maintenance, it was thought this would not give motorists all the information they need. For example, in the US, tyre manufacturers give conflicting advice to motorists on the need to 'rotate' their tyres — that is, to switch tyres at regular intervals from one wheel to another, in order to even-out the wear). In the US, some manufacturers say their tyres must be rotated regularly (as a condition of the guarantee); while others say that no rotation is needed (See *Consumer Reports* 10/73 p. 609). No reference to tyre rotation was found in Avon sales literature though it is believed that Avon's (unwritten) guarantee would not apply when tyres become excessively worn through a failure to rotate them.

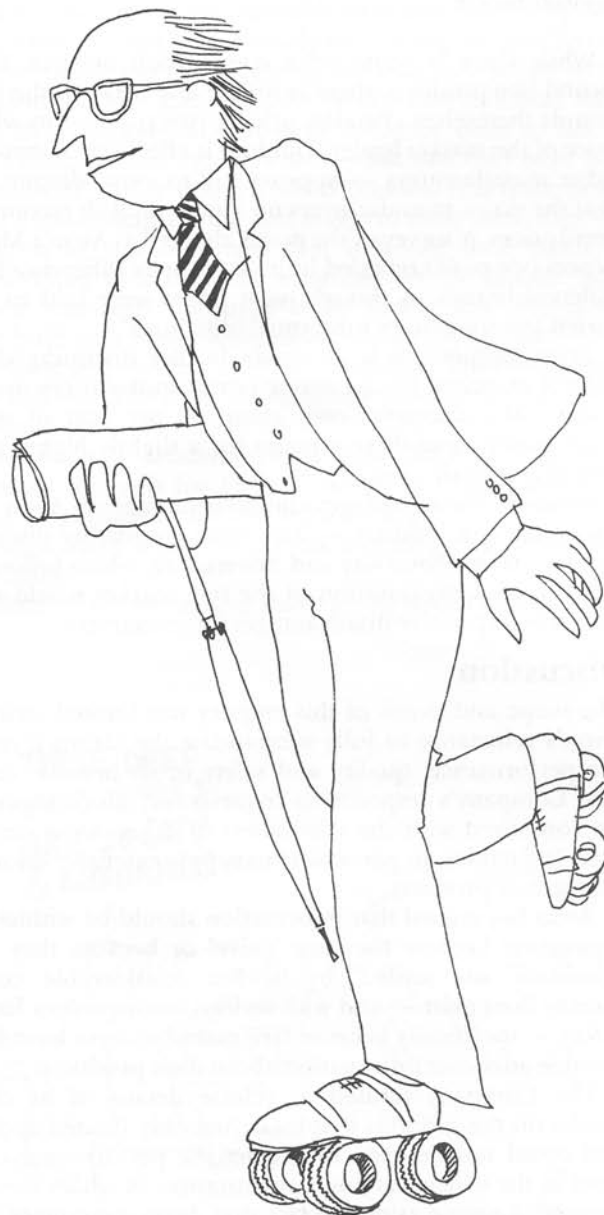
Similarly motorists are not advised by Avon that their tyres (like all others) should be 'run in' and that new tyres should be driven relatively slowly. The significance of this advice may be appreciated from the fact that a motorist was recently acquitted of careless driving after an accident which put three people in hospital — because the court accepted that he had skidded on new tyres which he had not been told to run in. A police witness reportedly told the court that police drivers were instructed to run in new tyres at speeds of below 50 mph for the first 200 miles. (*Sunday Mirror*, 6.5.75)

The Managing Director and Technical Director of Avon Tyres appeared unwilling to accept any suggestion that the

Company might have provided consumers with more information.

They said it would be misleading and confusing for consumers to have access to test data. They suggested also that, if they published data to indicate, say, the kind of mileage a tyre would run, this would imply a guarantee which consumers 'on the lunatic fringe' would claim against.

Both directors appeared somewhat critical of tyre advertising generally. For example, the MD commented on an Avon advertisement — which claimed 'outstanding performance' for both road holding and road wear — saying that this was really just advertising. Similarly, the Technical Director agreed that a consumer would be unwise to buy a tyre on the strength of the information provided in advertisements. The purpose of advertising, he said, was simply to get a name across to consumers.



But the fact that consumers get little information about tyres, other than from advertisements, did not appear to cause concern: the MD of Avon Tyres maintained that the UK market 'was attuned to what the customer wants — he wants big names'. Nevertheless, the MD did also say that, in his view, the emphasis placed on mileage at the expense of grip by 'some continental manufacturers' was 'lethal' — and this, at least, implied that some consumers would be considerably better off, if better informed.

## Competition

Most of the major UK tyre manufacturers market a 'first-line' tyre — which is sold under the company's own name — and one or more second or third line brands, as well. Avon's subsidiary brand, 'Henley' — some of which are actually made for Avon by Firestone — accounts for about 10 per cent of the Group's total tyre sales. Avon would appear to have maintained the Henley brand somewhat reluctantly, as the Group MD explained in an interview in 1975:

'There's no emotional attachment to Henley. We must have it because the UK market is structured the way it is . . . we have to have a tyre that is going to compete in this very substantial section of the market at the bottom, which is mostly of the manufacturers' making; it's not there by public demand. This is one of the stupid things — that the manufacturing side of the industry as a whole foisted these third-line tyres on a rather unwilling public. But the fact is they are there, and one has to compete. . . .'

While there is some price competition between first and second line products, there is little if any between the first line brands themselves. Parallel pricing (see p. 8) — in which the price of the market leader (Dunlop) is effectively adopted by all other manufacturers — appears still to exist, despite the fact that the major manufacturers no longer publish recommended retail prices. A survey of the prices charged at Avon's Motorway depots (see p. 64) revealed little or no price difference between different brands — though most prices were said to include varied and sometimes substantial 'discounts'.

Price competition is no doubt further discouraged by the control exercised by the major tyre manufacturers over retail outlets. Manufacturers own about 60 per cent of specialist retail outlets; and these account for a slightly higher proportion of tyre retail sales.

Whatever the advantages and disadvantages to Avon and the rest of the tyre industry — and these are further discussed in the reports on Motorway and Advertising, which follow — the structure and organisation of the tyre market would seem to have several positive disadvantages for consumers.

## Discussion

The scope and depth of this enquiry was limited seriously by Avon's reluctance to fully substantiate the claims it made for the performance, quality and safety of its first-life car tyres. The Company's response to requests for information should be contrasted with the willingness of other Avon companies (and Inflatables, in particular) to supply extensive information about their products.

**Avon has argued that information should be withheld from consumers because they are 'naive' or because they may be 'confused' or 'misled' by it. But considerable confusion already does exist — and with serious consequences for public safety — specifically because tyre manufacturers have failed to provide adequate information about their products.**

The Company refused to release details of its own test results on the grounds that these had only limited application and could not be used to predict the performance of Avon tyres in the widely varying circumstances in which they would be used. Leaving aside the fact that Avon guarantees its tyres for road use partly on the strength of such tests, PIRC had made it clear that it requested this information in order to establish how Avon had rated their tyres against their own standards. Furthermore, an undertaking had earlier been given by PIRC not to publish specific test results, but to limit itself to publishing only an overall assessment — and to consult the Company in the interpretation of these data.

Avon's most persuasive argument for refusing to release information, particularly data on tyre failure rates, was that it feared this would unjustifiably discredit the Company in the eyes of consumers and dealers if no other company published

comparable information. Specifically, Avon said it feared that consumers and dealers would identify it as the one company which made tyres with occasional defects.

In considering this argument it should be remembered that dealers are almost certainly aware of the levels of defects in tyres, as they handle defective tyres regularly. In addition, it would seem that the very large majority of consumers — and motorists in particular — would have had sufficient experience with all kinds of products to know that no manufacturer always produces perfect goods.

Once again, the approach of the senior management at Melksham (in the Avon Group and at Avon Tyres) bears contrast with practice elsewhere. In the mid-1960s, for example, Avon Inflatables publicly appealed for the recall of several months' production of their boats, because of a safety-related defect. The MD at Inflatables said that, in his experience, dealers and consumers who remember that incident still respect the Company for the action it took.

On balance, we would certainly have wished to see the publication of this data by Avon Tyres; and have little doubt that the public would have recognised that this signified Avon's complete confidence in the quality, performance, safety and value of the tyres it makes.

It seemed ironical that the Company should provide no hard information about the road-holding qualities of its tyres — and further suggest that independent tests on its tyres were of limited if any value — when such independent reports as were obtained all suggested that Avon tyres had relatively very good wet-grip capability. We see no reason to doubt them.

However, no firm evidence can be provided to support the implied claim by the Group and company management at Melksham that their tyres were built to give maximum mileage without sacrificing grip. We would have wished to have had further information on this point, in view of the following:

- (i) Avon Tyres Ltd. said their tyres were designed principally to meet the requirements of the motor industry — and the industry was said not usually to specify the road wear performance of the tyres bought as 'original equipment'.
- (ii) Bridgend management suggested that, in the late-1960s, they had produced remoulds which gave a higher mileage than Avon's first-life tyres. If they were using the same tread compound as was used in Avon's first-life tyres, as it is believed they were, this would suggest that the life of Avon first-life tyres might, at least marginally, be increased.
- (iii) Bridgend's management responded to this situation by reducing the amount of tread rubber on their tyres, so that they would wear quicker than Avon's first-life tyres. Then, at least, an Avon company built obsolescence into its tyres.

In addition, it was not made clear how Avon tyres could be both 'unsurpassed' for grip and also in the 'middle range' for wear. If, as Avon suggested, the one characteristic could be enhanced only at the expense of the other, one would expect Avon tyres to be in the middle range for wear only by default of other brands.

Finally, it would appear that consumers would have grounds for serious concern about:

- The measures taken by the Company when it found that defective tyres had been released for public sale.
- The lack of any written guarantee, or of any indication that a guarantee exists.
- The very poor quality of the information provided, both on the tyres themselves and at the point of sale.

These weaknesses are certainly not exclusive to Avon, but appear to be common throughout the UK tyre industry. Clearly, Avon is not in the most favourable position in the market to deal with these problems. However, there is little evidence to suggest that the Company even acknowledges that such weaknesses exist — or that they would wish to correct them, if they had the opportunity to do so.

## 2. Remould car tyres

### Policy

The Avon Rubber Company (Bridgend) Ltd. manufactures 'Avon' and 'Olympic' brand remould tyres. The Company has no written policy on product quality and safety, though the management maintained that their policy was underwritten in the specifications for their products.

Avon suggested that its standards were very high for the remould industry as a whole. At the same time it was reported that there had been recurrent disagreements amongst the senior management over product quality — and that the Company was under considerable pressure to reduce costs, possibly by lowering standards.

Thus, while the Technical Director maintained that he had not compromised on the high standards he said were observed, another director remarked: 'I sometimes wonder if we do ourselves a disservice commercially by trying to remain up-market, as far as quality is concerned'. It appeared that, sooner or later, standards would be reduced — but, as the Managing Director put it, 'at the moment, no-one has had the courage to take a decision' to say by how much, and when.

It was stressed, however, that the Company would not produce tyres to below the 'British Standard' remould specification. The management indicated how low standards were at the bottom end of the market — at least had been in the past — by reference to one remoulder who used to buy and use the casings (i.e. the old tyre carcasses) which Avon had rejected as sub-standard. It was suggested, though, that standards in the industry had improved in the recent past, even if they still had far to go.

### Standards

There are no specific legal standards for remoulds; nor any restrictions as to who may make them. Only voluntary standards exist.

Membership in the Remould Manufacturers' Association is reportedly open only to those who agree to follow a voluntary code of practice. No details of the RMA's standards were obtained, but they were said (at mid-1975) to be under revision. Avon Bridgend is an associate member of the RMA.

Similarly, the British Standards Institution said they were preparing to improve their specification. Bridgend's management suggested that the existing specification was relatively low and that their own specification was appreciably higher. This was confirmed by comparing the BS specification with Avon's — which the Company readily provided, on request. In particular, Avon said its 'casing acceptance' standards were higher.

### CASING ACCEPTANCE STANDARDS

British Standard requirement	Avon Bridgend requirement
Reject any tyre with:	Reject any tyre with:
Crown or shoulder penetration or cuts, or unsatisfactory crown or shoulder repairs, outside certain specified limits	Any injuries in the shoulder or buttress region
No requirement	Tread cracking exceeding one inch in length
Tread damage which would measure anything more than 25mm at the cords of the ply	Tread damage which would measure anything more than 10mm at the cords of the ply

Similarly, Avon Bridgend's Technical Director claimed that they rejected any casing on which (ply) cords were visible after the old tyre tread had been removed by 'buffing'. (The Company estimated it rejected about 8-10 per cent of casings

after buffing — some, they said, in a condition which other remoulders would consider safe to use.) On the other hand, the British Standard allows some degree of buffing damage on some kinds of tyres.

### Quality

No detailed information was given about the other specifications to which Avon remoulds were built. It was said, however, that the tread compounding used was very similar to that used in Avon first-life tyres, and that a comparable 'wet grip' performance was achieved.

In addition, Bridgend management claimed that their remoulds would give roughly 85 per cent of the mileage of a comparable new tyre — for about 60 per cent of the cost.

Technical staff, at middle management level, admitted openly that they had planned obsolescence into their tyres. 'Originally, when the Avon remoulds were first made they had a thicker tread . . . and were actually out-miling the new tyres.' Their tread depth was then reduced, 'so that they would wear out a shade quicker than the new tyres'. The technical staff gave the clear impression that tyres could be built to last a good deal longer than they now do — but that they were not for commercial, rather than technical reasons. It is quite possible that a misunderstanding had arisen in these interviews — and it must be acknowledged that it would have taken a further meeting to clarify the situation beyond doubt. But what these managers appeared to be saying was that tyres could be built with more of the same rubber compound — to give the same grip — and also more mileage. They suggested also that this could be done for relatively little extra cost. They said, for example:

'We can make a standard tyre (a remould) that does, say, 10,000 miles and sells for £3 . . . (or) we can make one that does four times this mileage and sell it for £5 . . .'

'We could make a tyre tomorrow morning that would do 100,000 miles . . .'

'You don't make something that's going to last and last and last . . .'



Apart from these commercial considerations, the only other factor said to limit the mileage of a remould was the strength of the casing — and this again led to discussion about planned obsolescence. For instance, the Technical Director referred to the poor sidewall quality of some of the first-life tyres they received:

Avon: '... it depends how much planned obsolescence is written into the sidewall on the original tyre ...'

PIRC: 'How much is?'

Avon: 'Well ... on Avon tyres, you never see any signs of radial cracking or ozone attack when they come back here for remoulding. But with certain manufacturers you see them in a very cracked condition, and the life would be just about at the point that they are giving up the ghost anyway, because they've got this incidence of cracking in the sidewall at the end of their first life ...'

PIRC: 'If you see cracking of a particular kind, can you identify that for certain as a planned obsolescence?'

Avon: 'Well, it's difficult to say it is planned obsolescence — it's purely people getting down to basics and producing something that will *just* do a job of work.'

Similarly, it was said that there were certain brands and types of tyre which could not be successfully remoulded at all, because of their size or design — and others which Avon Bridgend said 'we will not remould because we know we have had premature failures'. It was suggested that remould manufacturing would be greatly simplified if all tyres were built to certain specified sizes — as well as with more strength in the sidewalls. It was claimed, however, that all Avon first-life tyres could be remoulded, without problems.

The Company also said that up to about 10 per cent of its production was accounted for by tyres remoulded for a second time. It was said to be comparatively rare to find a crossply that could be remoulded twice or more; but that the Company expected to be able to remould steel-braced radials, in particular, more than once — because of their greater casing strength. Avon said it had not yet been able to master the different techniques that were needed to remould steel-braced radials, but that they expected to do so before long.

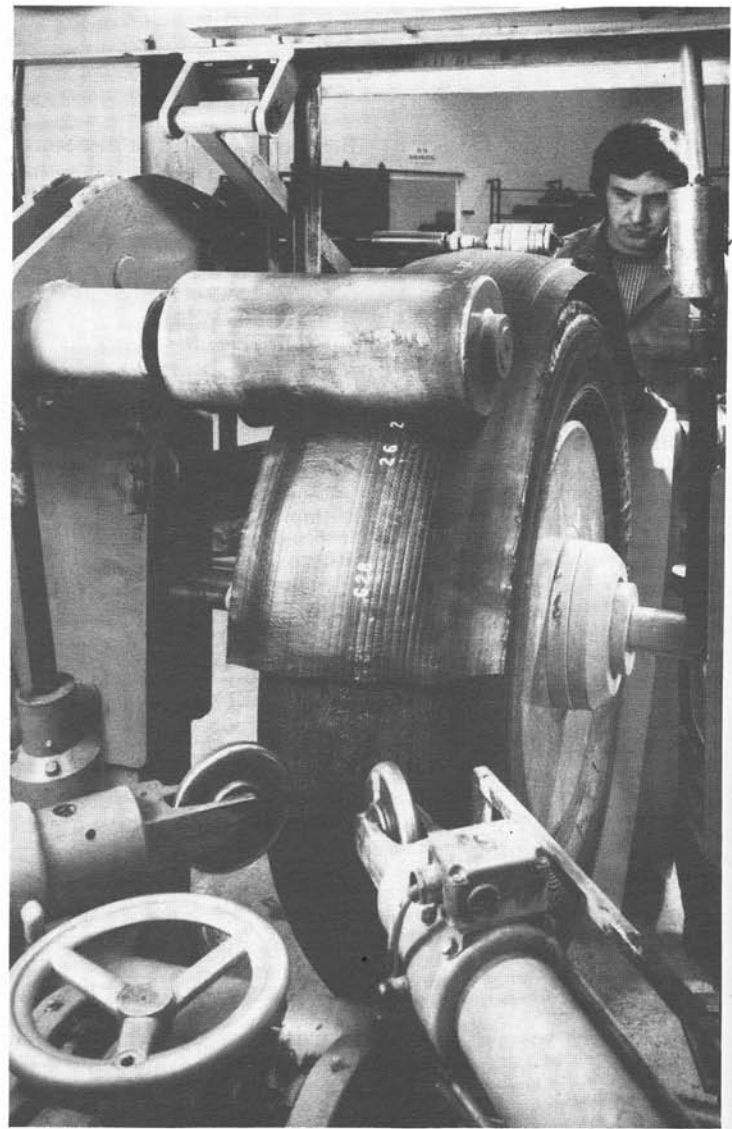
### Quality control and safety

Avon management explained that they had tried to maintain quality standards not only by inspecting tyres at different points on the production line; but also by penalising employees who produced poor quality work. The Company had imposed a ceiling on piecework earnings; and payment had been withheld from operators when 'scrap' was produced.

In practice, it may well be that safety standards have suffered as a result of the piecework payment system that has been used. For example, it was reported that the policy of 'not paying for scrap' had sometimes led to disputes between operators and supervisors. This would suggest — though there is no specific evidence to support it — that safety standards can be maintained only at the expense of industrial disputes — or conversely, that industrial disputes might be avoided by slightly waiving safety standards.

In order to trace the operators responsible for any defects, employees had been instructed to put an identifying mark on their work, though it was said that they preferred not to and often did not. The fact that an estimated 20 per cent of tyres were said not to be identifiable at the end of the production line might well be considered symptomatic of some conflict between safety standards and the Company's payment policies.

Avon Bridgend did not supply detailed information about the test procedures used on finished tyres, but stated that laboratory 'rig' tests were periodically carried out, in addition to the visual inspection made of each tyre. It was learned only after the conclusion of interviews at Bridgend that, at the final inspection stage, tyres are graded as either first or second class. It is believed that Avon's second class tyres — identified by the letter 'S' branded alongside the brand name — are those



*Remoulding: applying a new tread rubber to the buffed casing of a giant tyre.*

found to have an unacceptably high number of minor blemishes on them.

The Company said that most of its testing was done on proposed new models of tyres, and that the emphasis was on 'field testing', by Company employees driving their own cars. Avon said they would typically have about 30 sets of tyres under test in this way at any one time. The tests last for about six months; and every two months tyres are examined — mainly for wear, but also for other characteristics. As a result of such tests, the Company said it had often decided against going into production with a particular model of tyre.

(Avon employees apparently test these tyres at their own risk; for the Company carries no special insurance for them. The Avon manager with whom these tests were discussed said only that no employee would be asked to drive on tyres that he (the manager) would not use himself.)

If field tests prove satisfactory, tyres first go into limited production for general sale. Thereafter, according to the management, 'we sit back and wait for the service returns to come in'. The Company confirmed that defect levels reported in service returns were generally lower than they would expect from their experiences with field tests.

Avon said the defects reported most often in service returns were the breaking-up of the tyre casing, separation of the original tread from the tyre, and separation of the remoulded tread. If a tyre casing broke up in use, a sudden blow-out would be likely; while tread separation of any kind is also potentially dangerous. No detailed figures describing the frequency of these occurrences were obtained.

In marked contrast to the management of Avon Tyres at Melksham, the Bridgend management invited PIRC to examine their service returns; though they did ask that no information be published about specific tyre models.

The Company claimed to have reduced the level of service returns for car tyres from around the 3.5 per cent mark, in 1950, to the present level of about 1 per cent. They said they believed that these figures were 'exceptionally good' compared with the failure rates of competitors at the top end of the remould market — which they estimated to be in the region of 4 to 6 per cent. It was not possible to confirm or deny this; neither was any attempt made to verify the suggestion made by Avon that, in fact, relatively few remoulders kept accurate service returns at all.

Examination of the Company's records showed that defect levels for 1972 and 1973 were indeed between 1 and 1¼ per cent — though levels of defects on individual production batches had varied between 0.5 and 4 per cent. (Delays of up to 2 years may occur before significant data from service returns is obtained — hence the reference to 1972 and 1973 levels.)

The Company acknowledged that on occasional batches defect levels had risen to about 10 per cent or above. Management stated that they would not 'recall' tyres with this level of defect and said, initially, that such action would only be contemplated at defect levels of 20 to 30 per cent. They later suggested a rather lower figure and pointed out — as had Avon Tyres at Melksham — that the figure would depend largely on the nature of the defect.

While this enquiry related specifically to the performance of passenger car tyres it is worth noting that service returns of remould truck tyres are generally several times higher. The significance of this was not discussed: it could be because defects are more common in truck tyres — but it could also be because truck fleet operators are more likely to recognise and report defects.

### Complaints and guarantees

Bridgend's policies on complaints and guarantees are identical to those of Avon Tyres at Melksham — because Melksham handles complaints and refunds for the remould company at Bridgend, and compiles service returns for them.

### Prices and marketing

Only very basic information was received about Avon Bridgend's marketing operation. At the time of this enquiry, Bridgend had been marketing tyres for just a few months — and only 'Olympic' tyres. The 'Avon' brand remould — which accounts for 80 to 90 per cent of Bridgend's production — has in the past been marketed by Melksham, though Bridgend expected to take over marketing of this brand by the end of 1975.

The actual prices of Avon remoulds were not discussed. However, the Company suggested that its prices have been relatively high and possibly uncompetitive. This was confirmed by the Managing Director of Avon's Motorway chain of tyre outlets who said Motorway kept only low stocks of Avon remoulds because, despite their high quality, their price made them difficult to sell.

The introduction by Avon of the 'Olympic' brand might — under these circumstances — be seen as the beginning of an attempt to compete more effectively on price in the mainstream of the remould market. The 'Olympic' brand, which was introduced in 1973/4, was said to be identical to the Avon brand — though it has been sold at a slightly lower price. (Or, from a different perspective, Avon brand remoulds carry a "surcharge", which represents the "value" in the market of the Avon name.)

Avon Bridgend had not operated profitably in the period immediately before this enquiry took place — and it could certainly not expect to become more competitive in the longer

term, in any real sense, simply by reducing its prices in this way. The company must also reduce its costs — if not by increasing efficiency, as it has tried to do on many occasions in the past, then by lowering its production standards.

It remains to be seen how the Company will reassess its position in the market, and takes action to ensure that it competes effectively in it.

## Discussion

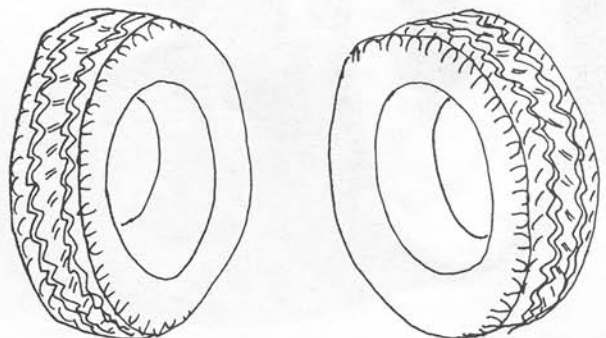
**Bridgend management — unlike management at Melksham — was prepared to substantiate claims for their products.** Much of the information that was supplied reflects credit on the quality of the Company's tyres, though in the absence of comparable data from other remoulders it is not possible to confirm Avon Bridgend's claim that it produces a superior product.

At the same time, the Company may have to sacrifice its standards in the future, in order to compete more effectively with the rest of the industry.

**The management said they had designed their remoulds to wear out more quickly than first-life tyres.** They claimed they could build tyres that would last longer than Avon first-life tyres — but they did not suggest that there would be any appreciable loss of wet-grip capability if they were to do so. The management explained that they had built obsolescence into their products for straightforward commercial reasons.

**Management said that defect levels on individual batches of tyres had reached 10 per cent or more, yet they had apparently never considered recalling such stock.** At the same time, the Company suggested that its defect levels were, for the industry, relatively very low. In the circumstances, it would seem that consumers need far better protection than they have been getting.

I WAS AN AVON  
SNOW GRIP CROSS PLY  
IN A FORMER LIFE



### 3. Avon Safety Wheel

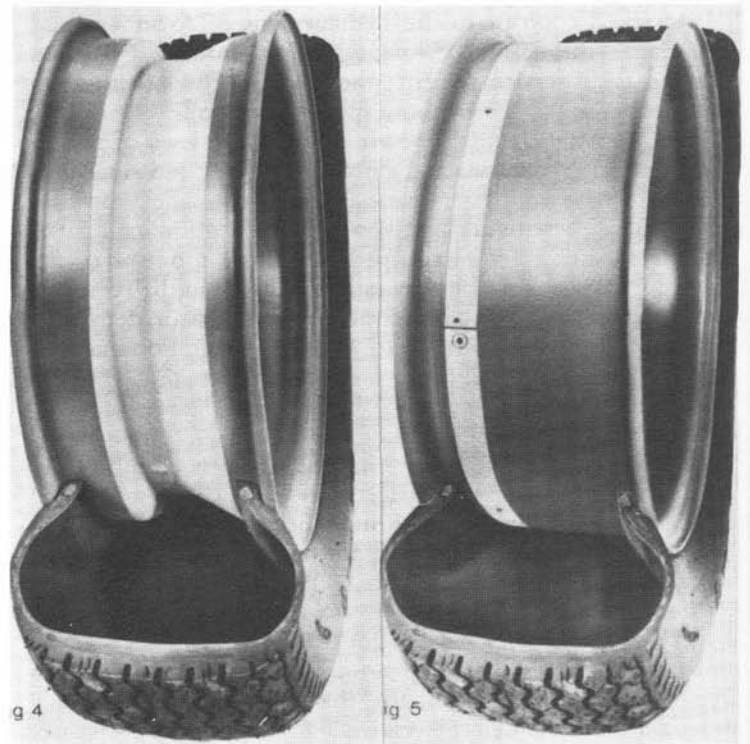
It was thought appropriate to refer briefly in this report to the Avon Safety Wheel — because it appears to improve on the design of virtually any other vehicle wheel in use today, and because it could contribute significantly to road safety.

The main feature of the Avon Safety Wheel (ASW) is the absence of the traditional 'well' — the deep trough built into ordinary wheels both to accommodate the tyre's inner tube and to allow a tyre to be levered on or off.

With the widespread acceptance of the 'tubeless' tyre, this deep well has almost become obsolete. It is also potentially dangerous — for if a tyre bursts, it can either collapse into the well, or be wrenched completely off the wheel, leaving the wheel-rim to bite into the surface of the road. This would put any car effectively out of control.

On the ASW, a deflated tyre stays on the wheel after a puncture or 'blow out' — allowing the driver to bring the vehicle safely to a halt — because there is no deep well into which the tyre can collapse. The ASW does have a well, however. It is, in fact, little more than a wide groove, which is covered over in normal use, and exposed only for the purpose of fitting or changing a tyre.

In the first six months after the launching of the ASW, in Autumn 1974, Avon said it arranged some 200 demonstrations of its wheel to, among others, the press, the police, road-safety experts and the motor industry. The published reports from such demonstrations seen by PIRC all confirmed the effectiveness of the Safety Wheel, and its potential contribution to road safety.



*Above (left) — conventional wheel showing deep 'well' and (right) — prototype Avon Safety Wheel with the well cover fastened in position.*

*Below — a car fitted with an Avon Safety Wheel zig-zags with a flat front off-side tyre. Underneath: a close-up view of the wheel after the blow-out, with the tyre still on the rim.*



The development of the ASW was influenced greatly by the fact that, in 1972, Dunlop announced its 'Denovo' wheel and tyre — a more complex and expensive system — but one which did fail-safe and which also had a 'run-on capability' of 50 miles or more. This move by Dunlop prompted Avon to develop their wheel as fast as possible — and this, in turn, meant developing the ASW in an alloy material, rather than in the traditional pressed steel.

At the time Avon decided to find 'the quickest way into the market' — and to manufacture in alloy, at approximately three times the cost — and at the time there may have been sound commercial reasons for doing so. However, the sharp economic downturn which followed left Avon in the difficult position of trying to market a product retailing at upwards of £60 for a set of four — and which could be fitted only by replacing a set of perfectly serviceable wheels. Not surprisingly, the market response to the ASW was rather slow.

It was the concept of the Avon Safety Wheel, rather than the product itself, which appeared to be so attractive — in that it could lead to the replacement of inferior equipment, in theory at only a marginal extra cost. Its potential as such has been recognised by Avon, which has international patents on the design 'in virtually every country where there is a car population'.

However, the future of the ASW will be determined not so much by consumers, nor even by Avon itself. It will take a response from the motor industry — specifying the safety wheel design for use on ordinary cars — to ensure that its benefits are felt as widely as they should be.



## 4. Motorway

Avon's marketing and distribution subsidiary, Motorway Tyres and Accessories Ltd., comprises a nationwide network of some 180 outlets which specialise in tyre, battery and accessory sales and often provide a breakdown service as well.

This report explains the relationship between Avon and Motorway; and describes how this and other factors affect the range and quality of goods and services provided at Motorway depots.

### Brand choice

Most of the major tyre manufacturers have owned their own distribution outlets since a Monopolies Commission report revealed in 1955, for the first time, that Dunlop owned the large chain of retail outlets now known as National Tyre Service. The growth of manufacturer-owned outlets has, since then, more than halved the proportion of tyre sales from independent outlets.

The tyre manufacturers, as a matter of policy, all appear to play down their connections with their retail outlets. The Managing Director at Motorway suggested that Avon did so in order to avoid giving consumers any impression that they were shopping in a monopolised market, or had limited freedom of choice — when, in fact, Motorway outlets make available to them most major brands of tyres.

Indeed, Avon has been openly critical of the policies of the manufacturer-owned outlets. The Group's Managing Director has been reported as saying:

'The manufacturing end of the distributive business, the big distributive chains, don't really reflect market forces, but what their parents want them to do. Their stock inventory rather depends on what the company warehouse looks like . . . One of the major problems we face today is due to the thoroughly uncommercial way in which the manufacturer-owned outlets have gone about their business.' (*Tyres, Accessories, Batteries*; April/May 1975.)

Avon claims that, by contrast, Motorway is run on 'semi-independent lines'. Motorway's Managing Director pointed out that:

- Motorway stocks and displays a variety of tyre brands and frequently advertises tyres made by Avon's competitors — particularly Goodyear and Michelin but also others — in joint promotion campaigns.
- When depots have to clear excess stock the uncommitted customer is likely to be sold whichever brand happens to be available.
- Many Motorway employees do not know that the Company is owned by Avon and would not feel obliged to push Avon Brands. (In fact, Motorway employees receive copies of Avon's house journal *Avon News* every two months.)

The Company's MD stated that often it made no difference which brand of tyre a motorist bought; and in these cases a Motorway depot would often recommend an Avon tyre. However, he said, 'the chances are' that, where other brands of tyre were especially suited to particular cars or conditions, then Motorway depots would recommend them. Avon brands were said to account for about 30 per cent of Motorway's sales; but the Company claimed that if they had really 'pushed' Avon tyres, the proportion might be 50 per cent.

To test these claims, PIRC carried out a brief survey of 25 Motorway depots. Each depot was asked by telephone to recommend two replacement front tyres for a Mini. The results showed that Avon and Henley brands were often, but by no means always, recommended. See Table 1.

With a relatively small share of the market (around 3 per cent), Avon would not, of course, be in a position to stock a large chain of outlets solely with its own brands; or indeed do anything to encourage other manufacturer-owned outlets to refuse to handle Avon brands.

Table 1. Brands recommended by Motorway depots

Brand	Number of recommendations (exclusive recommendations)
<i>Avon</i>	11 (6)
Goodyear	7 (2)
Dunlop	5
<i>Henley</i>	4
Michelin	3
Firestone	2

Avon have claimed, in fact, that they have received little reciprocal business from the other manufacturers' outlets; and the Group MD has said that the general trend in the market is to move 'very perceptibly to a house brand operation'. Nevertheless, there is some evidence of a "special relationship" between Avon and Goodyear, and also Michelin. For example, Motorway advertising has promoted Goodyear tyres about as much as Avon's; in addition, the Company has regularly paid small bonuses to staff for sales of Avon, Goodyear and Michelin tyres, but not for other brands.

Motorway's MD maintained that this policy gave consumers the benefit of 'having the world's biggest tyre manufacturer, Goodyear; then their choice, the leaders in the radial field, Michelin' — as well as Avon brands to choose from. However, he did not think consumers, with this choice, should be concerned if Motorway chose to promote any one particular brand, from time to time. He said, for example: 'I don't think it is any concern of the consumer that we might be getting another 2½ per cent on a certain brand in a month'.

### Product quality

The Company's policy is said to be 'to buy recognised, high-quality brands in whatever line we buy'. The MD said he believed that the reputation of the big manufacturers adequately guaranteed the quality of their products; he added that 'the quality of tyres is uniformly good'.

The Company said it had never sought information on either product specification or performance from manufacturers; neither had it ever undertaken any formal evaluation of the quality of products sold — for example, by using these products systematically on the fleet of 600-odd vehicles that Motorway has at its various depots. In addition, the Company had not kept comprehensive records of goods returned because of defects; the MD suggested, however, that they would detect any unusually good or bad performance in the normal course of events.

The tyres stocked by Motorway were all built to the British Standards specification; though they were not stocked because of this. The MD said, quite simply, that he knew of no tyres which were not built to this specification or above, and he also said he considered the British Standard for tyres to be 'pretty low'.

The MD said there was only one product that they did not stock because of poor quality. These were Japanese-made tyres which were said to give poor wet-grip, though better mileage than UK-made tyres. However, several months before PIRC's interviews at Motorway, the official journal of the National Tyre Distributors Association — of which Motorway's MD was then the President-designate — carried a report in which the Editor commented favourably on Japanese tyres, after watching a series of track tests on them. He said that '... there was very little difference between any of the tyres in dry or wet grip. Which means that the Japanese know a great deal more about wet grip than they did a year or two ago, because any tyre that can live with an Avon on a water-soaked surface has got to be good.'

### Consumer advice

Each of the 25 Motorway depots surveyed during this enquiry was asked, by a research worker representing herself as a customer, for advice about the correct type of tyre to fit as

replacements on the front wheels of a Mini. She also asked the depot staff to comment on the difference between brands.

If they asked, the depots were told only that the Mini's rear wheels were fitted with 'radials'. On the strength of this information, one depot recommended steel-radials for the front wheels — on the (questionable) grounds that the Mini is a front-wheel drive car. This was potentially bad advice as it could have led to a combination of steel radials on the front wheels and textile radials on the rear — a combination which the Automobile Association advises motorists to avoid. Another depot recommended cross-ply replacement tyres without asking what was fitted on the rear. (The AA considers the mix of cross-ply and radials that this would have produced to be unsafe.) Of the other depots, five advised that the replacement tyres should be of the same type and brand as those on the back (as the AA recommends) while the others recommended specific brands.

Only two of the depots attempted to give any serious explanation when asked about the differences between brands. (One of them recommended 'Avon' for mileage and quality, but 'Dunlop' for wet grip — although Avon Tyres at Melksham claim their tyres are 'outstanding' for wet grip, but only 'in the middle range' for wear.) The consensus among the others was that there was no difference between brands, except that they had different tread patterns. According to the spokesman at one depot: 'It's like Terry's All Gold and Terry's Plain, if you know what I mean . . .'

The depots were asked also about the life of tyres. Ten said they were unable to estimate the likely mileage, as too many variables were involved. The remainder placed widely varying estimates — ranging from 7,000 to 33,000 miles — on the life of the tyres they recommended.

### Batteries and silencers

Motorway's MD said he knew of no quality standards for batteries, and that his preference would be to buy a 'household name'. He pointed out that, because the main battery manufacturers worked only through sole dealerships, a Motorway depot would be likely to sell only one brand — either a Crompton, Exide or Oldham. Consumers would be unlikely to have any choice.

About 30 depots were said to stock silencers/exhaust systems — the choice of brand being left to the depot manager, after consultation with head office. The Managing Director said he believed that depots stocked only mild-steel exhaust systems — but not aluminised or stainless steel equipment which, though more expensive, are known to last longer and give better value.

### Complaints and guarantees

Motorway's Managing Director appeared to have a generally mistaken view of the Company's legal obligations to consumers.

The MD suggested that under recent law (almost certainly the Sale of Goods (Implied Terms) Act 1972) consumers had been granted rights to which they had not been entitled before — and that, as a result, Motorway had had to remove signs from their depots which said that any liability of theirs was 'specifically restricted to the fitting of tyres . . .'

The MD did not accept that, under the Sale of Goods Act 1893, retailers have been responsible for supplying goods of 'merchantable' quality and 'reasonably fit for the purpose' for which they were sold. He did not appreciate that the effect of the 1972 Act was not so much to give consumers new rights — as to prevent retailers from removing the rights consumers were always meant to have had, and which Motorway had sought to remove.

In addition, it would seem debatable whether the signs displayed at Motorway depots would be considered an express part of the contract of sale and, as such, have allowed Motorway to legally avoid its responsibility for providing satisfac-

factory goods. However, they would at least have been likely to persuade consumers that there was no point in complaining, even when they had good cause to do so. As the MD explained the position: 'If somebody bought four car tyres off us and they were faulty, we could say to that man, "Well, we will fit you four more tyres, for which you must pay the proper price, and then we will send those tyres back to the manufacturer — and if he chooses to make an allowance, we will pass you the benefit of that allowance." And that was permissible — but it isn't any more.' He added: 'Under the new Consumer Protection Bill, we are in a sense responsible for complaints.'

The Managing Director said that he received on average about 50 complaints a year — and also some letters of gratitude; however, the large majority of complaints were dealt with by the depots themselves. Files of both kinds of letters were examined. The complaints file indicated that complaints made to head office were generally referred to the appropriate regional manager for investigation. All complaints seen had apparently been resolved to the satisfaction of the customer.

### Sales and promotion

Motorway's advertising policies, and the promotion campaigns used by Avon and other tyre manufacturers to influence retailers, are described briefly in the report on Advertising (p. 69).

Motorway staff have taken part in a number of manufacturer promotion schemes (which reward individual sales staff with gifts, when they order certain numbers of particular brands) — and in all Avon promotions of this kind. Such schemes have attracted sharp criticism from some dealers. For example, a senior executive of the Dunlop-owned National Tyre Services has been quoted as saying that these schemes were 'entirely unethical and placed temptation in the way of staff' (*Tyres & Accessories*, July 1975). It should be added that Dunlop itself has reportedly used such schemes to boost sales in selected NTS outlets. Motorway's MD, however, maintained that Motorway staff had only participated in schemes which had been approved at head office. He explained: 'We can't have (manufacturers) going round bribing our staff to buy tyres which may not fit in with our policy'; though no objection was raised to such 'bribery' when it did accord with Motorway's sales policy.

Motorway's attempts to attract the individual motorist have included 'giveaways' — but the trend on the whole has been to compete by offering discounts on price. Trading stamps have been offered at the three Motorway depots where petrol is sold, but not elsewhere. The MD said this policy reflected his belief that large quantities of stamps never reach the customer, but get 'knocked off' by staff.

Although tyre prices quoted by Motorway depots often included substantial discounts, it was not clear to what extent these were as real as they were advertised to be — as some depots were found to be offering the same brands at the same prices, but at different 'discounts'. There is no recommended retail price against which to compare discounts — as manufacturers no longer publish them.

### Discussion

Motorway's Managing Director discussed his Company's policies and practices without apparent inhibition. He was also one of the few managers to question and criticise the purpose of the enquiry (though all were invited to do so). In particular, the MD suggested on several occasions that the questions asked implied a belief in some 'utopian' order on our part — and he emphasised that what might be seen as shortcomings in the Company's work amounted to what was in fact reality, for any sales operation.

While the Avon manufacturing companies all maintained that one of their main aims was to 'play fair' by their customers, no specific commitment of this kind was expressed

at Motorway. However, the MD suggested that in selling goods with household names and at competitive prices the Company was supplying what customers wanted — and that Motorway's profitability was clear evidence of their satisfaction.

Motorway has made no formal assessments of the quality of the products it sells. The Company maintained that its policy of stocking only well-known brands was an adequate guarantee of quality, and claimed that this protected the consumer against 'rogue brands'. At the same time, this policy may discriminate against lesser-known brands of good quality. (Motorway's MD maintained that this policy was ultimately based on his own experience, which in turn was based on lack of reaction from consumers. Consumers, of course, could give no reaction on the quality of consumer goods which were not offered for sale.)

There was evidence that the information provided by some Motorway depots was confused and potentially unsound. Their advice would seem to be influenced as much by the brands they want to sell as by the needs of their customers. Though limited in scope, the survey made of 25 Motorway depots produced results which do the Company little credit. If staff have the specialised knowledge about their products that they might be expected to have, there is little evidence that they pass it on to their customers. Motorway's policy of award-

ing bonuses to staff for the sale of particular brands, and the manufacturers' promotion schemes, would clearly seem to operate against consumers' interests.

## 5. Avon Inflatables

This report deals mainly with the quality and safety of Avon Inflatables' boats, though it refers also to some of the Company's other products: life-rafts, life-jackets, buoyancy aids and marine clothing.

In 1975, Avon Inflatables produced four different kinds of craft ranging in price from £178 to £1,180. These were: *Dinghies*, designed for yacht-tendering and pottering; *Sports-boats*, advertised as suitable for 'potterers, water skiers and speed merchants'; *Riverboats*, for 'river-running' by 'adventurers, fishermen and campers alike'; and *Seariders*, with rigid hulls for use in inshore rescue work as well as leisure activities.

The Company's policy was stated to be to make safe, high-quality products; and also to meet or exceed all relevant product standards. These claims have been stressed in the Company's advertising:

'Avon Inflatables have consistently shown themselves to be virtually unsinkable, stable, seaworthy, portable and durable. They can be relied upon for good performances. . . .'

'By far the largest producer in Britain, the Company's success has been due to consistently high quality, a first-rate safety record, and sensible Avon design features.'

No detailed attention was paid in this enquiry to claims such as 'virtually unsinkable, stable, etc.' as these characteristics are generally shared by any reasonably good inflatable craft and are probably stated mainly to dispel the remnants of consumer resistance to inflatables. (According to a 1974 report by the US Consumers' Union, all inflatable craft they tested, including two Avon boats, were found to be 'virtually unsinkable' and 'remarkably tough'. Their main disadvantages were said to be that 'they handle less precisely than hard-hulled boats. They can be exhausting to row. And in rough water they can give wet, spine-jarring rides'.)

### Design and performance

Avon boats are built to the British Standard specification MA 16, which was drawn up in 1971 as a guide 'on the minimum performance requirements which can reasonably be expected' by private, professional and commercial users of inflatable craft.

As British Standards go, MA16 is believed to be relatively high. It makes requirements for the type and strength of materials used; their resistance to abrasion, air permeability and ageing; and adhesion strength. In addition, all boats carrying the British Standard 'Kitemark' are tested on introduction, and thereafter at two yearly intervals, for manoeuvrability and seaworthiness, and for buoyancy — in normal, flooded and damaged condition.

The significance of the British Standard may be judged from a report on inflatable boats in *Which?* magazine (May 1974), in which six craft, costing between £20 and £40 — none with a BS 'Kitemark' — were tested against a £130 'Kitemarked' boat (believed to be an 8ft Avon dinghy). The report found that the 'Kitemarked' boat was much stronger, easier to row — though not significantly better than some cheaper models when under power — and likely to last longer than any of the other boats tested.

Avon Inflatables made available all British Standard test results and all relevant correspondence, confirming their boats' compliance with the BS specification. All Avon boats and yachting gear are also accepted by the Design Centre and included in their 'Design Index'.

Several references were found to the design and performance of Avon Inflatables in yachting magazines; also in a (March 1974) report by the US Consumers' Union; and in the



book *117 Days Adrift* (1974) in which Maurice and Marilyn Bailey described their survival at sea in an Avon life-raft and a 1969 Avon 9ft dinghy. In addition, the Company made available a memorandum which analysed comments about Avon boats and equipment made by visitors to the 1975 London Boat Show.

In general, these reports were all very favourable about Avon craft. Consumers' Union, for example, said the workmanship on two boats they tested was 'well above average' and both were said to tow and handle well. Similarly, the Baileys said their dinghy never gave problems 'and withstood an incredible amount of hard wear and tear'. Nevertheless, most of these reports also identified minor but significant shortcomings.

Consumers' Union, for instance, criticised the Avon S.300 Sportboat for 'bow-flexing' when under high power; and they found parts of the wooden floorboards broke, early in testing. Visitors at the 1975 Boat Show referred to such things as 'quite inadequate' windscreens fittings and materials; seats and floorboards which became detached, and sometimes lost in service; and valves which tended to cause problems, too.

Management maintained that they recorded such comments from users, specifically in order to consider product modifications — but enquiries were not made about their plans, if any, to put right these specific faults.

In addition, some information was available about Avon Inflatables' other products:

- Avon life-rafts were said to be designed to a specification approved by the Department of Trade. Nevertheless, their design has been criticised in at least two significant respects, both by the Baileys and by the skipper of the wrecked *Morning Cloud* who spent several hours in an Avon life-raft in very heavy seas. The Company said they had acted on one recommendation — by altering slightly the position of the sea-anchor, so that the door in the life-raft's canopy did not face on-coming waves. The Company had not, however, strengthened the 'Velcro' fastening on the canopy door, which both users said was far too weak. Avon said it would be potentially dangerous to have this door-flap fastened too tightly, as this could prevent a crew's rapid exit if, say, the raft capsized. No information was received about the Company's response on other criticisms: for example, the Baileys said the canopy rapidly lost its waterproofing and bright-orange colour (leaving the raft effectively camouflaged at sea); while other users commented at the Boat Show that the canopy had insufficient strength.

- Buoyancy aids were said to comply with the latest standard of the Ship and Boat Builders' National Federation — a standard which has been revised since it was criticised by Consumers' Association, in 1970, for being too low. CA also suggested the SBBNF did not adequately police its scheme: Avon said they had never been 'policed' under this scheme, at any time. Boat Show comments suggested that users favoured Avon's more stylish buoyancy aid — their 'Slimline' type — which would be likely to give less protection to users than either of their other two models.

- Avon life-jackets conform to the relevant British Standard — which is believed to be appropriately high and which, unusually, involves the rigorous testing of production samples.

- No relevant standards exist for clothing. User comments from the Boat Show appeared generally favourable; though a few design improvements were suggested.

### Quality control and defects

Avon Inflatables stressed they had strict standards for quality control. They claimed that only between 0.25 and 0.3 per cent of their total production was found defective and returned under guarantee.

The Company made available all relevant production logs, inspection records and registers of complaints. It was the only Company in the Group to do so.

The importance of quality control was underlined by the results of the Company's preliminary tests on the boat production lines; these check the capacity of inflated hull-tubes to retain air. Only an estimated 70 per cent of dinghy tubes and 60 per cent of sportsboat tubes passed on their first test; while some 5 per cent of total production failed twice or more, after

repair and retesting. A few tubes, multiple failures, are scrapped — but no tube is allowed through without passing.

It was considered (by PIRC) that the standards used in this test could, nevertheless, be higher — because under the present standard a clear distinction can, and is, made between 'good' and not good passes, although boats are sold as being of uniform quality. It was not possible to assess the practical significance of this, because Avon had not kept comprehensive records of customer complaints before 1974. Other Avon companies reportedly considered such records very important as indicators of product quality.

On the basis of this limited evidence, it would appear that the failure rate estimated by the Company (about  $\frac{1}{4}$  per cent) was a good deal lower than the actual rate. However, the true position is not at all clear — because, for example, the logs record 'complaints', rather than 'complaints under guarantee'; in addition, no record was made of the seriousness of the different complaints.

Such information would be needed before any precise assessment could be made, in the light of the management's claim that a high proportion of leaks — the most common defects — were reported mainly as a result of needless anxiety by customers. The management explained that there was no such thing as a boat which didn't 'leak', and that minor leaks — not visible, but sufficient to cause a slight 'fuzz' under soap and water — were not particularly significant. An example was given of a boat recently returned for repair, which had nevertheless just passed the air-retention test Avon uses for new boats. (While this might indicate some needless anxiety by the customer, it would appear also to reinforce the point made earlier about 'good' passes on the air-retention tests, and less good ones.)

But even taking the different factors into account, the best estimates that could be made were of a reported defect rate of about 1 per cent on dinghies and 2 per cent or more on sportsboats. There was evidence also that larger sportsboats attracted more complaints than smaller ones.

The most common defect — main seam leaks — is a fault which has been identified as partly caused by inadequate operator training (see p. 43). Complaints were also frequently made about leaking valves: the Company explained at length the steps that were taken to avoid this in future. There were also a number of isolated (sample) errors, which the Company said it considered occasionally unavoidable. For example, complaints about patches of poor fabric could be traced to a failure in the quality control at the materials inspection stage; a rowlock fitted the wrong way round represented a failure at final inspection; and porosity in clothing, the subject of several complaints, was again due to a failure to eliminate faulty material.

No complaints about other Avon Inflatables equipment had apparently been received. However, some information about quality control on life-jackets was available, because these have been regularly tested by the British Standards Institution. Under the BS inspection scheme (i) the Company is required to send for testing one life-jacket out of every batch of 300 made; and (ii) every three months a British Standards inspector arrives, reportedly unannounced, in order to inspect production and other logs, and also to select samples for testing.

Avon also tests its own life-jackets — and, in particular, check their capacity to retain air. Some 10 per cent of samples fail on this test, and need repair; while on the British Standards test, the failure rate has been about 5 per cent. Under the BS scheme, if a single sample fails, a further three samples have to be submitted for testing — and if any of these fail, the whole batch of 300 has to be checked. The British Standards Institution refuses to release the certification labels — which have to be sewn on to the life-jackets before they are sold — until satisfactory tests have been completed. Inflatables said the BS had never had to withhold labels from them.

## Recalls

The Company said there had been two major incidents in which safety-related defects were found in goods released for sale.

The first, in 1964, involved seven months' production of boats, and concerned a defect which could have led to the inflation valve coming out. Avon said that one such case was reported to them by the boat owner, on a Friday — and that on the following Monday a decision was made to recall from the UK, the US and elsewhere all 800 affected boats. The Company's Managing Director made a TV appeal for the recall of boats and full-page advertisements were taken in the yachting press in the UK and the US. The recall was estimated to have been 95 per cent effective: this was probably partly due to the fact that Avon did not repair the faulty boats, but replaced them with new ones. The Company said it would do the same again: they pointed out that while the recall had 'stood us in tremendous stead', they 'couldn't afford to take any risks at all' as the Company would be 'virtually finished' if someone drowned because of a defect in one of their boats.

In the second incident, the inflation tubes used in several brands of life-jackets — including Avon's — were found liable to come loose or drop off (preventing inflation), particularly after exposure to extreme cold. A recall was organised by the British Standards Institution in 1973, and the cost shared by the manufacturers involved. This recall was said to have produced a very low response. Those who responded were supplied with a small kit, with which to clamp the inflation tube securely to the valve.

## Servicing and guarantees

Avon boats are guaranteed for five years in the US — but only for one year in the UK. Avon nevertheless stated they would attend to any complaints over a 'reasonable period' in the UK. They claimed they had a reputation for 'standing by' their products and said they thought that giving satisfaction to a complainant was 'worth pages of advertising'. The management also made it clear that the length of the formal guarantee did not relate to the estimated life of their products: they said they were still servicing some of the earliest boats they had made, some 15 years before — and that they expected their current production models to last at least that long.

It appeared that the UK guarantee on boats was referred to but not spelled-out in the literature made available to customers; but only in the Company's 'conditions of sale' with dealers.

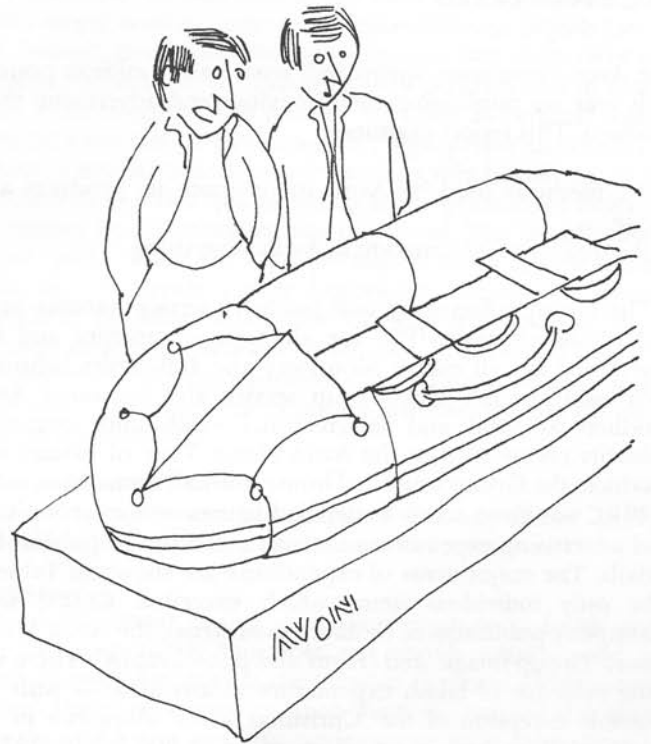
The terms of the guarantee appeared severely restrictive. For example, the guarantee was said to be given 'for and to the exclusion of all other conditions . . . statutory or otherwise' — and to limit Avon's liability for any consequential loss and for defects in any parts made by other manufacturers. Under existing UK law, such conditions could not legally be imposed on a customer — though it would not be illegal to attempt to do so. (See also the report on Motorway; p. 64.)

Complaints, repairs and servicing are handled either by the Company, or by one of its 50-odd appointed service stations. All of these were said to carry Department of Trade approval for the servicing and repair of 'regulation' life-rafts.

Avon maintains comprehensive repair and service manuals; and it lays down scales of recommended charges for different kinds of work. (The Company said customers would not know this — but that it would consider informing them in future.) In addition, service stations are meant to send reports to Avon of all work carried out on life-rafts and boats: it was said that they were chased for reports on life-rafts, if they didn't send them in, but not on boats.

No systematic monitoring of these data has been carried out; though Avon said it did pay some attention to the kind of work done and to the charges made. It was said that one service station had been found to overcharge for poor work, and that they had lost their concession from Avon as a result.

*'Not only can it withstand 117 days on the high seas, but 14 days at the Boat Show . . .'*



## Discussion

Avon Inflatables co-operated extensively during this enquiry and provided all the information that was requested: this might be considered as a measure of the Company's confidence in the quality of its products.

Indeed, the evidence provided by the Company, as well as that of independent reports, suggested that Inflatables has succeeded in producing good, high quality products. It seems likely that Inflatables' reputation for producing such goods does provide an important stimulus for the Company to maintain high standards.

At the same time, this report contains a number of reservations about the Company's work. These relate to:

- Problems with quality control, thought to derive from the inadequate training given to operators.
- The fact that complaints registers had not been maintained until shortly before this enquiry took place.
- The nature of the air-retention tests on sections of the boat hulls. These could effectively allow two different grades of boat to be produced: those with 'good passes' and those with 'bad' ones.
- Restrictions in the guarantee; and the fact that no detailed guarantee — nor any reference to the Company's policy to 'stand by' its products — is expressly given.

In addition, there appeared to be a potentially serious weakness in the life-jacket testing procedures used by the British Standards Institution. Under this procedure, if there is a failure of the single production sample sent to the BSI for testing, then a further three samples have to be tested, before a production batch can be 'cleared'. If called upon to provide three further samples for testing, manufacturers would have a particularly strong incentive to select unrepresentative samples for further tests. There is no evidence that Avon Inflatables or any other manufacturer has acted in this way. Nevertheless, the Standard would clearly be more effective — and could be guaranteed to work as it was designed to work — if samples for further testing were selected by a representative of the BSI.

# Advertising and Public Relations

The Avon companies spend well over half a million pounds each year on publicising their activities and advertising their products. This report examines:

- the methods used by Avon to promote its products and image;
- the quality of information in Avon advertising.

The Group advertising and publicity service handles press and public relations (PR) for all Avon companies and the advertising for all except Motorway and Inflatables (who use their own agents). This Group service also promotes Avon products at local and international exhibitions, organises publicity events such as the Avon Motor Tour of Britain and produces the Group's internal house journal, *Avon News*.

PIRC was given access to detailed figures on the Group's PR and advertising expenditure but was asked not to publish full details. The major areas of expenditure are shown in Table 1. The only individual items which exceeded £2,000 were 'Company publications' (notably *Avon News*), the Avon Motor Tour, 'Group image' and 'Films and photography'. There was little evidence of lavish expenditure in any area — with the possible exception of the 'Christmas items' allowance in the press relations budget which stood at £1,000 in the 1972/3 budget. This had been reduced to £190 by 1974/5 though it is possible that most of this item had been transferred to another budget following the Group's reorganisation. Other individual items are significant only for the way in which they reflected different relative priorities. For example, the 1973/4 publicity budget allowed expenditure of £100 on charitable donations but estimated that the cost of the Group's pin-up calendar for the year would be £15,000.

Table 1. Avon Expenditure on advertising and PR, 1974

Company or activity	Approximate expenditure (1974) £'000
Motorway	150
Tyres	130
Safety wheel	60
Exhibitions (all companies)	50
Group publicity	45
Inflatables (UK only)	40
Group press relations	25
Medicals	20
Group advertising	15
Bridgend (footwear, industrial and remould tyres)	14
Bradford and Melksham industrial products	10
<b>Total</b>	<b>£559,000</b>

In addition, Avon has from time to time set aside contingency sums, of up to about £60,000, for promoting the Group image in specific advertising campaigns. One of the last such campaigns, run in 1974, developed the theme 'Tyres are only half the story'. This campaign was aimed at informing 'prospective investors' of the lesser known areas of Avon's business activities.

The Avon Motor Tour of Britain (budget £25,000) is another major image-building promotion. This three-day (formerly four-day) event was described as a useful means of publicising Avon's name, trademark and products. It was said to have received considerable press coverage — an estimated 15,000 column inches — and to be 'an inexpensive way of getting quite a lot of good corporate image'.

The Group's image is promoted not only by its publicity department but also by its press relations department, whose terms of reference require it to provide 'a service on product promotion through the editorial columns of the Press'.

Avon has produced press releases, including appropriate references to the accomplishments of the company or the quality of its products, whenever an Avon company has been involved in some newsworthy event. Thus, the return to the UK of Maurice and Marilyn Bailey — who had survived 117 days at sea in two Avon Inflatables craft — was marked by an Avon press release which contained a number of statements by Avon employees praising the quality of their Company's products. One such statement which was widely quoted in the local press said: 'We use the best possible materials, and the girls work painstakingly by hand. We have an important job to do and we see it through from start to finish.'

A brief survey established that when Avon did produce a press release, the great majority of press comment consisted primarily of verbatim extracts from the release, and that editorial judgement usually amounted only to rearrangement, or partial omission, of the Avon text. In particular, it was found that three out of every four quotations in such reports about Avon were taken directly from the Company's own press handouts.

It should be pointed out, however, that the stated policy of Avon's PR department is to issue statements to the press on appropriate occasions, whether or not these reflect credit on the Group. Press releases have therefore been put out to announce plant closures, for example.

Another important function of the Group publicity department is internal publicity and communication and, in particular, the production of *Avon News*. This twelve-page paper is produced six times a year, at an annual cost of £12,500, and distributed free of charge to all employees and pensioners in the Group. The journal is produced and designed by a London consultancy and is said to be very sophisticated for its genre. It was recently awarded a certificate of merit in a national competition for house journals, organised by the British Association of Industrial Editors. They reportedly said: '*Avon News* is a smart newspaper with good picture display and up-to-the-minute ideas . . . The nudes are excellent examples of glamour photography . . . a nice touch helping to keep the publication bright and breezy'.



'Not a spare tyre among them . . .'

The paper is also used to communicate financial information about Avon companies though the Editor (the Head of Public Relations) said that management made no attempt to vet copy 'as is usual' in other companies. However, no direct access to the journal is given other than to correspondents, but the Editor suggested that in principle he would agree to report the views of all parties in a dispute situation. (In practice this has not happened; it was said that such reports would probably be outdated by the time the paper was distributed.)

### Company promotions

Motorway has spent about two-thirds of its promotional budget — a higher proportion than other Avon companies — on 'above the line' promotions, usually in space in local or national newspapers — but also in sportsgrounds and occasionally on local TV. The Company has also taken part in joint promotions with Avon and other tyre manufacturers who share the cost of Motorway advertisements which feature their products.

Other Avon companies have spent relatively less on paid advertising and more on 'below the line' promotions. For example, Inflatables has spent two-thirds of its publicity expenditure on items such as catalogues, point-of-sale material, exhibition displays and an annual conference for dealers.

This may partly be explained by the fact that Inflatables sells expensive and highly specialised products to a small market, which is likely to require more detailed information than would normally be given in display advertising. The Company's efforts to influence sales are accordingly strongly directed towards the dealers — whose influence on consumers is likely to be far greater than any advertising campaign.

The same is true for tyres, though in this market the fact that most outlets are owned by the tyre companies complicates the situation. **It means that promotion of any particular brand of tyre through a competitors' outlets can be achieved (a) only by agreement with the competitor; or (b) by offering very attractive inducements to the sales force in the competitors' outlets.** In addition, competition for sales in the independent outlets — where dealers are offered inducements by virtually all manufacturers — is likely to be particularly fierce.

Certainly, Avon Tyres spends a relatively high proportion of its advertising budget 'below the line', much of it on dealer promotions. These promotions may be relatively modest — for example, in 1974, dealers who ordered two Avon radials were given a pewter goblet valued at over £5 — but they may also be run on a scale comparable to that of a national consumer competition. In one 1974 promotion, the prizes in a competition open only to dealers who ordered 12 Avon radials, included five-day holidays in Germany, with tickets to watch World Cup football matches, as well as 60 portable TV sets and 300 transistor radios.

### Truth in advertising

Although advertising standards are controlled both by the law and by a voluntary industry code of practice, neither provides particularly useful criteria for evaluating advertisements. The law, on the whole, deals mainly with misleading advertising which results in financial or other loss to the consumer. While the industry's regulatory body, the Advertising Standards Authority Ltd. (ASA) is concerned mostly with very general requirements. Its code, for example, requires advertisements to be 'legal, decent, honest and truthful' — and that they be prepared 'with a sense of responsibility. . . .'

Although this code appears to be comprehensive, there are grounds for serious criticism of the way in which the ASA has interpreted and enforced it (see *Social Audit*, No. 1 and No. 5). It was not, therefore, thought appropriate to refer to the ASA for authoritative guidance during this enquiry. However, the ASA code of practice is referred to in describing Avon advertising.

Avon's tyre advertising places an almost exclusive emphasis

on the Avon first-life models rather than on the Henley brand, or on remoulds, and has concentrated on 'image building' rather than 'hard sell'. Like tyre advertising in general, Avon's advertisements contain little of the hard information the consumer might need in order to evaluate different brands (see p. 56). Instead, Avon advertisements suggest that their tyres can be relied on because, for example, they perform well in motor sport — or because some models are fitted as original equipment on a number of very expensive, high-performance cars.

Avon's tyre advertisements frequently rely heavily on 'puff' — claims of superior quality which are so generalised that they can neither be substantiated nor disproved. The law effectively allows 'puff', while the ASA permits it when (a) the claims made do not 'create a false impression' which can be disproved, or (b) when it involves 'obvious hyperbole which is intended to attract attention or amuse . . . provided that it is not likely to be taken as a positive claim to superior or superlative status'. The following examples illustrate the use of 'puff' in Avon's advertising:

#### Claim and source

'What makes our tyres better than everybody else's? Everybody else's.' (Avon leaflet, 1971, found in current use.)

#### Comment

This advertisement claims that Avon produces a better tyre than its competitors, but does not specify *which* model or brand of tyre; nor does it define what it means by the word 'better'. During this enquiry Avon Tyres maintained that their tyres showed better wet grip performance than other brands but suggested that they were not out of the ordinary in their mileage performance.

#### Claim and source

'Outstanding for stability, control, wet grip and mileage.' (Avon leaflet, 1972, in current use.)

#### Comment

When asked about this advertisement, the Managing Director of Avon Tyres admitted that it was unrealistic to claim outstanding performance for all these characteristics, as one characteristic can usually be enhanced only at the expense of another.

#### Claim and source

'Britain's finest tyre and battery service.' (Current Motorway slogan.)

#### Comment

This claim — one of countless of its kind — would almost certainly be allowed by the Advertising Standards Authority as 'obvious hyperbole . . . not likely to be taken as a positive claim to superior or superlative status'. The advertisement provoked an interesting exchange on the value of 'puff' between PIRC and the Managing Director of Motorway:

**Motorway:** '. . . "Britain's finest tyre and battery service" — which has obviously got to be open to doubt by all our competitors, hasn't it? National Tyre Service will say they are Britain's biggest and because we can't say "biggest", we'll say "finest".'

**PIRC:** 'Is it meaningful to say you are the finest?'

**Motorway:** 'We think so.'

**PIRC:** 'Because . . . ?'

**Motorway:** 'We're good people.'

**PIRC:** 'The finest?'

**Motorway:** 'I think we are. . . .'

**PIRC:** 'Do you want that message to be taken at face value by consumers?'

**Motorway:** 'Well we wouldn't say it if we didn't. . . .'

**PIRC:** 'Do you want that information to be taken very seriously?'

**Motorway:** 'Well, I think obviously anyone wants anything they say to be taken seriously — otherwise you wouldn't bother to say it, would you? But if you mean by that, do I expect everyone to believe it, the answer is of course not — because people don't believe everything that advertisers say. . . .'

To summarise: 'puff' is no use as advertising unless it is likely to be believed; but 'puff' which is likely to be believed would — in theory — be considered by the ASA to be against the consumer's interests.

Copies of all recent Avon advertising — involving more than a hundred different themes or products — were examined during this enquiry. These were often imaginative and well-designed and, though they rarely contained much specific useful information, they were not, on the whole, thought misleading. However, ten advertisements were queried on grounds of factual accuracy or possible violations of the voluntary advertising code. These mostly involved minor, but significant, points — some of which are described here.

For example, while we considered the Avon Safety Wheel to be an important and valuable innovation, the advertising campaign used to launch it did appear to have exaggerated its potential value to individual consumers. Quite apart from the emotive tone of the advertisements (e.g. 'danger', 'lethal', 'death trap', 'fatal') two specific points were considered misleading.

The first of these concerned an advertisement which claimed that: 'A recently completed 3-year survey showed that one-in-six injury accidents on the M1 and M4 motorways was the result of a burst tyre'. This survey, in fact, clearly showed that the incidence of such accidents involving cars (as opposed to two-wheeled vehicles) was one-in-ten. In addition, the same survey also suggested that by driving on first-life tyres, properly maintained, the chances of an accident would be a good deal lower than this.

The same advertising campaign also stressed the fact that

one company — the Access credit card organisation — had been so impressed by the Safety Wheel that it had fitted it on its fleet of Company cars. What was not made clear in the advertisements was that the use of the Access name was part of a joint promotion campaign by Avon and Access. Access had, in fact, borne part of the cost of Safety Wheel advertisements which mentioned its name, and members of the public who asked Avon for information about the Safety Wheel were also sent Access application forms. If commercial considerations — such as the prospect of a major joint promotion with Avon — had influenced Access' decision to buy these wheels, this was not hinted at in Avon's advertising.

Some of the advertising which followed the Avon Motor Tours of 1973 and 1974 were also thought to have been questionable. These advertisements stressed that a high proportion of entrants — said to be 'given a free choice' — drove on Avon tyres. It was established that entrants did have a free choice, but would be liable to receive a cash bonus from the organisers if they came in on Avon tyres. In addition, one advertisement stressed that a certain proportion of those who completed the tour were using Avon tyres — clearly implying this to be a significant achievement. In fact, the proportion of those who finished the tour on Avons was not significantly different from the proportion who started out on them.

While these misrepresentations may not have seriously misled consumers they nevertheless represented an unjustifiable — if minor — effort to represent Avon products more favourably than they merited. Consumers — and probably the image of the Company — would hopefully benefit more from advertising which honestly described the strengths and weaknesses of the products involved.

The tyres shown in our picture are all victims of the Avon research and development department.

A lot of them, needless to say, are Avon tyres.

But a surprising number belong to our main rivals.

And they're there because we believe that one of the most important stages in developing better tyres is to examine the competition.

To find out just how good they are.

To find out exactly what we've

got to do to improve on them.

How we go about it can hardly be described as kid glove treatment.

We cut them to pieces. We analyse them with chemicals. We put them under heavy loads and high pressure.

And we run them into the ground on test cars, to see how they react to tight cornering, sudden braking, skidding, fast acceleration and long periods at very high speeds.

So much punishment, in fact, we can wear out even a set of radials in as little as

9,000 miles.

It's tough, but it's useful. When we've finished with our rivals' tyres, we know just what we've got to do to make ours better still.

And that's when we really turn on the works.

If we give our rivals' tyres a rough ride at Avon, it's a joy ride compared with the treatment we give our own.

Every new tyre we develop has to be put mercilessly through its paces.

We use a lot of different techniques for testing and analysis. Everything from mileage

apparatus to electro-magnetic vibration machines.

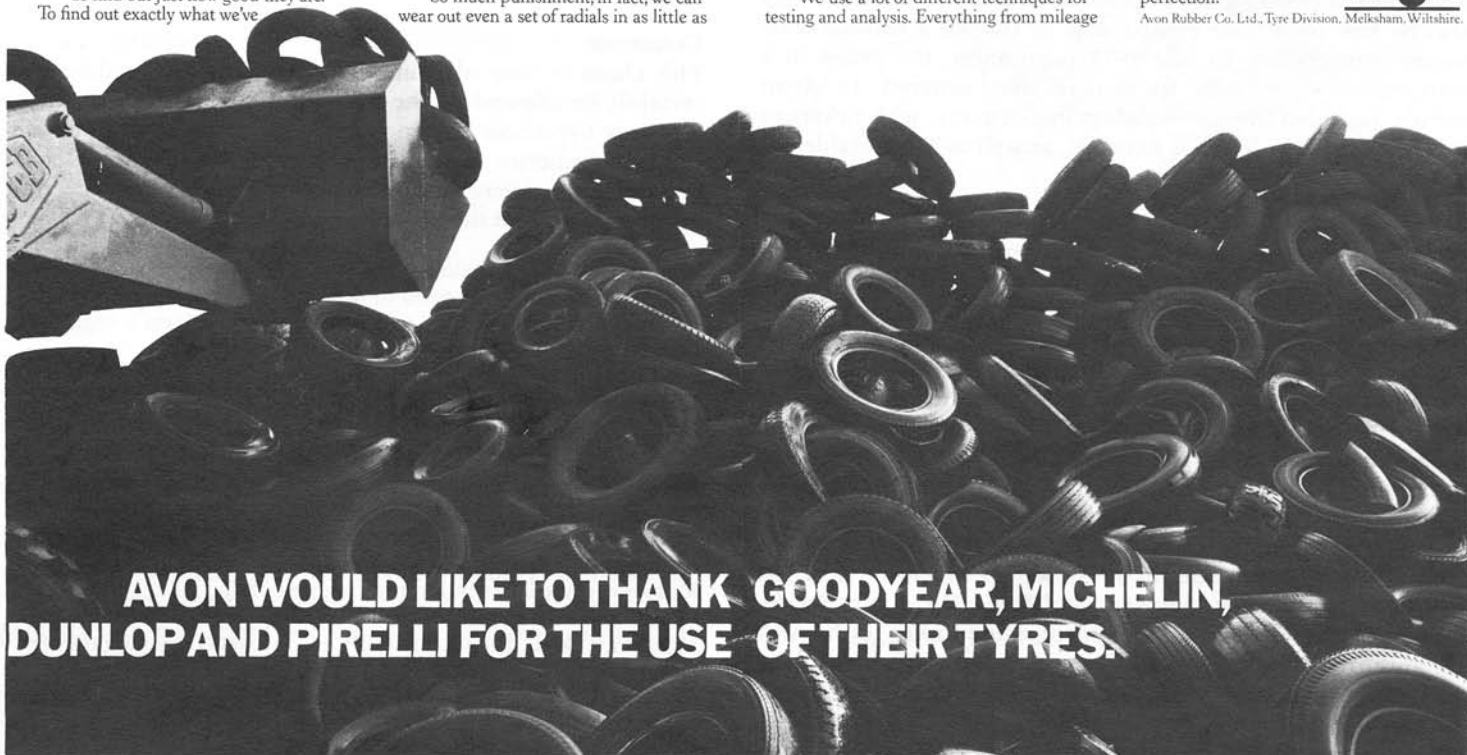
A lot of them are our own inventions. And as well as having our own research and development department, we're involved in projects with various universities and have regular use of their computers and specialised equipment.

It takes time. It costs money.

But it's the only way we can keep travelling down the road to perfection.

**AVON**

Avon Rubber Co. Ltd., Tyre Division, Melksham, Wiltshire.



**AVON WOULD LIKE TO THANK GOODYEAR, MICHELIN, DUNLOP AND PIRELLI FOR THE USE OF THEIR TYRES.**



# Government and military contracting

This account of Avon's business with government has been included not only because of its significance for the Company and its employees — but also because government procurement — i.e. the expenditure of public money — is clearly a matter of public concern.

There was a further, specific reason for reporting on Avon's involvement in military contracting. There are church, charitable and other bodies, and some individuals, whose policy it is not to invest in firms known to be involved in the manufacture of arms. A brief account of Avon's military involvement has been included here with these interests in mind.

The account which follows describes the involvement of the Avon companies with government generally; but it concentrates on the situation at Medicals, where the business is underpinned by contracts from the Department of Health. The whole account is based on relatively limited information; for contracting was considered by Avon to be a commercially sensitive area.

## Military contracting

AIP at Bradford is responsible for the large majority of military work undertaken in the Group. The other Avon companies are typically involved only to the extent that they can and do supply for military use the goods they produce anyway for general sale. (Minor product modifications may be involved in such cases; for instance, the trim or colour of inflatable boats sold for military use would be appropriately unsporting.)

Almost all of Bradford's military work was said to be accounted for by four main contracts — for Navy swimsuits, track pads and road wheels for tanks, and oxygen masks for aircrew. Each of these contracts was valued in the range £10,000-£100,000, though orders worth over £100,000 had been received. In addition, AIP is known to make a variety of other components for fighting vehicles, and to have made rubber bullets for the army. The Company was not prepared to discuss work in other military areas, though said it had not been involved in the manufacture of weaponry as such.

There were no Company or Group guidelines on military contracting, but it was suggested Avon would seek to work in this field provided: (a) it involved the use of existing skills (b) it was commercially advantageous to do so and (c) it involved no appreciable risk to employees. It was said that the Group would 'think very seriously' before undertaking work considered to be morally objectionable — but it proved impossible to establish what would or would not be considered acceptable.

In the past, the Avon main board has never consciously decided to undertake, or turn down, any military contract on moral grounds.

There was reported to have been no pressure from employees to desist from military work; however the Company did come under pressure from outside when they were manufacturing rubber bullets.

It was said to be part of Group policy not to seek military contracts with governments overseas. Inflatables — the only company said to be involved in overseas government contracts — emphasised that it didn't go looking for military work at all. Nevertheless, the Company has advertised in the British Defence Equipment Catalogue, which is specifically designed to promote sales abroad. The Company said it had sold boats to the Canadian Army and to Norway, Denmark and other NATO countries. And it was learned from other sources that it had also contracted to supply 350 army patrol boats to the Government of Zaire.

## Contracting and Competition

Government contracting generally has been an important part of Avon's business. It has accounted for about half of the turnover at Medicals; between 8-10 per cent at AIP, Bradford; and 5-10 per cent at Inflatables, on UK contracts only. Government contracting is less important on the tyre side — accounting for an estimated 2 per cent of the business — and is of negligible importance for Motorway.

This report deals mainly with contracting at Medicals, but general enquiries were made at other companies, in particular about the nature of any agreements on tendering prices between Avon and other companies. Under UK law it is not necessarily illegal to participate in collusive tendering (depending on the nature of the agreement) but under Restrictive Practices legislation the failure to register such agreements invariably is illegal.

While it seemed reasonable to seek evidence of any involvement by Avon in any registrable agreement, it could not be expected that information relating to such matters would be readily disclosed — or that this enquiry could establish for certain that Avon either had, or had not, been involved in such agreements in the recent past. Nevertheless, some information was obtained about an agreement between Avon Bridgend and Dunlop, which might be considered 'registrable' (see p. 8).

Although it was maintained that no Avon company was party to any registered agreement, reference should be made to Avon's unlawful involvement in an agreement — as a member of the Mileage Conference Group of the Tyre Manufacturers' Conference Ltd.<sup>1</sup> — certainly from the late 1950s to the mid-1960s, and very possibly for some time before.

Though this agreement was judged by the Restrictive Practices Court, in 1961, to be contrary to the public interest in all its restrictions, Avon and the other companies effectively continued to operate it until 1965. The agreement was then ended, and each company involved fined £10,000 for contempt of court for failing to honour the undertaking to desist given in 1961.

This judgement is worth recalling here, because of the emphasis it laid on the need for those with ultimate responsibility to ensure that all staff were properly informed about a company's obligations in law:

'We have had no evidence of any adequate instructions on behalf of any of the companies to their employees who had the responsibility of dealing with the mileage contract business as to the necessity of ensuring that the undertakings were not infringed, nor as to the duty of reporting to anyone at a higher level if doubts or questions should arise affecting the undertakings. We have had no sufficient evidence of any continuing supervision, or, indeed, of any realisation that such supervision was required. No single document has been produced by any of the respondents to show that they ever considered at board or higher managerial level, the obligations involved in their undertakings. . . .'

In the course of this enquiry, requests were made for information about any instruction or guideline provided for the use of employees concerned with tendering. No Avon company produced evidence of any formal, standing instruction or guideline issued to employees concerned with tendering; but all stated that the pricing of contracts, and the fixing of minimum bid levels, was done under supervision.

## Contracting at Medicals

Particular attention has been paid to the arrangements made for contracting at Avon Medicals because (i) a large volume of business is involved (ii) Medicals has been in competition with

<sup>1</sup> The Mileage Conference Group involved Avon, Dunlop, Firestone, Goodyear, India, Michelin, Pirelli and Uniroyal — and the agreements between them related to contracts in which the supplier offered to keep fleet vehicles adequately tyred, in return for payment of an agreed amount for every mile the vehicles ran. These contracts were frequently negotiated with local authorities for public transport systems.

only one other firm; and (iii) the relationship between Medicals and their principal customer, the Department of Health and Social Security (DHSS), has been unusual — in that several factors other than the bid price have determined what contracts have been placed.

Avon Medicals' business with the DHSS has been worth in the region of £1m. a year, so the Department's custom has been vital to them. On the other hand, the DHSS depends heavily on Avon Medicals. There are only two UK suppliers of disposable blood administration sets — equipment used extensively throughout the National Health Service (NHS) — and the Department has effectively to contract with both. No doubt the DHSS would prefer to be in a position to turn to several suppliers; but certainly it would be very anxious to avoid having to rely on only one, as this would force it to buy in a monopolised market, and perhaps pay heavily for doing so. It would also mean that the DHSS had no guaranteed continuity of supply. With only one supplier, an event such as a major industrial dispute, a withdrawal from the market, or a fire, could leave the NHS without equipment it vitally needed.

Under these circumstances, Avon Medicals can be very confident of getting business with the Department — and its main concern is not so much over securing contracts, but with securing bigger contracts, and a bigger share of the market. It has done this not so much by competing on price, as by influencing demand at hospital level. The Company has seven field representatives (some ex-nurses; others with the appropriate training) who visit hospitals to demonstrate the equipment in use, and to encourage doctors and senior medical staff to take samples of it, on approval. If the representatives succeed in persuading these staff to order Avon Medicals' equipment (and the difference between the equipment made by Avon and its competitors would appear to be relatively small) then this demand will be felt at the central supply level, and Avon will be asked to supply more sets in the future.

The process of tendering with the DHSS does not therefore revolve around the bid price: once a design has been agreed between Avon and the DHSS, the Department asks Avon to quote a price for supplying a certain number of sets. In the past, the DHSS has reportedly not asked for detailed information about the breakdown of the prices quoted; and, according to the Company, its main concern has been to see that prices do not fall right out of line.

It was suggested that the prices quoted by Avon were probably fairly close to those of the competition; and also that there would be some incentive for the Company to keep prices lower than the competition, because this could encourage additional purchasing by the DHSS.

### Open and negotiated contracts

In open competition, the supplier will usually put in the highest bid he believes will be accepted, while in negotiated contracts, special arrangements are applied. (The arrangements follow an agreement between the CBI and the Treasury, published in 1968, which provides (i) for equality of information about costings between the purchasing department and the supplier; and (ii) for the use of an appropriate formula for the calculation of profit. The profit allowed in such contracts is determined from time to time by review: the CBI/Treasury agreement provides that it should represent a 'fair return on capital employed'; and this has been taken to mean a return 'equal, on average, to the overall return earned by British industry in recent years'.)

**Avon Medicals would appear to have been involved neither in true open competition, nor in straightforward negotiated contract work. Its policy seems to have been to tender at the highest prices it thought the DHSS would accept, and to set those prices not by negotiation — in any strict sense of that term — but after informal discussions with Department officials.**

These discussions would seem mainly to have given Avon

the opportunity to test the DHSS's reaction to the prices Avon proposed to submit. The marketing manager said that, in nine cases out of ten, no response had been given on such occasions: 'it's a blank wall'. And he suggested that some response was openly given only when the proposed price was considered high: 'if they faint, you know. . . .'

Few details were given either of the costing methods employed, or of the precise significance of the discussions that were held before prices were formally submitted. But, clearly, Medicals has regarded these discussions not so much as a forum for negotiation, but as opportunities for selling. Medicals maintained that, on the basis of these discussions, it was usually possible to know whether a price would be acceptable or not. When asked what indications would be given, the Marketing Manager explained: '... it's a long, involved process of learning how to sell. I suppose . . . you could watch loads of films on it if you want, rather than me giving you a lecture on how you sell something to somebody. . . . I don't know. Well, I do know: it's posture, it's facial expression, it's movement, it's words, it's how people say words. It's many things, but it all builds up a picture of whether you know what you're saying makes sense or not.'

At the same time, the Marketing Manager claimed that the Company normally held its prices as low as they reasonably could. It did so, he explained, because it needed big volume business — even though the contracts involved were 'at the bottom of what we consider to be a reasonable profit margin'. Reference has already been made (see p. 8) to the fact that the Company has shown unusually high profits, overall — though no information was obtained about the profitability of this, major part of the business. It is, however, relevant to note that the Marketing Manager said he would probably tell the DHSS 'to stuff it', if they complained that the Company was charging too much. He said he would do this because, in most cases, their profit margins on government business had been so low. Nevertheless, this remark may also give some indication of Avon's bargaining strength, and of the way in which it has used it.

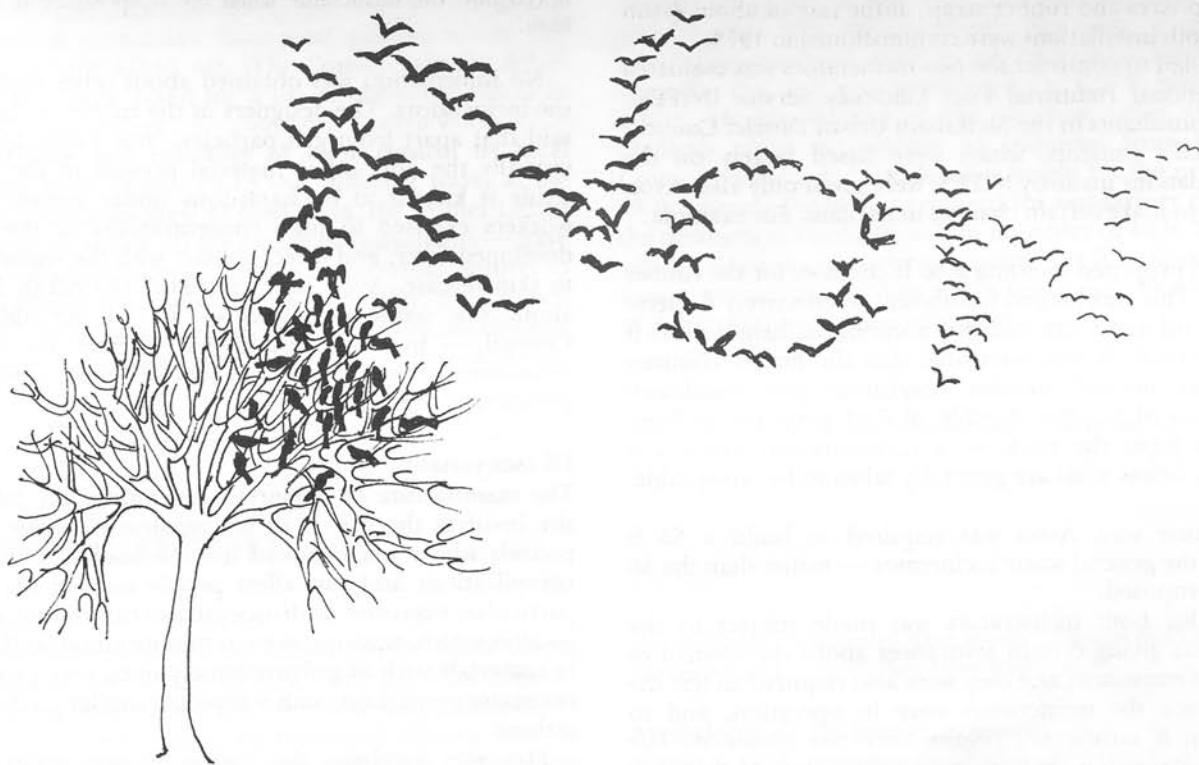
### Discussion

It would have taken a prolonged major investigation, with unlimited access to all relevant information, to have established precisely how Avon companies have conducted their tendering business. Though this was not possible, the opportunity to make general enquiries did, at least, establish what basic steps had been taken to ensure that all companies operated within the requirements of the law.

No company in the Group appeared to have issued clear instructions to employees, explaining what was acceptable practice, and what not. The Chief Executive at Bridgend suggested that it was the responsibility of the individual employee to acquaint himself or herself with legal requirements — and the same beliefs may well prevail elsewhere. In the light of the criticism made by the Restrictive Practices Court, in 1965 — that Avon, among other companies, had failed to ensure that staff involved in tendering were aware of their legal obligations — these arrangements would not seem at all adequate.

There appeared also to be grounds for serious criticism of the arrangements between Avon Medicals and the Department of Health and Social Security — not because of any impropriety on the part of the Company, but because of the license the DHSS appeared to have allowed them. The present arrangements would appear to be extremely unsatisfactory — from the public's point of view — in that, in tendering, the Company is subject neither to the rigour of open competition, nor to that of straightforward negotiation. Though no hard information was given about the profit margins in this business, it is alarming to suppose that control over the expenditure of public money is such as to have allowed Avon, in effect, to sell its prices to the DHSS, as well as its products.

# Air Pollution



This report examines:

- the sources of air pollution in Avon factories;
- levels of emissions and the concentrations and effects of resulting pollutants in the surroundings;
- action taken by Avon companies to prevent nuisance or hazard and to meet their statutory obligations.

## Boilers

Emissions to the air from Avon factories come mainly from the boilers used to raise steam for process or factory heating, and from the extraction systems used to remove fumes and dusts from the factory air. In addition, two incinerators are used at Melksham for the destruction of rubber and factory wastes; and one special process is registered with the Alkali Inspectorate, the government air pollution agency.

However, despite a written request from the Company, the Alkali Inspectorate was not prepared to provide PIRC with an interview or with any information, though such facilities were provided by local authorities and other government departments. In addition, no information was obtained about installations at the Bradford factory as management was unable to provide an interview.

Emissions from boilers contain smoke and sulphur dioxide, potentially harmful pollutants which can lead to respiratory disease. Boiler emissions are controlled by local authorities under the Clean Air Acts of 1956 and 1968. These laws require that (i) no dark smoke is emitted, except in special, limited circumstances; (ii) all new boilers must be capable of operating smokelessly, and must be fitted with approved grit and dust control equipment; and (iii) the height of the boiler chimney used to disperse emissions must be approved by the local authority as sufficient to prevent hazard or nuisance.

The boiler installed by Avon Medicals in 1974 was commissioned without the City of Birmingham District Council being notified (apparently in breach of the 1956 Clean Air Act); and without the approval of the Authority for the height of the chimney (an offence under the 1968 Clean Air Act).

All other installations at Avon factories had been approved, although the boilers at Inflatables, and some of the boilers at

Melksham, were installed before the present guidelines on chimney heights came into force — and the heights of their chimneys would probably now be considered inadequate. (No information was obtained from Bradford, either from the Company, or from the local authority. The newly-formed West Wiltshire District Council said they could not comment on the situation, as the former Bradford RDC — which was phased-out with the reorganisation of local government in 1974 — had either not maintained, or not passed on, any files on this factory.)

Of the several boiler installations at Avon plants, two were found to have been the subject of complaints — though not in the recent past. Over the period 1969-1971 the Public Health Inspector at Bridgend complained to the Company on several occasions about 'the frequency of the discharge of black smoke' from a newly installed boiler. Various attempts were made during this period to modify the installation and it is believed that, since 1971, the boiler has operated without causing undue dark smoke. In the past there were also complaints about soot fallout from two of the boilers at Melksham. This problem arose when the boilers were being cleaned under high-pressure steam which removed soot and other solid deposits. The problem was overcome by 'soot-blowing' on the main boiler in the middle of the night (when most washing had been taken in off the line) and by avoiding the process altogether on the smaller, older boiler — and using a chemical additive in the fuel, which prevented soot formation.

It was not possible to establish how emissions from Avon plants may have contributed to background pollution in different communities. Local authority monitoring of smoke and sulphur dioxide levels was begun in Melksham only in 1975; and the first results were said to show that levels of these pollutants were 'exceptionally low'. Some monitoring had also been carried out near Inflatables and Medicals (where the factory is situated in a designated smoke control area) but the sampling sites were, in each case, at least a mile or two from the Avon plant — and in both cases there were many other nearby sources of pollution as well. No monitoring has been carried out at Bridgend, where the plant is on an industrial estate, well outside the town.

## Incinerators

There are two incinerators on the Melksham site. One burns general factory waste (up to  $\frac{3}{4}$ -ton per hour) and the other burns scrap tyres and rubber scrap, at the rate of about  $\frac{1}{2}$ -ton an hour. Both installations were commissioned in 1973.

Avon's plan to construct the two incinerators was evaluated by the National Industrial Fuel Efficiency Service (NIFES), acting as consultants to the Melksham Urban District Council. The Council's consents, which were based largely on the recommendations made by NIFES, were given only after Avon had agreed to make certain changes in its plans. For example:

- Avon had proposed building a 50 ft chimney for the rubber incinerator. This was judged insufficient to effectively disperse pollutants, and Avon was told that a minimum height of 65 ft would be needed. It was calculated that the higher chimney would under normal weather conditions give maximum concentrations of sulphur dioxide of 0.41 parts per million, some 600 ft from the stack — a concentration which was considerably below what are generally taken to be 'acceptable' levels.
- In the same way, Avon was required to build a 65 ft chimney on the general waste incinerator — rather than the 50 ft chimney proposed.
- Consent for both incinerators was made subject to the manufacturers giving certain assurances about the control of grit and dust emissions; and they were also required to test the emissions once the incinerators were in operation, and to modify them if satisfactory results were not obtained. The initial tests carried out on both incinerators showed that they were — at least at the time of testing — within the required limits:

Results of initial tests on emissions of solids from incinerators

	Standard	Test 1	Test 2
Factory Waste Incinerator	0.2 gr./cu.ft. (s.t.p.)	0.066	0.073
Rubber Incinerator	9.5 lbs/hr.	1.81	not supplied

These and other requirements were made to ensure that, among other things, both furnaces would 'give smoke and odour-free combustion when operated to manufacturers' instructions'. In the event, however, there have been problems with smoke and other emissions from both incinerators:

- The rubber scrap incinerator caused problems with smoke emissions shortly after it was commissioned. These were attributed to charging the furnace too rapidly, and the Company maintained that this problem had since been overcome.
- On several occasions, the factory waste incinerator has emitted dark smoke, because rubber scrap has been burned along with general waste. Rubber and other wastes are collected in separate containers, but the Company has said it considers it impractical to examine the contents of each load delivered to the incinerator.
- Both the Company and the Council have received complaints about both incinerators. According to the Council, under certain weather conditions, the plume from the incinerator chimneys drifts at ground level — sometimes in the direction of an infants' school about 200 yards away, where it has proved to be a nuisance. The Company has attributed this to inadequate control by new operators. The Head of the school informed us that at times 'the whole school is bathed in a blue haze of fumes, which are quite pungent and appear to give a dry feeling in the throat in addition to an obnoxious smell'. The school has also been affected by black smoke from the incinerators and although these emissions are said to have improved since late 1974, on one occasion since then 'the whole school (was) deluged in a black cloud of smoke'. She added that the school's relationship with Avon had 'always been excellent' and that their complaints 'have always been courteously received and given immediate attention, whenever possible'.

- Avon office staff have complained about smell from the incinerators. This was attributed to the burning of plastic waste at inadequate temperatures; and it was said that plastic waste is now introduced into the incinerator when the temperature is appropriately high.

No information was obtained about other emissions from the incinerators. The designers of the rubber incinerator have said that apart from grit particles, 'zinc oxide appears to be virtually the only other material present in the stack'. Zinc oxide is known to be hazardous under certain conditions: workers exposed to high concentrations of the fume have developed fever, and direct contact with the material can lead to skin disease. Avon have consulted the Alkali Inspectorate about zinc oxide emissions — as did the old Melksham Council — but it is not known whether the Inspectorate recommended any action, nor whether these emissions could present any hazard.

## Di-isocyanates

The manufacture of polyurethane castings on the Melksham site involves the use of di-isocyanates — highly toxic compounds whose uncontrolled use can lead to serious medical complications and can affect people outside the factory. In particular, exposure to di-isocyanates can induce sensitisation — after which exposure even to minute amounts (for example, in materials such as polyurethane paints) may produce severe respiratory irritation, with symptoms similar to those in acute asthma.

Processes involving the use of di-isocyanates have been under the control of the Alkali Inspectorate since 1971. However, the process at Melksham was not registered with the Alkali Inspectorate until 1973 — possibly because of uncertainty as to whether the process used at Melksham could be legally classed as a registrable process.

According to the Company, the Alkali Inspector has visited the Melksham factory fairly frequently though he has always given notice in advance of his visits. The Inspectorate has required Avon to vent exhaust air from the factory building through a ten foot stack — rather than through the 3-4 foot stack that had been installed. However, no further detailed information was supplied. Avon said it had monitored di-isocyanate levels inside the factory; but did not supply details of the results. Neither did the Company supply details of the monitoring of stack gases carried out by the Alkali Inspector, though it had received copies of all his results and maintained that these were all within the Inspectorate's limits.

However, at the time of this enquiry, the Alkali Inspectorate had not finally decided what standards or methods of emission control would be required from di-isocyanate works — and has stated it 'must still depend on adequate air dilution and dispersal from high chimneys'. (Chief Alkali Inspector's annual report, 1974.)

## Discussion

In general, emissions from Avon factories do not appear to have caused significant nuisance or health hazard. The one major exception to this occurred in Melksham, where fumes and smoke from the incinerators appear to have been very troublesome nearby.

The absence of other serious and persistent complaints would, in part, explain why the monitoring of emissions from Avon factories — both by the companies and by the local authorities — has been very limited indeed. The one exception appears to be the Alkali Inspectorate's monitoring of di-isocyanate emissions at Melksham — though no details of the frequency of sampling, or of the results, were supplied. The availability of information about atmospheric emissions from local authorities appeared to have been badly affected by the reorganisation of local government in 1974. It has already

been stated that the new West Wiltshire District Council had no information about Bradford, because it had received none from the old Bradford RDC. In addition, the West Wiltshire DC was found to be unaware of the fact that the Melksham plant operated a potentially hazardous process which was controlled under the Alkali Act. (The Council said the Alkali Inspectorate had been asked for a list of registered works in the area, but had told them only about one cement works.)

The importance and relevance of close control by local authorities has been illustrated in two different ways, at the Melksham and Medicals sites. At Melksham, the former Urban District Council — acting on the advice of consultants — gave its consent to the operation of the two incinerators, subject to a number of important conditions. In particular, the Council required that Avon increase the height of the incinerator chimneys from the proposed level of 50 ft to 65 ft — and this,

no doubt, saved the Company and the community from what might otherwise have been serious pollution problems.

In Birmingham, Avon Medicals installed its boiler without first getting approval from the local authority, as the Clean Air Acts require. The upshot of this has been, first, that the installation has been built to an inadequate standard and, secondly, that it is now considered too late to take remedial action. Having learned of the situation (after visiting the Medicals plant in response to enquiries from PIRC) the Council concluded: 'The chimney height for the new boiler is 28 ft, whereas the height required for satisfactory dispersal of the products of combustion is in the order of 40 ft. This matter will be taken up with the company, but it is doubtful if any formal action can be taken at this late stage'. The implications of this require no further comment.

## River Pollution

### Introduction

People sometimes fish from the banks of the River Avon, across from Avon's Melksham factory. Their presence suggests there is no gross water pollution — but it also disguises the fact that the problems caused by industrial effluent may be serious, yet subtle in both their cause and effect. Thus, most effluent from the Melksham plant is discharged not into the river, but into the sewers, where it accounts for about 10 per cent of the load treated at the local sewage works. In 1973, the overloading of the Melksham sewage works led to such a deterioration in the quality of their treated effluent returned to the river, that the local authority was obliged to refuse planning permission for any new developments in the area.

The situation at Melksham is not untypical in that most industrial effluent (about 70 per cent) is discharged into sewers; and that overloading of sewage works is the main reason why 60 per cent of their treated effluent fails to meet desirable quality standards. Some industrial effluent is also discharged directly into rivers and estuaries; and about one-half of these discharges fail to meet the required quality standards.

Until the reorganisation of local government in 1974, responsibility for the control of industrial discharges was shared by local authorities and river authorities. Local authorities were responsible for discharges to sewers; while river authorities controlled the quality of discharges into rivers, whether from sewage works or direct from industry. However, since 1 April 1974, both duties have been taken over by the new regional water authorities, who control industrial discharges by issuing 'consents', to which conditions regulating the quality and quantity of effluent may be attached.

Water authority consents may impose maximum permissible concentrations on the levels of any discharge, including:

- **Biochemical Oxygen Demand (BOD) or Chemical Oxygen Demand (COD)** — both are measures of the amount of oxygen needed to break down the degradable material in a discharge.
- **Suspended solids** — a measure of the solids in a discharge which, if not removed, may be deposited in a river, forming banks of sludge.
- **pH** — a measure of the acidity or alkalinity of a discharge. pH is measured on a scale from 0-14: a pH of 7 is neutral, while levels below 7 indicate acidity, and above 7 alkalinity.
- **Chemicals and heavy metals** — such as cyanide or chromium and zinc, which are directly toxic to living organisms.

This report identifies the major sources of river pollution within the Avon Group; and it examines the various attempts

the different companies have made to avoid pollution, and the successes and failures they have had.

### Melksham — discharges to sewers

Under a 1955 agreement with the old Melksham Urban District Council, Avon has been permitted to discharge up to 130,000 gallons of effluent into the sewers each day. The effluent from the Melksham site has contained acids from chlorination and metal cleaning processes, as well as contaminated water used to remove polluting gases produced by the Company's two incinerators.

The Wessex Water Authority — which took over responsibility for the sewers from the old council — has stated that this agreement is unsatisfactory, in that:

- **The Authority has only limited control over discharges.** The agreement, for example, contains no limit on the concentration of heavy metals discharged, though these may destroy the organisms used to break down sewage.
- **These arrangements apparently cannot be varied or terminated by the Authority.** Unlike normal consents, this document requires the Company's agreement before standards can be improved. The Authority is empowered only to change the charge made for treatment. This was last done in 1970, and has since stood at £650 per year — which is less than the actual cost of treatment. However, the character of the effluent has changed since 1955 and grounds may now exist for changing the agreement.

The Wessex Water Authority has nevertheless indicated it is 'fairly satisfied' with the quality of effluent from the Melksham site. The concentration of suspended solids and the level of the pH have both been within the limits — and, although the BOD level has been above the agreed limit, the limit itself is on the low side and well below the levels the Authority would normally accept in an industrial discharge. In addition, the concentrations of substances for which no limits have been set have also been acceptably low — though heavy metal concentrations, taken together, have been very close to the upper limits that would normally be imposed in a consent, mainly because of concentrations of zinc, which have been recorded at levels twice as high as would normally be allowed. See Table 1.

Early in 1975, Avon applied to the Water Authority for consent for two new discharges from processes transferred to Melksham from the old AIP factory in Birmingham, which had been closed down the year before. The effluent discharged

**Table 1. Results of sampling of trade effluent discharged into sewers from the Melksham factory, February-August 1975**

Parameter	Limit imposed (parts per million, unless indicated)	Range of samples
Volume	130,000 galls/day	Not metered
pH	6-10pH	7.9-8.5pH
BOD	120	9-192
COD		20-444
Phenols		1.5- 29
PO <sub>4</sub>		<0.05- 30
NH <sub>4</sub>		0.9- 25
Suspended solids	200	0-156
Total trace metals		1.3- 21
Zinc		0.2- 20

from one of these processes, in particular, had been found in Birmingham to be extremely polluting and on one occasion had been twelve times above the permitted solids level. The Wessex Water Authority informed the Company that 'such discharges from the plant at Melksham will not be acceptable'. At the time of this enquiry, no consent levels had been fixed for the new discharges, and it was not known whether the new processes were operating at the time that the samples shown in Table 1 were taken.

### Melksham — discharges to rivers

The stretch of the River Avon which runs past the plant at Melksham was described by the River Authority in 1973 as 'the most heavily effluent loaded reach of the whole fresh water length'; and it is classified on the national scale as 'Class 2', that is, of 'doubtful quality and needing improvement'.

The Melksham factory extracts 8 million gallons of water from the river each day. This water, used for cooling, is returned to the river — slightly warmer than it was — a little further downstream. In addition, the Company has dis-

charged effluent from the periodic clean-out of the water softening plant, as well as from the boilers, and also some process waste.

The consent controlling this discharge regulates only the volume, temperature and chlorine content of the effluent — and otherwise stipulates only that it 'shall not contain any . . . chemical reagent likely to be poisonous to fish, fish spawn or fish food'. The River Authority sampled the factory effluent on only two occasions in 1973 and 1974; and these results suggested that Avon's discharge into the river was effectively non-polluting at that time.

However, the Melksham factory has polluted the River Avon with oil. A major spillage occurred in May 1969, when an underground oil pipe burst, releasing 500 gallons of heavy fuel oil. Much of the oil was kept out of the river by Avon-improvised booms — but, although the Company organised a day-and-night cleaning-up operation, the oil affected a four-mile stretch of the river, causing damage to wildlife, vegetation and boats.

Avon accepted full responsibility for the incident and invited claims for compensation for damage; in addition, they paid the River Authority's cleaning-up bill, as is customary in such cases.

To avoid any recurrence, Avon transferred the underground oil pipes to the surface, so that any future leakage would immediately be obvious. They also installed a number of oil-interception chambers, in order to prevent the escape of any oil which might leak. Nevertheless, leaks from other sources have since occurred:

- In January 1973, kerosene leaked into a stream after a spillage at Avon's Bower Hill depot, near Melksham. The depot manager was reported to have taken immediate action as soon as he was notified; and the River Authority subsequently installed a fixed barrier at the Company's expense.
- In September 1973, heavy fuel oil leaked into the River Avon, shortly after a tanker delivery of this fuel to the Melksham site. The oil was cleared by the River Authority's emergency team, again at the Company's expense.
- In November 1973, oil again reached the river, after an oil-spill inside the factory was pumped down the nearest drain, instead of into a storage drum. This drain was found to have no interceptor chamber, and the Company agreed to instal one. No subsequent oil spills had been recorded by the Water Authority at the time of this enquiry.

Despite the several preventive measures the Company has taken, a large and sudden leak of oil could, in theory, still reach the river before being detected. In order to be able to cope, should this happen, Avon has bought its own oil booms which can be placed across the river to trap any spillage. The Water Authority's District Pollution Officer stated that Avon at Melksham was probably the only company in the area to have equipped itself with booms to contain a spillage of oil into the river should it ever occur.

### Bradford — discharges to sewers

Trade effluent from the Bradford factory was discharged into the River Avon until 1967 when the River Authority said it would no longer accept it. Though the Bradford Council agreed to take the Company's effluents into the sewers, according to the Wessex Water Authority it appeared neither to have imposed any limits on the concentrations of effluent, nor to have charged the Company for treating it. The Water Authority's own consent was issued in March 1975, at which time the Authority was also assessing what charge to make for handling and treating the effluent.

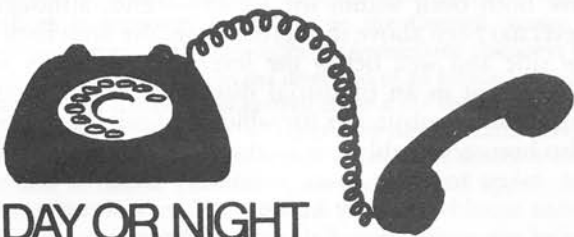
Before issuing its consent, the Water Authority carried out a series of analyses on the effluent produced in the Company's metal phosphating and rubber chlorination processes. These analyses revealed that on one occasion zinc levels had been high and on another the discharge was more acid (i.e. lower pH) than permitted. To judge from the recorded levels of SO<sub>3</sub>,

Anglers observing fish  
in distress or water  
in a polluted condition  
are asked to notify  
the

**RIVER AUTHORITY**

---

**IMMEDIATELY**



DAY OR NIGHT  
**BATH 27730**

the acid in question would probably have been sulphuric acid — a reagent used in the Bradford factory, and which, in a concentrated form, could badly attack cement and concrete installations in the sewage works and elsewhere. The result of the Water Authority's analyses, together with details of the consent conditions they subsequently imposed, are shown in Table 2.

**Table 2. Results of sampling of trade effluent discharged into sewers from the Bradford-on-Avon factory.**

(Results of 9 analyses between November 1974 and August 1975; together with conditions of consent issued in March 1975.)

Parameter	Limit imposed (parts per million, unless indicated)	Range of samples
pH	6-10pH	3.2-9.5pH
Temperature	43.3°C	—
Volume	100 cu.m/day	—
BOD	—	4-70
COD	—	28-432
Phenols	—	3-8
NH <sub>3</sub>	200	1.5-224
Suspended solids	400	49-220
SO <sub>3</sub>	500	21-970
Cl	—	8.4-294
Total Heavy metals	20	<1.5-12.1
Zinc	10	0.4-10.5

### Bradford — discharges to rivers

Outlets from the Bradford factory discharge into the River Avon, carrying rain and surface water, cooling water — some of it probably contaminated after contact with hot rubber — and effluent produced after the periodic 'blow-down' of the boilers.

These discharges are made under a consent issued by the River Authority in 1967. This consent defined the minimum permitted effluent quality, by reference to several different parameters. However, the Water Authority has not monitored the quality of the discharges from the Bradford plant.

Monitoring has been carried out both up and downstream of the Bradford plant, where the river is described as being of Class 2 quality, as at Melksham. The results of this monitoring suggested that there was little change in the quality of the river after the Avon factory, and this was confirmed by the Water Authority's District Pollution Officer who stated that the effluent from the Bradford and Melksham factories 'does not greatly affect river quality'.

It has been a condition of the 1967 consent that effluent from the Bradford factory discharged into the river 'shall contain no visible oil or grease'. **Nevertheless, oil leaks from the Bradford factory have until fairly recently given cause for some concern.** Some 6 months before issuing this consent, the River Authority had requested the Company to take 'energetic action' to deal with the problem of oil leaks. In September 1970, the Authority's Divisional Inspector wrote to Avon, saying: 'Your factory is undoubtedly the source of most if not all of the oil. . . . It so happened that I was in Bradford-on-Avon on several occasions during the works annual holiday, and it was most noticeable that there was virtually complete absence of oil. Within a few days of the resumption of work, the river again had oil visible sometimes from bank to bank.'

Following this, oil leakage was traced to several sources — including the open barrels in which waste oil was stored, and an area used earlier as a dumping ground, which had become saturated with oil which then leaked out into the river. Avon took action to deal with the problem; in particular, by installing a new waste oil tank which had a retaining wall to prevent any oil escapes. However, this did not appear to have solved the problem altogether, for the River Authority wrote to the Company again in 1972, advising further modifications — and noting that it would 'not be as lenient with any further oil pollution this year, should it occur'. (The Authority objected

also to 'a constant discharge containing detergent'; this was subsequently routed to the sewer.)

The Water Authority said, at the time of this enquiry, that there had been no complaints about oil on the river for some time. They suggested that the measures the Company had taken would be adequate to deal with the oil problem — except perhaps when the river was high, when it might flood the waste tank area and carry out any oil trapped behind the retaining walls.

### Medicals

All effluent from Medicals is discharged into the sewers. The effluent consists of cooling water, waste from the Company's laboratory and animal house, and a weak solution of ethylene glycol from the equipment used to sterilise medical products.

Limits on the concentration of the effluent are contained in a consent issued by Birmingham Corporation in 1970, amended in 1972 and 1974. The discharge is monitored at monthly intervals by the Severn Trent Water Authority. See Table 3.

**Table 3. Results of sampling of Avon Medicals' discharges to sewer, March 1972 to February 1975**

Parameter	Limit imposed	Range	Mean
pH	6-12	6-9.2	7.2
Suspended solids	400 ppm	2-80	29.3
COD	600 ppm	0-5,735	507.2

Over the past three years, the discharge from Medicals has consistently been within the limits set for pH and suspended solids; however, over the same period, the COD levels have been found to exceed the consent limits on three occasions. On the most recent occasion, in August 1974, the COD level was nearly ten times the permitted level. **According to the Water Authority, the Company had been notified about these unsatisfactory results, and had investigated their cause — but had 'not acted upon (the findings) to any great degree'.**

The Water Authority has also stated it considered the volume of the discharge to be excessive. The Company's consent allows a discharge of up to 10,000 gallons/day — but, between March 1973 and March 1975, the Company's actual discharges varied between an average 26,000 and 48,000 gallons/day. (This volume has contained a certain amount of domestic water, not limited by the terms of the consent.)

Excessive volumes of discharge are an important cause of sewage works overloading. In 1975 the Severn-Trent Water Authority reported that nearly 300 of the 700 sewage works in its area were discharging unsatisfactory effluents, largely because of overloading.

Although Medicals has paid the full handling and treatment charges for this excess volume, it has not applied for an increase in the consent limit, and is therefore regarded by the Authority as 'acting illegally'. The Authority said the company had been made 'aware of the legal aspects'. (See Discussion.)

The Water Authority has also asked Medicals to examine the possibility of re-circulating its cooling water, in order to conserve water and reduce the load on the sewage works. The Company said that it had been inhibited from acting on this suggestion, because of the possibility of a build-up of bacteria in recirculated water — and the effect this would have on its high quality and hygiene standards.

### Inflatables and Bridgend

There has been no discharge of trade effluent from the Inflatables factory, as neither process nor cooling water has been used.

At Bridgend, the Company stated that no trade effluent was discharged from the factory, other than that produced after the periodic cleaning ('blow down') of the boiler. No cooling water has been discharged from the factory, as the Company has refrigerated and recirculated the water it needs.

## Discussion

The performance of the Bradford and Melksham factories has been evaluated in the light of relatively very limited information about the effluents they have discharged. The Wessex Water Authority had no information about the quality of the effluent discharged into the River Avon at Bradford; and sampling of the effluent discharged into the river at Melksham had until recently been carried out only once per year. At the same time, sampling of these companies' discharges to the sewers dated only from late 1974 (Bradford) and early 1975 (Melksham) after the new Water Authority had taken over.

This low frequency of sampling would make any comprehensive assessment impossible. Thus, the levels of zinc in the effluent both companies have discharged to the sewers have on occasions been close to or slightly above the permitted limits; while the discharge from Bradford on one occasion contained concentrated acid. However, in the absence of data derived from frequent and continuous monitoring, it would be impossible to say whether these discharges were typical — in which case they could present serious problems — or not.

More detailed results were available from the monitoring of the discharge to sewers by Avon Medicals; and these revealed a number of unacceptably high levels of certain effluents. The discharges from Medicals have been monitored by the Severn-Trent Water Authority on a monthly basis; but significantly, the Authority has acknowledged that even this frequency has not been sufficient, and may have allowed other excessive discharges to have gone unnoticed.

The Water Authority's response to Avon Medicals' occasionally very high COD discharges — and also to the Company's long-standing practice of discharging excessive volumes of effluent — was summed up by the Authority's Divisional Controller, who said: 'We are permitting them to go on discharging illegally.' The new Water Authority has notified the Company that such discharges are unsatisfactory; and has told PIRC that if they continue 'we shall take a strong line'.

The situation faced by the Wessex Water Authority, in dealing with the spillage of oil from the Avon factories at Bradford and Melksham, was rather different. For, although these

spillages were technical breaches of consent — for which both companies might have been prosecuted — prosecution was probably not contemplated, since both companies (sooner or later) took action to prevent recurrence, and accepted responsibility for the damage they had caused. (Melksham, notably, took extensive action to minimise the possibility of oil spillage; and to contain any damage should a spill accidentally occur.)

Both the old Avon Rubber factory in Birmingham (closed in 1974) and Avon Medicals have, in effect, passed their discharge problems on to the Water Authority rather than pay the proper cost of meeting the required standard. The effluent discharged by the Birmingham rubber factory into the sewers was found to be consistently far above the permitted COD level. In 1972, at the instigation of Birmingham Corporation (then the sewage authority) the Company engaged a consultant to examine the problem. He reported that the cost of treating the effluent so as to comply with the conditions of the consent, would have been £300 per week — far more than the Company had paid to discharge their effluent to the sewers which, 'with relaxation of standards' amounted to only £100-£200 per year.

The difference between these treatment costs may be largely explained by the fact that sewage treatment plants can benefit from 'economies of scale'. But it no doubt also reflects the fact that the treatment of many companies' effluents in the sewage works has been effectively subsidised from the rates. (In the past, at least, some local authorities have waived charges for handling industrial effluents, in order to encourage industry to settle in their area.)

On the evidence of this enquiry, Avon companies appeared to have benefited considerably from such arrangements. For several years, for example, the local authority at Bradford accepted the Company's effluent without charge; and a similar situation existed in the past at Bridgend. In addition, the Wessex Water Authority stated that the Melksham factory — like many other companies — was paying less than the real cost of treatment.



*A boom laid by the Wessex Water Authority to contain oil and other pollutants*



# Waste Disposal

## Introduction

This report deals mainly with the way in which Avon companies have disposed of their solid wastes; but reference is also made to the measures taken to prevent the production of waste.

The report also describes steps taken by Avon companies to reuse or dispose of old tyres. But questions relating to other disposable (i.e. non-reusable) Avon products such as the one-use blood transfusion kits made by Avon Medicals or the aerosol washers made by Bradford were felt to lie outside the scope of the report.

\* \* \*

Waste has been extremely expensive to Avon. Some idea of the size of the problem may be gathered from the fact that waste costs the Avon Group considerably more than the cost of its total energy requirement. These costs have been increased by the effect of the energy crisis on raw materials: for example, natural rubber, a vital material for a tyre manufacturer, doubled in price during 1973. Certainly, Avon have had every incentive to reduce waste — not only to reduce the quantities of raw materials they import, but also to save on the labour and overhead costs of producing unsaleable work, and to avoid the expense associated with the disposal of waste and the control of environmental hazard. The principal measures taken by Avon companies to control waste have included:

- **Monitoring levels of waste.** All Avon companies have monitored the quantity of waste produced in each department, usually on either a daily or weekly basis. As a result, (i) the real costs of producing and disposing of waste (or the income derived from its sale) have been debited (credited) to the department concerned; (ii) targets for reducing the amount of waste produced have been built into the production forecasts set for each department; and (iii) action has been taken to reduce high levels of wastage where these have been traced to particular sources, and shown to be economically avoidable.

None of the companies appeared to have run specific waste-saving campaigns aimed at employees, although Bradford's 1972/3 training survey recommended 'the display of rejects within the workshop ("a black museum") with relevant cost information'. Bradford has also invited employees' suggestions on ways of reusing large amounts of waste produced in one department; indeed, all Avon companies operate suggestion schemes which invite and reward useful suggestions from employees, including those on waste-saving. Also, the two issues of the Group publication, 'Crisis News', distributed to all Avon employees in 1974, did emphasise the savings that could be made by avoiding waste.

- **Process or product modifications.** At Bridgend, for example, the Company recently began to recycle all its cooling water; and similar measures were under consideration at Medicals, at the time of this enquiry. Considerable savings may be made by recycling water instead of buying town water — and then paying (by volume) to discharge it into the sewers.

At the time of this enquiry, Inflatables was the only company in the Group which had not included targets for reducing waste in its future production forecasts: it said that it

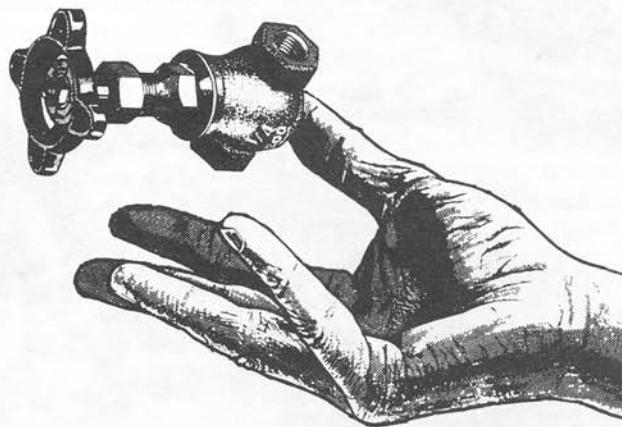
had cut the boat fabric in such a way as to give optimum technical use, rather than to make savings on waste.

- **Re-using waste.** Avon's principal waste material — rubber — can usually be re-used, provided it has not been 'cured'. On the other hand, 'cured' rubber waste (rubber which has been hardened by vulcanisation, an irreversible chemical treatment) cannot easily, and economically, be re-used.

Cured rubber waste can be reclaimed, after extensive processing; but 'reclaim' does not have the same properties as virgin rubber and, with the relatively recent development of synthetic (oil-based) rubbers, the once valuable market for 'reclaim' has steadily declined.

Clean, cured rubber waste can also be finely ground into 'crumb', and used as a filler in various rubber products. Similarly, 'buffings' — the fine rubber dust produced when old tyre-treads are ground down before retreading — can be used as a filler in rubber mixes, or used extensively in such products as carpet underlay. Bridgend has been attempting to develop 'crumb' for use on a far greater scale than has been possible up till now. The Company has also developed new forms of artificial sports surfaces made from 'buffings' which it is marketing as 'all weather' surfaces suitable for tennis, soccer or athletics.

# stop



is that really worn out ?  
avoid waste

AVON

thank you

## Disposal of scrap tyres

Melksham, Bridgend and Motorway have faced particular problems with the disposal of scrap tyres.

Until 1973, the scrap tyres which accumulated at Melksham were removed by an outside contractor and — at a considerable cost — taken to a dump near Liverpool. Since 1973, however, almost all of Melksham's scrap tyres (and rubber waste) have been burned on-site in the newly-commissioned tyre incinerator. This has resulted in savings not only in disposal costs, but also on fuel bills. By burning rubber (which has the same heat value as coal) Melksham has been able to cut its oil fuel bill by 10 per cent — a saving of £2,400 a month at February 1974 prices. Bridgend has also used scrap tyre rubber as fuel and has replaced up to ten per cent of the coal fed into its boiler with ground rubber.

In the recent past, some of Bridgend's scrap tyres have been taken (the 100 miles or so) to Melksham, to supplement the incinerator's diet of local tyres. However, Bridgend did more to reduce its scrap tyre problem by discontinuing the 'casing bank' system it operated until 1974.

Under the 'casing bank' system, Bridgend collected one old tyre ('casing') in exchange for each new tyre sold to a depot. About 20 per cent of the tyres collected in this way could be used for remoulding — but the remainder were useless (partly because many depots had sold off the best casings to dealers) and the Company had to pay for these to be dumped in a quarry nearby.

By dumping tyres in Tythegston quarry — which has also been used for the disposal of household waste — a significant environmental hazard was created: (i) because the site has been classified by the Institute of Geological Sciences as presenting 'a theoretically serious risk' to underground water courses; (ii)

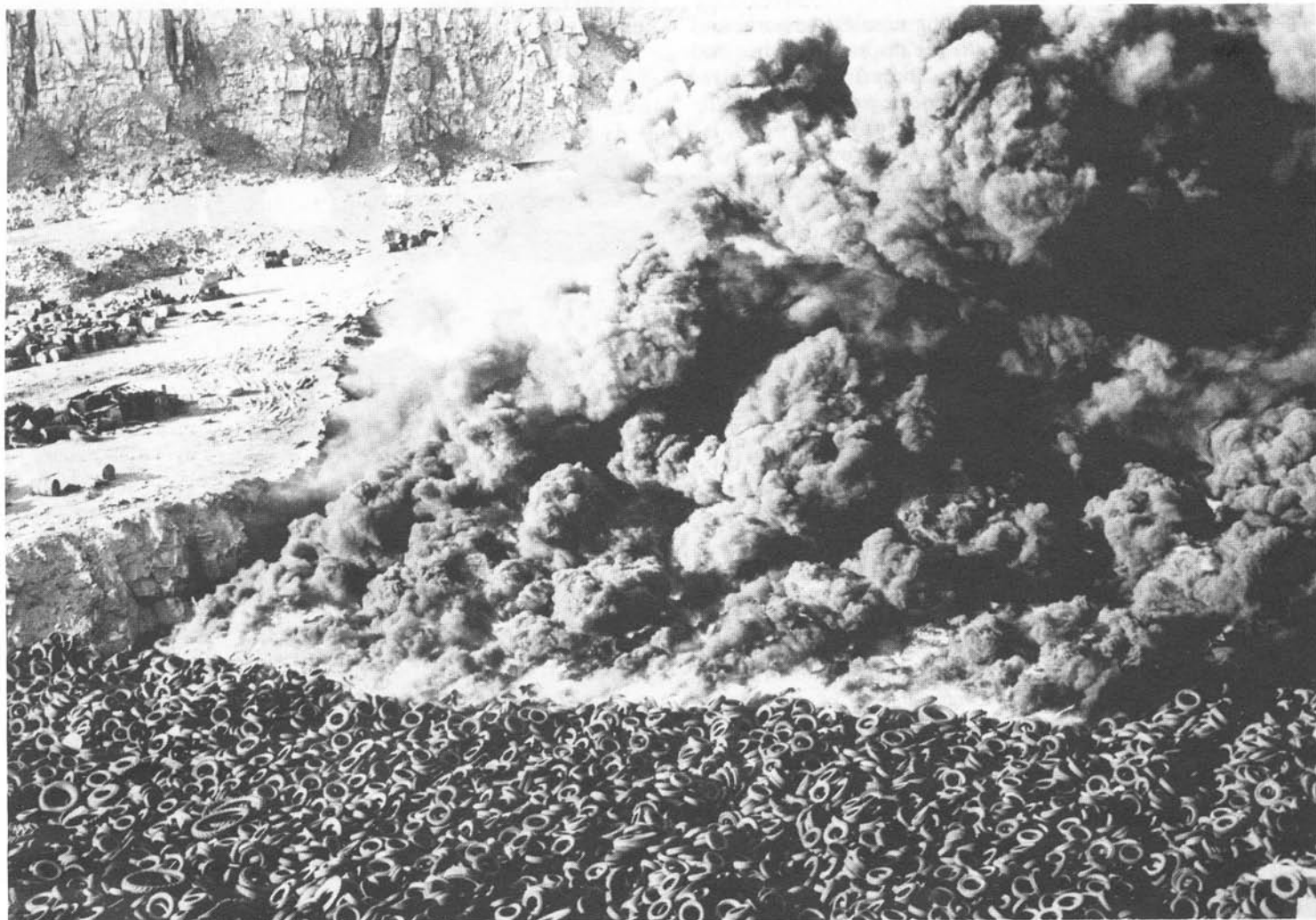
because toxic products would 'probably' be formed after a period of 10-15 years, as a result of microbial action on tyre rubber in contact with water — according to a report prepared for the Welsh National Water Development Authority; and (iii) because toxic products could be formed overnight, if the tyres were to catch fire.

In April 1972, tyres at the quarry did catch fire, and burned for several days creating a considerable nuisance and a thick smoke which was visible 20 miles away. (The cause of the fire was never established, but the Company claimed it could not have happened if the Council had properly covered over the tyres, after they had been dumped.) After the fire, increased levels of several toxic substances were found in the quarry water, but no contamination of local water supplies took place.

Bridgend stopped accepting tyres from depots in October 1974 and, since then, has brought in higher quality casings from dealers. The large majority of these casings have been found suitable for remoulding, and the quantity disposed of by dumping has been estimated at under one-tenth of what it had been under the old 'casing bank' system.

But, by buying from casing dealers, Bridgend has effectively passed back the problem of scrap tyre disposal to the depots — and, in doing so, the Company may have created another problem for itself. In interviews at Motorway — Avon's own tyre distribution chain — it was said that one reason (though probably a minor one) for no longer stocking Avon remoulds was that Bridgend no longer removed old casings.

Motorway considered that the accumulation of scrap tyres at their depots was a serious problem — particularly in London and the South-East, where tyre manufacturers generally will not remove old casings. Motorway estimated that they paid about £3,000 a year to have old casings removed, and dumped.



*Fire consumes half a million tyres dumped by Avon in Tythegston quarry*

## Toxic waste

Under the Deposit of Poisonous Waste Act 1972, all waste is classified either as toxic (non-exempt) or as non-toxic (exempt); and the Act requires that a company serve notice on the appropriate local authority and water authority before any toxic waste is removed for disposal on land. More recently, local authorities have become responsible for overseeing the arrangements made for the disposal of waste, and for licensing all waste tips in their area, under the provisions of the Control of Pollution Act 1974.

With the passing of the 1972 Act, the Avon Group's Supplies Control Department (SCD) circulated all companies with details of the classification of their wastes. Local managers were also given advice on compliance with the law — a local responsibility — and were asked 'to satisfy themselves that their own arrangements (were) adequate'.

**Melksham** did not provide PIRC with notices they had issued under the provisions of the 1972 Act; but the county council had received notifications for the disposal of various process and lubricating oils, as well as of rubber solutions and paints. However, according to a (1972) memorandum, a number of other notifiable (non-exempt) materials have been used at Melksham — including adhesive and iso-cyanate-contaminated containers — but no information was obtained about the means of their disposal, and no notices appear to have been issued.

**Bradford** supplied copies of notifications made for the disposal of various oils, acids and cyanide waste. In the past, most of the acid and oil waste has been collected and dumped by a waste-disposal contractor, though some hydraulic oil waste has been sold for reclaiming. Some years earlier, however, waste oil from one part of the factory had simply been dumped on to waste ground, from which it seeped gradually into the River Avon, causing considerable nuisance. (See p. 77.)

Special arrangements have been made for the use of cyanide (the supply is kept locked, and only one trained operator is permitted to handle it) and for the disposal of cyanide waste. The ten gallons of waste produced each year have been disposed of by a contractor on a special tip; and the Company said it had thoroughly investigated the circumstances in which this was done.

**Bridgend's** 'non-exempt' wastes have consisted mainly of the residues of various solvents and chemicals (including iso-cyanates) left in their original containers. The Company provided the local authority with a detailed list of the nature and quantities of chemical residues likely to be involved and was told that these could be deposited without special notification.

In addition, the Company has occasionally produced small quantities of highly toxic wastes. Only one notification of the disposal of such waste appeared to have been made (in February 1973). On this occasion, 11 ounces of waste, including cyanide and arsenic compounds, were taken by a contractor to a special tip; the Company's Production Control Manager said he had visited this tip, and satisfied himself that proper treatment methods were used.

**Inflatables** had not notified the local council of any disposal of toxic waste; nor was any information about such wastes supplied to PIRC. According to a memorandum produced by the Avon Group's SCD in 1972, Inflatables has used certain 'non-exempt' materials, though these were not specifically identified, and it was not possible to establish for certain that these were still in use at the time of this enquiry.

**Medicals** stated that no notifiable wastes were removed from their premises.

## Non-toxic waste

Most of the solid, non-toxic waste produced by Avon companies has been either incinerated on-site, or removed by outside contractors and dumped. However, most of the companies had also made some effort to segregate their

wastes, and to sell such materials as rubber trimmings, plastic, PVC, nylon and scrap metal — and anything else they couldn't themselves use. The extent to which this was done depended not on the potential usefulness of the waste, so much as on the economics of segregation and on market demand. For example, Bridgend used to segregate and sell plastic waste at the time of the energy crisis (when prices were high), but had not done so since then. Similarly, Bradford also once found it economical to segregate and sort paper and polythene waste.

At Melksham, non-toxic waste used to be removed for dumping several hundred miles away, on a tip near Liverpool, or else disposed of by the Company on a tip at Semmington, nearby.

Dumping at Semmington began in 1955. According to the Council, the Company began dumping before permission had been obtained — but permission was later given, on condition that (i) no rubbish was burned on the tip; (ii) no nuisance was caused; and (iii) Avon restored the land for agricultural use, once tipping had ceased. In the event, there were numerous complaints, including one of water pollution caused when a substance was washed out of the tip by rainfall; and a complaint from a local farmer, whose cows had allegedly suffered indigestion after eating plastic blown off the tip. The Council told PIRC: 'there is a long history of . . . complaints of fires at the tip together with some fly and rodent infestations . . . the nuisance from burning continued intermittently until . . . 1973.'

The Company, in turn, admitted there had been frequent fires. But they said that in recent years, at least, the tip had been completely fenced-in and constantly supervised, and that all rubbish had been covered over with soil and compacted. Avon also said that, now that the tip had been filled, they had begun to cover it with sand and soil, and to seed it, and had allocated £100,000 to do this.

Since 1973, Melksham's rubber and non-rubber wastes have been segregated, and burned in the Company's two incinerators. (See report on Air Pollution, p. 74.)

The rubber incinerator at Melksham was originally expected to handle Bradford's rubber waste. However, Bradford said it had found it neither practicable (because of limited space), nor economical, to segregate its rubber wastes either for re-use or for disposal at Melksham. Instead, all factory waste (other than scrap metal) has been compacted and taken off-site for dumping by contractors.

Bradford's general waste has included various chemicals swept from the factory floor, and at least one of these — sulphur — is classed as 'non-exempt' within the meaning of the Deposit of Poisonous Waste Act 1972. However, the Company had not notified the Council about this disposal; nor had it informed the contractor about the nature of this and other chemicals included in the general factory waste.

The general waste from Bridgend, Inflatables and Medicals has been removed and dumped by outside contractors — in each case, after some segregation of re-useable or saleable materials.

## Costs

Three companies provided specific information about the cost of waste in relation to overall works cost:

- At Melksham, the tyre company was said to produce in the region of £80,000-worth of unsaleable scrap, each month. The amount of scrap was said to have been cut by a total of 15 per cent over the last three years; and in early 1975, the cost of waste represented just over 4 per cent of total works cost (cost of raw materials + labour + energy).
- Bridgend's scrap rate stood at approximately 7 per cent of total works cost. It is not known whether this higher figure reflected the fact that there was inherently less control over the

quality of materials used in remoulding tyres — or whether the difference could be accounted for by less stringent waste control at Bridgend.

• Medicals' scrap rate — at 11 to 12 per cent — was higher than for either of the tyre factories. The Company said that the major cause of waste was the poor quality of materials received from suppliers. It was also pointed out that the products were governed by strict quality standards, requiring an unusually high sampling rate. In addition, machines had to be cleaned down each day (rather than weekly) using a cleaning charge of plastic which then had to be scrapped. Under the terms of the Company's agreement with its major customer, the Department of Health, Medicals said it was largely prevented from re-working its own waste.

Avon Inflatables did not supply information on the amount

## Discussion

There can be no doubt that the Avon companies have taken many positive and constructive steps to limit the amount of waste they produce and to sell or use — rather than dump — the wastes that have been left. Perhaps the most positive of the measures taken has been the installation of the tyre incinerator at Melksham: this solved a costly and troublesome problem, and made possible substantial savings on fuel as an added bonus.

However, Avon's handling of tyre disposal has had less positive environmental results. Bridgend's decision to suspend the collection of used tyres from depots has relieved the Company of a problem by passing it on. As the Company's Managing Director observed, 'we leave the scrap problem with other people'. If other tyre manufacturers were to follow this example and refuse to collect tyres from depots, the retailers may well decide to pass the problem on to the motorist. In the US some tyre retailers have required motorists to take their old tyres away after buying their new ones — and the UK retailers are reportedly now considering introducing this system here. If this were to happen it would inevitably lead to the widespread dumping of old tyres throughout the countryside.

The tipping of wastes at Melksham, Bradford and Bridgend — much of it now discontinued — had in the past created significant nuisance. Most of the companies now have waste

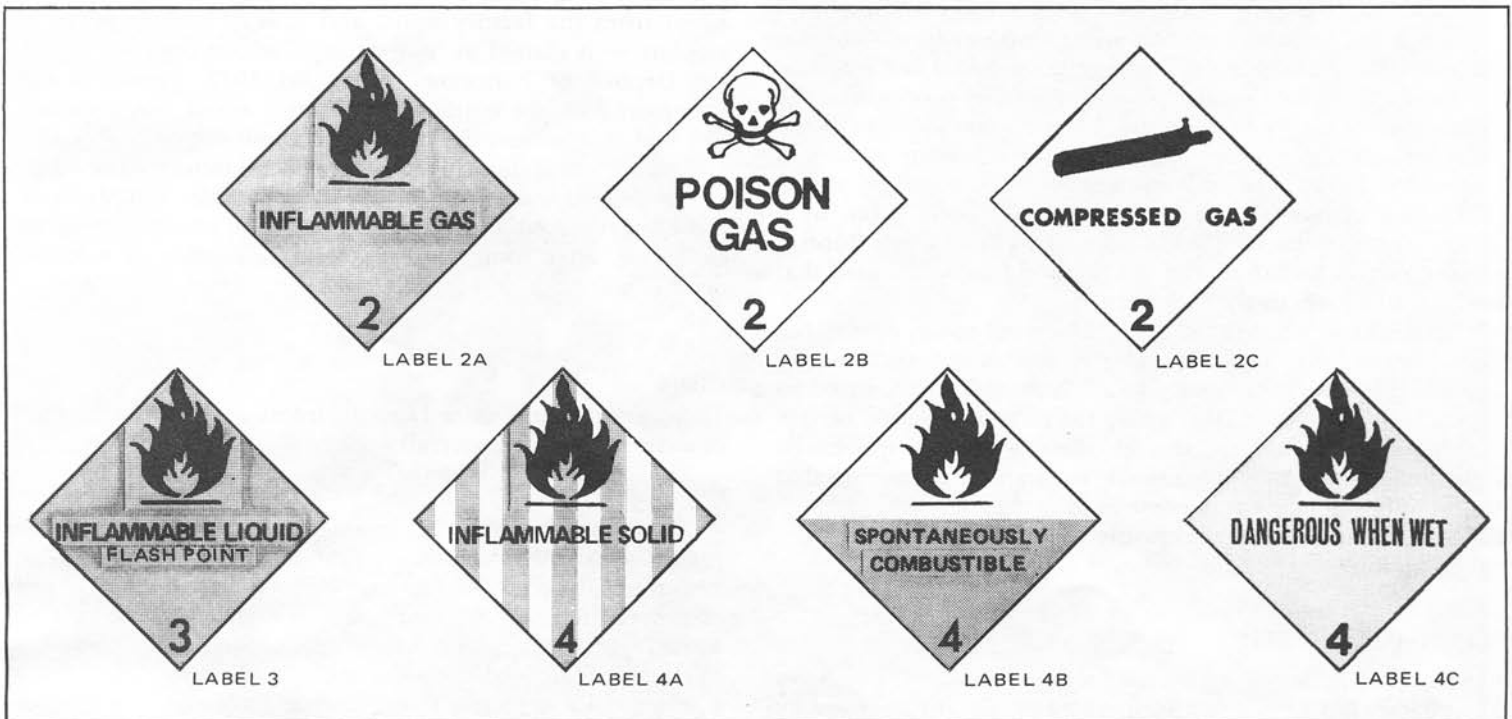
of its fabric waste, on the grounds that competitors might benefit from information relating to its fabric efficiency.

All of the companies gave some indication of the cost of (and income from) the disposal of waste — though to judge from experience at Bradford, the cost of wasted materials and labour was very much higher than the cost of disposal. For example, the cost *each week* of producing waste in the department which made gaskets for aerosol cans was estimated at £10,000 — which is the amount the Company has paid each year for the removal of all its factory waste. In the hose department, the cost of waste was put at up to £18,000 a week. The Company attributed much of this loss to the poor quality of the batch rubber supplied — but its 'Survey of Training Needs' suggested that much of the waste could be re-used if additional manpower were available.

removed by outside contractors — and said they had checked on the methods they used to dispose of waste. However, the management at Medicals had not checked on the contractor in this way; and suggested it should be no concern of the Company to do so (though it had checked to see that the contractors had not been prosecuted for waste disposal offences).

The Group Supplies Control Department, and Bridgend, appeared to have been conscientious in ensuring that they fully met their legal obligations in dealing with toxic waste. Other Avon companies appeared to have removed some toxic wastes (though only in small quantities) from their factories without issuing the notices required by law. This may, in part, be a consequence of the fragmented way in which management responsibility for waste has been organised at Avon companies. Typically, no one person had a complete picture of the waste cycle: production management was responsible for reducing the amount of waste produced, supplies department disposed of the waste, while liaison with local authorities and water authorities on waste disposal was left to the engineering or works manager.

Indeed, a representative of the West Midlands County Council Waste Disposal Department commented that the Avon Medicals and the old Avon Rubber factory in Birmingham — amongst many other companies — 'have not done their homework and do not know whether they are within the law or outside it'.



Hazardous materials warning labels

# Energy Use and Conservation

## Introduction

Energy cost Avon nearly £1 million in 1973/4 — substantially more than it had cost the year before, despite the fact that the Group's use of fuels had decreased. The cost of the 'energy crisis' for Avon may be partly judged by the fact that, between 1972/3 and 1973/4, the net use of fuels at Melksham decreased by 10 per cent, while its fuel bills increased by 11 per cent. Similarly, at Medicals, the fuel bill increased by over 50 per cent, despite a 13 per cent drop in fuel usage.

Most of Avon's energy is used at Melksham, Bradford and Bridgend, in the milling and mixing of rubber and in the curing of tyres. Relatively little energy is used at Medicals or Inflatables, other than for heating. See Table 1.

Table 1. Avon energy costs, 1973/74 (£'000)

	Electricity	Oil	Coal	Gas	Total costs	
					(1973/74)	(1972/73)
Melksham	368	276			644	580
AIP Bradford & Birmingham	94	48			280 <sup>1</sup>	206
Bridgend	75	4	32	1	111	87
Medicals	15	8		1	25	16
Inflatables	6	6		1	13	10

1. Projected.

Insufficient information was obtained to permit energy use to be related to 'value added' at the different sites; and only AIP at Bradford was able to supply information about the cost of energy in relation to total works cost (cost of raw materials + labour + energy). However, for the whole Group, energy costs would seem to represent very roughly 4 per cent of total works cost.

Some information was provided about the efficiency of energy use in two major processes, the mixing of rubber and the curing of tyres. Avon's 'energy efficiency' in these operations (1973) has not, according to information compiled by Avon, generally compared favourably with some companies overseas. See Table 2.

Table 2. Energy efficiencies of 5 tyre manufacturers

Company (country)	Amount of electricity used (Kilowatt Hours) to produce 1lb of mixed rubber (1973)	Pounds of steam used per pound of tyres manufactured (1973)
Avon (UK)	0.58	1.3 and 4.7
Armstrong (US)	0.51-0.62	3.5-5.7
Cooper (US)	0.40-0.45	4.0-5.4
Semperit (Belgium)	0.73-0.86	3.9-8.4
Trelleborg (Sweden)	0.18	4.0

Notes. The figures for Avon in the right-hand column were described as two typical samples for steam used *only in the curing of tyres*.

The range of values for Cooper and Armstrong reflect the performance of different factories. For Semperit, the range reflects winter and summer conditions.

Source: Avon Tyre Division.

## Group and company initiatives

The 'energy crisis' focused the Group's attention on the need for energy conservation. After a meeting of Avon technical managers in December 1973, a memorandum on 'Use of Energy' was prepared by what is now Avon (Group) Technical Services, and circulated throughout the Group. The memorandum

stated: 'up till now the cost of energy has been a minor factor in the economics of our processes. In the near future it is likely to be the crucial factor in determining how much we produce and in the long term it will always be a significant factor.'

Avon Technical Services (ATS) followed up this memorandum, announcing it would examine the actual and potential efficiency of Avon processes, and by soliciting information from the companies on energy savings actually achieved. ATS went on to carry out two studies of steam usage; it later concluded that the Group could reduce steam consumption by 10 per cent a year over each of the following three years, but suggested the Group was 'unlikely to make more than a few per cent saving' in electricity use.

The Group technical manager also assumed responsibility for co-ordinating action at company level, and for publishing quarterly progress reports. No reports were in fact produced, though a Group energy conference was held in September 1974, when technical representatives from each factory reported on their energy savings and discussed further action.

In addition, ATS was to assist each site in the preparation of 'energy objectives'. In the event, no energy-saving plans appear to have been produced by either Medicals or Inflatables; though the three major sites produced proposals:

- **Melksham.** Plans were drawn up by three energy sub-committees for estimated annual savings of £65,000-£95,000. (These sub-committees have since become inactive, and a single committee now deals with energy saving on the whole site.) The greatest savings (£25,000-£50,000) were expected from modifications which would eliminate the need to cool down tyre presses (moulds) between curing cycles. In addition, savings of around £30,000 were expected from rationalising the use of presses, and from insulating them against heat loss; and savings of another £10,000 were predicted as a result of insulating steam pipes.

- **AIP** set up a technical committee to plan energy savings both at Bradford and at the Birmingham plant (which has since been closed). The committee's programme, based on its measurements of the energy use and efficiency of all equipment in use, was expected to cost £10,000 at Bradford and to give an annual saving of over £11,000 at that site.

Specifically, the use of additives in the boiler fuel was expected to bring a net annual saving of over £2,000; and other major savings were planned as a result of metering, the insulation of steam pipes and the return of condensate to the boilers.

- **Bridgend.** A programme costing £5,100 — to give an estimated annual saving of £6,500 — was designed by the Company's works engineer, who had been studying possible energy-saving modifications for some time before action was taken by the Group. Annual savings of £3,950 were expected by avoiding the use of high-tariff electricity, through the installation of metering and alarm equipment thought to cost around £4,000. In addition, savings were expected by burning around 10 per cent of ground rubber with the coal in its boiler; by insulating steam pipes and tyre moulds; by installing steam metering equipment; and by overhauling the steam traps which return condensate to the boilers.

Though all three companies introduced detailed monitoring of steam and electricity consumption, in order to relate energy use to production output, only Bradford attempted to deal with the problem of energy wastage by systematically collecting information about the energy consumed in every different process in the plant. Thus, Bradford found that 'storage of raw materials is totally inadequate' and proposed that savings on electricity could be made by heating up materials before they were mixed, especially in winter. Elsewhere in Avon, attention was paid to

those processes known to be inefficient in their use of energy. For example, the investigations made by ATS established that only 5 per cent of the energy used to raise steam at Melksham for the curing of tyres actually went into the tyres. (With solid tyres the figure was only 1 per cent.) Around 20 per cent of this loss was thought to be unavoidable — but the rest was lost largely when hot presses were left open when not in use, and as a result of leaks and poor insulation.

All the companies, however, proposed savings through better housekeeping; all had tried to increase employees' awareness to the need for such things as turning off lights when not needed, and shutting off idling equipment. During the three-day week, this had been done through 'briefing groups', announcements, and by means of a leaflet 'Crisis News' — two issues of which were produced by the Group's publicity service. There appeared to have been little publicity since the three-day week, though Bradford said it had plans to produce its own fact sheet.

# CRISIS NEWS

AVON

January 1974 No.1

## SAVE, SAVE, SAVE!

### APPEAL TO STAFF AS MATERIAL COSTS ROCKET!

Dramatic price increases for our basic raw materials in recent months will add millions of pounds to the Group's shopping bill in 1974, and the message to all employees is save, save, save!

Describing the massive all-round increases as "unprecedented," Purchasing Agent Clive Drewett commented: "The price of natural rubber is now at its highest level for 23 years."

#### Millions

Natural rubber has doubled in price in under a year, thus costing

the Group an extra £1.725 million in a full year. A 70 per cent increase in the cost of synthetic rubber will cost us an extra £775,000 and by mid-1974 an extra £400,000 could be added to this particular bill.

Other huge price increases will add £480,000 to our rayon and nylon cord fabrics bill, and an extra £200,000 for carbon black. All chemicals will cost considerably more. Zinc oxide has more than doubled in price to cost us an extra £190,000, and chemical

solvents have doubled in price in only three months.

Says Mr. Drewett: "Synthetic rubber and rayon and nylon cord are now on ration. Oil-based materials, which means almost everything apart from natural rubber, are in short supply and very difficult to obtain."

#### Oil

Most worrying of all perhaps, is the fact that nearly all of the increases above do not take into account the Christmas doubling of crude oil prices — so our 1974 bill could be even greater.

## ENERGY CRISIS... SOME STARK HOME TRUTHS

Soaring prices of all basic materials. Scarcity of supply. Further swinging price increases a very real possibility. It is against this sobering background that Crisis News is produced to bring home to all Avon employees some of the stark home truths surrounding the Group's continuing operation during the energy crisis.

The only successful way out is highlighted by Scupper Divisional Manager Martin Heath's exhortation: "Pull your weight, eliminate waste, and realize that every item we use is scarcer,

more valuable and more expensive than ever before."

Avon's particular dilemma is pinpointed by Mr. Heath thus: "We are not like the many industries which rely on only a handful of basic materials. You could compare the complexity of our operations with the cook who needs twenty varied ingredients to prepare a special dish."

Only one needs to be missing to spoil the whole effect and court disaster."

He has another disturbing fact for all to

ponder: "Whatever the outcome of the present crisis, and accepting that existing shortages may eventually disappear, the basic price increases will remain."



BLUNY SEAN/TITLE  
HARRIS/ART  
GODIN/SHADE

### Future initiatives

The possibility of longer-term energy savings depend mainly on (i) the rationalising of energy use; and (ii) putting a higher priority on energy conservation when designing or introducing new equipment or buildings.

In the recent past, both Bridgend and Medicals have installed new boilers which have allowed them to shut down a number of small and relatively inefficient factory heating/cooling units. In addition, Melksham commissioned its tyre incinerator in 1973: this was done principally to solve the problem of disposing of scrap tyres, but has also allowed the site to become more self-sufficient for its energy needs (see p. 80). However, Bridgend — which, until 1974, faced serious problems with the disposal of scrap tyres — decided against the building of an incinerator, and solved its scrap problem by other means.

Avon has also acknowledged the energy saving that may be achieved by reducing heat loss through poorly-insulated buildings — for the Group's energy conservation committee recommended in October 1974 that buildings should in the future 'be designed more functionally', and that consideration be given to requiring more stringent standards of insulation.

Between October 1972 and October 1975, Avon either

commissioned or started work on the building of over 170,000 square feet of new buildings on several different sites. Both Medicals and Inflatables said they had considered the possibility of greater energy-saving, by making modifications to the originally proposed design — but according to the head of Avon Technical Services the Group has not proposed other modifications as 'any suggestions we could make would only delay the building and increase its costs'.

### Discussion

Before the energy crisis Avon had, on its own admission, paid little attention to conserving energy. For example, in correspondence with an American tyre company, Avon Tyres (which is responsible for most of the Group's energy use) admitted that its steam consumption figures were 'very high' because it had been 'very lax over the insulation of steam pipes . . . and our maintenance to minimise leaks has left a lot to be desired'. It is significant that, before sending its figures to Avon for comparison, the American company had to double check figures, suspecting that they had been miscalculated because they were so much lower than Avon's.

The Group responded to the energy crisis — through Avon Technical Services — by encouraging energy-saving at company level, by setting conservation targets for the Group, and by carrying out a number of technical studies in order to identify some of the areas in which savings might be made.

Nevertheless, this response did not seem to be as thorough as it might have been, in that:

- Two companies, Medicals and Inflatables, appeared to have produced no formal proposals for energy conservation — while only one company, Bradford, systematically surveyed the energy-efficiency of each piece of equipment in use, in drawing up a conservation programme.
- The technical studies carried out by ATS itself were limited in scope and, in the absence of adequate data from the other companies, the Group policy on conservation which emerged dealt effectively with only one area — steam usage — and appeared otherwise very vague. Had the necessary information been collected, far higher Group and company targets for energy savings might have been shown to be feasible.
- In addition, little attention appeared to have been paid to the question of design for energy conservation in new buildings; and conservation publicity, aimed at employees, appeared to have been largely limited to the time of the three-day week.

The energy conservation programmes designed by the three major manufacturing companies cannot be judged solely in terms of the savings they were expected to bring. Thus, while it appeared that the AIP technical committee had been more active and more thorough in their work than their counterparts in the tyre company at Melksham, the proposed energy saving at Melksham was far higher than the savings expected by either Bradford or Bridgend. However, this might simply indicate that, in the past, energy-wastage at Melksham had been higher than elsewhere. Similarly, the relatively small savings expected at Bridgend would seem to be due, in part, to the fact that this was the only company to have seriously attempted to reduce energy wastage before the energy crisis. It should be noted that much of the saving proposed by Bridgend did not involve cuts in energy consumption. Instead, the Company was hoping to save money by balancing its electricity demand and avoiding payment for high-tariff supply.

It should be pointed out, in conclusion, that it proved impossible to relate Avon's internal energy use to the external energy costs/benefits associated with their major products. Thus, more energy is used in the manufacture of radial-ply tyres than cross-plys — on the other hand, radials give greater mileage and the use of radials may be associated with improved vehicle fuel consumption. However, in the absence of information about the use-life of Avon's products, this approach to the question of energy saving could not be developed.

# External Noise

## Introduction

Factory noise, whether from machinery, transport or other sources, can cause considerable nuisance to people living nearby. The best time to prevent such noise is at the design stage — by designing quiet machines or by siting noisy machinery away from factory boundaries. Noise from existing equipment can also be reduced, by fitting suppressors or by enclosing or screening sources of noise. Even when noise is not a nuisance to people outside the factory these kinds of measures will often be needed to prevent hearing damage to employees (see report on Health and Safety, p. 32).

The noise appreciated by the human ear is commonly measured in decibels on the so-called 'A scale'. On this scale any increase of 10 decibels (dBA) means that noise levels have increased 10-fold; so, an increase of 20 dBA means that noise levels are 100 times louder. A soft whisper at 5 feet would register around 32 dBA, while a ringing alarm clock at 2 feet would be 80 dBA.

As a rough guide to the significance of the levels of noise described in this report, reference can be made to the recommendations of the Committee on the Problem of Noise (HMSO, 1963). The Committee recommended that the following noise levels inside living rooms and bedrooms should not be exceeded for more than 10 per cent of the time:

Situation	Day	Night
Country areas	40 dBA	30 dBA
Suburban areas away from main traffic routes	45 dBA	35 dBA
Busy urban areas	50 dBA	35 dBA

The likelihood of noise from a factory causing nuisance can also be estimated by examining how much factory noise increases the background levels of noise near homes.

## Melksham

The location of the Melksham factory means that nuisance to the local community from noise is always likely to occur. According to management: 'The fact that we work through the night and that we've got houses adjacent means that even someone dropping a sheet of corrugated iron can wake up everybody in the street.'

Nuisance from machinery and equipment is another problem. The headmistress of a nearby infants' school stated that:

'The incinerators do give a persistent whining noise which is particularly disturbing to our caretaker, who lives in a bungalow on the site, during the evening and night. Often the incinerator starts up in the middle of the night waking the whole family. This noise has also disturbed members of my staff, during the night, who live within approximately a quarter of a mile radius from the plant. This depends on the direction of the wind. It is the pitch of the noise which is so penetrating.'

Complaints of disturbance from noise have been received both by the Company and the local authority. In response, Avon has engaged consultants to monitor noise levels outside its factory. (Avon does, in fact, have its own Noise Control Unit, but preferred to use outside consultants who would be seen to be independent.)

In January 1974, the consultants took noise measurements during the night at five points outside homes near the Avon site; for some of these readings the factory's public address system was switched on and music broadcast at a high volume. The 'background' level of noise was found to be equivalent to 45 dBA and readings more than 5 dBA above this level were

considered to give 'marginal cause for complaint' — while those above 55 dBA were treated as 'justified cause for complaint'. See Table 1.

Table 1. Results of noise monitoring outside Avon's Melksham factory

	Tests in January 1974		Tests in July 1974	
	Music on (dBA)	Music off (dBA)	Music on (dBA)	Music off (dBA)
7 Beanacre Rd	51-52	47-48	50-54	51-55
16 Beanacre Rd	54-56	54-55	53-56	53-56
28 Beanacre Rd	51-55	51-54	48-55	51-53
23 Scotland Rd	61-63	61-64	60-62	60-62
1 Scotland Rd	—	57-59	—	56-58

The report concluded that 'it would appear doubtful' whether there was justifiable cause for complaint from houses in Beanacre Rd., although intermittent sources of noise such as the public address system, pneumatic exhausts and vehicles 'will serve to draw attention to themselves'. The report continued: 'There is no doubt that there is justifiable cause for complaint from properties in Scotland Road affected by the cooling towers and pump house in one location and the tyre test machines and power house in another location.' Furthermore, the consultants noted that the use of the factory's loading bay in Scotland Road, by up to 12 articulated lorries a night, might provide complainants with grounds for obtaining a restraining injunction.

The report suggested that some of the noise could be reduced — for example, by controlling use of the public address system, by rectifying steam leaks during routine maintenance and by fitting silencers to reduce the noise from pneumatic exhausts. However, there appeared to be 'no ready solution' to noise from cooling towers, pump house, tyre testing machines and the power house; it was suggested only that 'these sources of noise warrant further investigation'.

Following renewed public complaints, a second series of tests was carried out six months later, in July 1974, by the same consultants. They found that 'noise levels have not significantly changed since the first survey' although noise levels from the public address system were actually thought to be more noticeable, probably because windows in the factory had been opened for ventilation. In addition, because of the summer heat, people were more likely to have been sleeping with their bedroom windows open — and this would have made the noise even more objectionable.

The Company has stated that further noise surveys will be carried out in the future, and that it has begun to study the problem of the noise from its cooling towers. However, the Company does not appear to have investigated the other major sources of noise, as recommended by its consultants. Nor is it known whether the specific modifications suggested by the consultants have been implemented.

## Bradford

No separate interview on external noise was held at Bradford and only limited information is therefore available. However, the factory is situated in the centre of the town, close to residential property, and the Company has stated that it has, at times, received frequent complaints about noise.

Complaints about noise and other nuisance have come from the former owner of the Avon site, Mr. Alex Moulton, whose house and estate adjoin the factory. Mr. Moulton had objected to the company's proposals to construct a new building which he felt would cause nuisance to his property.

The local authority is reported to have allowed the development only on condition that the levels of noise resulting from the building did not exceed 52 dBA. Mr. Moulton has himself carried out daily noise readings from his property and he reported that this level was exceeded only during the construction of the building. Since that time, the normal noise reading has been around 48 dBA.

Mr. Moulton, who is himself an inventor and design engineer, has in some cases identified the causes of nuisance from the factory and suggested remedies to the Company. He stated that on one occasion he himself paid for the fitting of a silencer to one of the Company's ventilation units.

The Company described one other complaint, originating from the town. Householders had complained that they were being woken early in the morning by the vehicles of Avon's waste disposal contractors. To avoid this, collections were re-scheduled a little later in the day and according to the Company this had removed the cause of the complaints.

### Medicals

The Company said that no complaints about external noise had been received, but Birmingham Council stated that it had investigated a complaint in 1970. A fan installation at the factory was the source of the noise, but the public health inspector did not feel that a genuine nuisance was being caused. He reported that the 'general noise from the factory is very low'.

Birmingham District Council has begun a programme of measuring levels of background noise in its district. In response to enquiries from PIRC the council carried out some monitoring outside the Avon Medicals factory in May 1975.

Readings were taken on Dell Rd. at a distance of 80 metres from the Medicals' factory. The inspector described the street as 'a fairly quiet area'. Readings were also taken in an alleyway about 40 metres from the factory. The results, shown in Table

2, indicated that background levels of noise — which would include any noise from the factory — were low in relation to other normal sources of noise.

**Table 2. Results of noise monitoring (in dBA) outside Avon Medicals' factory (Pershore Road)**

<b>SITE 1</b> (Dell Rd)	Background noise 45-47	Effect of lorry on Pershore Rd 54	Effect of train passing 64
<b>SITE 2</b> (alleyway)	Background noise 42-44	Effect of bird singing 58	

### Bridgend and Inflatables

The nearest residential area to the Bridgend factory is about one mile away and the Company stated that complaints of noise had never been received. No noise monitoring has been carried out either by the Company or by the council.

At Avon Inflatables, it was said there were no sources of external noise in the factory and that although there were houses nearby no complaints had been received from them. No noise monitoring had been carried out by the Company or by the council.

### Discussion

Not surprisingly, complaints about noise have centred round those factories built close to residential homes. Avon's Melksham factory has, in particular, caused a noise nuisance to residents. Although detailed information about measures taken to deal with noise were not obtained, it was clear that the noise nuisance had continued even after consultants had reported on the problem, and it appeared that the Company had not, at the time of this enquiry, followed all the recommendations on noise control made in the consultants' report.

## Community Involvement and Donations

Avon is the dominant employer in two fairly small communities in rural Wiltshire; Bradford-on-Avon is a 'company town', and Melksham very nearly so. In addition, Avon is the largest of several major employers in Bridgend — a development area in South Wales, where unemployment rates have traditionally been high. By contrast, Avon's Motorway, Medicals and Inflatables subsidiaries would have relatively very little influence in the communities in which they work.

It was clearly impossible to quantify precisely the influence Avon has had in the two Wiltshire communities, and at Bridgend; though enquiries were made at each site, in an attempt to establish generally what relationship there was between Company and town. Many local organisations in these areas were approached directly; and a general appeal for information was also made in the publicity statements issued at the start of this enquiry. In addition, some local residents were interviewed, and cuttings files and other references were examined in local newspaper offices and in libraries. And, finally, interviews were held with Avon managers; and all employees at the three sites were sent a circular (distributed mainly through union representatives) which explained the purpose of the enquiry, and invited comments on this and any other aspect of the companies' work.

The 'outside' enquiries produced very little response, but such as there was indicated that Avon's presence in these communities was readily accepted. Most of the information obtained came from Bradford, where the Avon plant is situated on the river, right in the middle of a small, old and attractive town. The Avon plant has received a number of complaints from local residents: not only about air pollution and dust (see p. 74), but also complaints about noise at night, delivery lorries causing traffic jams, and the delivery yard — an eyesore. Not all complaints had been resolved but, so far as could be established, the Company was thought to have responded promptly, courteously — and usually effectively — when complaints had been made.

The main manufacturing area at Bradford adjoins property owned by Mr. Alex Moulton, whose family had owned the Bradford plant until it was sold to Avon in 1956. Mr. Moulton had systematically monitored, and recorded in detail, all nuisance from the plant. He said there had been many different nuisances, over the years, but they had mostly been put right; and, overall, he considered Avon had been 'most collaborative' throughout.

Interviews with the Bradford management, and also with the management at Bridgend, suggested that they were more



concerned to 'blend' into the local community, than to participate actively in community affairs. In Melksham, by contrast, Avon is 'represented' by employees, in virtually every aspect of community life. The management at Melksham said they believed that this policy worked 'to everyone's advantage: to the benefit of the community, to the benefit of the individual concerned . . . and . . . it is good for the Company.' Indeed, it has been the specific duty of a member of the Melksham personnel department to act as a 'clearing house' for employees who want to take time off (within reason) for work in the community.

The extensiveness of Avon's involvement in Melksham's affairs has created possible conflicts of interest. (However, no evidence of any kind was found to suggest that the Company had wanted or tried to press its own advantage, by means of the 'representation' it enjoyed.) For example, when Avon applied to the Council in 1971 for permission to install its new incinerators, eight of the fifteen councillors on the Melksham UDC were reportedly employed by or connected with the Company. In this instance, the Council appealed to the Department of the Environment for guidance.

## Donations

Since 1967, companies have been required to disclose in their annual reports the amounts given to charity. Most companies make such donations — but very little is known either about the amounts they give to different causes, or why or how they chose to support some causes and not others. Information of this kind is rarely, if ever, given in annual reports; and the literature on the subject is thin. Over the past five years, Avon have reported donations of between £4,011 (in 1970) and £7,894 (in 1974). The amounts given, expressed as a percentage of pre-tax profits, have been significantly higher than for other companies. See below.

	1972	1973
Avon Group	0.39	0.37
Quoted manufacturing companies	0.14	0.17
Companies the same size as Avon <sup>1</sup>	0.10	0.07
Major companies in the rubber industry <sup>2</sup>	0.13	0.16

Notes. (1) i.e. companies having the same net assets ( $\pm$  3 per cent) as Avon. (2) i.e. companies listed in the Times 1000 (ranked by turnover) which belong to the British Rubber Manufacturers' Association. However, no data were available from Firestone or Uniroyal. Firestone had not filed accounts at Companies House since 1972, and nevertheless refused to give the information requested. Uniroyal's accounts were filed in Edinburgh, so the Company was approached directly—but they also refused to cooperate.

The Group Managing Director said that Avon's policy had basically been to give to local causes; though he acknowledged that 'certain influential people do tend to make a dent in that policy from time to time'. Indeed, it was found that approximately two-thirds of the total sum donated by Avon in 1974 had gone to non-local causes — usually at the behest of a director with a personal interest in the cause, and with approval from the Avon main board.

While the Managing Director made it clear that he did not favour such departures from policy, he also said he did not think companies should be expected to make donations at all:

**Avon:** 'I think it is true to say that we do not see ourselves as charitable givers at all. There are certain local causes that we think, because of our involvement in the community and so on, we should support . . .'

**PIRC:** 'Why?'

**Avon:** ' . . . quite honestly, because it would seem so mean not to do it — and maybe we would like to do it anyway.'

The Managing Director went on to say that, basically, Avon had given money only when, and because, it would have been embarrassing to refuse an appeal. He suggested this point had not been lost on many charities, who 'very unfairly' put pressure on companies to give.

So far as could be established, about 80 per cent of all donations (by value) have originated from Melksham — but for the most part it was not possible to establish why some donations had been made and others not, and by whom such decisions were taken. A brief account was, however, given of the reasons why most of the large donations had been made. For example, in 1974, Avon gave £1,200 to the Foundation for Management Education, a cause in which one of the directors was said to have been particularly interested; £1,000 was given to the Bristol Diocesan Board of Finance, a cause with which Avon's Chairman has been concerned; in addition, the Melksham Town Football Club received £1,000, after a request had been made to the Group's Managing Director by a former employee of the Company. Only two other bodies received donations of more than £250 — these were the Institution of the Rubber Industry (£714) and The Industrial Society (£525) — and a further twelve received more than £100.

The remainder of the donations budget was accounted for by numerous small donations made both from Melksham, by the site manager and the former head of publicity, and by the individual companies in the Group. Each company had a small budget of between about £25 (Medicals) and £200 (Motorway and Bridgend). These had been used to support a wide variety of causes — mainly traditional local causes, relating to general social welfare or recreation — with donations usually of up to £10.

No one explicitly suggested in interviews at company level that donations were made because their companies were put under pressure to do so. Some managers suggested that their companies had a positive moral obligation to support local causes; while most placed more or less emphasis on the question of 'goodwill'. Most companies also said that they gave considerable support in kind in the local community, by donating samples of the products they made; or, in the case of Motorway, by buying advertising space for essentially non-commercial reasons, for example, in local church magazines.

There were two notable exceptions to these general rules. At Inflatables, the MD said he had, on his own initiative, made a donation of £500 to a local school, to replace musical instruments lost in a fire. While at Avon Medicals, no distinction had been made between local and national causes: the Company's policy had been to make small donations to hospitals where the Company's equipment had been supplied.

## Discussion

At Bradford and Bridgend, where Avon is the major employer in the area, the companies kept a fairly 'low profile' — while employees at Melksham were extensively involved in community affairs, and encouraged by the Company to be so. In this case, no evidence was found to suggest that Avon had attempted to dominate, rather than participate in, the community's affairs.

The Group Managing Director said in interviews that he supposed Avon would appear relatively 'mean' in its charitable giving. In fact, the Group has given considerably more in donations than other companies. (The Group Managing Director later explained this discrepancy, saying he thought that donations to bodies such as the Foundation for Management Education were not strictly charitable.) Nevertheless, it was suggested that Avon gave money to charity mainly because it could be embarrassed if it didn't. Most major donations were made not to local causes — in accordance with Group policy — but to 'pet' causes of influential members of the main board. Company policy has been to make no donations to political causes.

# Response from Avon

Copies of the draft of this report were delivered to the Avon management, and to the branch secretaries or principal representatives of the Avon unions, early in November 1975. By this time, several people who had been particularly involved both in promoting the study and in explaining the Company's work had left Avon. John Swanborough, who had been Group Managing Director at the time of this enquiry, had left in the late Summer of 1975. The Finance Director, the Head of Publicity and one or two union officers had gone as well.

On delivery of the draft, the attention of the Avon management was drawn in particular to the preface — which explained that the draft report inevitably contained many errors, because PIRC had agreed to the Company's request to abandon the 'second round' of interviews, in which it had originally been planned to verify information obtained in the first. It was stressed in this preface, and elsewhere, that PIRC was very anxious to receive comments from all concerned, and to correct those errors the draft contained. The relevant (opening) section in the preface in the draft read as follows:

## IMPORTANT

### NOTE TO ALL READERS OF THIS 'SOCIAL AUDIT ON AVON' DRAFT REPORT

#### About this report

1. It was agreed at the beginning of this study to offer a right of reply to both unions and management at Avon. PIRC is glad to do this, if only to express its gratitude to all concerned for the help and co-operation provided in this enquiry. We have no doubt that this draft report can, and will, be greatly improved as a result of the comments we are now inviting you to make.
2. Please take into account that this draft will contain many unavoidable errors. At the Company's request, we cancelled the second round of interviews that had been arranged — and which would have allowed us to verify the information in this draft. Because of this, we have had to leave the verification process until now.
3. Please note that the report relates only to the study period — the end of 1974 to the beginning of 1975 — and that we do not intend to refer to events which may have taken place since then. This report is simply about the Company's work, as we saw it and as it was explained to us, at a particular point in time. . . .'

PIRC understands that managers in the Avon subsidiaries sent Group their detailed comments on the draft by the agreed deadline. However, the Avon management board did not pass on these comments to PIRC; the board decided instead to disassociate the Company from the report. The new Group Managing Director, Peter Fisher, wrote as follows:

Having read the draft copy of the Social Audit of Avon Rubber Company Limited, the reaction of the Management and most of the Trade Union Representatives in the Avon Companies involved in the Audit, is one of acute disappointment and concern at the enormous number of inaccuracies and misinterpretations that it contains. This, in spite of the very considerable assistance given to the Social Audit researchers and the many hundreds of hours of interview time and volumes of correspondence.

A detailed correction of the report would in our opinion result in a document as voluminous as the draft report itself.

In these circumstances, and whilst appropriate action has and will be taken on any criticisms which we believe are justified, both Management and most Union Representatives in the Avon Companies concerned, feel they must disassociate themselves from the general contents of the report and do not wish to have any further discussions or correspondence on it.

Having received and considered these reactions from our Subsidiary Companies, the Board of Avon Rubber Company Ltd. endorses their viewpoint.

PIRC responded to this by suggesting that the Company might make known its reservations about the draft — so that appropriate changes might be made in the final report — and that the Company might continue to disassociate itself, at the same time, if it wished to do so. The following letter was sent:

We were naturally very sorry that you should be disappointed with the draft report. We in turn were disappointed that you should decide to make no attempt to correct what you believe to be inaccuracies and misinterpretations in this draft.

We have stressed both in the preface to the report, and in several representations made to the Group's head of public relations, that we are very anxious to correct inaccuracies in the draft. We explain in the preface that the draft does include inaccuracies — and that these were bound to exist because earlier in the year we acceded to the Company's request to abandon the second round of interviews, in which it was originally agreed that we should verify material obtained in the first. Over the past few weeks, we have been verifying the draft report ourselves, and have already eliminated a number of inaccuracies.

We understand that you have received from the managements in the Avon subsidiaries their detailed comments on the draft, but that a decision was taken by the Avon management board not to refer these to us. We hope that this decision did not relate in any way to your concern that 'a detailed correction of the report would . . . result in a document as voluminous as the draft report itself'. As we said in the preface of the draft, we would wish to correct inaccuracies by amending the draft text, not by adding to it.

Thank you for telling us that the Company is to take action to correct matters in those cases in which criticism made in the draft was felt to be justified.

We note that the management feels unable to associate themselves with the 'general content' of the draft report. You also say that most of the trade union representatives in the Group similarly felt unable to associate themselves with the draft. At the time of writing, we have heard from 11 of the 12 trade union branch representatives involved in this enquiry, but it appears that only three have felt able to subscribe to the representations you have made on their behalf.

In the circumstances, we are writing to ask if you might reconsider the Company's position. In particular, may we suggest that you tell us of the inaccuracies and misinterpretations you believe to exist, so that we can take appropriate action to correct them? Would it not be possible to do this and — if you still feel it to be necessary — to continue to disassociate the Company from the report?

About a week later, this proposal was put before the Avon management board. It was, however, rejected.

### Other comments

The draft report was seen also by a number of independent readers, by the former Group MD, by the former Head of Publicity, and by some 15 trade union officials.

The former MD of Avon declined an invitation to submit comments on the draft for publication. But he did kindly agree to discuss the draft, at some length, with the research team and with the PIRC board.

The former Avon Head of Publicity felt it would be inappropriate to comment on the draft, publicly, in the light of the Company's response.

Of the three union officials known to have endorsed the Company's original response to the draft, one had written to comment earlier. She denied that the meetings of the Liaison Committee at Avon Medicals in Birmingham had ever developed as a 'rip-roaring and yelling session' — as one of the managers at Medicals had claimed — and she asked that this reference be deleted. (See p. 24.)

The TGWU Branch Secretary at Melksham expressed substantial reservations about the draft report — and, in particular, about a passage (since modified) which he said implied that the Tyre Company built products with a short life in order to keep the Melksham workforce employed. It was felt appropriate to make changes in the draft text, partly as a result of the comments he made.

Of the remaining union officials, none commented formally. Most indicated they thought the report a fair and useful record.

### Postscript

It remains only to say that a number of changes were made to the draft text — and that this report on Avon represents what we believe to be an accurate and fair record of some of the Group's principal activities, as they were observed over the Winter of 1974 and 1975.

### Future Project

Public Interest Research Centre Ltd. is now preparing a 'Social Audit Handbook' — in order to assist and encourage serious practical initiatives in assessing and reporting on the social performance of major manufacturing corporations.

This Handbook will (i) identify the major areas of corporate social impact; (ii) identify standards and other measures against which corporate performance might be assessed; (iii) outline how information relating to companies' performance may be obtained; and (iv) suggest how this information might be interpreted and presented publicly.

The Handbook will be designed for use by corporate managements, by staff and works employees and trade unions; by consumer and community associations; and by others concerned with, or affected by, corporate social behaviour — both in and beyond the UK.

**In this connection, we would welcome comments from readers on what they consider to be the major strengths and weaknesses of this report. Any information which might help us to improve the Handbook will be gratefully received.**

If you have any comments, please write to the Head of Research at PIRC Ltd., 9 Poland Street, London W1V 3DG.

# Social Audit

## Contents of Reports 1973-1975

The reports published in *Social Audit* deal with the work of business and government in areas which range from the hiring of disabled workers to disclosure of information; and from advertising standards to arms contracting.

Each issue of *Social Audit* contains three reports — or their equivalent — and each report runs from about 5,000-10,000 words in length.

For copies of the reports please place orders with: Research Publications Services Ltd., Victoria Hall, London SE10 0RF, UK. (Telephone: 01-858 1717)

### Social Audit No. 1 £2.00 plus p&cp

**The Case for a Social Audit** argues for the systematic, independent monitoring of corporate social performance. The report makes a case for direct public and consumer involvement in corporate affairs, and it looks critically at the role of shareholders who — when it comes to social issues — have taken an unearned income for unassumed responsibilities.

**The Social Cost of Advertising** examines advertisers' pre-occupation with human motivation in buying — rather than with the qualities in a product worth selling. The report scrutinises the voluntary advertising control system and finds serious and widespread weaknesses in it. It argues for a drastic revision of standards and for complete overhaul of the control system.

**The Politics of Secrecy** is by James Michael, an American lawyer (ex-Nader) and an expert in freedom of information issues. Michael describes his work in Britain in trying to uncover the ultimate secret — the extent of secrecy in government. His report explains how secrecy is calculated to secure political advantage to the consistent disadvantage of Parliament, Press and the public — and it puts the case for a 'public right to know'.

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**Company Law Reform** examines the existing, proposed and desirable minimum requirements for the disclosure of information by companies. The report evaluates government proposals for requiring companies to disclose more information, in the light of the government's own record on secrecy — and it identifies some 60 areas in which companies should be required to make public more information about their work.

**Arms, Exports and Industry** outlines the involvement of some 50 British companies in military contracting, and examines their relationship with the Government Defence Sales Organisation. The report also describes how secrecy has been used to obstruct Parliamentary control over British arms export policies; it concludes that the case for public scrutiny of the 'defence' business, and its effect on the progress of disarmament, is overwhelming.

**Something on the Press** looks at the way in which several major newspapers recently handled a front-page story. The report describes some of the difficulties reporters face when trying to produce copy to tight deadlines. It describes how, in trying to get round these difficulties, many papers seem to create 'fact' from fiction; make sweeping and unwarranted assumptions about the course of events; mould the story and angle it to what are presumed to be readers' tastes; and then let the news perish, uncorrected and unfinished.

### Social Audit No. 3 £2.00 plus p&cp

This issue is devoted entirely to a 30,000 word report on the major UK engineering group, *Tube Investments Ltd.* The report describes the performance of this company under 12 main headings: business operation; company 'philosophy'; disclosure of information; employee relations and conditions of work; minority hiring practices; race relations; health and safety at work; overseas operations; safety, quality and reliability of consumer products; military contracting; environmental responsibilities; and donations to charitable causes.

The report examines the Company's work in each of these areas — so far as was possible without co-operation from the management — and describes what was good, bad or indifferent in each case. The report also discusses some of the general problems and possibilities that might be involved in the assessment of corporate social impact, by means of 'social audits'.

#### **Social Audit No. 4 £1.50 plus p&p**

**Shareholders put to the Test** looks at the theory and practice of 'shareholder democracy'. It also describes the response *Social Audit* got from a carefully selected sample of 1,000 shareholders in *Tube Investments Ltd.*, when trying to table two simple resolutions on social issues, for consideration at the Company's 1974 AGM.

**The Unknown Lawson Empire** examines a part of the financial empire of Sir Denys Lawson and its impact on a small mining community on the Kentucky/Tennessee border in the U.S.A.

#### **The Alkali Inspectorate £1.50 plus p&p**

**The Alkali Inspectorate** is the government agency responsible for the control of most industrial air pollution. The report on the work of this body examines the way in which it sets and enforces standards and describes the Inspectorate's relationship with local authorities and the public. The 48-page report also examines the confidential relationship between the Inspectorate and industry, and perhaps says as much about the style of government in Britain as it does about the Inspectorate itself.

#### **Social Audit No. 5 £2.00 plus p&p**

The report on *Cable & Wireless Ltd.* — a publicly-owned corporation — describes the disastrous consequences for the Company of an irregular and unwise involvement in new and unfamiliar business. It explains how, in extricating itself, the Company succeeded in covering up losses amounting to over £2 million. The report also demonstrates how such concealments are facilitated by present auditing and accounting standards.

**Advertising the Art of the Permissible** evaluates advertising standards and practice in the light of the attempts made by the industry to strengthen its voluntary control system. The report suggests that the changes that have taken place — though sweeping — remain inadequate to the needs of the present, and certainly to those of the future.

**Notes** in this issue briefly review seven topics relating to business and government responsibilities.

#### **Social Audit No. 6 £2.00 plus p&p**

The **Notes** feature reviews at some length industry and government action and inaction on the question of smoking and health. It also follows up with more information on the affairs of the *Cable & Wireless* group, and calls for a public examination of the Company's affairs by the Parliamentary Select Committee on Nationalised Industries. (This Committee subsequently announced an enquiry into the Company's work.)

**Coalite & Chemical Products Ltd.** is the UK's major producer of domestic solid smokeless fuels. The Company was chosen as the subject of a full Social Audit enquiry both because it plays a key role in the implementation of national clean air policy, and because it carries on operations which are potentially harmful to employees, and which cause serious environmental pollution in the neighbouring communities.

*Social Audit's* report on *Coalite* runs to some 20,000 words in length and concentrates on an examination of the Company's record in employee relations, health and safety at work, environmental pollution and community and consumer relations.

The report describes how the Company brought badly-needed jobs to small mining communities, but at considerable cost to the local environment. It examines in detail the ironical situation whereby households near the plants that manufacture smokeless fuels should be among the last to enjoy the benefits they can bring.

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Journal of Applied Psychology, 1977, Vol. 62, No. 1, 1-10

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Journal of Applied Psychology, 1977, Vol. 62, No. 1, 1-10

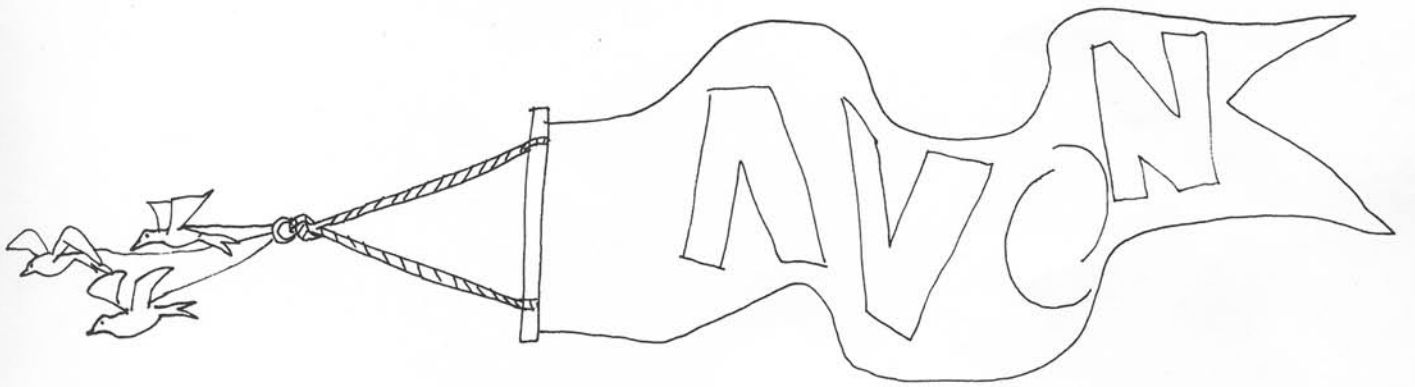
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Journal of Applied Psychology, 1977, Vol. 62, No. 1, 1-10

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# Social Audit

SOCIAL AUDIT LTD. is an independent, non profit making body concerned with improving government and corporate responsiveness to the public generally. SOCIAL AUDIT LTD. is also the publishing arm of PUBLIC INTEREST RESEARCH CENTRE LTD., a registered charity which conducts research into government and corporate activities.

These two organisations are funded primarily by grants and donations and through the sale of publications.

PIRC's report on the Avon Rubber Company Ltd., published in this issue, is the last in SOCIAL AUDIT's 'journal' series of reports. Details of past publications (1973-75) and future work are shown inside.