

Winter 1968

# Report on Product Safety: Household Goods

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(1968) "Report on Product Safety: Household Goods," *Indiana Law Journal*: Vol. 43: Iss. 2, Article 1.  
Available at: <http://www.repository.law.indiana.edu/ilj/vol43/iss2/1>

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# INDIANA LAW JOURNAL

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Volume 43

WINTER 1968

Number 2

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## COMMENT

*The Indiana Law Journal is pleased to present, as its first COMMENT, the REPORT ON PRODUCT SAFETY: HOUSEHOLD GOODS.† As we stated in our previous issue of volume 43,*

*[t]he purpose of this section is to provide a forum for the expression of timely and thoughtful opinion concerning current legal and social problems, unfettered by the restrictions of the usual article format and the need for rigorous documentation. The essence of this unstructured section will be the presentation of new ideas and approaches with the emphasis on free and imaginative speculation.*

*The REPORT, prepared at the request of the Federal Government, is a broad discussion and analysis of the problems encountered in attempts to achieve maximum safety of consumer products. Realizing that this is an area of law that cries out for a work of this scope, we were more than happy to respond to Miss Betty Furness's suggestion that we publish it. The REPORT, of course, can be only a beginning. But it is believed that this first step will be both a foundation and catalyst to future, even more comprehensive studies which will ultimately result in a final solution to this serious social problem.*

†Concurrently published in book form by Bobbs-Merrill Company, Inc., Indianapolis.

## PREFACE

THE WHITE HOUSE  
WASHINGTON

September 8, 1967

Professor F. Reed Dickerson  
Indiana University Law School  
Bloomington, Indiana

Dear Dr. Dickerson:

May I express the appreciation of the President's Committee on Consumer Interests for the magnificent *Report on Product Safety: Household Goods* prepared by the Seminar in Legislation of the Indiana University School of Law under your direction.

It is a comprehensive study dealing with a yet undeveloped but constantly changing legal area—the legal philosophy of consumer protection. The report has provided the Federal Government with a sorely needed overview of the problems arising from the complicated field of product safety. Furthermore, the report suggests a framework on which to rest legal liability and protection and provides guidelines which would significantly improve legal process in an area indicative of impending change. It presages future concepts of consumer protection and product liability now needed to provide a more equitable method of establishing the rights and liabilities of the consumer, manufacturer and seller.

Additionally, the report will serve as a valuable position paper for the proposed National Commission on Product Safety created by the Congress to study and recommend action to protect the consumer from hazardous products.

The Federal Government would be honored to publish the report. It would lend itself well to such publication. But we do believe that the Indiana Law School deserves the full publicity and credit for this work since we anticipate wide public circulation. We suggest that the *Indiana Law Journal* consider a special issue. . . .

We at this office will insure that it receives the careful attention of Congress, the Indiana Congressional delegation and in particular, members of the Product Safety Commission, and all of the many other interested Federal agencies.

The report is a significant contribution to legal philosophy. You and your students have our deepest gratitude.

Sincerely,  
Betty Furness  
Special Assistant to the President  
for Consumer Affairs

## INDIANA UNIVERSITY

*School of Law**Law Building*

BLOOMINGTON, INDIANA 47401

July 31, 1967

Miss Betty Furness  
Special Assistant to the President  
for Consumer Affairs  
Executive Office of the President  
Washington, D.C.

Dear Miss Furness :

On behalf of the Seminar in Legislation at the Indiana University School of Law, I am happy to send you its *Report on Product Safety: Household Goods*, which it has prepared under my supervision at the original request of Mrs. Esther Peterson and later under your own authorization. As shown in the Statement of Mission, the objective has been to develop a position paper for the President's Committee on Consumer Interests to submit to the National Commission on Product Safety, established by Senate Joint Resolution 33, now pending in Congress.

The focus of the paper is household products other than those excepted by section 6 of the Resolution. Accordingly, we have omitted special consideration of such products as food, drugs, automobiles, and flammable fabrics.

Soon after we set to work, it became apparent that circumstances beyond our control would prevent us from making a definitive legal and factual analysis supplemented with firm recommendations for statutory and other legal reform. Time and personnel limitations and a lack of adequate factual data specific enough for our purposes made it clear that the Seminar would have to take a more conservative view of what it could accomplish. Accordingly, we decided to deploy our limited resources simply to get the most helpful possible product that circumstances would permit.

As a result, we have concentrated on (1) stating a coherent and realistic philosophy of consumer protection, (2) developing a logical framework broad and flexible enough to accommodate all aspects of the problem, (3) examining about a dozen of the most sensitive product hazards to see what lessons of consumer protection they might suggest for consumer protection generally, (4) inventorying and briefly apprais-

ing the available approaches and sanctions that might be potentially useful for protecting the consumer, and (5) surveying the available literature of product safety to discover leads for exploring specific subjects in greater depth than has been possible for the Seminar. In short, we have tried to develop a base on which the Commission could build without undoing any significant part of the work that we have done. For these reasons, the report is more suggestive than conclusive.

Any merit the report may have probably lies in its general sweep and the orientation of its materials. Its specific weaknesses, on the other hand, will be all too apparent. That the individual reports may be uneven in quality, specificity, depth, and documentation does not necessarily reflect on the competence of any particular writer, because success in each case has depended also on the availability of materials, the cooperativeness of particular sources, and the force of competing demands.

You may even note some muted tones of partiality and possibly inconsistencies of attitude. Here the editorial process had been used only to achieve a minimum of substantive coherence, not to override the considered judgments of individual authors. If bias is visible here and there, some of it may be attributable to the predispositions of individual authors (this we have tried to keep to a minimum). More important, and harder to cope with, is the natural tendency of an information source to emphasize facts that put itself in a favorable light. A little skepticism, then, may be wholesome.

Despite our inability to develop the kind of specific recommendations for reform that we originally hoped, we have arrived at some general, possibly valuable conclusions. One is that much still needs to be done, for each product hazard, to develop more specifically the facts relating to consumer injuries from products, especially with respect to cause and seriousness of injury and kind of person injured. This in turn depends on developing more adequate reporting techniques.

A second general conclusion is that no single approach or sanction suggests itself as the preferred or sole approach for every kind of product hazard. It now seems likely that the most realistic solutions will involve developing for each such kind a combination of approaches and sanctions. Total results will be cumulative.

It is not inconsistent with this to conclude also that some of the more drastic approaches are better deferred until the less drastic ones have been tried and found wanting. In setting a priority of emphasis, we believe that every effort should be made to equip the consumer with the means for self-protection before direct regulatory measures are pushed to the hilt. Consumer education through appropriate warnings, instructions for use, institutional advertising, governmental pamphlets, and

perhaps even compulsory schooling or other training in product safety is desirable, not only because it tends to remove the problem rather than affirmatively solve it, but because it avoids or minimizes many of the perplexing administrative problems of direct governmental control, including, of course, the baffling problems of enforcement.

Where consumer education fails, we believe that special consideration should next be given to arming the consumer with appropriate civil remedies whose cumulative effect is to encourage the manufacturer to improve his product. Although effective only in some areas, this approach has the advantage of having a built-in enforcement feature that does not depend for its initiative and drive on the efforts of administrative officials.

Although direct governmental regulation is inevitably indicated in many areas, we believe that economic, administrative, and political considerations strongly suggest that it should be used only to the extent that less drastic approaches are considered unlikely to provide adequate protection.

We conclude lastly that, differently for each product, a point is often reached where further extension of the opportunity to avoid injury would involve eliminating the product altogether, either by direct prohibition or by making it economically unfeasible to produce, or would seriously compromise its usability. Where on balance the social value of the product outweighs the irreducible incidence of unavoidable injuries, protection of the consumer necessarily takes the form of compensation rather than avoidance.

A word on authorship. If a particular part has been written by a student member of the Seminar, his name appears as author. Parts that carry no specific authorship have been written by the Chairman, who also edited the whole.

We hope that the accompanying Report will be useful to you and the President's Committee on Consumer Interests in advising the National Commission on Product Safety. It has been a privilege for the Seminar to serve you and the Committee.

Sincerely,  
F. Reed Dickerson  
Professor of Law  
Chairman, Seminar on Legislation

## REPORT ON PRODUCT SAFETY: HOUSEHOLD GOODS

Seminar in Legislation, Indiana University School of Law  
F. Reed Dickerson, Editor†

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## I. STATEMENT OF MISSION

The mission of the Seminar in Legislation is to develop a position paper for the President's Committee on Consumer Interests to submit to the National Commission on Product Safety, established by Senate Joint Resolution 33.<sup>1</sup> The focus of the paper will be on household products other than those excepted by section 6 of the Resolution. "Household products" are defined very broadly as "products customarily produced or distributed for sale through retail sales agencies or instrumentalities for use by a consumer or any member of his family."<sup>2</sup> This includes all consumer products except those regulated under the National Traffic and Motor Vehicle Safety Act of 1966;<sup>3</sup> the Flammable Fabrics Act;<sup>4</sup> the Federal Food, Drug, and Cosmetic Act;<sup>5</sup> the Federal Hazardous Substances Act;<sup>6</sup> or the Federal Cigarette Labeling and Advertising Act.<sup>7</sup>

The first objective is to discover and define the areas within which household products carry unreasonable hazards of physical harm and to develop criteria for determining whether or not such a product or group of products is sufficiently hazardous to warrant legislative or other governmental intervention. This involves considering not only the seriousness of the threatened injury and its incidence, but also the degree of consumer vulnerability. Hazards that affect only property or convenience need not be considered.

The second objective is to develop criteria for selecting the most feasible approaches and sanctions for those areas in which legislative intervention appears to be appropriate. Feasibility includes such factors as cost and inconvenience to the industry concerned, the need to make the product available, and the source of the hazard, that is, whether it results from faulty design or from faulty construction.

The third objective is to study in detail some of the more important household products or groups of household products. Presumably, these will be products creating serious physical hazards of high incidence and with respect to which the consumer is highly vulnerable. Each study will cover the kinds of hazards involved, their seriousness, and their incidence; application of the criteria for legislative intervention; and application of

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1. Act of Nov. 20, 1967, Publ. L. 90-146, 81 Stat. 466.

2. *Id.* § 6.

3. 15 U.S.C. § 1381 (1964).

4. 15 U.S.C. § 1191 (1964).

5. 21 U.S.C. § 301 (1964).

6. 15 U.S.C. § 1261 (1964).

7. 15 U.S.C. § 1331 (1964).

the criteria for selecting the most appropriate approaches and sanctions in preference to their reasonable alternatives.

The position paper will include a background statement. Conclusions and recommendations will be supported by adequate facts and rational explanation. The study will include an inventory and evaluation of existing consumer protections.

## II. INTRODUCTION

### *A. General Need for Consumer Protection*

The history of consumer protection, which is too long to be recounted here, is a history of sporadic responses to a broad need that has been met for the most part on a crisis rather than a sustained basis. An adequate approach to unused refrigerators, for example, came only after a rash of suffocations resulting from their use as children's playhouses or hiding places. Other examples are not hard to find.

That the need for a general philosophy of consumer protection has been steadily growing on an ever widening front must be apparent to anyone who has paused long enough to contemplate the proliferation and increasing complexity of today's consumer goods. In the face of the interests that compete for an individual's time, it must also be apparent that his opportunities to know and adjust to the specific capabilities and limitations of particular goods is severely limited. To own an automobile for several years before learning fully how to operate even its heater-ventilation controls is not unusual. This kind of lingering ignorance or incapacity is seen in many kinds of people over a wide range of products. That notions of caveat emptor have crumbled so far as the ultimate consumer is concerned should not be surprising. Seller and buyer-for-use no longer bargain as equals.

Not only has the resulting disparity in bargaining strength been at the expense of the individual unorganized consumer, but the very technological forces that have given to him in many cases a superior product have made him correspondingly less capable, as compared with those with whom he deals, of telling the better from the worse. Besides the development of elaborate goods with deeply buried technical qualities, the creation of superficially unique "kinds" of products through the exploitation of minor differences, distinctive packaging, and brand names, together with the multiplication of unstandardized grades and

sizes, has made consumer confusion the worse confounded.<sup>8</sup>

....

With the increasing superiority of the producer's ability to know the ingredients and capacities of elaborately fabricated commodities, the consumer's vulnerability has also been increasing. Responding to subtle institutional shifts like this, the consumer turns to the law for new protections. One of the broader questions thus raised is how far the law should go beyond merely prohibiting deliberate and positive deception. How fully should it require the seller or manufacturer to educate the consumer in the character and utility of his product? How fully should it require him to underwrite the consumer's usual expectations?<sup>9</sup>

The need for consumer protection is thus a function not only of the number and complexity of products, which determine the scope of the potential physical threat, but also of the consumer's own limitations, which determine his vulnerability. For this reason, a sound approach to reducing the incidence of physical injury from the use of a product must consider not only the possibilities of improving the product itself but also the possibilities of improving the user's ability to cope with it.

Experience shows that the particularities of physical threat and consumer vulnerability vary widely as we move from product to product and hazard to hazard. It shows also that the approaches and sanctions that seem to work best for one product hazard do not necessarily work best for another. It may be assumed, therefore, that any set of detailed recommendations for a wide range of products, even if limited to those classed as "household," is likely to result in vast congeries of specific prescriptions.

Understanding the special problems of consumer protection depends not so much on knowing the specifics of technological threats to the physical integrity of the user as on understanding the nature of the group interest usually referred to as "the consumer." One of the common fallacies is to think of an aggregate of consumers as constituting an organic group, comparable perhaps to a labor union. However, groups differ considerably. Some are organic; some are not. A labor union is an organic group; taxpayers are not. The United States Chamber of Commerce is an organic group; consumers are not. The distinction is important in matters of group protection because only an organic group can act as a group in its own behalf. A nonorganic group can be protected

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8. R. DICKERSON, *PRODUCTS LIABILITY AND THE FOOD CONSUMER* 3 (1951).

9. *Id.* 4-5.

only by some entity other than the group, such as an individual or an organic group.

The fully organic group has a strong centripetal force to hold it together. The fully nonorganic group has nothing to hold it together. A nonorganic group is simply a conceptualization imposed on an aggregate of individuals who have little or no awareness of their "groupness." At most they may have a common interest. Therefore, if the Government should act on behalf of a nonorganic group, it would probably treat such a group differently from an organic one.

Every significant organic group has a common interest that is strong, constant or frequently recurrent, and interrelated among the members of the group. For the consumers of products in general the more specific the interest (such as the interest in buying a safe electrical appliance), the more fleeting it is; the more permanent the interest (such as the interest in buying household goods in general), the more diffuse and heterogeneous it is.

In general, the problems of consumer protection are better understood if the matter is approached as one of protecting general and specific interests that need outside protection, rather than of protecting an idealized person, "the consumer".

The fact that every responsible person is in some respect a consumer has made it easy to assume that his interests as consumer require no special consideration. The position is sometimes supported by the argument that no one will consciously work against his own interests.

Here it is helpful to remember that the word "consumer" means variously (1) an individual buyer, as related to a particular product he wants, (2) an individual buyer, as related to the total of his purchasable wants, (3) all buyers who want a particular product, as they are related to that product, or (4) all buyers (i.e., everybody), as related to the total of their purchasable wants.

In sense (1) the word "consumer" denotes not a whole man, nor even a constant aspect of a man, but a fleeting relationship. True, the individual buyer may not consciously work in this transaction against his interests in this transaction, but he may unconsciously work in this transaction against his interests in other transactions. And conversely. This is just as true for the less concrete and less significant sense (2), where his interest is, in the abstract, more pervasive, but remains in

individual situations an aggregate of separate interests no better or differently coordinated.

In most economic situations of general significance, sense (3) is the most important, because concrete problems normally involve particular products or groups of products and all those who are interested as users in these products. Here the relevant consumer group not only is limited in number but is comprised of constantly changing individuals with only a momentary allegiance. The important fact here is that the common interest in a common product provides no such adhesive, necessary to group self-assertion, as it gives, through intimate and continued personal association, to organic entities such as the "laborer" and the "producer." Add to this fact an increased disparity in sophistication between seller and buyer and you can see why the consumer frequently needs special help.

When we say that "everyone is a consumer" (sense (4)), we mean that everyone wants at least something that is purchasable, though not necessarily the same thing or things. Here, the word "consumer" relates to an undifferentiated group with no peculiarities whatsoever. As this everybody-capable-of-buying-anything, the consumer has even less group self-consciousness than under sense (3). The capacity for group self-protection is correspondingly less.<sup>10</sup>

It is not surprising, therefore, that the consumer concept has troubled sociologists and economists as well as lawyers. The fact that everyone is a consumer of many things has even led some persons to confuse the consumer interest with the balanced aggregate of all human interests that we normally call the "public interest." This is unfortunate, even though precisely the same people are involved.

. . . [T]o identify the consumer with the public at large is to lose the interest in consumption in the larger whole, leaving it inadequately understood and inadequately represented. Conversely, to confuse the public interest with the narrower interest of society in material consumption is to forget other interests of equal validity.<sup>11</sup>

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10. *Id.* 7-8.

11. *Id.* 8.

## B. Organizations Operating on Behalf of the Consumer †

### 1. Governmental Organizations

#### (a) Federal

The most comprehensive study of federal governmental organizations is the one prepared by the House Committee on Government Operations in 1961.<sup>12</sup> Thirty-three departments and agencies indicated that they conducted some type of consumer protection activity. Very few of these activities, however, relate specifically to "household products," as defined by section 6 of Senate Joint Resolution 33.<sup>13</sup>

In the Department of Commerce, the Business and Defense Services Administration develops commodity standards, reviews pending legislation from the consumer standpoint, and provides an information service to consumers. Also in the Department of Commerce, the National Bureau of Standards develops standards, specifications, and testing methods. These specifications are adopted voluntarily, if at all, by business. The Federal Trade Commission controls the shipment and marketing of flammable fabrics. In the Department of Health, Education, and Welfare, the Office of Education educates consumers through home economics programs in secondary schools. Finally, the Department of Justice prosecutes cases involving violations of consumer protection statutes.

Other federal departments and agencies are known to operate on behalf of the consumer, but they were not included in that study. The most important is the President's Committee on Consumer Interests, headed by the Special Assistant to the President for Consumer Affairs. It was established in 1964, as was the post of Special Assistant. The Committee, *inter alia*, acts as the consumer's voice in the Administration, coordinates consumer activity of government agencies, recommends legislation, and promotes consumer education. It is composed of representatives of government and of private citizens; the citizen portion is known as the Consumer Advisory Council.

The Department of Agriculture protects the consumer in the area of household products, mainly through consumer education. The Cooperative Extension Service distributes millions of consumer publications each year and also conducts workshops. The Consumer and Marketing Service of the Department also conducts activities beneficial to the consumer. Finally, the Injury Control Program of the United States Public Health Service, which is in the Department of Health, Education, and Welfare,

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† By Robert L. Gowdy.

12. HOUSE COMM. ON GOVERNMENT OPERATIONS, 8TH REPORT, CONSUMER PROTECTION ACTIVITIES OF FEDERAL DEPARTMENTS AND AGENCIES, H.R. REP. NO. 1241, 87th Cong., 1st Sess. (1961).

13. Act of Nov. 20, 1967, Pub. L. 90-146, 81 Stat. 466.

conducts research and distributes information on injuries caused by household products.

(b) *State*

The best source of information concerning state governmental organizations is a study made by the Colorado Legislative Council in 1966.<sup>14</sup> This report classifies state agencies according to function. There are agencies whose primary functions are recommending legislation and representing the consumer before governmental bodies. In one state, such an agency is organizationally located in the executive branch outside the governor's office: the Connecticut Department of Consumer Protection. In two states, the agencies are located in the governor's office: the California Consumer Counsel and the Massachusetts Consumers' Council. Apparently, not much of the activity of these agencies has been devoted to the safety of household products.

According to the Colorado study, there are many agencies whose primary function is enforcing consumer protection legislation. These are located in the office of the Attorney General. States having such agencies include Alaska, California, Hawaii, Illinois, Kansas, Maine, Michigan, Minnesota, Missouri, New Jersey, New Mexico, New York, North Dakota, Ohio, Oregon, Pennsylvania, and Washington.

Undoubtedly, other state agencies carry on special types of consumer activity, as a department of health might do. Although examples may be given, the full extent of this is not known. The Alaska Safety Council is composed of the secretary of state (chairman) and the respective commissioners of public safety, highways, health and welfare, education, and labor. It studies safety problems affecting, *inter alia*, the home, and it acts as the central office of the state for safety planning and education. The Consumer Protection Division of the Iowa Department of Agriculture enforces laws relating to paints, oils, and petroleum. Finally, the Dairy, Food and Trade Division of the Wisconsin Department of Agriculture administers laws concerning frauds connected with non-food products.

(c) *Local*

The only local governmental consumer organization discovered was the New York City Consumer Council, recently established by Mayor Lindsay.<sup>15</sup> The ten-member panel, which is composed of city officials and

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14. LEGISLATIVE COUNCIL REPORT TO THE COLORADO GENERAL ASSEMBLY, CONSUMER PROBLEMS IN COLORADO, RESEARCH PUBLICATION No. 112 (Nov. 1966).

15. King, *City Sets Up New Agency for Consumer Protection*, N.Y. Times, April 23, 1967, § 1, at 1.

members of city agencies, is empowered to hold public hearings on consumer problems and to develop legislation. It also receives complaints and suggestions from consumer protection groups.

## 2. Private Organizations

There are many private organizations that aid consumers either directly or indirectly. In the latter category are many of the trade associations and some labor unions. As shown by the specific product hazard studies included in this Report, they often provide a consumer information service, establish codes, and conduct testing, even though they are, for the most part, business-oriented.

More specifically, there are a number of private organizations that operate on behalf of the consumer. One of these is the magazine *Good Housekeeping*.<sup>16</sup> This magazine maintains an institute with trained personnel to test household products. Such products must meet prescribed standards before they can qualify for the Consumers' Guaranty Seal, and safety is one of the factors taken into consideration. This service is more fully used by subscribers to the magazine, but to some extent it benefits all consumers who rely on the seal. Another organization is Consumers' Research, Inc., best known for its publication, *Consumer Bulletin*.<sup>17</sup> This organization tests products and rates them by brand name in its magazine, which has a circulation of about 100,000. Another such organization, Consumers Union, will be discussed later in this Report.

A number of other private organizations carry on activities that help to protect the consumer.<sup>18</sup> It is not known whether or how much

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16. See VII (E) (2), *infra*.

17. *Id.*

18. A partial list of organizations currently operating on behalf of the consumer is as follows:

American Home Economics Association; 1600 20th St., N.W.; Washington, D.C.; A. June Bricker, Executive Director. It was founded in 1909; has 28,000 members; has a staff of 33; consists of 57 state and foreign associations; and has 443 college chapters. It conducts various activities concerned with family life and the improvement of homes. It has a special committee called Consumer Interest.

American Standards Association; 10 East 40th St., New York City, New York; R. E. Gay, Managing Director. It was founded in 1918; has 2,300 members; and has a staff of 74. Its primary members are industrial firms, trade associations, technical societies, consumer organizations, and government agencies. It serves as a clearing house for nationally coordinated safety, engineering, and industrial standards. It delineates concerted projects that result in truly American standards. It maintains a reference library of 100,000 standards, specifications, and related materials. It has several boards of review; electrical, consumer goods, and safety. It issues a monthly publication entitled: *Magazine of Standards*.

Consumers Union of United States; 256 Washington St.; Mt. Vernon, New York; Dexter W. Masters, Director. It was founded in 1936; has a staff of 200. Its primary functions are testing, rating, and providing information on competing brands of appliances, automobiles, food products, and household equipment. It also represents consumer interests at government hearings. It derives income from the sale of its publica-



they are business-oriented and business-dominated. Those that appear to

tion *Consumer Reports*, to more than 950,000 subscribers and newsstand buyers. It has several technical divisions: appliances, electronics, and special projects.

Council on Consumer Information; Colorado State College; Greeley, Colorado; Ramon P. Heimerl, Executive Secretary. It was founded in 1954, has 1350 members, has a staff of 2, and has 2 local groups. Its members are teachers and research workers in public and private organizations. Its function is to contribute to the more effective fact-finding and teaching of consumer information.

National Better Business Bureau; 230 Park Ave.; New York City, New York; Kenneth B. Wilson, President. It was founded in 1912, has 2300 members and a staff of 40. Its members are business firms or organizations operating nationally or regionally. Its affiliates are 115 local Better Business Bureaus. Its divisions are solicitations, education, and public service.

National Consumer's League; 1029 Vermont Ave., N.W.; Room 207; Washington, D.C.; Sarah H. Newman, General Secretary. It was founded in 1899, has 10,000 members, a staff of 2, and 3 groups. Its members are various individuals and organizations. Its stated purpose is an educational movement to awaken consumer interest in its responsibility for conditions under which goods are made and distributed and, through investigation, education, and legislation, to promote fair labor standards and consumer protection.

National Fire Protection Association; 60 Batterymarch St.; Boston, Massachusetts; Percy Bugbee, General Manager. It was founded in 1896; has 20,000 members and a staff of 60. Its members are representatives of business and industry, individual and corporate (forty percent of membership); public safety officials (thirty percent); fire insurance executives and engineers (twenty percent); colleges, hospitals, libraries, and others (ten percent) interested in the protection of life and property against loss by fire. It serves as a clearing house for information on fires. Through some 130 technical committees, it develops and publishes advisory standards on virtually every aspect of fire protection and prevention. It provides specialized engineers in the field who promote electrical fire safety through a wider application of the National Electrical Code and who solve fire problems associated with storage, handling, and use of flammable liquids and gases. It maintains a library of 800 volumes on fire prevention and files of data concerning more than 200,000 fires. It publishes reference books, standards, proposed laws and ordinances, educational pamphlets, fire records and reports, folders, posters, and signs.

National Safety Council; 425 N. Michigan Ave.; Chicago, Illinois; Howard Pyle, President. It was founded in 1913, has 12,500 members, a staff of 360, and 250 chapters and councils. It compiles statistics supplied by its members, individuals, industries, insurance companies, schools, local safety groups, trade and labor organizations, civic groups, and governmental departments, and by its own staff of statistical, educational, and engineering technicians. It maintains the largest safety library in the world. It has several conferences: industry, labor, state and local safety organizations, home, school, and college, farm, and women. Its departments are public safety and public information. It issues the following publications: *National Safety News*, *Traffic Safety*, *Industrial Supervisor*, *Safety Education*, *Safe Worker*, *Safe Driver*, *Safe Railroader*, *Safe Builder* (all monthly), *Family Safety* (quarterly), *Farm Safety Review* (bi-monthly), *National Safety Congress Transactions*, and *Accident Facts* (annually). It also publishes posters, employee magazines, technical publications, manuals, and booklets.

Underwriters' Laboratories; 207 East Ohio St.; Chicago, Illinois; W. S. Austin, Secretary. It was founded in 1894 and has a staff of 840. It is a testing laboratory sponsored by the National Board of Fire Underwriters. Its stated purpose is, by scientific investigation, study, experiments, and tests, to determine the relation of various materials, devices, constructions, and methods to life, fire and casualty hazards; to ascertain, define, and publish standards, classifications, and specifications for materials, devices, constructions, and methods affecting such hazards. It publishes annual lists of approved electrical appliances.

For further information on this topic, see LEGISLATIVE COUNCIL, REPORT TO THE COLORADO GENERAL ASSEMBLY, CONSUMER PROBLEMS IN COLORADO (Nov. 1966); *Consumer Protection*, STATE GOVERNMENT NEWS, Oct. 1965, at 1; *Hearings on H.R. 7179 Be-*

be business-oriented include the American Standards Association (now called the "United States of America Standards Institute"), the National Better Business Bureau, and the National Safety Council.

### C. Product Hazards

The product hazards discussed in this Report are limited to those involving a significant threat of physical injury and the normal accompanying threats to personality, such as pain, suffering, and mental anguish. Excluded are threats to economic values or to mere enjoyment. However important in their own right, the problems of excessive prices or of mere failure of a product to perform in accordance with reasonable expectations where no other risk is involved are not covered here.

Moreover, the Report deals only with the hazards involved in the use of household products of the kinds covered by Senate Joint Resolution 33.<sup>19</sup> This means household products other than those excepted by section 6 of that resolution. Thus, all household products have been considered at least in general terms except those covered by the National Traffic and Motor Vehicle Safety Act of 1966;<sup>20</sup> the Flammable Fabrics Act;<sup>21</sup> the Federal Food, Drug and Cosmetic Act;<sup>22</sup> the Federal Hazardous Substances Labeling Act;<sup>23</sup> and the Federal Cigarette Labeling and Advertising Act.<sup>24</sup> Although not a central object of study in this report, even those acts have been surveyed to make sure that no potentially useful approach or sanction has been overlooked. Thus, the provisions applicable to aerosol cans have been examined for the lessons they carry on warnings.

### D. Approach of the Report

Because of limitations of time, personnel, available data, and other resources, it has been assumed that the Report would be most useful if it concentrated on the more significant product hazards, supplementing them with a list of suggested product hazards that appeared to warrant

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fore the Executive and Legislative Reorganization Subcommittee of the House Committee on Government Operations, 89th Cong., 2d Sess. (1966); HOUSE COMM. ON GOVERNMENT OPERATIONS, CONSUMER PROTECTION ACTIVITIES OF FEDERAL DEPARTMENTS AND AGENCIES, H.R. REP. NO. 1241, 87th Cong., 1st Sess. (1961); King, *City Sets up New Agency for Consumer Protection*, N.Y. Times, April 23, 1967, § 1, at 1; Mindell, *The New York Bureau of Consumer Frauds and Protection—a Review of its Consumer Protection Activities*, 11 N.Y.L.F. 603 (1965); D. ROBB & H. PHILO, LAWYERS DESK REFERENCE (1965); 1 THOMAS, ENCYCLOPEDIA OF ASSOCIATIONS (4th ed. 1964).

19. Act of Nov. 20, 1967, Pub. L. 90-146, 81 Stat. 466.

20. 15 U.S.C. § 1381 (1964).

21. 15 U.S.C. § 1191 (1964).

22. 21 U.S.C. § 301 (1964).

23. 15 U.S.C. § 1261 (1964).

24. 15 U.S.C. § 1331 (1964).

later investigation. From the product hazards studied and a broad survey of products generally, the Seminar has tried to inventory and, if possible, to evaluate the range of available approaches and sanctions that any comprehensive approach to consumer safety should consider. It has also tried to develop from these studies general principles of effective consumer protection.

Here, again, conclusions are tentative and subject to verification. In each case, the purpose has been to be as helpful as possible in suggesting potential avenues to effective consumer protection and to organize the whole so as to minimize any necessity of later backtracking.

#### E. *Sources Consulted*

Besides the available literature on product safety, which is inventoried for particular subjects at the end of each separate study and for consumer protection in general in the general bibliography,<sup>25</sup> the Report is based on correspondence or personal interviews with a wide variety of organizations and individuals, many of which are specified in the particular studies. Those consulted include, among others, the following: Injury Control Program, United States Public Health Service, Department of Health, Education and Welfare; National Safety Council; American Home Laundry Manufacturers Association; Illinois Department of Public Health; Frigidaire Division, General Motors Corporation; Electronic Industries Association; Radio Corporation of America; Toy Manufacturers of America; Bicycle Institute of America; miscellaneous toy manufacturers; S. C. Johnson & Son, Inc.; and Mr. Ralph Nader.

### III. CRITERIA FOR GOVERNMENTAL INTERVENTION

#### A. *Seriousness of the Injury Threatened*

It is believed that, at least initially, the Government should concern itself only with those threatened physical injuries that are relatively serious. This would include death, maiming, permanent incapacity, and extreme suffering. Also, it should concern itself only if the incidence of injury is more than merely occasional. Once a comprehensive and coherent program of consumer protection is established and experience has shown more fully the comparative efficacy, feasibility, and cost of alternative approaches and sanctions, additional product hazards may be studied and the difficulties and costs of particular solutions may be weighed against the respective needs.

Seriousness depends not only on the severity of the injury when it happens, but also on its incidence. Plainly, the more often a given injury

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25. See Tab C, *infra*.

is likely to happen, the greater the need to intervene. As a minimum, injury must result from a definable situation that occurs often enough to constitute a recognizable risk.

On the basis of existing experience, decisions on comparative need necessarily rest on broad individual judgment. When more precise data are available, more accurate judgments will be possible than are possible here.

### B. *Consumer Vulnerability*

An important criterion for government intervention is the degree of vulnerability of the typical consumer to the particular product hazard. Conversely, the law need not concern itself extensively with the person who consciously foregoes readily available means of avoiding injury. The essence of consumer need in most cases is the latency of the hazard.

Even this generality must not be overstated. Although the dangers in the use of a product are well known, as is normally true of inherently dangerous but highly useful products, such as rotary lawn mowers, it may be desirable in some instances to require the manufacturer to include safety devices that can be added without undue inconvenience or expense. Also, if even the best products offered by the particular industry fail to meet minimum standards of design, mere consumer knowledge may not arm him sufficiently in the case of products that are considered a practical necessity. The ultimate test should be: is the available safety precaution one that reasonable users are likely to take? If not, it may be reasonable to call on the manufacturer to act in his behalf.

Generally, legally recognized consumer vulnerability does not extend beyond the normal uses of the product. If the consumer uses a product for a purpose for which it is not normally used, should he not use the product at his own risk? The only practicable measure of defectiveness in most cases relates product performance to normal uses and to the consumer expectations they generate. General and vague though the patterns of reasonable consumer expectations in normal use may be, they give a sense of direction in an area of the law where the deceptive simplicity of the fact situations tends to obscure the subtleties of legal doctrine. Because the subtleties of legal defectiveness are many, no attempt at refinement will be made here. Instead, the reader is referred to a separate study that deals with the concept of legal defectiveness in the context of products liability.<sup>26</sup>

Examination of that study will show that the determination of

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26. Dickerson, *Products Liability: How Good Does a Product Have to Be?*, 42 IND. L.J. 301 (1967).

whether or not a manufacturer should be civilly responsible to an injured consumer depends not only on the reasonable expectations of the consumer but also on the reasonable expectations of the manufacturer. Although the latter limitation may be highly relevant in the limited field of civil liability, it does not follow that the Government should withhold all consumer protections merely because the manufacturer has no reason to anticipate the particular hazard. One could readily imagine a situation in which the consumer had reasonable expectations for use that were unmatched by any corresponding expectations of the manufacturer. The possibility of this is suggested by *McCready vs. United Iron & Steel Co.*,<sup>27</sup> in which the court found that although workmen on construction jobs commonly used mounted unglazed steel casements as temporary ladders, the practice was unknown to the manufacturers of such casements. In such a case, the Government might take steps toward either educating construction workers in the dangers involved or informing casement window manufacturers of the practice. This situation is not likely to recur often, because established consumer uses that are sufficiently known to the Government to prompt its intervention are likely to be known also to the industry.

Likewise, consumer vulnerability does not ordinarily extend to careless use. Yet, even here there may be circumstances in which the incidence of consumer carelessness is abnormally high and the manufacturer could without undue expense or inconvenience make a change in design or include a safety device that would avoid or minimize the kind of injury normally flowing from that kind of carelessness. The plausibility of government intervention in such a case is suggested by another products liability case, *Bahlman v. Hudson Motor Car Co.*,<sup>28</sup> in which a contributorily negligent plaintiff recovered from an automobile manufacturer for a head gash caused by a jagged seam weld in the roof of a car that had been represented as "seamless." Although the decision rested on express warranty, it recognized that under some circumstances at least the manufacturer is responsible for minimizing the consequences of intervening accident or even consumer carelessness.

Special problems of consumer vulnerability arise where a recognizable class of users lacks the capabilities for protecting themselves that normal individuals have. Because children of a particular age group may constitute such a class, toys present special problems. Similarly, hazards created by slippery surfaces should be appraised not only from the view of the normally agile person but also from the point of view of the aged, infirm, or sick. The problem is complicated by the fact that in such cases

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27. 272 F.2d 700 (10th Cir. 1959).

28. 290 Mich. 684, 288 N.W. 309 (1939).

the product may reach the user by way of a special intermediary such as a parent or physician. Thus, a warning to the doctor may serve in appropriate instances as a warning to the patient. On the other hand, a question may arise as to how far the manufacturer or other seller may rely on the adequately forewarned parent to take protective measures on behalf of the infant user. Here, too, the degree of consumer vulnerability is a major consideration in determining whether or not under the circumstances government intervention is appropriate.

#### IV. CRITERIA FOR APPROACHES AND SANCTIONS

##### A. *In General*

It is doubtful that enough reliable information is available at this time to support firm recommendations as to the relative appropriateness of particular approaches to government intervention and their supporting sanctions. The first step toward sound solutions is to survey the existing legal scene to see what is now being done in the general field of product safety and to examine the weapons in the current arsenal of consumer protections to determine whether or not potentially appropriate approaches or sanctions are being overlooked. A major objective of the Report is thus to inventory the existing alternatives even though not all of them can be evaluated fully.

Fortunately, it may be unnecessary at this stage to develop a firm priority of choices. Experience suggests that for each product hazard no single approach or sanction will commend itself as the sole or most effective consumer protection. Rather, it seems likely that a combination of approaches will turn out to be the most effective. Because the results of a combination of consistent approaches are likely to be cumulative, the fact that an available consumer weapon (such as injunction) may be used in only a small percentage of cases does not argue for rejecting it as a useful supplemental device. For this reason, it is unnecessary at this time to determine, for example, whether with respect to a particular product hazard the products liability suit or the imposition of criminal sanctions is the more effective. If both are useful, the question of which should carry the larger proportionate burden can be deferred if not dismissed altogether. In determining the appropriateness of particular approaches and sanctions the following considerations would seem to be the most important. How they are to be balanced for a particular product hazard is a matter of judgment.

##### B. *Need for and Utility of the Product.*

One of the most important considerations in selecting specific approaches to consumer protection is the importance of the product to the

consumer. The more important it is to him the less appropriate it would be either to ban the product altogether or to impair its usefulness in the interest of safety. To ban automobiles, even in the face of the so-called slaughter on the highways, would be unthinkable. On the other hand, the usefulness of thalidomide as a sedative is hardly worth its cost in deformed babies. Intermediately, it might be appropriate to ban the use of fireworks by individuals but not by responsible licensed organizations. Similarly, the appropriateness of a particular safety device depends partly on how much its inclusion would impair the usability of the product. The stronger the need for the product and the stronger the interest in usability, the fewer are the encroachments on that use that will be appropriate, especially where there are alternative approaches that exact a more modest compromise.

### *C. Cost Considerations*

Unless the Government is willing to absorb the costs of consumer protection, it seems clear that the cost to the manufacturer or to the consumer, or both, is an important factor in determining the appropriateness of a particular consumer protection.

Cost may affect not only the kind of approach but also the extent to which it is followed. That the addition of one inspector would cut the incidence of injury significantly does not mean that for each additional inspector the incidence of injury would be cut by a like amount. Experience suggests that a point is often reached beyond which increasing the safeguard produces results so minimal and so relatively expensive that it becomes economically unjustifiable to proceed further. For example, the introduction of desirable safety devices costing 10,000 dollars, an expense that can be absorbed or passed on, may reduce the incidence of injury from .05 percent to .01 percent but the additional expenditure of 30,000 dollars, an expense that could not be absorbed or passed on, would further reduce it by only .001 percent. In such a case, another approach may be needed. This approach might be an appropriate warning or, where the incidence of injury is considered irreducible, the point already reached might be considered the end of the line.

The additional cost ultimately borne by the consumer also may be an important consideration, especially where it may persuade the consumer to switch to a substitute product not subject to the same hazard.

### *D. Feasibility*

A third important consideration in the selection of approaches and sanctions is that of practical feasibility. For example, cost and inconvenience have effectively ruled out the prolonged subjection of uncooked

pork to sub-zero temperatures as a commercial means of eliminating the parasite *trichinella spiralis*.

Feasibility extends also to other considerations. The materials necessary for a recommended and theoretically workable safety device may be unavailable in sufficient quantities to meet the need, or use of the safety device may run so counter to established or reasonably attainable consumer habits that it should be rejected on that ground alone. For example, the proposal that the danger from exploding aerosol containers be eliminated by inducing the consumer to wrap used containers for overnight freezing preparatory to opening them before discarding would be theoretically effective if the busy user could be persuaded to take so elaborate precautions. Unfortunately, it is likely that few of even the most reasonable consumers would comply.

#### E. *What Is a Tolerable Incidence of Injury?*

The foregoing analysis implies that in many instances the product hazard in question cannot be reduced to zero or even to minimal proportions. Mowing a lawn by machine will probably always remain subject to some physical hazard. The question then arises as to when the point is reached beyond which it is preferable not to try to protect the consumer by changing the product, because the social loss in impaired usefulness of the product outweighs the risk of human injury. No world that is worth living in can be made absolutely safe. Perhaps a warning provides the best compromise. Here again, no pat formula is available. The decision rests on human judgment in a difficult balancing of human values. Beyond this, it is suggested only that in the attempt to reconcile conflicting elements, the burden of proof should remain on those who assert that the point of diminishing returns has already been reached. Otherwise, the incentives to resourcefulness that may develop new means to minimize today's risks to physical integrity could be undermined.

### V. SELECTED PRODUCT HAZARDS

#### A. *Basis for Product Hazard Groupings*

The following studies of individual household products have been defined on a product-hazard basis in the expectation that this will be the most functional approach. For example, washing machines have not been treated as a single subject, because the mangling hazard seems independent of shock hazard and because the shock hazard from a washing machine does not seem to be significantly different from that of any other electrical appliance used in the basement, where the chances of human grounding are high.



However, television sets, because of their special power problems, seem to warrant separate consideration. Glass doors have been grouped with glass panels because a common hazard suggests the probability of a common solution. This kind of functional classification seems to promise the most fruitful, consistent, and economical results.

#### B. *Power Lawn Mowers*†

The power lawn mower is a grass cutting machine of two major designs: rotary and reel. The rotary type uses an engine that rotates a blade on a vertical shaft. It obtains its cutting power by moving the blade at high speeds, cutting the grass like a scythe. This type provides the greater hazard. The reel type is simply a power version of the familiar hand mower, gaining its cutting power by forcing the grass between a moving blade and a horizontal stationary blade. The blade of the reel mower revolves much more slowly than that of the rotary type.

The injuries resulting from the use of power lawn mowers are numerous and severe, often resulting in permanent disability. The main hazards in the use of power lawn mowers are injuries from direct contact with the blades and injuries from thrown objects. The rotary mower has a blade that may rotate as fast as 21,000 feet per minute at the tip (about 240 miles per hour) and exert a pressure of 10,000 pounds per square inch. Obviously, when the blade strikes a solid object, it can propel it at tremendous speed. Likewise, the blade can seriously injure any part of the body that it strikes.

The rotary mower has the additional disadvantage of usually having the blades connected directly to the engine shaft, with the result that they rotate whenever the engine is running. This presents a hazard when the operator wishes to clear debris from a running mower. In contrast, the reel type mower usually has its blades connected to the wheels. The wheels and blades obtain their power through a clutch to the engine, with the result that when the mower is not moving, the blades stop, even though the engine may still be running. Thus, the reel type mower greatly reduces the threat of injury to the operator's hands when he tries to remove debris from the mower. Besides the hazards of injury from direct contact with the blade or an object thrown by the mower, there are the hazards of being burned by a hot engine or by fire from the gasoline used as fuel. These hazards are not discussed in this Report (they may warrant separate study).

Today, nine out of every ten mowers sold are the rotary type; this type is more popular because it can cut high grass and weeds, is lighter and easier to push, and is cheaper to buy and maintain.

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† By Donald D. Bussell.

Several recent accident surveys have been made concerning injuries from the use of lawn mowers. Many of these are dealt with in a report prepared in 1964 for the Outdoor Power Equipment Institute by William V. White of the Department of Health, Education, and Welfare.<sup>29</sup> This publication is recommended to any reader who wishes to obtain a more thorough background in the hazards connected with the use of power lawn mowers. Although these surveys are individually limited in scope and in number of injuries reported, together they give a fairly accurate picture of power mower hazards.

The surveys show that about ninety percent of all reported mower injuries result from the use of a rotary power mower. Most of the injuries involve either the hand and fingers or the feet and lower legs. Injuries to the hands and fingers usually result from the operator's placing his hands near the blades while the mower is running, while the foot injuries result from the mower's being pulled over the feet or from the operator's foot slipping under the mower. Leg injuries are generally caused by objects thrown from the blades. Apparently, thrown objects travel under the blade guards, even though the guards extend below the level of the blades. Although bystanders have often been the victims of objects thrown by the mower, the great majority of injuries are to the operator himself, often as a result of his own carelessness.

A study made in Kalamazoo, Michigan, in 1964 illustrates a problem needing further study. This study, which was based on only thirty-eight reported mower injuries, showed that eight of the injuries involved the riding type mower. Of these, five required amputation and six were severe enough to result in loss of work for one day or more. Five required hospitalization for an average of twenty-five days. Of the remaining thirty injuries reported, seven required hospitalization for an average of seven days and only two resulted in permanent impairment. Although a total of eight injuries is too small to justify restrictive regulations, it suggests the appropriateness of further investigation. The riding mower appears to be inherently more dangerous because of its greater power and the hazard that it may tip over.

There is no available statistical information on the characteristics of the operators of lawn mowers, but some idea can be obtained from a Pennsylvania study reported in *The Challenge*<sup>30</sup> and from the Kalamazoo study. Over seventy-five percent of the operators injured are male, spread rather evenly among the age groups between ten and sixty. Most accidents happen on dry ground, in full daylight (in Kalamazoo, noon

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29. W. WHITE, *THE CHALLENGE: ACCIDENTAL INJURIES ASSOCIATED WITH ROTARY LAWN MOWERS* (1964).

30. *Id.*

was the peak time), and on Monday, Tuesday, or Saturday. Many accidents appear early in the mowing season. In Kalamazoo, fifteen of the thirty-eight injuries occurred during the first three weeks and, in Pennsylvania, almost one third of the reported injuries occurred in May. This suggests a period of "relearning" at the beginning of each mowing season.

The rotary mower is a dangerous machine and is recognized as such by most operators. Nevertheless, many parents permit their children to operate such mowers, even though the same parents would not permit their children to operate other power tools. Mowing the yard is so routine that many operators become careless, failing to remove objects from the path of the mower and making adjustments while the engine is running. Careful use and full appreciation of the hazards of the rotary lawn mower could eliminate one of the most frequent types of injury, that to the fingers and hands. The simple expedient of stopping the engine before performing any work around or on the mower would end these injuries.

Most mowers come with a leaf mulching attachment, usually a simple metal plate or grid placed over the discharge chute. While attached, this device restricts the discharge of the leaves and forces them back into the blades where they are mulched. The use of a rotary mower as a leaf mulcher is little different from its use in cutting grass. There is, however, an additional element of safety, because the metal piece over the discharge chute reduces the risk of injury from objects thrown by the mower.

One method of helping to control lawn mower design is to bring a private action against the manufacturer on the ground that the plaintiff's injury is attributable to a negligent design. If such actions resulted in substantial judgments, manufacturers might be encouraged to redesign lawn mowers to minimize the hazard. Unfortunately, the plaintiff has generally been unsuccessful. In *Marko v. Sears Roebuck & Co.*,<sup>31</sup> the plaintiff was injured when his recently purchased mower struck a rock and threw it back on his foot, causing severe injury. The plaintiff brought a negligence action, alleging that the defendant had improperly designed the mower in that there was no guard on the rear of the mower and the blade did not disengage upon striking an obstruction. The trial judge dismissed the action because there was no testimony showing that a proper design required that there be a guard on the back or that the blade disengage when striking an object. The *Marko* case suggests that it will often be hard to show that one design is safer than another; yet to recover, the plaintiff must show that the particular design is so unsafe that its production and sale constitute negligence on the part of the manufacturer.

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31. 24 N.J. Super. 295, 94 A.2d 348 (App. Div. 1953).

An additional difficulty is illustrated by *Hector Supply Co. v. Carter*.<sup>32</sup> Here, the court held that recovery would not be allowed for a breach of warranty on a design defect, because for mowers any such defect was apparent to the purchaser. The same ground was given for sustaining a summary judgment in *Murphy v. Cory Pump & Supply Co.*<sup>33</sup> Here, a child was struck by a mower operated by another child. The injury resulted in the amputation of one leg. The court held as a matter of law that the manufacturer had no duty to provide a shield on the front of the mower to protect the blades. The machine involved in this action was a riding mower that had a front opening eight and three-quarters inches from the ground. The court said that at the time of the accident the mower appeared to function properly and there was no danger that was unknown to the user. These cases suggest the difficulties that a plaintiff will have in bringing a private action against a manufacturer. Unless the courts can be persuaded that a manufacturer has a duty to design safety into a lawn mower even where the hazard may be obvious to the user, pressure from this area will not be effective.

The lawn mower industry appears to be actively trying to reduce injuries from the use of rotary lawn mowers. In 1952 the Lawn Mower Institute was formed; its original purpose was to represent the lawn mower industry before the Federal Government in determinations of raw material needs during the Korean War. Safety has also been a major concern from the beginning. The Institute, now called the "Outdoor Power Equipment Institute" (OPEI), spends about eighty percent of its total income on a safety program.

In 1955 the Institute obtained the services of the American Standards Association (ASA), now called the "United States of America Standards Association," for the purpose of developing safety standards for lawn mowers. This resulted in the adoption of an ASA standard in 1960, with revisions in 1964. Further revisions are now being suggested to the industry.

The printed specifications of the *ASA Standards* consist of three pages, with three additional pages of illustrations. In these six pages only about twelve lines are devoted to reel power mowers; the rest are devoted to rotary power mowers. The specifications for a reel mower require (1) that there be a control for disengaging the drive wheels, (2) that all chains, belts, and gears be guarded, and (3) that a safety guide be supplied with each mower.

The specifications for the rotary mower include, in addition to these three provisions, more specific standards for the design of the mower and

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32. 122 So. 2d 22 (Fla. App. 1960).

33. 47 Ill. App. 2d 382, 197 N.E.2d 859 (1964).

the materials used in its construction. The present specifications limit blade speed to 21,000 feet per minute at the tip. The major change expected in the proposed revision is a reduction of this speed.

The main thrust of the specifications is regulation of blade exposure. They require that the blade not extend below the blade enclosure, except at the chute opening and at the front. The chute opening is given a maximum area, called the "square degrees" of exposure area. The purpose is to reduce the danger of injury from an object thrown by the mower through the discharge chute. The specifications also provide that the front of the blade enclosure shall be high enough that a line extending downward more than fifteen degrees from the horizontal from the bottom edge of the blade enclosure will not intersect the blade. This limits the height of the front of the blade enclosure. However, under an angle limitation, the farther the front of the blade enclosure is placed from the blade, the higher the bottom of the enclosure may be from the ground. The result is an opening on a large mower, like that in the *Murphy* case, where a child's leg was able to pass through.

There are also minimum requirements for steel blade material and construction. Strength tests are provided to determine the safety of the blade and housing. One test requires that a mower running at maximum speed be dropped onto a three-quarter inch steel rod, extending four inches out of the ground. Another requires that the mower be pushed, while running, into a steel disk in such a way that the blades make contact with the disk. This is to be repeated twenty-five times. Also, the mower must run for one hour with an unbalanced blade. To meet specifications, no component part may break, loosen, or deform during the tests so as to create a hazard to the operator or to bystanders.

Other specifications provide that a warning must be placed at the discharge chute and that the handle, except in the case of a rotary electric mower, must have a latch to prevent the handle from swinging over the mower.<sup>34</sup> Specifications designed to improve the stability of riding type mowers are also included.

*Consumer Bulletin* has been critical of the present standard for blade-tip speed, pointing out that one manufacturer of electric mowers found that a tip speed of 8700 feet per minute was proper for cutting grass. Because the blade is connected directly to the crankshaft of the engine, a problem arises in that reducing tip speed automatically reduces engine speed, causing a corresponding loss of power. If the tip speed is reduced,

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34. The exception in the case of an electric mower was a compromise to prevent the electrical cord from being cut. Rather than turn an electric mower around, the operator simply swings the handle over the top of the mower and then pushes it from the other side.

a larger engine is needed to develop the same power. A gasoline engine rated at two and one-half horsepower at 3600 revolutions per minute develops only about one horsepower at 1800 revolutions per minute (the speed corresponding to a tip speed of 8700 feet per minute on a nineteen-inch blade). To develop two and one-half horsepower at 1800 revolutions per minute, an engine rated at four and one-half horsepower at 3600 revolutions per minute would be needed.

*Consumer Bulletin* also criticized other ASA specifications. It pointed out that the ASA specifications limit the exposure area of the discharge chute to 1000 square degrees and the vertical angle of exposure of the blade to thirty degrees (thirty-five degrees for mowers with center-side discharge chutes). In their opinion, both dimensions are too liberal. Mowers with an area of 500 square degrees and an exposure angle of not more than seventeen degrees were found satisfactory. According to the findings in *Consumer Bulletin*, the mowers that presented the greatest hazard were those in which the tip of the blade came close to the edge of the discharge chute. The ASA specifications permit this if there is a rigid bar across the bottom of the chute secured so as to prevent its removal.

Perhaps the greatest weakness of the ASA standards, according to *Consumer Bulletin*, was that, although several of the mowers reported on were found not to meet the ASA standards, they carried the ASA seal. The Outdoor Power Equipment Institute issues a triangular seal to participating manufacturers stating that the mower conforms to safety standards. This is affixed to each lawn mower. The position of ASA on the use of such a seal is stated on the inside cover of the standards pamphlet: ". . . [p]roducers of goods made in conformity with an American Standard are encouraged to state on their own responsibility in advertising, promotion material, or on tags or labels, that the goods are produced in conformity with particular American Standards." The position of ASA is not one of enforcement but of establishing standards.

The Outdoor Power Equipment Institute, which owns the triangular label as a registered trademark, issues the label apparently without proof that the particular mower meets ASA specifications. The proper use of the label is thus left to the individual manufacturer.

Through extensive publicity and legal action to prevent imitations, OPEI has tried hard to make its label a desirable addition to any lawn mower. They have reported that, as a result of this effort, many retailers will no longer buy a mower unless it carries the ASA seal.

There is considerable evidence that most injuries occur because the operator is careless. For example, it is almost impossible for a carefully operated mower to cause injuries to the hands. Yet injuries to the hands remain among the most frequent. Apparently, in spite of the obvious

danger, operators continue to put their hands near the blades. Warnings printed on the mower to keep hands and feet away and to shut off the engine before working near the blades have not been effective. Operators continue to be careless.

Can and should the consumer be protected in spite of his carelessness? Before this question can be answered, a more detailed study is needed to determine, if possible, why the operators of power lawn mowers place their hands near the blades. Is it because the discharge chute becomes clogged and he tries to clear the chute? If so, and if there is a feasible design that would prevent a discharge chute from clogging, a non-clogging design could be required of all manufacturers. It is because the user was picking up an object in the path of the mower? If so, what, if anything, could be done by the manufacturer? Perhaps a guard that would not materially impair usability could be placed in front of the mower that would prevent the operator's hands from touching the blades. A report of work being done at the State University of Iowa for the Department of Health, Education, and Welfare, which is expected to deal with such questions, is expected early in the summer of 1967.

The work of the Outdoor Power Equipment Institute has been a commendable example of industry control. However, it would be even more effective if, in issuing the ASA seal, OPEI required that each model be tested for compliance with ASA specifications before it could carry the seal. Some manufacturers have used the United States Testing Laboratory in Hoboken, New Jersey, for such tests. The cost of a test is about 100 dollars per model, a small sum to pay for public approval. OPEI's seal has developed into a powerful influence for obtaining industry acceptance of standards. But, if mowers that do not meet the applicable standards are permitted to carry the seal, its value as an enforcement instrument will be dissipated.<sup>35</sup>

### C. *Glass Doors and Panels*†

The product of major concern in this study is the glass door or panel, although related products, such as room dividers and bathtub enclosures, present similar problems. Various types of glass are available for each of these products.

One type is plate or sheet glass. Plate glass is similar to but thicker

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35. For further general information, see L. KNAPP, *ROTARY LAWN MOWER SAFETY RESEARCH PROSPECTUS* (1963) (Institute of Agricultural Medicine, State University of Iowa); L. KNAPP & W. McCONNEL, *TESTING ROTARY POWER LAWN MOWER SAFETY BLADES AT FORT LAUDERDALE, FLORIDA AND IOWA CITY, IOWA* (1966) (Institute of Agricultural Medicine, University of Iowa, reprinted by U.S. Public Health Service); *CONSUMER BULL.* (July 1965).

† By Kenneth L. Andrews.

than the type used in window panes and, when broken, forms hazardous slivers. A second type is tempered glass. It is a safety glass and perhaps the strongest. When broken, it disintegrates into small pieces that normally do not present a serious laceration hazard. A third type is laminated glass. This safety glass is composed of two sheets of plate glass separated by a tough plastic cohesive. Although easily broken, laminated glass will shatter only under heavy impact; under moderate impact, it clings to the plastic cohesive. The fourth type, wire glass, is similar to laminated glass, except that wire reinforcement, rather than plastic cohesive, is used to prevent its shattering. It is superior to laminated glass in that, while breakable on heavy impact, the wire prevents a limb from passing through the surface and thus reduces the chances of serious laceration.

Glass doors and panels present two principal hazards to the consumer. The first and most serious is the danger of laceration. Lacerations may result when a limb or other part of the body is projected through the glass or when a glass fragment falls on a part of the body. The second hazard is that of concussion or bruise, usually resulting from collisions with tempered glass. While normally minor, they can be serious.

Statistical surveys show that the aggregate threat posed by glass doors and panels is serious. One survey reported 40,000 annual injuries from glass doors alone,<sup>36</sup> while another reported that one out of every seven glass door injuries resulted in hospitalization.<sup>37</sup> Although the surveys have not stated the ratio or number of deaths from glass door accidents, it is clear that most are non-fatal. An alarming aspect of such accidents, on the other hand, is the immediacy of death when it occurs. One observer notes that in many of the reported cases the time between laceration and death was less than twenty-two minutes.<sup>38</sup>

Because of the extensive use of glass products in both the home and commercial establishments, almost everyone is subject to glass door or panel hazards. Two studies have made common findings as to the vulnerability of particular groups. The Health Department of Dade County, Florida, conducted a pilot survey on injuries from glass doors; a similar, expanded survey was conducted by various county health departments throughout the United States.<sup>39</sup> The surveys covered all reported injuries from laceration or bruise hazards. The surveys substantiated the following points:

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36. Wolfstone, *Major Legal Problems—Glass Door Accidents*, TRIAL, Nov.-Dec. 1966, at 25.

37. *Glass Door Safety: A Progress Report*, GLASS DIGEST, March, 1964.

38. Address by W. V. White, Glass Safety News Conference, in New York City, July 1, 1965.

39. *Glass Door Safety: A Progress Report*, *supra* note 37.



- (1) Most accidents occurred in the home.
- (2) Eighty percent of all accidents were in the age range 5-44.
- (3) Only thirteen of the 108 injuries covered by the expanded survey occurred where decals or muntin bars were present on the doors.
- (4) Safety glass could have prevented or reduced all injuries.

These findings can be better understood through a discussion of the usual sources of injury. The three chief sources are (1) glass panels that are mistaken for doors, (2) glass doors that are defective, and (3) collision by walking or running into glass doors that are not seen or are thought to be open. The first source of injury is both a design and installation problem that can be corrected only by clearly marking the area as a doorway. Where it is difficult or impossible to correct this problem, safety glass should be used. As for the second, glass doors may be defective because of the use of old, used glass, which is subject to an aging process that weakens its resistance to breakage upon impact. Glass doors also may be defective because of improper installation. The third source of injury involves the "illusion of space" problem—people collide with doors and panels because they cannot see them. This is the major source of injury; according to the Dade County Survey, ninety percent of the injuries were from this source. Thus, two studies show that glass door and panel injuries are not the result of misuse. Even while being used as intended, glass doors and panels present a serious hazard to the consumer.

Glass door and panel hazards have elicited a significant response in recent years from both government and industry. However, beyond governmental action, it is doubtful that significant results have been achieved. The following discussion is illustrative rather than exhaustive of what must be done.

Washington was the first state to enact glass door safety legislation. The Washington statute, which went into effect January 1, 1964, prohibits the installation of glass doors after January 1, 1966, unless they have tempered, laminated, or wire glass. Although there has been no federal legislation in the area, the Federal Government, acting through the Federal Housing Administration, has required since April 1, 1963, that homes financed by the FHA be constructed only with safety glass (wire, laminated, or tempered) if the glass surfaces are larger than a specified size.

The effectiveness of industry effort to reduce the hazards of glass products is questionable. There have been attempts to establish standards, such as "quality certified" labeling promoted by the Aluminum Architec-

tural Manufacturers Association, but the standards are not clear as to whether or not all glass must be safety glass.

More impressive than standards, codes, or labeling by the industry is the prospective development of new types of glass. Several companies will soon market a safety glass far superior to any now available,<sup>40</sup> which could result in eliminating or minimizing both basic hazards. The laceration hazard should be eliminated because the new glass is unbreakable; the bruise hazard should be reduced because the new glass is pliable.

One reason why some companies in the glass industry have failed to establish codes or take other action to limit the hazards of glass doors and panels may be the small chance of civil liability. Among other things, contributory negligence, assumption of risk, and the manufacturer's adherence to established industry practices have provided formidable bases for defense.<sup>41</sup> More stringent standards of legal defectiveness might make a difference here.

Although technological developments and safety statutes have been effective in reducing the glass door and panel hazards, further efforts are needed. Legislation, codes, and industrial standards are effective means of eliminating glass product hazards, but federal legislation is needed to make safety legislation comprehensive and uniform. For one thing, the manufacture and sale in interstate commerce of plate glass doors and panels should be prohibited. Federal legislation should also require labeling on new glass certifying that it is safety glass and informing consumers of available means for reducing the bruise hazard.

Because non-safety glass is still widely used, consumer education of the hazards involved in the use of glass doors and panels is essential. Consumers should be informed of the dangers incident to glass products and encouraged to use such devices as decals and muntin bars. Replacement of existing plate glass with safety glass should be encouraged by government, contractor, and consumer periodicals.

It is recommended that the Federal Government prepare suitable educational materials. The distribution of these materials could take many forms: government agencies could distribute them upon request; consumer magazines could be encouraged to publish the information; and manufacturers and retailers who sell plate glass doors and panels could be required to provide the information at the time of sale.

In addition, manufacturers, builders, owners, and lessors should be required to place decals, glaze, or muntin bars on glass surfaces exceeding

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40. *New Glass Is Harder to Break, Safer When It Does*, POPULAR SCIENCE, Oct. 1966, at 170.

41. For a discussion of the civil liability of the manufacturer, see Wolfstone, *supra* note 36.

a specified size. Even if the laceration hazard is removed by the use of safety glass, injuries may still result from collision caused by the "illusion of space" in large glass areas. This approach is needed because of doubts as to the effectiveness of reaching and persuading consumers to take safety measures after the product is sold. Many consumers will fail to take the initiative even if they are fully informed.<sup>42</sup>

#### D. Refrigerators (*Entrapment Hazard*)†

A child trapped inside an airtight enclosure such as a refrigerator generally dies in ten to fifteen minutes; the few children who survive entrapment usually suffer severe and irreparable brain damage. Although statistics demonstrate that the number of deaths caused by refrigerator entrapment is relatively small, the thought of a small child's suffering such a tragic death is one that has prompted, and should continue to prompt, the attention of responsible organizations.<sup>43</sup>

Most refrigerator entrapment accidents involve children under twelve years of age; the majority are between three and six. To a child an empty refrigerator makes an attractive playhouse, hiding place, or jail but, unfortunately, refrigerators are not designed for such purposes. When a refrigerator door closes, it latches,<sup>44</sup> seals the enclosure, and cuts off the supply of air. Heavy insulation prevents effective efforts by the child to attract attention by screaming and pounding.

As early as 1946, legislation was introduced that would have required inside door latches on all refrigerators. But on the basis of expert testimony indicating that there were no latches that young children could effectively operate from the inside, the legislation was dropped. Again in 1954, public pressure and congressional concern led to attempts to require that manufacturers of refrigerators design their products so that entrapped children could readily escape. Two years later federal legislation was enacted that prohibited the interstate shipment of any household refrigerator not equipped with a safety device, meeting standards prescribed by the Secretary of Commerce, that would permit a person to open the door from the inside.<sup>45</sup> These regulations went into

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42. For further information on this subject, see HOME SAFETY REV., Spring, 1961; W. Johnson & W. Holland, *Glass Door Injury Survey* (Paper presented at Session of the Home Conference Safety Congress Program, Chicago, Ill., Oct. 1963); *Seattle-King County (Washington) Safety Council Survey* (1961-62).

† By Kelly N. Stanley.

43. Entrapment is not the only hazard connected with refrigerators. Other hazards, such as gas poisoning from leaks within the unit, are beyond the scope of this study.

44. Refrigerators built after 1958 do not "latch" in the same sense that earlier models with a standard locking device did.

45. 15 U.S.C. § 1211 (1964).

effect on October 30, 1958,<sup>46</sup> and no deaths involving a refrigerator manufactured after that date have been reported.

This suggests that the standards established by the Department of Commerce, which require that a refrigerator respond to a fifteen pound burst-open pressure from the inside,<sup>47</sup> have successfully prevented refrigerator entrapment deaths. However, there is much evidence to support the contention that at least two serious problems still must be corrected: the hazards presented by refrigerators manufactured before 1958 and the inadequacies of the existing legislation. Since 1958, when the existing legislation went into effect, there has continued to be a significant number of refrigerator entrapment deaths reported annually.<sup>48</sup> These must be attributed to the earlier model units with characteristic locking devices. Because (according to Public Health Service estimates) fifty million of these refrigerators with the older mechanical latch are still in use and one million of these are abandoned every year, some action seems necessary. Legislation could take one of three forms: a requirement that such units be removed from use, that a major modification be made in the latching device of every older refrigerator, or that educational measures be undertaken. The first two seem neither practical nor reasonable; therefore, an effective educational program seems to be the only answer to this problem.

The need for educational programs seems particularly important with regard to refrigerators of the older model that are not discarded but only temporarily out of use. Most states and many municipalities have laws or ordinances requiring that the doors and hardware be removed when a refrigerator is abandoned. But these laws do not affect refrigerators that are temporarily out of use, from which the owner could hardly be expected to remove the door. Similarly, the bulletins issued by the National Safety Council<sup>49</sup> on the hazards of discarded refrigerators and the offers of several groups, such as the Refrigerator Service Engineers Society, the Boys Club of America, and the Associated Locksmiths of America, to help remove doors from discarded units at no cost have failed to deal with this problem.

Several organizations including the Association of Home Appliance

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46. 15 C.F.R. § 260 (1967).

47. The latching device must permit the refrigerator door to be opened on the application of a force equivalent to one that, if directed perpendicularly to the plane of the door and applied anywhere along the latch edge of the inside of the closed door, would not exceed fifteen pounds. The device should not impair the appliance's capacity for preserving food under normal conditions.

48. See Table, *infra*.

49. The National Safety Council's statistics and other general information are used throughout this study. This information was drawn from the publications in note 54, *infra*.

Manufacturers, the Federal Safety Council, The Refrigerator Engineers Society, and the National Electrical Manufacturers Association, have taken an active part in educational programs and in efforts to develop precautionary measures to prevent entrapment. But the Public Health Service has suggested that educational programs would be more effective if refrigerator dealers, utility companies, hardware stores, communications media, police departments, and similar groups assisted at the local level. These groups should be furnished with reliable methods for informing the public, particularly during the summer months when deaths are most prevalent.<sup>50</sup>

These are several ways in which the government could encourage such local participation. For example, the government could defray the cost of printed warnings on electric bills, buy time for radio and television announcements, or supply warnings stickers for dealers and repairmen to put on older units.

Although there have been no reported deaths involving units manufactured after 1958, some authorities feel that the death hazard still exists. For example W.L. McCarthy, the Works Manager of Frigidaire Division of General Motors Corporation,<sup>51</sup> reports that each manufacturer of refrigerators is still actively engaged in comprehensive safety research.<sup>52</sup> A study published in 1958<sup>53</sup> gives valuable insights into the inadequacies of the existing legislation. This study concluded that three major behavior patterns result from entrapment: (1) inaction with little or no effort to escape (twenty-four percent); (2) purposeful but non-violent efforts to escape (thirty-nine percent); and (3) violent action with or without purposeful efforts to escape (thirty-seven percent). Several escape mechanisms—ranging from doorhandles or knobs inside the enclosure to a movable floor panel that would trigger the door upon slight movement by the child—were evaluated. Of the 201 children tested only four in the inactive group escaped and each of these was in an enclosure equipped with the special floor device. Panic, violence, and anger

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50. See Table, *infra*.

51. Frigidaire has continuously taken a self-policing approach to the problem of refrigerator entrapment. For example, W. L. McCarthy reports that General Motors had concerned itself with refrigerator door safety even before Congress acted in 1956. Hence, when the standards became effective, all Frigidaire models were already engineered to meet the requirements. Most of the models of the previous year also complied because representative units had been checked in advance by Underwriters' Laboratories. Similarly, Frigidaire, on its own initiative, revised the design of several earlier models to comply with the requirement that a refrigerator door respond to a fifteen pound burst-open pressure.

52. Interview with W.L. McCarthy, Works Manager, Frigidaire Division, General Motors Corporation.

53. Bain, Faegre, & Wyly, *Behavior of Young Children under Conditions Simulating Entrapment in Refrigerators*, 22 PEDIATRICS 628 (1958).

also proved to hinder escape. In group three, only thirty-two percent of the children escaped whereas in group two, eighty-six percent did so. The latter group, marked by purposeful effort, is, therefore, quite likely to use of the more conventional escape devices—inside handles, door-knobs, and devices that require only pushing or pulling. The passive group (group 1) did not even attempt to use the available means of escape and the violent group (group 3) often failed to do what was necessary to make the devices function.

Thus, this study clearly indicates that devices that merely permit escape if properly used are not sufficient to prevent entrapment deaths. Yet today's safety standards presume some effort to escape. It seems apparent from the results of the 1958 study that additional measures should be sought either to prevent entrapment or to permit escape even by a child who adopts a passive attitude. But the cost of a device that would permit even the passive child to escape without impairing the refrigerator's proper functioning might be too high to be feasible. If so, efforts would be more fruitfully directed toward more effective warning programs.

Although effective legislation and considerable efforts by interested groups have reduced the severity of the entrapment hazard, the problems created by the older model refrigerators still in existence and by the passive attitude adopted by some children upon entrapment demonstrate that further efforts are needed in both legislation and education.<sup>54</sup>

## TABLE

*Recorded Deaths in Refrigerators*<sup>55</sup>

1946 to 1953 inclusive . . . . .	85	1960 . . . . .	6
1954 . . . . .	11	1961 . . . . .	25

54. For further reading in this area, see NATIONAL SAFETY COUNCIL, HAZARDS OF DISCARDED ICE BOXES AND REFRIGERATORS (1954); PUBLIC HEALTH SERVICE, PREVENTING CHILD ENTRAPMENT IN HOUSEHOLD REFRIGERATORS (1965); U.S. DEP'T OF COMMERCE, NAT'L BUREAU OF STANDARDS, & NAT'L ELECTRICAL MFRS. ASS'N, BEHAVIOR OF YOUNG CHILDREN UNDER SIMULATED REFRIGERATOR ENTRAPMENT (1957); U.S. DEP'T OF HEALTH, EDUCATION AND WELFARE, CHILDREN'S BUREAU & U.S. DEP'T OF COMMERCE, NAT'L BUREAU OF STANDARDS, THE EFFECTS OF A LUMINOUS DOOR MARKER ON ESCAPE FROM REFRIGERATORS (1961); U.S. DEP'T OF LABOR, FEDERAL SAFETY COUNCIL, STUDY GUIDE FOR THE PREVENTION OF REFRIGERATOR ENTRAPMENT (1963); Bain, Faegre, & Wyly, *Behavior of Young Children Under Conditions Simulating Entrapment*, 22 PEDIATRICS: 628 (1958); Bain, Faegre, & Wyly, *Simulating Entrapment in Refrigerators*, ACCIDENT RESEARCH (Haddon, Suchman, & Klein ed. 1964); *Hearings Before Senate Subcommittee of the Committee on Interstate and Foreign Commerce: Safety Devices on Household Refrigerators*, 83d Cong., 1st Sess. 6 (1954); *Hearings Before a Subcommittee on Interstate and Foreign Commerce of the House Committee on Progress to Date in Achieving the Objectives of Public Law 930*, 88th Cong., 1st Sess. (1964).

55. Chart compiled by Refrigeration Service Engineers Society, 433 N. Waller Avenue, Chicago, Illinois.

1955 .....	18	1962 .....	35
1956 .....	11	1963 .....	21
1957 .....	14	1964 .....	44
1958 .....	17	1965 .....	24
1959 .....	15		

Average age was five years, seventy-three percent of the deaths were in the three to six year group, and boys outnumbered girls two and one-half to one.

*Recorded Deaths in Refrigerators, by Month—1954 through 1964*

January .....	6	July .....	27
February .....	5	August .....	43
March .....	13	September .....	18
April .....	25	October .....	4
May .....	26	November .....	5
June .....	39	December .....	10

*E. Wringer Washing Machines* †

Over a period of many years, thousands of children and adults have been injured by washing machine wringers. Recent technological developments, a new Underwriters' Laboratories standard, and a decline in sales of these machines have greatly reduced the seriousness of the problem. Nevertheless, the history of this household hazard provides an interesting example of the effectiveness of non-governmental control of product safety.

A washing machine wringer is a simple device consisting principally of two power-driven metal rollers covered with rubber or a similar substance. After clothes have been washed and rinsed, they are fed by hand through the wringer, which squeezes out most of the water.

It is easy to underestimate the force with which the wringer does its job. In many wringers, the pressure between the rollers is 800 pounds or more and the rollers often move at a speed of nearly 300 inches a minute. For some time, nearly all wringer washers have been equipped near the rollers with a bar that, when actuated by the user, releases the pressure of the rollers. Since 1952, Underwriters' Laboratories' standards have required such a device on all wringer machines capable of being operated by a force of twenty pounds or less. For convenience, this mechanism will be called the "conventional safety release."

It is easy to assume that the wringer washing machine is a thing of

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† By Alan N. Baker.

the past. Although wringer sales have been decreasing,<sup>56</sup> 517,000 were sold in 1966 and they are presently in use in about one-fourth of all American households. Such factors as family income, inadequate water supplies, and personal preference can be expected to postpone the extinction of the wringer washer for some time.

The hazard posed by wringers is, of course, that some part of the human anatomy—usually a hand or an arm—will be drawn through the rollers. This usually happens either when a user is putting clothes through the wringer and allows his fingers to come too close to the rollers (inviting the wringer to “bite the hand that feeds it”) or when children are playing in the laundry room and their youthful curiosity leads them to touch the rollers.

As with many household hazards, it is hard to obtain reliable and comprehensive information on the number and seriousness of injuries. It is safe to assert generally, however, that wringer injuries are common and that the majority of victims are children under fifteen years of age. In 1958, the Public Health Service of the Department of Health, Education, and Welfare made an estimate, based upon six local surveys in five states, that there were 100,000 injuries a year to children under fifteen across the nation. Recently, the Service reaffirmed that figure and also estimated that the same number of adults were similarly injured each year.

The most informative study of wringer accidents was undertaken in

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56. The Association of Home Appliance Manufacturers reports the following sales figures for home laundry appliances in recent years [000 omitted]:

Year	Automatic Washers	Electric Dryers	Gas Dryers	Combination Washer-Dryers	Wringer Washers	Total Home Laundry Appliances
1948	700	70	15	x	3,421	4,591*
1949	858	79	16	x	2,119	3,366*
1950	1,654	250	68	x	2,663	4,924*
1951	1,531	347	137	x	1,794	4,083*
1952	1,583	452	159	x	1,593	3,991*
1953	1,997	537	158	x	1,459	4,310*
1954	2,351	659	236	x	1,136	4,475*
1955	2,770	1,018	366	x	1,153	5,703*
1956	3,320	1,178	434	x	1,117	6,107*
1957	2,783	880	392	179	903	5,137
1958	2,780	824	378	169	891	5,042
1959	2,932	906	477	196	900	5,411
1960	2,561	806	429	149	640	4,655
1961	2,666	773	410	94	679	4,622
1962	2,975	923	475	44	690	5,109
1963	3,300	1,059	534	32	654	5,576
1964	3,541	1,194	632	27	648	6,042
1965	3,771	1,388	710	39	576	6,484
1966	3,892	1,609	751	38	517	6,807

x — included elsewhere

\* — Totals before 1957 include ironers



1961 by Dr. Edward Press, then Public Health Director in Evanston, Illinois.<sup>57</sup> Dr. Press and his associates, with the cooperation of the Chicago Board of Health, requested the general hospitals in Chicago and Evanston to report all wringer injuries that required treatment. Many of the reports were followed by personal interviews. The data presented here is condensed from a paper by Dr. Press and his associates.<sup>58</sup>

The injuries reported during each month of the study were as follows:

January (1962) .....	4	September .....	14
February .....	19	October .....	18
March .....	22	November .....	6
April .....	30	December .....	13
May .....	31	January (1963) .....	9
June .....	35	February .....	6
July .....	34	March .....	8
August .....	41	April .....	3

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Total Reported Injuries 293

The low figures for the first three months probably result from incomplete reporting at the start of the survey. The low figures after August 1962 reflect the fact that the official request for reports was withdrawn on September 19, 1962, and reporting thereafter was voluntary. Of the 293 patients requiring treatment, seventy-one were hospitalized and the rest were treated as outpatients. Although no fatalities were reported in this survey, death by strangulation caused by wringers is not unknown.

The study also elicited information on the type of injury involved:

Bruises .....	101	Friction burns .....	12
Lacerations (18 sutured) ..	57	Loss of nerve sensation ....	1
Abrasions .....	23	Concussions .....	4
Fractures .....	17	Unknown .....	1
Torn Ligament .....	1		

These figures total more than 293 because some patients had more than one injury. The parts of the body injured were:

Hand only .....	142	Breast .....	1
Hand and arm .....	118	Chest .....	1
Hand to armpit .....	30	No information .....	1

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57. Dr. Press is currently Medical Assistant to the Director of the Illinois Dept. of Public Health, Chairman of the Committee on Hazards to Children of the United States of America Institute of Standards, and a member of the American Academy of Pediatrics.

58. 54 AM. J. PUB. HEALTH 812 (1964).

The first 220 cases reported were analyzed by age :

1 to 4 years . . . . .	74	15 to 64 years . . . . .	35
5 to 9 years . . . . .	74	65 or more . . . . .	21
10 to 14 years . . . . .	15	Unknown . . . . .	1

Although the Chicago-Evanston survey found that seventy-four percent of the victims were under fifteen, the Public Health Service estimate was about fifty percent.

The victims of wringer washing machine accidents fall into two broad classes: adults using the machine for its intended purposes, and children who are attracted by the movement of the rollers. For the adult, the hazard posed by a wringer is not concealed. Any sensible person can see that the feeding of clothes into the wringer involves the possibility that, if he is not careful, his fingers and hands<sup>59</sup> may be drawn into the mechanism, with painful results. Notwithstanding the obviousness of the hazard and the theoretical ease with which it may be avoided, the Public Health Service and Chicago-Evanston studies clearly show that adults continue to be injured by wringers. The explanation may be that, as one becomes accustomed to the use of the wringer, he becomes less heedful; he assumes, because he has not been injured so far, that there is no danger. Furthermore, nearly everyone regards the washing and wringing of clothes as a dull, routine, and tiresome task. In these circumstances, the mind is apt to wander and the user may become careless.

For the child, the danger is latent. Children do not comprehend the force with which a wringer operates. Moreover, the moving wringer, like all moving equipment, has a strange fascination for the youthful mind. Although it is designed to wring rather than to amuse, the fact remains that many children are injured in this way. Thus, any assessment of the safety of wringers should take into account children's often inexplicable wanderings about the house.

Another aspect of consumer vulnerability is the victim's frequent failure to operate the conventional safety release. Although this device has prevented many injuries, it is far from perfect. All injuries inflicted in the Chicago-Evanston survey were caused by machines with a conventional release. In the excitement, the victim may forget the release or be unable to find or reach it. In some cases, he has tried to operate the release, but instead punched the reversing mechanism, causing the hand and arm to be returned, thus compounding the injury.

In the late 1940's, Landers, Frary, and Clark, a laundry equipment manufacturer no longer in business, developed and offered to the public

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59. Or in some cases such clothing as a necktie.

for the first time a safety feature for wringer washers known as the "instinctive release." When a backward force of a few pounds is applied to an object moving through a wringer equipped with this mechanism, the rollers are automatically released and remain so without further action by the operator.

The safety advantages of this device are obvious. The natural reaction of one whose hand is caught is to recoil. Because the instinctive release uses a natural reaction as the force that releases the wringer, it can be assumed, even in the absence of statistics,<sup>60</sup> that such a device can significantly reduce the incidence of wringer accidents.

Although the instinctive release adds less than five dollars to the cost of the washer, it was not accepted for general use. In 1962, less than two percent of the wringer washers sold were equipped with an instinctive release. As the Association of Home Appliance Manufacturers (AHAM) puts it, the device "failed to win consumer acceptance."<sup>61</sup> It is not clear whether blame should be put on the consumer's lethargy or the manufacturer's failure to bring this safety feature to the consumer's attention. Whatever the cause, the fact that such an inexpensive and obviously effective safety device was not being used was the inspiration for the Chicago-Evanston study. Later discussion in 1963 between the investigators and members of the American Home Laundry Manufacturers Association (AHLMA), which recently merged with the AHAM, led to an increase in the number of models on which the device is available.

The universal adoption of the instinctive release came four years later and was brought about, according to AHAM, "largely at the urging of AHLMA's members." In September 1966, the Underwriters' Laboratories announced changes in its standards for home laundry equipment. The amended standard<sup>62</sup> requires that after October 1, 1968, all wringer washing machines either (1) be equipped with both a conventional release and an instinctive release, or (2) be so constructed that the rollers apply no pressure unless some control mechanism is continually actuated by the operator. The latter is called the "dead man's release." A similar device is often used in subway cars to stop the train if the operator becomes incapacitated.

The new standard requires that the conventional release operate whenever a force of eighteen pounds or more is applied (the 1952 standard specified twenty pounds) and that the instinctive release stop

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60. In the Chicago-Evanston survey, only one of the injuries reported was caused by a machine with an instinctive release and in that instance the mechanism was out of order.

61. Letter from Herbert Phillips, Technical Director, Ass'n of Home Appliance Manufacturers, to Alan Baker, May 16, 1967.

62. See note 63 *infra*.

the rolls when a 20-pound force is applied opposite to the direction of infeed of an object in the rolls. The rolls must remain stopped without any further effort by the user. Also, the new standard reduces the maximum allowable pressure of the rolls from 800 to 500 pounds and the maximum wringer speed from 275 to 240 inches a minute.

Only a small percentage of the fourteen million wringer washers presently in use are equipped with the instinctive release. Consequently, it may be expected that a large number of accidents will occur unless a new approach to the problem is developed. According to Dr. Press, the industry should develop an instinctive release "attachment" for older machines. He believes that if priced under ten dollars, the device would find a good market. The AHAM, however, is skeptical about the technical feasibility and marketability of such a device. Apparently, the problem of existing machines will not be alleviated.

Although there is no statistical evidence that the instinctive release has reduced or will reduce wringer injuries, common sense suggests that result, particularly if a primary cause of wringer accidents has been panic or lack of knowledge of the operation of the conventional safety release. At least for future machines, the problem has been solved as effectively as is technologically possible. All manufacturers are expected to comply with the new Underwriters' Laboratories' standard.

It is noteworthy that the new wringer standard was brought about entirely by private interests, without governmental interference. Yet the twenty-five year time lag between the technological development of the instinctive release and its general adoption by the industry and the Underwriters' Laboratories suggests that private control of product safety may be too slow. Only after a statistical study supported what everyone already knew—that wringers were causing many accidents—did the industry appreciate the value of the instinctive release. Even then, nearly four years elapsed before the new standard was promulgated.

In these circumstances, the presence of a governmental regulatory agency, even if it took no formal or official action, probably would have expedited self-regulation by (1) bringing to the attention of industry the results of investigations of the incidence of a hazard, and (2) providing the threat, if not the actuality, of government intervention if the process of self-regulation failed to respond.<sup>63</sup>

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63. 222. In a roller-type washing-machine wringer:

- A. The peripheral speed of the rolls shall be no more than 240 inches per minute.
- B. The roll pressure shall be no more than 500 pounds with no load between the rolls.

222.4. Power to the wringer rolls shall be controlled by a device or system that (1) must be continuously activated by the operator or (2) will stop the rolls when a 20-pound force is applied opposite to the direction of infeed to the

## F. Gas Fired Appliances †

## The use of gas fired appliances such as central home heating and

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rolls. The device or system shall automatically stop the rolls and the rolls shall remain stopped without any further effort by the user. The wringer assembly shall not rotate under power about the drive column.

*222B.* Unless the roll pressure is automatically released when the rolls are stopped, the wringer shall be provided with a safety release having an operating member plainly marked to indicate its function and method of operation. The release mechanism shall be readily accessible and operable from either side of the wringer frame in the same manner, and shall be such that a steadily applied force of no more than 18 pounds will release the maximum roll pressure, as determined by a test with a board as described in paragraph *223A*.

*222C.* Release of roll pressure:

- A. Shall not result in any parts being thrown violently out of the assembly.
- B. Shall release the tension of the rolls immediately.
- C. Shall permit separation of the rolls for no less than two inches throughout their entire length. This separation need not be maintained, but the rolls shall be free to assume this clearance.

*222D.* The force mentioned in paragraph *222B* shall operate the release mechanism when applied horizontally and perpendicular to the axis of the wringer rolls.

*222E.* The means of manually actuating the release mechanism shall be a bar whose length, parallel to the major axis rollers, is no less than 75 percent of the exposed length of the rollers. The distance between each end of the release bar and the adjacent end of the exposed wringer shall be no more than 1½ inches. The bar shall project in front of the fixed portion of the wringer frame by such distance that release of the load pressure will occur before the bar, upon application of the actuating force, becomes flush with the wringer frame.

*223.* When the release mechanism is tested as described in paragraph *223A*, the force necessary to cause the release mechanism to function for the fiftieth operation shall be no more than the force required to cause such action for the fifth operation, and shall be no more than 15 pounds at any time.

*223B.* The wringer and the automatic stopping mechanism mentioned in paragraph *222A* are to be tested by inserting the test board and a flexible strap or webbing (located between the test board and the lower roll) between the rolls at any point, including points as close as possible to the inner edge of the wringer assembly. With the rolls operating, the 20-pound force is to be applied in a direction opposite to the direction of motion of the board, against the infeed to the rolls both horizontally and in a downward direction at the maximum angle permitted by the wringer drain board.

*223A.* In a test to determine if the release mechanism complies with the requirement in paragraph *223*, the wringer and the release mechanism are to be operated as in service, with the maximum pressure applied to the rolls. The release mechanism is to be actuated for fifty operations. For the first five operations and for the fiftieth operation the pressure necessary to actuate the release mechanism is to be measured with a board, as described below, between the rolls. The board is to be 8-inches wide and 12-15 inches long, tapered in thickness at each end. Except as noted below, the board is to be ¾-inch thick and is to be inserted between the rolls, with the wringer stopped with the rolls engaging the board near its center. For a compact wringer in which insertion of the ¾-inch-thick board would stall the rolls, the test may be conducted with a tapered board of lesser thickness inserted into the rolls until stalling occurs. Beginning with the sixth operation and continuing through the forty-ninth operation, the board is not to be inserted, but the rollers are first to be driven in one direction and then in the other, the wringer is to be stopped, and the force is then to be applied to actuate the release mechanism.

cooling plants, space heaters, room air conditioners, ranges, ovens, hot water heaters, incinerators, washers, and dryers has been expanding so rapidly that, according to the National Fire Protection Association, the number of gas utility service installations in the United States grew from 22,000,000 in 1950 to 31,000,000 in 1957 and is now estimated by the Gas Appliance Manufacturers Association at 130,000,000. The actual and potential benefits to consumers reflected in these statistics have been tempered by the concomitant hazards of asphyxiation, poisoning, fire, and explosion.

Asphyxiation may result when unburned gas escapes and displaces the oxygen in a room. Thus, faulty construction or installation resulting in leaks in appliances or gas distribution lines, the accidental opening of a gas jet, or the extinguishment of a cooking flame by liquids boiling over the top of a pan may prove fatal. Many gas appliances are now equipped with shutoff valves to prevent the escape of unburned gas when the flame is extinguished. However, because these devices are not universally used and because they do not prevent the escape of gas from leaks caused by faulty construction or installation, the danger of asphyxiation remains.

A greater potential for injury lies in carbon monoxide poisoning. Unlike asphyxiation, which requires comparatively large amounts of unburned gas to displace oxygen, poisoning caused by only small concentrations of carbon monoxide in the air may entail serious illness, permanent injury to the brain and nervous system, or even death. There are four types of gas in common use in this country: petroleum gas (including bottled gas), natural gas, manufactured gas, and mixed gas. Because the latter two contain carbon monoxide as an element, their use renders gas leaks doubly hazardous.

The presence of carbon monoxide may also be attributable to incomplete combustion. This is likely to happen in two situations: when the gas flame is cooled, which occurs, for example, when the flame on a hot water heater comes into contact with the cool surface of the tank; and when too little air is burned with the gas, which occurs when an appliance is inadequately vented or when the gas flow is excessive.

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249A. Unless it incorporates a device or system as described in item (1) in paragraph 222A, a wringer-type washing machine shall be plainly marked with a warning, such as CAUTION—DISENGAGE WRINGER MECHANISM WHEN NOT ATTENDED—SEE INSTRUCTION BOOK. This marking shall be on the wringer assembly at such location that it will be readily visible with the wringer in any normal operating position.

249B. The instruction book for a washing machine with a wringer of the roller type shall include a statement warning the user of the potential hazards involved in the operation of the wringer.

Underwriters' Laboratories Inc., Additions & Amendments Promulgated to Standard for Home Laundry Equipment (2d ed. 1966).

† By Robert V. Kixmiller.

The escape of unburned gas may also cause fire or explosion. For example, if gas has accumulated around a burner or pilot light before or during the lighting process, small explosions called "flashbacks" may cause facial burns or ignite the clothing of one trying to light the burner. Because the pilot light or burner flame on numerous appliances, such as water heaters and incinerators, is not visible, many persons are unaware of the hazard created by storing or using flammable or explosive materials near such appliances. This provides another common cause of fire or explosion.

Although precise numerical data on the total numbers of deaths and injuries caused annually by the use of gas appliances are unavailable, the National Safety Council<sup>64</sup> reported that 552 deaths arose from utility gas and carbon monoxide poisoning in the home during 1965. Most of these were caused by defective home heating equipment. No statistics on non-fatal poisonings were reported. The Injury Control Program of the Public Health Service of the Department of Health, Education, and Welfare<sup>65</sup> has estimated that 225,000 injuries result annually from the use of furnaces, space heaters, stoves, incinerators, and hot water heaters. This estimate is not restricted to gas appliances, but the contents of the report clearly indicate that many of the appliances were gas fired.

Because everyone who enters a building in which a gas appliance is installed is a potential victim, defective gas equipment exposes an alarmingly broad segment of the public to possible ill effects against which self-protection may be difficult or impossible. Gases are given odors to facilitate detection so that the typical adult is probably not oblivious to the possibility of asphyxiation, fire, or explosion caused by escaping gas; ordinarily, he may have sufficient foresight to provide ventilation or summon a repairman. But, when a leak develops in a dwelling during the hours of sleep or in an unoccupied enclosure such as a basement, he cannot prevent the accumulation of dangerous concentrations of gas.

Consumers are probably less aware of, and less able to cope with, carbon monoxide poisoning. Carbon monoxide is colorless, odorless, and tasteless and when present in increasing concentrations it often acts so rapidly that the victim has little or no warning. The usual warning symptoms of poisoning are a headache and drowsiness, but the fact that these symptoms result also from many other conditions lessens the likelihood of warning.

The gas appliance industry is proud of its record of self-imposed

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64. NATIONAL SAFETY COUNCIL, ACCIDENT FACTS (1965).

65. U.S. DEP'T OF HEALTH, EDUCATION AND WELFARE, ESTIMATES OF INJURIES ASSOCIATED WITH PRODUCT EQUIPMENT AND APPLIANCES IN THE HOME ENVIRONMENT (1966).

consumer safety regulation. Mr. Harold Massey, Managing Director of the Gas Appliance Manufacturer's Association, testified before a Senate subcommittee that in the American Gas Association's Laboratories in Cleveland and Los Angeles gas appliances

. . . are subjected to relentless and exhaustive tests for compliance with United States of America Standards promulgated by United States of America Standards Institute (formerly American Standards Association). In the development of these standards our manufacturers, representatives of utilities and representatives of public interest bodies have applied their knowledge and experience.<sup>66</sup>

The USASI standards referred to by Mr. Massey are identified by code number Z21 and may be obtained from the Gas Appliance Manufacturers Association. A detailed evaluation by a professionally qualified person of the standards for each individual appliance is needed to determine whether or not they adequately protect the consumer.

Tests are initiated by the manufacturer's submission of an appliance to the laboratory. If the appliance complies with AGA standards, it is awarded the Blue Star Seal of Approval, which entitles the manufacturer to attach an appropriate symbol of certification. After the Seal is awarded, AGA inspectors make unscheduled plant inspections of products taken from the production line to assure continued compliance. Forty-two categories of appliances and accessories, including all the appliances listed at the beginning of this study, are tested for efficiency, safety, durability, and dependability.

Included among the conditions of AGA certification is the requirement that ranges burn all types of gases without leaving harmful combustion by-products. This would appear to eliminate one cause of carbon monoxide poisoning. In addition, ranges must be free of gas leaks and burners must ignite automatically when a gas jet is turned on. Burners in closed compartments must be equipped with safety pilots that automatically stop the flow of gas when the pilot light goes out.

The 650 members of the Gas Appliance Manufacturer's Association produce ninety-five percent of all residential, commercial, and industrial gas equipment made in this county, and more than 500 GAMA members submit appliances to the AGA laboratories for testing. However, these figures do not show the percentage of gas appliances sold that do not comply with AGA standards, because failure to receive certification does not prevent the marketing of an appliance. Therefore, because not all

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66. *Hearings on S.J. Res. 33 Before the Consumer Subcomm. of the Senate Comm. on Commerce, 90th Cong., 1st Sess., ser. 90, pt. 1 (1967).*



manufacturers permit testing of their products and because those who do are not bound by the AGA determination, the probability is high that some non-complying appliances are being marketed. Consequently, although the certification requisities appear reasonably conceived to protect the consumer, the present self-regulatory system gives the consumer no guarantee of protection.

The prohibition of gas appliances is clearly unwarranted, because the public demand inspired by their economical operation heavily outweighs the accompanying safety problems and several more appropriate alternatives appear to be available.

The government could establish its own mandatory standards or AGA standards could be made mandatory and implemented by testing and production line inspection performed by the AGA and other private testing organizations. Use of the existing facilities and personnel of the private testing laboratories appears to be a financially sounder approach than incurring the expenditures necessary for the creation of similar public facilities.

The government might inaugurate a program of voluntary compliance with either AGA or newly promulgated governmental standards. Its success would be fostered by apprising the public of the importance of the AGA Blue Star Seal of Approval and of the hazards represented by non-conforming appliances.

The latest economically feasible safety devices, such as the device that automatically shuts off the flow of gas when the pilot light goes out, might be required on future gas appliances. In any event, a program of consumer education is necessary to protect those who now own appliances not adequately equipped with safety features. Although the cost of replacing all out-dated facilities is prohibitive, informing the consumer of the measures necessary for safe operation of his present model may induce him to consider its replacement or the purchase of safety accessories. Government agencies may easily disseminate such information by requesting that gas companies enclose an informational pamphlet with the periodic gas bill.

#### G. *Floor Furnace Grates*†

A floor furnace grate, when attached sufficiently near a furnace, especially a gas furnace, may become hot enough to cause painful burns to persons who touch it. The victims are almost exclusively children less

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† By Robert D. Hawk.

than five years old. As studies in California,<sup>67</sup> Oklahoma,<sup>68</sup> and Maine<sup>69</sup> demonstrate, these grates account for twenty-eight percent of all burns suffered by children in this age group.<sup>70</sup> Although no fatal burns have been reported, the average accident is serious enough to require two visits to a doctor whereas the typical non-burn accident requires only one.

At present, there are no controls, public or private, on the use of floor furnace grates. Future controls, however, need not go so far as a complete prohibition. An effective safeguard would be to place over the grate a wire, basket-like cover or other barrier that allows a free flow of air. Lessors and heating contractors, for example, could be required to install these screens and they certainly should be standard equipment in all public housing.

#### H. *Electrical Appliances and Wiring (Except Television)* †

It is readily evident that, because of the myriad services now performed by electrical appliances, the consumer is exposed with increasing frequency to the hazards of shock, burns, and fire. Yet, adequate statistics pertaining to these injuries are unavailable. Figures that have been compiled with respect to specific injuries, such as burns, have not been sufficiently differentiated to show what proportion is attributable to malfunctioning of various appliances. The comparatively recent origins of many appliances and the reluctance of manufacturers to disclose such information perhaps explain the absence of helpful compilations.

The little information available suggests the existence of serious hazards. Thus, during a recent one-year period, fires resulting from electrical causes destroyed an estimated three million dollars worth of industrial property. It is common knowledge among firefighting agencies that electrical causes are responsible for a high percentage of all fires. The most frequently noted defect appears to be the improper or over-fusing of electrical circuits.

The National Safety Council's publication, *Accident Facts*, estimates that fatalities from electrical shock number between 800 and 1,000 annually. This figure was not broken down to show the number of deaths occurring in non-industrial situations, but an independent consumer

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67. Waller & Manheimer, *Medically Treated Nonfatal Burns to Children in a Well Defined Urban Population*, 65 *PEDIATRICS* 863 (1964).

68. Richardson & Foorster, *Causes of Burns in Oklahoma*, 52 *J. OKLA. ST. MED.* A'ssn 713 (1959).

69. Waller, *Tic-Tac-Toe Burns: The Hazard of Exposed Floor-Type Room Heaters*, 265 *NEW ENG. J. MED.* 1256 (1961).

70. The incidence of all non-fatal burns for the first two years of life is 29.3 per thousand and it is between 3.1 and 5.2 per thousand for children over three years. For children under two years, burns account for 13.5 percent of all non-fatal injuries while, for children over three, burns account for less than two percent of all non-fatal injuries.

† By Roger L. Meredith.

organization, Consumers Research, has stated in its monthly magazine, *Consumer Bulletin*, that not more than 200 are killed annually in home uses of electricity.

Although their frequency and severity as determined by wages and working days lost per injury have been documented, no direct information regarding the number and severity of non-fatal shocks has been compiled. It is hard to evaluate the severity of non-fatal shock, because it depends upon a variety of factors, such as type of current, voltage, duration of contact, path taken by the current through the body, and resistance at the point of contact. Often the extent of the injury is not realized until long after the accident; years may pass before discovery of a latent physiological change.

These injuries may spring from such divergent causes as intentional disregard or ignorance of safety procedures, faulty manufacture or design, and carelessness. Those stemming from intentional disregard of safety procedure are clearly the least amenable to prevention. Thus, when the consumer deliberately uses frayed extension cords or exposed wires, or dials radios or flips switches with wet hands, while standing bare-footed on a wet floor, or while in a bathtub, the consumer himself must shoulder the blame.

The factor that makes the consumer most vulnerable is simply his own ignorance of the consequences of such practices as inserting pennies in a fuse box, over-fusing, overloading a circuit, and using circuit adaptors. Although inserting a penny or a fuse of excessive amperage in a fuse box may not in itself be hazardous, it prevents the later blowing of a fuse. Many persons are unaware that fuses are intentionally designed to blow and thus stop the flow of current whenever the total amperage demanded by appliances exceeds the amount that a building's circuits can safely carry. If the flow of current is not stopped, a serious shock or fire hazard may be created.

Most household fuses are of the screw-in type, and the size is the same regardless of load carrying capacity. Therefore, intentionally or by accident one can easily place a high-capacity fuse in a circuit calling for a low-capacity one. One manufacturer has developed a fuse adaptor and different sized sockets for different capacity fuses. The adaptor, once placed in the conventional socket, is not removable; only the proper size can be used. However, use of this adaptor is not required and it is not known how widely the device is used.

Flexible extension cords are generally designed to carry the same capacity as the standard electric wall socket. Consequently, they should ordinarily be used for no more than two appliances, even though three outlets have been provided. Manufacturers mislead the consumer by

providing three outlets for use with standard cords. Enforcing the false impression is the use of a colored band signifying approval by the Underwriters' Laboratories. Because the cord, plug, and outlet might each have its own test and approval, a UL band on a cord means only that the cord, rather than any combination, has been approved. In addition, the manufacturer may label an extension cord "heavy duty," which often means only that the outer insulation can be subjected to rougher than normal treatment. It need not indicate wiring with above-normal capacity.

The Underwriters' Laboratories standards may be helpful, because many consumers note whether or not an article carries its label. However, most consumers are not sufficiently familiar with the UL system of approval to realize that some approved products can safely carry heavier loads than others and that this capacity is indicated by different color bands. It is doubtful that many sales personnel could inform the consumer in this respect.

Circuit adaptors are equally misleading to the average user. Their purpose is to allow a three-prong plug to be placed in a two-hole socket. The third prong is a grounding element that carries off excessive current built up around various parts of the appliance. Use of the adaptor eliminates the effectiveness of the grounding prong and thus creates a hazardous condition while the appliance is in use.

The individual may be wholly unable to protect himself against electrical appliances embodying defects of design or manufacture. These shortcomings run the gamut from inadequate grounding, insufficient insulation, insufficient or improper wiring, and excessive current leakage to design hazards such as exposed hot surfaces, handles so near hot surfaces that they become too hot to touch, handles with insufficient grips, improper balancing, and use of unsuitable materials.

To these sources of injury may be added simple carelessness. Mr. R. E. Marland, Chief of the Injury Control Program of the United States Public Health Service, estimates that in 1968 35,000 persons will be injured from pulling on or tripping over appliance cords and thus spilling hot cooking ingredients, and another 30,000 persons will be injured by wall sockets and flexible extension cords. Most of these accidents will involve children. Plugs and cords with excessive current leakage may cause severe burns to children who handle them.

To date, federal regulation has been concerned primarily with industrial standards; government intervention in the electrical appliance field has been minimal. The National Bureau of Standards of the Department of Commerce has set standards for electric power in the United States, and several other federal bodies, in cooperation with the Department of Labor, work in conjunction with private organizations such as the

National Fire Protection Association and the Underwriters' Laboratories.

State regulation is likewise limited. It, too, is geared to industry and largely follows criteria set by the National Bureau of Standards. Legislation respecting the safety of home appliances has been enacted in some states<sup>71</sup> and it generally adheres to the National Electrical Code discussed above. Some state legislation empowers the state fire marshal to set home appliance standards. Either this authority is rarely used or its use is a well-kept secret.

Practically speaking, regulation in the home appliance industry is entirely self-imposed. Self-policing is accomplished through private organizations such as the National Electrical Manufacturer's Association and the Association of Home Appliance Manufacturers, membership in which can be maintained only through adherence to established standards. A third organization, the National Fire Protection Association, has established the National Electrical Code. This is continually being revised by committees, organized throughout the United States, that are composed of experienced authorities whose daily contacts with the industry assure their awareness of recent developments. It is republished about every three years. The current Code, which was published in 1965, has been influential. The United States of America Standards Institute has approved it and accepted it as a national standard; the National Board of Fire Underwriters has adopted it; and it has been offered for use for legal regulatory purposes and is widely applied with the force of law.<sup>72</sup>

The Underwriters' Laboratories has attained the distinction of being the standard setter for the electrical equipment industry. Every company hopes to obtain this organization's approval for its products. Unfortunately, UL approval of an electrical component sometimes misleads the consumer because of the confusing limitations on the scope of the approval. This shortcoming raises serious questions as to the effectiveness of the industry's self-policing.

The alternative of government intervention would arouse the traditional resentment that has long been a product of the credo that legislative standardization enforces a degree of inflexibility sufficient to inhibit the vitality of industry and destroy competition. Because of this basic antagonism, it is hard to determine in what areas the Government should adopt regulatory measures. At present, it is generally felt that the industry has done a commendable job of making its products safe for the consumer and the self-policing method is not under great criticism.

Action should be taken, however, to reduce some of the needless accidents that presently occur. Electrical appliances such as coffee pots,

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71. See Tab. B.

72. *Id.*

frypans, and skillets should perhaps be required to have magnetic bases to retard tipping when the cord is abruptly pulled. Perhaps a thumb clip should be required on either end of a flexible extension cord so that the connection cannot be broken by yanking the cord but only by pressing the thumb clip.

Greater public disclosure concerning all aspects of electrical products might effectively eliminate many accidents by creating a more discerning consumer and by providing industry with a greater incentive for product improvement. This is the most meritorious approach because, instead of restraining competitive forces, government action would channel incentives toward beneficial ends. Consideration should also be given to methods of obtaining information, procedure and channels for dissemination, and sanctions against incomplete, misleading, or false disclosure. These approaches are discussed more fully in other parts of this Report.<sup>73</sup>

### I. Television†

Since television has become the American home's main source of entertainment and information, as well as a one of its primary sources of culture and instruction, the industry has achieved a per-household "saturation" point in its first twenty years that is unparalleled in the field of household goods. In 1946, only 6,000 television sets were produced. In 1966, the ninety million sets already in use were augmented by factory sales of thirteen million.

Surprisingly, this rapid growth has not been accompanied by any material upswing in injuries. Increased demand for new developments such as portable units has resulted in a much higher degree of set-user contact with a presumably expanded potential for injury. However, with the exception of an early rash of accidents most of which involved electric shock attributable to consumer ignorance, there has been no significant increase in injuries, although the potential hazards of shock, fire, and implosion remain.

In a black-and-white receiver, a "gun" directs a current of about 200 microamps at 18,000 volts onto illuminating phosphores. The voltage requirement of a color set is even higher; instead of one gun there are three, each having a different component color. Because the current must penetrate a shadowmask, eighty-five percent of which is screened, the current required is 1,700 microamps at 25,000 volts. In both types,

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73. Material for this report was found in numerous articles in the following periodicals: ACCIDENT FACTS, CONSUMER BULL., CONSUMER REPORTS, ELECTRONICS, POPULAR SCIENCE MONTHLY, SAFETY STANDARDS, and SCIENCE NEWS. See also A. ABBOTT, NAT'L ELECTRICAL CODE HANDBOOK (9th ed. 1957); NATIONAL FIRE PROTECTION ASS'N, NAT'L ELECTRICAL CODE (1965).

† By Edward Murphy.

picture quality is directly related to the amount of current transferred to the screen. Undoubtedly, the resultant shock potential is the most significant hazard produced by television. Most shocks are caused by a short in internal wiring that allows current to escape from the circuit into the chassis, where it can shock the user. Few persons realize that accumulated electricity is not discharged as soon as the set is turned off. Thus, a unplugged set can retain enough electricity to produce shock. The do-it-yourself repairman is the most susceptible victim and the common practice of setting decorative water-filled plant holders on the cabinet enhances the shock risk.

Television shares with other electrical appliances the possibility for inadequate strain relief. Strain relief eliminates the excess electricity accumulating within appliances during operation and is particularly important for television because of the duration of the high current build-up.

A television set may represent a fire hazard if the set carries such defects as faulty fuses, faulty circuit breakers, and low terminal plastic. This is the easiest hazard with which to cope. Because television sets do not contain highly combustible components, a fire is slow to ignite and, when it does, it is accompanied by warning signals, such as smoke or odor. To harm the viewer, the fire must spread to surrounding combustible materials, such as curtains. Usually, this can occur only if the set is left unattended while operating.

A third danger is implosion. An imploding tube can generate enough shrapnel to inflict serious cuts on persons within ten feet of the tube. The concentration generally is greatest directly in front of the picture tube. The most common cause of implosion is an object, such as a thrown toy, that strikes the exterior of the picture tube with sufficient impact to shatter it, but it may also result from a large, sudden escape of electrical power that causes the picture tube to disintegrate with great force and with such speed as to give the viewer no warning. Children, who are more likely to sit close to the set, are usually the causes and victims of implosion hazards.

An additional problem was revealed recently when General Electric color television sets were found to be giving off harmful x-rays. However, because of the way in which the picture tube was mounted, the rays were directed at the floor rather than at the viewer. Although it is too soon to pinpoint the source of the defect or its potential harm, careful investigation of the problem is needed because so many young children view television at close range while sitting on the floor.

Safety activities within the industry were pioneered by the Safety Committee of the Electronics Industries Association, which was formed twenty-five years ago to formulate, recommend, and establish

suitable safety requirements for consumer electronics products. The EIA membership, which consists of producers of both appliances and components, accounts for approximately eighty percent of the revenues of this country's twenty billion dollar electronics industry. The fact that its membership is composed of electronics experts, product engineers, and other technically oriented persons who are closely acquainted with current innovations helps the Committee in formulating recommended standards for preventing fire, shock, and other health hazards. The Committee, which works closely with the Underwriters' Laboratories and the United States of America Standards Institute, meets on a regular basis several times annually to hear the recommendations of individual members. Committee findings and recommendations are submitted to the Underwriters' Laboratories for incorporation into the publication *UL Safety for Radio and Television Receiving Appliances-UL Subject 492*. The efforts of the Safety Committee of the EIA and those of the UL have resulted in a television set that is relatively free from hazards. The self-initiated production standards of manufacturers sometimes exceed those formally recommended. For example, the UL standard for maximum current leakage is five milliamperes, whereas the industry production standard is two and one-half. In 1946, the standard was fifteen milliamperes.

The important devices and safety procedures now in use include the following: the transistor, which has been perhaps the most significant development in reducing shock; informative markings and instructions to guide consumers who attempt their own repairs; restriction of access through use of chassis backs requiring tools for removal; the interlocking switch, developed by the EIA and manufacturers, which automatically removes dangerous voltage if the chassis back is removed; increased use of special fuses and circuit and overload breakers; use of plastics, which meet mechanical strength and thermal stability tests, for manufacturing internal enclosures designed to prevent the spread of fire from stress areas; surrounding high voltage areas with shields to reduce current leakage and to prevent implosion by arresting the current before it reaches the picture tube; monitors that reduce power surges and help the interlock switches to prevent the flow of current from the set; use of unbreakable glass shields and permanent mounting of the picture tube within the set to prevent implosion injuries; and rigid production control and stringent testing as encouraged by the EIA to insure that all safety devices are operational.

Injuries can be further abated through a program of consumer education. This can most feasibly be accomplished by requiring manufacturers to supply with each set an instructional pamphlet that describes the set's potentially dangerous features and the proper procedures for



repairing it.

This should not jeopardize a potential sale, because if used properly a set is not dangerous. The need for disclosure is even more paramount with the increasing use of high-voltage color sets.

The television industry represents a model of generally successful self-regulation. The potentially most hazardous appliance in the home has been rendered relatively harmless. Nonetheless, the Federal Government should encourage, or if necessary, impose a program of disclosure.

#### J. *Aerosol Containers (Explosion Hazard)*†

Because aerosol containers are covered by the Hazardous Substances Act,<sup>74</sup> the present study is directed solely toward the manner in which the law protects consumers against the explosion hazard; the toxicity and flammability hazards are not considered. The question to be answered is whether or not present warning labels are adequate to protect the consumer against the hazard of explosion. Unfortunately, there has been insufficient research in this field, but it is known that warning labels are often ineffective, either because the consumer fails to read them or because they do not adequately describe the hazard present.

Aerosol containers are used to contain and dispense many consumer products; they are made of tin plate, aluminum, uncoated glass, plastic coated glass, glass in a fibreboard sheath, stainless steel, or plastic. Hydrocarbons and fluorinated hydrocarbons are the liquified gases most frequently used as propellants to dispense non-food products. The propellant used for food products is a compressed gas, which is usually nitrous oxide, carbon dioxide, or nitrogen. The basic standard of measuring aerosol strength is the pressure exerted by the propellant at seventy degrees fahrenheit. This pressure, which is exerted against both the product and the walls of the container, increases as the temperature increases.<sup>75</sup>

At a sufficiently high temperature, the pressure produced by the propellant will burst the container. The explosion point depends on the type of propellant and product, and on the type and size of container. An increase in temperature is normally produced by external heat sources such as sunlight, a stove, a heating appliance, an incinerator, open flames, or boiling water. Aerosol containers are often exposed to one or more of these heat sources. When an explosion results, the container may be hurled through the air and burst or rupture into jagged sections; the

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† By Lewis E. Bloom.

74. 15 U.S.C. § 1261 (1964).

75. A. HERZKA & J. PICKTHALL, *PRESSURIZED PACKAGING (AEROSOLS)* (1961); N. FUCHS, *THE MECHANICS OF AEROSOLS* (1964).

occurrence of any of these contingencies could seriously injure those nearby.<sup>76</sup>

Statistics relating to the effects of such explosions are available from the National Safety Council, but they are inconclusive. They do not include the number of non-fatal injuries, nor do they indicate how the explosions that result in death occur. Furthermore, it is not known whether the term "pressure vessel," used in these statistics, applies to aerosol cans only. It is likely that it also includes pressure cookers, fire extinguishers, and pressure containers used for industrial purposes.<sup>77</sup> The following is a sample of these statistics.

<i>Year</i>	<i>Total Accidental Deaths</i>	<i>Deaths Caused by Ex- plosion of Pressure Vessels</i>
1964 <sup>78</sup>	105,000	35
1963 <sup>79</sup>	100,669	55
1962 <sup>80</sup>	No statistics found	No statistics found
1961 <sup>81</sup>	92,249	46
1960 <sup>82</sup>	93,806	38
1959 <sup>83</sup>	92,080	51
1958 <sup>84</sup>	90,604	47
1957 <sup>85</sup>	95,307	55
1956 <sup>86</sup>	94,780	38
1955 <sup>87</sup>	93,443	43
1954 <sup>88</sup>	90,032	36
1953 <sup>89</sup>	No statistics found	No statistics found
1952 <sup>90</sup>	96,177	69

Several examples of serious injuries resulting from the explosion of

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76. *Don't Get Killed by a Can*, CONSUMER BULL., June, 1964, at 43; *Old Sol and Pressure Cans*, CONSUMER REP., Oct., 1963, at 461; *Put Safety First When Using Aerosol Cans*, GOOD HOUSEKEEPING, Feb., 1964, at 163; Dempewolf, *Those Handy Aerosols Can Be Dangerous*, POPULAR MECHANICS, March, 1964, at 85.

77. The National Safety Council has not yet responded to a request for clarification of this term.

78. NATIONAL SAFETY COUNCIL, ACCIDENT FACTS 12 (1966).

79. *Id.*

80. NATIONAL SAFETY COUNCIL, ACCIDENT FACTS 12 (1963)

81. *Id.*

82. NATIONAL SAFETY COUNCIL, ACCIDENT FACTS 12 (1962).

83. NATIONAL SAFETY COUNCIL, ACCIDENT FACTS 12 (1960).

84. NATIONAL SAFETY COUNCIL, ACCIDENT FACTS 20 (1959).

85. NATIONAL SAFETY COUNCIL, ACCIDENT FACTS 20 (1958).

86. NATIONAL SAFETY COUNCIL, ACCIDENT FACTS 20 (1957).

87. NATIONAL SAFETY COUNCIL, ACCIDENT FACTS 20 (1956).

88. NATIONAL SAFETY COUNCIL, ACCIDENT FACTS 20 (1955).

89. NATIONAL SAFETY COUNCIL, ACCIDENT FACTS 16 (1954).

90. NATIONAL SAFETY COUNCIL, ACCIDENT FACTS 16 (1953).

aerosol containers are, however, available from other sources.<sup>91</sup>

(1) In August 1963 at Willow Grove, Pennsylvania, a woman discarded an empty can of insect repellent into a waste-paper fire. It exploded and a piece of flying metal pierced her jugular vein. She died fifteen minutes later.

(2) A child warmed an aerosol container in hot water to "jack up" the propellant. He then removed it from the water and shook it. The container exploded and flying metal caused him to lose an eye and half of his lower jaw.

(3) In 1963, an attendant at a village incinerator in Mamaroneck, New York, opened the oven door to stoke a fire. An empty aerosol can inside exploded and a piece of it destroyed one of his eyes.

(4) A woman put a can of hair spray on a gas-fired radiant heater in her bathroom. It exploded and caused her death.

The number of pressurized containers produced has increased each year. Because of the increasing demand for products already packaged in aerosol containers, and because of the extension of aerosol packaging to other products, rapid growth is likely to continue. Aerosol cans have attracted the attention of the consumer and have a strong sales appeal. Their use reaches both sexes, all age groups, and all economic levels. That the average person will have an increasing number of aerosol cans in his household is strongly indicated by the following data:

*Nonfood Aerosol Containers—1952 to 1962*<sup>92</sup>

Year	Glass and Plastic Containers (all sizes)	Metal Containers		Reported Total	Complete Total <sup>93</sup>
		Over 6 oz.	6 oz. & Less		
1952	—	63,439,015	32,569,541	96,618,905	—
1953	—	80,575,853	47,282,299	131,515,442	140,000,000
1954	—	85,394,617	83,324,951	169,362,104	185,000,000
1955	10,411,560	119,719,706	104,984,499	236,783,520	240,000,000
1956	15,092,994	151,935,187	127,062,272	293,190,453	320,000,000
1957	21,279,442	167,870,732	150,340,628	339,490,802	390,000,000
1958	11,262,234	171,120,748	159,000,514	341,383,496	470,000,000
1959	25,259,999	286,097,522	186,930,422	498,287,943	575,000,000
1960	42,901,675	364,810,437	199,280,258	606,992,370	670,000,000
1961	34,941,835	445,238,310	196,981,657	676,261,802	796,000,000
1962	44,237,405	541,917,027	196,042,277	782,196,709	1,019,000,000

Three hundred different products were available in aerosol form in 1965<sup>94</sup> and "[b]y 1970, it [aerosol production] is expected to hit 2 billion

91. Dempewolf, *Those Handy Aerosols Can Be Dangerous*, *supra* note 76.

92. MODERN PACKAGING, ENCYCLOPEDIA ISSUE, 1964, at 386.

93. Adjusted to include estimated nonreported total.

94. *A Wider World of Aerosols*, 38 MODERN PACKAGING 99 (1964).

units.”<sup>95</sup> In view of this evidence, it becomes increasingly important to protect the public by adequate legislation controlling the labeling of containers.

Some aerosol cans carry labels that fully inform the consumer. The explosion of these containers can therefore be attributed to the consumer's failure to read or heed the warning. On the other hand, many aerosol containers do not carry labels that adequately inform the consumer. For example, not all labels warn about sunlight; only a few warn about exposure to stoves and household heaters. None warns that an “empty” can will explode when exposed to heat. If the manufacturer provides only the currently-prescribed warning concerning generating pressure, avoiding heat, and discouraging incineration, the consumer will be inadequately advised of the hazards present.

A further problem is whether or not the typical consumer reads the warnings that do appear on the container. Since warnings are usually printed below the directions for general use and the use of aerosol containers has become so extensive, it is doubtful that the consumer will read the directions for use and the chances are thus lessened that his attention will be drawn to the warning. In addition, warnings usually appear in small type, and on several aerosol cans they are printed in the smallest type on the label.

Aerosol containers are covered by the Hazardous Substances Labeling Act,<sup>96</sup> which requires the following label: “Warning—Contents Under Pressure. Do not puncture or incinerate container. Do not expose to heat or store at temperatures above 120°F. Keep out of the reach of children.”<sup>97</sup> Some containers also come under the regulations of the New York City Fire Department, calling for the registering of certain aerosol cans and the use of labels for handling and storage. Containers that are shipped in interstate commerce are subject to the regulations of the Interstate Commerce Commission, but it sets no labeling requirements. However, ICC regulations do include testing requirements relating to pressure and temperature.<sup>98</sup>

Reputable container manufacturers test the stability of their containers by immersing them in a water bath of about 130 degrees fahrenheit. The industry recommends that to dispose of “empty” aerosol containers the consumer wrap them in newspaper, place them in the freezer

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95. *The Pushbutton Can Takes Off on Its Own*, BUSINESS WEEK, April, 1964, at 102.

96. 21 C.F.R. §§ 191.1(d), (m) (1967).

97. 21 C.F.R. § 191.110 (1967).

98. 20 C.F.R. §§ 73.115, 73.300, 73.302 (1967). Metal containers up to a capacity of thirty-two cubic inches (17.73 ounces) must be capable of being heated to 130 degrees fahrenheit without showing leakage.

overnight, and puncture the bottoms the next day. If this is done, an incinerated aerosol container will not explode.

Although there are inadequate data on the effectiveness of warning labels on aerosol cans, enough accidents have occurred in spite of the use of warnings to suggest that present labeling requirements are inadequate. The consumer needs to be told not to expose the aerosol container to sunlight; not to place it near a stove; and not to leave it on a radiator. Telling him not to expose the container to a temperature above 120 degrees, when he has no practical means of measuring degrees, is not in itself very helpful. The fact that the product had been tested to withstand a temperature of 130 degrees is, for the same reason, an inadequate safeguard. The recommended procedure of the aerosol industry for the safe disposal of "empty" aerosol containers is unrealistic because the consumer can hardly be expected to take the time and expend the effort to follow so elaborate a procedure for so highly recurrent a situation.

Studies should be made to determine the effectiveness of warning labels in persuading the consumer to read them and in informing those who are so persuaded. The general emphasis should be on whether or not the consumer has an adequate opportunity to know about potential hazards.

On the basis of present, incomplete information, it is recommended that the following warning be required :

*Front of Container*

CAUTION: CONTENTS UNDER PRESSURE. READ PRECAUTIONS ON BACK BEFORE USING.

*Back of Container*

DANGER: CONTENTS OF THIS CONTAINER ARE UNDER PRESSURE. EXPOSURE TO HIGH TEMPERATURE MAY CAUSE EXPLOSION. KEEP CONTAINER AT ROOM TEMPERATURE. DO NOT EXPOSE TO DIRECT SUNLIGHT. DO NOT PLACE NEAR RADIATORS, STOVES, OR OTHER SOURCES OF HEAT. DO NOT PLACE IN HOT WATER. DO NOT PUNCTURE CONTAINER. DO NOT THROW INTO FIRE OR INCINERATOR. DO NOT PLACE NEAR FLAME. KEEP OUT OF REACH OF CHILDREN. THIS CONTAINER MAY EXPLODE AT A TEMPERATURE ABOVE 120° F.

The warning should appear in large, colorful type that contrasts with the rest of the container; its position on the container should be designed to draw the attention of the consumer and should not be combined with the directions for use. A warning should appear not only on the back of the container but also on the front, directly below the name of the product.

Although there is no way to force a consumer to read a warning label, warnings can be made more conspicuous by the adoption of the foregoing recommendations. Further, the Government might require that a brightly colored tag, calling attention to the warning, be tied to the container. This safeguard would be more likely to catch the consumer's eye than the presently required warning.

If these warning requirements and intensified consumer education fail to reduce the hazard to minimal proportions, the following alternative approaches would seem to warrant serious study, taking into account considerations of economics and inconvenience.

One possible alternative would be to ban all aerosol containers made of metal. This is feasible since other container materials such as plastic have been found acceptable under certain conditions;<sup>99</sup> research in this field should be continued and expanded. The explosion of a plastic container would not cause as severe injuries as that of a metal container. Another alternative would be the installation of a safety valve on the aerosol container; it would allow the contents of the container to escape when the pressure reached a dangerous intensity. This alternative would depend on cost and feasibility. As noted, aerosol containers could conceivably be designed to withstand a temperature greater than 130 degrees, but because technology does not appear to have progressed to the point where a container could be designed to withstand the pressure produced by the intense heat sources to which consumers expose them,<sup>100</sup> this does not seem practical. Thus, further study should be devoted to developing a cheaper means of producing an aerosol container capable of safely withstanding any source of heat to which it might be subjected by an unwitting consumer.

#### K. Toys†

The toy industry is a business of tremendous proportions both in the range of its products and in the volume of its sales. The enormous size of the industry suggests the dimensions of the potential hazards.

A proper examination of the toy industry is handicapped by a lack of specific data. Because a broad study on the safety of toys has never been made and because records on accidents to children fail to categorize the specific causes, it was necessary to approach the industry directly. By contacting more than thirty toy manufacturers and three trade associations, enough information was secured to provide a foundation for a limited analysis of the industry with respect to toy safety.

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99. *First Acetol Aerosol*, 34 MODERN PACKAGING 87 (1960).

100. For a complete list of manufacturers of components of aerosol containers, see MODERN PACKAGING, ENCYCLOPEDIA ISSUE 1964, at 735-86.

† By John R. Wilks.

A study of toy safety entails myriad products ranging from a baby's rattle to high school equipment. Toys considered in this study include playground equipment, sporting goods, bicycles, fireworks, "war games," "toys that really work," model kits and materials, chemistry and model rocket sets, and B-B guns. Over the years, a tremendous number of electrical products have been introduced, such as electric trains and model racing car sets; electrical hazards have accompanied this development. For the most part, these hazards have already been considered.<sup>101</sup>

Most of the hazards considered in the present study are mechanical and involve the failure of the product to withstand normal and even anticipated abnormal use by the child consumer. In addition, chemical hazards are evident in some of the materials used in the construction of toys and in chemistry sets. Some products, such as guns and fireworks, are intrinsically dangerous.

Statistical surveys have been made by a small number of state agencies, but they are inconclusive. The data published do not show the number of injuries to children that were due to product failure or the number that were due to the fault of the consumer or a third party. As a result, the causes of these injuries are often unidentified.

The most ambitious study of toy safety was prepared in 1961 by the National Safety Council and the Florida Pediatrics Society, the Florida Chapter of the American Academy of Pediatrics, and the Florida State Board of Health.<sup>102</sup> Details on 748 accidents involving toys and other playthings were accumulated and analyzed during three selected months. Consideration was given to any "accident which directly or indirectly involves any object which the child was using for recreation, play, or amusement purposes." Nearly three-fourths of the reported accidents happened to children under six years of age. Bicycles and tricycles were the devices most frequently reported as responsible for injuries; they amounted to about twenty-two percent of all the accidents. Generally, bicycle injuries occurred when children rode bicycles into stationary objects or into bystanders who suffered the injury. A wide variety of items of playground and sporting equipment were implicated in thirty out of over one hundred reported cases. Only thirty-nine percent of the reported cases were serious enough to require hospitalization. Twenty-three percent involved injury through the fault of others. Generally, injuries were incurred where there was no adult supervision or where the children had not been properly instructed in the use of the item.

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101. See V(H), *supra*.

102. P. DYKSTRA, SURVEY OF INJURIES INVOLVING TOYS AND PLAYTHINGS SUSTAINED BY CHILDREN IN FLORIDA (1962).

The survey concluded that, with respect to commercial toys, injuries usually resulted from misuse. The injuries were not very severe and the National Safety Council believes that parental supervision is the answer to the misuse problem. The manufacturer should educate the parent in the proper manner of supervising a child playing with one of its products.

The Bicycle Institute of America, Inc., also keeps statistics on injuries and fatalities involving bicycles. John Auerbach, Executive Secretary of the Institute, claimed recently that "not one single fatality reported was the result of negligence on the part of the manufacturer."<sup>103</sup> He further stated that sales increased in 1965 by sixteen percent, but fatalities dropped four percent. Although the number of fatalities per bicycle sold declined, 680 cyclists were killed in 1965. It appears that these deaths were caused by collision with automobiles. As a result, the Bicycle Institute is trying to meet this problem by an intensive consumer education campaign and a bicycle safety program. This will be discussed in detail in connection with trade associations.

In the toy industry, consumers are children who are highly vulnerable because their natural curiosity leads them into unforeseen dangers; consequently, the problem of contemplated use is a great one. The toy manufacturer normally tries to anticipate the myriad uses to which his product will be put. For example, the manufacturer of a toy car must anticipate the possibility that it will be used for anything from a pacifier to a hammer. The critical question is the extent to which the manufacturer should be held responsible for the anticipatable misuse of his product by the child consumer. This difficulty arises from the fact that when a child faces a hazard he may not have the resources to cope with it or he may even be unaware that the hazard exists.

A normal warning may be ineffective if it depends on being read by a child, because the child may be unable to read it, may ignore it, or may even find it an invitation to do what the warning is meant to prevent. Because the purchaser of a child's toy is often an adult, it is necessary to determine whether or not the warning conveyed to the adult purchaser is adequately relayed to the child. The manufacturer naturally does not want to overemphasize the significant hazards, because it tends to discourage a purchase. The problem of the third party is also important in a study of toy safety, because he is often the person injured.

Toy manufacturers must comply with the standards established by the Food and Drug Administration and the Federal Trade Commission. For example, non-toxic paints must be used to prevent poisoning if a child puts the object in his mouth. One manufacturer reported that his

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103. Letter from John Auerbach, Executive Secretary, Bicycle Institute of America, Inc., to John R. Wilks, April 7, 1967.



products must also meet the standards set by the state health department of the particular state.<sup>104</sup> In addition, many states and communities have statutes or regulations governing the use of fireworks or B-B guns, but unfortunately, this safety legislation is often ignored. The Underwriters' Laboratories and miscellaneous testing organizations also set standards of safety that influence the toy industry.

Trade associations try to protect the consumer by improving the quality of toys. Walter W. Armatys, Executive Director of Toy Manufacturers of America, stated:

[o]ur association is a voluntary trade association which is representative in its membership of more than four hundred manufacturers in the toy industry. The Association maintains a Safety Standards Committee as a standing committee to deal generally with the safety problems of toys. Over the years, the Safety Standards Committee acting in conjunction with the National Safety Council has worked to eliminate specific hazards in toys which have been brought to its attention by various public groups or members of the consuming public. The activities of the Safety Standards Committee have resulted in the consistent improvement of safety qualities in toys. For example, manufacturers have largely adopted the use of plastics which rarely break upon impact. Doll manufacturers have also developed new methods of affixing dolls' eyes so as to eliminate the use of sharp projections which formerly were inserted in the doll. The Association, in addition, has co-operated with the United States Standards Association in developing a "lead free" paint standard for use on toys which is entitled "Minimum Hazards to Children From Residual Surface Coating Materials." [*sic*]<sup>105</sup>

Elizabeth Clarkson, Executive Secretary of the Crayon, Water Color and Craft Institute, Inc., reported on their program for insuring the safety of these materials for children.<sup>106</sup> In 1939, a group of leading manufacturers inaugurated a "Certified Products Program" as a result of their concern over the possibility that crayons had been responsible for disease in a few children who had eaten them. Outstanding toxicologists have been retained by the Institute and all materials used by

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104. Tabs A and B include an inventory of federal and state laws relating to household products.

105. Letter from Walter W. Armatys, Executive Director, Toy Manufacturers of America, to John R. Wilks, May 4, 1967.

106. Letter from Elizabeth Clarkson, Executive Secretary, The Crayon, Water Color and Craft Institute, Inc., to John R. Wilks, April 10, 1967.

member companies must first be cleared by them. The restrictions adopted apply not only to coloring matter but to all other components of products sold by the participating manufacturers. To extend the assurance of safety of children's art materials beyond its own membership, the Institute proposed a standard to the United States Department of Commerce. The result is Commercial Standard CS130-60, promulgated by the National Bureau of Standards.<sup>107</sup>

The National Clearing House for Poison Control Centers has recognized the Certified Products (CP) and Approved Products (AP) Seals of the Institute as certification of non-toxicity. It is significant that there was no evidence of poisoning in 150 cases of children under five years of age who had ingested water paints, crayons, chalk, or modeling clay reported to the National Clearing House for Poison Control Center in 1958-1959. The work of the Crayon, Water Color, and Craft Institute, Inc., suggests the potential effectiveness of voluntary self-regulation.

The Bicycle Institute of America, Inc., under the guidance of Executive Secretary John Auerbach, continually works on consumer protection. The Institute accepts responsibility for trying to assure maximum safety for the nation's 55,000,000 bicycle riders. Auerbach reported that:

[e]very bike leaving an American plant has undergone several different, rigid inspections. Like everything else, bike parts are subject to wear. Thus a major part of the industry's continuing safety education program is a constant urging to have bikes inspected twice a year. This caution is printed in every piece of Institute safety literature.

Probably no other industry has been as conscientious in recognizing its responsibility to the public as the bicycle industry. For more than 20 years it has plowed back a significant percentage of its annual profits in a national safety education campaign, conducted by the Bicycle Institute of America. It has distributed over 70 million pieces of free safety literature in the past decade, to schools, PTA's, Lions, JayCees, Optimists, Kiwanis, VFW's, riders, and police departments, encouraging and guiding them to conduct local bicycle safety programs. It has published and distributed films, guide and instruction books, text booklets, posters, decals and many other items. Bicycle safety and free inspection of bicycles is an annual

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107. U.S. DEP'T OF COMMERCE, COLOR MATERIALS FOR ART EDUCATION IN SCHOOLS (1960).

feature of American Bike Month, now in its eleventh year, in which the bicycle industry and thousands of bike retailers cooperate with local civic groups in conducting bike safety programs. Over 2 million pieces of safety literature are distributed during Bike Month alone. Hundreds of retailers offer facilities and staff for safety inspection of tires, chains, brakes and other bike parts.<sup>108</sup>

The Bicycle Safety Publicity Kit, which is issued by the Institute, appears to be an outstanding attempt to educate the consumer. Accompanying every new bicycle sold is a pamphlet called *Have Fun Safely on Your New Bike*, which contains rules and suggestions for bicycle operation. Also included with the new bicycle is a list of more than 100 films available for free use, a fifty-page book entitled *How to Plan Successful Bike Safety Programs*, pamphlets on the practical steps for keeping a bicycle in good riding condition, bicycle safety tests, *Bike Ordinances in the Community—A Plan for Municipal Regulation of Bicycles*, posters, a "Bike Quiz," press releases, and radio scripts.

Another important development of the bicycle industry is the establishment of "bikeways," a system of secondary routes, usually parallel to main streets, leading from commercial and residential areas to schools, shopping centers, parks, playgrounds, recreational and cultural centers and to points of scenic or historic interest. They are conspicuously marked with signs and are safer because fewer vehicles use them and motorists tend to drive more cautiously on such streets. "Bikeways" are an easy, inexpensive, and apparently satisfactory approach at least to mitigating the problem of injuries resulting from collisions with automobiles. The conduct of the bicycle manufacturers in trying better to assure the safety of the child is not atypical of most toy manufacturers; the majority seem to be doing much to protect children from injury and thereby protect themselves from potential liability.

No response was received from the producers of fireworks. This is significant, because of the inherent danger to the purchaser and to non-participating third parties. Regulations in this area have not been entirely successful, because so long as fireworks are available to children, they pose a threat. To combat this threat effectively, their sale would need to be outlawed uniformly in all of the states. Also, no response was received from members of the playground equipment industry, which includes manufacturers of equipment used in public parks, on school

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108. Letter from John Auerbach, Executive Secretary, Bicycle Institute of America, Inc., to John R. Wilks, April 7, 1967. Bicycle Safety Publicity Kit is available on request from Bicycle Institute of America, Inc.

playgrounds, and in backyards. The dangers inherent in the use of such equipment are obvious. Investigation should be made to determine whether or not a significant problem exists and, if it does, what measures should be taken to overcome it.

In general, the response from toy manufacturers was encouraging; a mail survey of thirty-five manufacturers produced responses from twenty-seven. The manufacturers are doing much on their own to provide safer toys—whether this is due to public pressure resulting from many past casualties or from a spontaneous interest in the welfare of the consumer is not critical. The important fact is that the manufacturer appears to be taking constructive action. Unfortunately, statistics on the success of these efforts in reducing consumer injuries are unavailable, but the results appear to be significant.

Because it is not feasible to reproduce in full each of the letters received from manufacturers, it may be useful to summarize the steps many are taking to insure maximum consumer protection. Producers of toys with plastic and wooden components try to minimize injuries to children and adults by limiting the number of sharp edges and corners. When paints and glues are used, they are usually made of non-toxic ingredients so that if they are chewed or ingested by children no harmful effects will result. Items that suffer extreme stress and hard use, such as sporting goods, are often designed to withstand greater than “normal” use. In addition, the bulk of the toy manufacturers approached in this study mentioned the self-imposed safety procedures they follow. These include production line check-ups and tests to determine the degree of misuse toys will endure without resulting in conditions hazardous to the consumer.

Two manufacturers of inherently dangerous “toys” who were approached warrant detailed consideration. They are the Daisy Manufacturing Co., producer of the popular “B-B guns,” and Estes Industries, Inc., producer of model rocket sets. Much controversy has arisen over the use of B-B guns by children. By supervision and municipal regulation that are directed to proper location for use, many injuries have been avoided. Even so, children are continually breaking the rules and they and innocent third parties are injured as a result. It is necessary, therefore, to consider whether or not further regulation of the sale of such guns would be desirable.

Daisy Manufacturing Company is the largest producer of B-B guns, and their president, Cass S. Hough, reported:

[a]s respects our own products, a system of rigid inspection, from the time the product begins until it is packed,

insures mechanical reliability. Therefore, the only thing there is to deal with is making sure the consumer understands how to use the product. We spend an inordinate amount of time writing, re-writing and re-writing our directions, couching them in such simple terms that youngsters can understand them with no difficulty. But we don't stop here; we have a Training Services Program, which last year helped train and instruct some 1,000,000 youngsters in proper gun handling, good gun manners, etc. A substantial part of this Training Services Program is done jointly with the United States Jaycees in a Shooting Education Program. The balance of it is done through many other organizations, such as the 4-H's, Veterans of Foreign Wars, P.A.L., Boys Clubs, Y.M.C.A., Schools, Churches, Camps, Recreation and Parks Departments, The American Association of Health, Physical Education and Recreation, etc. When you add up a mechanically sound product, intelligently worded directions, and a continuing program of safe handling for youngsters and adults alike, we feel we are discharging our responsibility to the public—and as a matter of fact, the records, year after year, speak for themselves.<sup>109</sup>

Daisy is doing much to protect the consumer. As Mr. Hough suggested, it may have discharged its responsibility to the public and done all it could to perfect its product. Nevertheless, the fact remains, that a B-B gun is inherently dangerous and there is no assurance that merely on the basis of manufacturers' directions a child will exercise reason in the use and handling of this "toy." Therefore, the sale of such guns should be restricted to adults who can be expected to instruct the child in its proper use and who will assure continued supervision over the child.

Perhaps the most significant contribution to the field of consumer protection in the toy industry was made recently by Estes Industries, Inc., of Penrose, Colorado. A close look at their work is helpful, because it exemplifies how the industry itself can work for the best interests of the consumer. Estes makes and distributes model rockets. Its story is graphically told in *Youth Rocket Safety*, a report to the Model Rocket Manufacturers Association by Vernon Estes, President of Estes.<sup>110</sup>

Model rocketry was developed largely to combat the great danger of homemade rockets. The aim of Estes Industries has been to prevent accidents from homemade rockets by providing tested, safe model rockets

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109. Letter from Cass S. Hough, President, Daisy Manufacturing Co., to John R. Wilks, April 16, 1967.

110. V. ESTES, *YOUTH ROCKET SAFETY—A REPORT TO THE MODEL ROCKET MANUFACTURER'S ASS'N* (1967).

with pre-manufactured engines at a price that young people can afford, thus making it more appealing to play with model rocketry than to indulge in "basement bombing." "Basement bombing" is a term used to describe the activities of individuals or groups making homemade rockets and propellants. A booklet produced by Estes called *Why Model Rocketry?* best explains why this field developed and flourished. By 1957, the space age had come into its own and with its advent came excitement and the desire among science-minded young people to join the space race by building their own rockets. Pandemonium broke loose in schools and back yards. Equipped with only his own inadequate knowledge and household materials, the young scientist began to build. The simple combination of the heads from kitchen matches and an empty carbon dioxide cartridge was very popular. Sometimes it made a rocket, but more often it made a lethal bomb. The junior chemist concocted strange mixtures with strange properties, such as the capacity for igniting when shaken or dropped or on contact with water or air. Young persons lacking access to safety equipment, material, and knowledge killed themselves with grim regularity. "Basement bombing" in itself is uncontrollable and laws were ineffective to prevent dangerous experiments. The accident rate was more than seven times as great as that for automobile travel. Estes estimates that fourteen percent of the nations "junior rocketmen" were injured or killed during 1958 in their attempts to build and fly homemade rockets.

As a result, many individuals realized that something needed to be done to reduce the hazards. Estes, for one, combined the pecuniary incentive of a prospectively successful business with a desire to stop the senseless killings and maimings of the "basement bombers." After it was discovered that accidents happened when homemade or home-loaded propellants were used in rockets, particularly when such propellants were used in metal casings, a program was started to develop safe, pre-loaded propellant devices; the hazards of home-loading were eliminated. Since then, over two and one-half million of these improved engines have been used in model rockets with one of the best safety records for any youth activity.

Safety in the practice of the hobby was promoted by the formation of educationally oriented model rocket clubs with adult participation and supervision. These organizations have developed an easy-to-follow safety code that limits the size of model rockets and the materials from which they may be constructed. The National Association of Rocketry was formed to keep model rocketry safe, distribute technical information, and hold competitive events. The Association is a national non-profit organization. Model rocketry is now approved by NASA and the United

States Air Force. Teachers have found it a valuable aid to science education.

The movement has apparently been successful. Model rocketeers in this country have launched over one million rockets in five years without suffering injuries. "Basement bombers" still exist but they are few in number.

William M. Simon, Vice-President of Estes Industries, reported:

[w]e here at Estes Industries are devoted to safety and education. Every rocket we offer serves at least one educational purpose. Listed in our catalog are many scale models. Literature of a scientific nature or to further the practice of safety is available without charge to all who can put it to good use.<sup>111</sup>

He also stated that his company's products liability insurance policy has been in effect continuously since about February 1962 and no legitimate claim has yet been filed.<sup>112</sup>

The manufacturers of toys appear to be working toward greater product safety, but there is still room for improvement. Because injuries to children are usually caused by misuse of the product, educating the child concerning proper use of the article, and encouraging adult supervision, continue to be the main points of emphasis. But despite the naturally optimistic reports of manufacturers and trade associations, the question remains: have their efforts been enough? A negative answer is suggested by the manufacturers themselves. Almost all manufacturers report that the current incidence of injury could be greatly decreased by more adequate consumer education. Unfortunately, there is little information available on faulty design and faulty manufacture.

A large part of the burden of educating the consumer should be borne by the manufacturer. At the least, a statement of the recommended use of the product with necessary instructions and specific warnings should be included with the product itself. Parental supervision also appears to be a critical element. Five sets of parents who were interviewed said that they were cautious in selecting the play items for their children, but felt that any wanted item should be available for purchase. The parents interviewed were, however, of the educated middle class. The problem presented by less privileged parents, who might be unable to contribute as much time or expertise, deserves special consideration. Also, some parents are willing to assume the risk of dangerous products

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111. Letter from William M. Simon, Vice-President, Estes Industries, Inc., to John R. Wilks, April 11, 1967.

112. Letter from William M. Simon, Vice-President, Estes Industries, Inc., to John R. Wilks, May 1, 1967.

because of the pleasure they give. Presumably this includes assuming the responsibility for protecting the innocent bystander.

Few, if any, of the hazards involving toys call for removing the product from the market. A restriction might be placed on some items by allowing sale only to adults. The practical effect of this measure would be to require the parent consciously to decide whether or not to permit his child to have, for instance, a B-B gun. Parents who decide in favor of such a toy should also be responsible for injuries to third persons.

Gordon S. Hollywood, Director of Public Relations for the Wilson Sporting Goods Co., suggests that firms that maintain laboratories are capable of instilling consumer confidence.<sup>113</sup> Advertising, by communicating to the consumer the information learned in these laboratories, can be an effective instrument for protecting the consumer. The framework already exists because, in the past few years, manufacturers have shifted appreciable amounts of money from production to sales. Television advertising during children's programs has reached gigantic proportions, with many manufacturers now offering premiums and other gimmicks for listening. Such advertising presents a fruitful opportunity to show a child the proper ways of handling toys. Local children's shows have already done much to protect the consumer by pointing out safety rules.

Fireworks present a difficult problem. Many states have outlawed the sale but not the use of fireworks. Some municipalities have also outlawed their use. If the number of injuries resulting from fireworks is significant, consideration should be given to prohibiting their sale except to commercial and institutional displayers.

#### *L. Products Involving a Slipping Hazard†*

This section is concerned with household products, such as bathtubs and shower stalls, scatter rugs, floor waxes, and flooring, that are hazardous because of their slippery surfaces. There is a dearth of information concerning these hazards; statistical studies of accidents caused by falls are plentiful but the figures are not categorized according to cause. Each year, more than 500,000 people are seriously injured in accidental falls, and almost 24,000 lose their lives. About one-half of home accidents involve falls,<sup>114</sup> and falls are the cause of almost half of the accident fatalities in the home.<sup>115</sup> The only known statistical report that analyzes falls according to their cause, prepared by the

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113. Letter from Gordon S. Hollywood, Director of Public Relations, Wilson Sporting Goods Co., to John R. Wilks, March 31, 1967.

† By Robert L. Gowdy.

114. BESTS' INS. NEWS (FIRE AND CASUALTY ED.), Aug., 1961, at 67.

115. CONSUMER BULL., April, 1959, at 27.



California State Department of Public Health for the period 1953-57, shows that 18.9 percent of all such accidents were caused by falling on a walking surface because of slipping or tripping on miscellaneous objects. Floors accounted for 3 percent, bathtubs and shower stalls for 0.4 percent, rugs-carpets for 0.4 percent, and waxed floors for 0.2 percent.<sup>116</sup>

The products under study may create hazardous conditions for consumers of all ages. With the exception of children, it is fair to assume that consumers of these products are generally aware of the hazards present. However, one age group lacks the normal ability to cope with them—that of persons over sixty-five. Falls are the primary cause of fatal injury among people in this category and, at age seventy-five and over, falls account for more than half the total accident mortality among men and more than three-fourths among women.<sup>117</sup> In some of the situations a younger person might also have fallen, but in many others balance would have been retained.<sup>118</sup> In any case, the consequences of a fall are more severe for an older person.

What about safety precautions? For the bathtub or shower stall, safety rails and other equipment are available in various sizes and at various prices. For rugs, there are currently two types of safety-backing: curon polyurethane foam and latex. Although most rugs now on the market have one of these types of backing, reversible braid rugs do not, and they are extremely slippery. Either a spray or an underlay pad can help correct this condition and they are generally recommended to the consumer by rug salesmen. As for floor waxes, available information is almost non-existent. The only pertinent expression was an admonition to consumers to use "non-skid wax,"<sup>119</sup> but no information has been found concerning the prevalence or effectiveness of such a wax.

There are various types of flooring available to the consumer and, within a particular type, there are variations. For example, inlaid linoleum has rather deep impressions; this is in contrast with smooth linoleum. While inlaid linoleum provides better footing, it is also more expensive. An admonition was made to consumers to use "non-slip flooring," but the term was not explained.<sup>120</sup>

One of the biggest limitations on the effectiveness of existing safety devices appears to be a lack of consumer acceptance. The most common

116. CALIFORNIA STATE DEPARTMENT OF PUBLIC HEALTH, HOME SAFETY PROJECT, FINAL REPORT (1958).

117. *Accidental Injury and Death at the Older Ages*, METROPOLITAN LIFE STATISTICAL BULLETIN, February, 1965, at 7.

118. Sheldon, *On the Natural History of Falls in Old Age*, 1960 BRIT. MED. J. 1686.

119. BESTS' INS. NEWS, note 114 *supra*, at 68.

120. BUREAU OF LABOR STANDARDS, DEPARTMENT OF LABOR, WHY DO YOUNG PEOPLE FALL?, at 2 (August 1965).

bathroom hazard in more than 700 homes surveyed by the Greater New York Safety Council was the absence of a safety rail for the side of the bathtub or shower stall. Another major cause of bathroom falls was found to be bathroom rugs without safety backing.<sup>121</sup>

The effectiveness of the available safety devices is not fully known. While 3M Scotch-Tred Brand Tub and Shower Safety Strips have been rated "very good,"<sup>122</sup> the effectiveness of rubber mats or safety rails is statistically unmeasured. It can be assumed, of course, that they prevent many falls. In the rug field, latex backing has been the subject of many consumer complaints. The difficulty may be the use of grades of rubber that do not wear well; and even good quality latex may crack after washing so that it is no longer sufficiently skidproof. Curon polyurethane foam appears to have none of these problems.<sup>123</sup> Two brands of underlay pads have been rated "very good": Rug Anchor and U. S. Non-Slip.<sup>124</sup> The effectiveness of sprays is unknown, but it is undoubtedly impaired by the fact that the consumer must remember to keep reapplying them.

As for floor wax and flooring, there appears to have been little safety-motivated industry action; an improvement in safety is usually a by-product of other considerations. (The inlaid linoleum-smooth linoleum choice is a good example.) Although all makers of floor wax claim to have a safe product, apparently there is a safer procedure for applying it than any recommended to the consumer by the manufacturer. Consumers should apply only a thin coat and rub it in thoroughly,<sup>125</sup> but no such instructions were found on the cans of floor wax inspected at a local retail store.

There have been several tests of the skid resistance of various types of flooring made in conjunction with the testing of shoe heel materials. These tests show that some types of flooring are inherently more slippery than others. The method used was to determine the coefficients of kinetic friction existing between various combinations of shoe heel materials and floor surface materials. The results of these tests showed that a slippery condition does or does not exist, according to whether the measured coefficient was less or greater than 0.4.<sup>126</sup> A project undertaken by the North Carolina Agricultural Experiment Station showed that, whether in a new, worn, or waxed condition, linoleum and vinyl asbestos have the lowest coefficients of friction, while rubber floor

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121. BESTS' INS. NEWS (FIRE AND CASUALTY ED.), June, 1962, at 96.

122. CONSUMER BULL., October, 1964, at 13.

123. CONSUMER BULL., February, 1963, at 41.

124. CONSUMER BULL., note 115 *supra*, at 27.

125. BESTS' INS. NEWS, note 114 *supra*, at 68.

126. Sigler, Deib, & Boone, *Measurement of the Slipperiness of Walkway Surfaces*, 40 J. RESEARCH OF THE NAT'L BUREAU OF STANDARDS 339, 346 (1948).

materials have the highest. Abrasive materials of various types may be used to reduce the slipperiness of floors. For example, colloidal silica has been successfully incorporated in wax and synthetic resin floor coatings and, if used in proper proportions, it appreciably increases non-slip qualities. Abrasive materials, such as silicon carbide or aluminum oxide, can be included in the original composition for terrazzo or concrete flooring.<sup>127</sup>

There are two alternative approaches to increasing consumer use of safety features. One is to require manufacturers to adopt them as standard equipment. Thus, safety rails and either safety strips or rubber mats could be required for bathtubs and shower stalls. Rugs with curon polyurethane foam backing could be required, except for reversible rugs, which could be permitted only with the inclusion of underlay pads. Manufacturers of floor wax could be required to include appropriate instructions for use. Some types of flooring might even be prohibited. The other alternative is to educate the consumer about the safety precautions that are reasonably available and let him decide whether or not he wants them.

As a first step toward solving the problem, it is recommended that consumer education be intensified with respect to the available safety precautions that hopefully would reduce accidents to a tolerable minimum. If such a decrease did not occur, the Government might well impose mandatory safety standards. But before consumers can be adequately advised, the number of technical research and statistical studies needs to be increased. More sophisticated statistics respecting accidental falls are necessary before it can be determined how the available resources should best be used to combat these product-hazards. Technical research is necessary to determine which of the current safety precautions are the best and to develop improvements that neither impair the usefulness of the product nor cost too much. These studies should be conducted by governmental agencies and private groups. In general, although technical research may preferably be done by private effort, governmental surveillance may be necessary to make sure that private effort is doing an adequate job.

If private research yields adequate results as to the best safety features, safest products, and most effective procedures, the pertinent information should be passed on to the consumer. Two general types of consumer education are needed. One should be directed against carelessness and apathy among consumers in the handling of unsafe products and the other should inform consumers of the available safety precautions.

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127. NATIONAL SAFETY COUNCIL, FALLS ON FLOORS 3 (1960).

The latter should be directed especially at elderly people who, because of their lessened physical capacities, are more susceptible to injury. Private groups should be encouraged to take the initiative. Industry should advertise the availability of safety precautions and commercial publications should emphasize safety-oriented articles. Groups such as the National Safety Council should be encouraged to devote more resources to this kind of consumer education. Hopefully, private effort will prove adequate to the task; if not, government agencies should intervene.

Some problems need further study. One of these concerns the feasibility of requiring warnings on some products. For example, it might be advisable to require each bathtub to carry a sticker warning the consumer of the slipping hazards, unless an appropriate safety device is installed. The manufacturer should have the responsibility for affixing the sticker and there should be an attendant prohibition against the removal of the warning.

Reversible braid rugs should carry warnings that they may be hazardous unless an underlay pad is used. It may even be advisable to require that such rugs be sold only with pads. Consideration should also be given to whether non-reversible rugs should be required to be made with some type of safety backing. Because most of the industry has done this voluntarily, consumers may well expect all rugs to be so equipped. That this backing is now being used successfully indicates that cost considerations need not be a deterrent.

Special attention should be given to the various tests that have been conducted to ascertain the relationships of shoe heels, flooring, and waxes, and further tests are advisable. Consideration should also be given to whether or not the normal life span for each safety precaution at least equals the product's useful life. This problem may be particularly important in the case of safety backing.<sup>128</sup>

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128. For further readings in this area, see *Accidental Injury and Death at the Older Ages*, METROPOLITAN LIFE STATISTICAL BULL. (Feb. 1965); *Bathroom Hazards*, BESTS' INS. NEWS (FIRE AND CASUALTY ED.), June 1962; CALIFORNIA STATE DEPARTMENT OF PUBLIC HEALTH, CALIFORNIA HEALTH SURVEY, PERCENT DISTRIBUTION OF ACCIDENTS BY TYPE OF ACCIDENT, HOME SAFETY PROJECT, FINAL REPORT (Table 2) (1953-57); CONSUMER BULL., Feb. 1963; Day, Tuten, Trogdon, & Bowen, *Measurement of the Skid Resistance of Resilient Smooth Floor Surfaces*, 56 J. HOME ECON. 752 (1964); DEPARTMENT OF LABOR, BUREAU OF LABOR STANDARDS, WHY DO YOUNG PEOPLE FALL? (1965); *Household Hazards*, BESTS' INS. NEWS (FIRE AND CASUALTY ED.), Aug. 1961; NATIONAL SAFETY COUNCIL, FALLS ON FLOORS (1960); NATIONAL SAFETY COUNCIL, FLOORS IN THE HOME (1963); NATIONAL SAFETY COUNCIL, SLIPPERY FLOORS (undated); *Appraisal of Gloss and Slipperiness of Resilient Floor Covering Materials* (unpublished thesis in University of North Carolina at Greensboro); *Reducing the Hazard from Slippery Stairsteps, Bathtubs, and Showers*, CONSUMER BULL., Oct., 1964, at 13; Sheldon, *On the Natural History of Falls in Old Age*, 1960 BRIT. MED. J. 1685; Sigler, Geib, & Boone, *Measurement of the Slipperiness of Walkway Surfaces*, 40 J. RESEARCH NAT'L BUREAU OF STANDARDS 339 (1948).

M. *Power Tools*†

The introduction into the American home of the power tool<sup>129</sup> has brought with it serious hazards. The growth of the do-it-yourself trend, particularly since the end of World War II,<sup>130</sup> has made power tools an important part of the home workshop. Persons undertake do-it-yourself projects for several reasons: to create, to relax, to develop manual skills, to save home maintenance costs, and to save a part of the costs otherwise incurred in buying factory-made items.<sup>131</sup> These persons substitute power tools for manual tools because the former reduce manual labor, speed the performance of intricate shop procedures, and produce a professional-looking product. Although specific statistics are unavailable, it is probable that a great number of household consumers use power tools and that the number is increasing every year.<sup>132</sup> Statistics are also unavailable on the number of accidents occurring in the home from the use of power tools and on the number of persons injured by each power tool with reference to particular hazards. Nevertheless, it has been estimated that 638,000 people annually suffer disabling injuries while doing home repair work.<sup>133</sup>

The consumer under consideration in this study is the amateur power tool operator. Unfortunately, accurate data on the competence, training, or experience of the consumer in the use of home power tools are unavailable, but it would seem that his skills range from those of the novice to those of the experienced hobbyist. Most amateur power tools users have as their only source of knowledge the manufacturers' instructional pamphlets and various workshop textbooks. Some are able to supplement these with adult education classes and high school shop courses. This study examines the mechanical hazards faced by such a consumer and the safety devices currently available to protect him.

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† By Lewis E. Bloom.

129. The stationary power tools most commonly found in the home are the bench saw (also called a table saw or circular saw), the band saw, the jigsaw (also called a scroll saw), the drill press, the grinder, the jointer, the shaper, the wood-turning lathe, and the radial-arm saw (also called the radial-arm machine). The most common portable tools are the electric saw and the electric drill (also called a combination electric screw-drill).

130. Stumpf, *Safety in Do-It-Yourself*, NAT'L SAFETY COUNCIL, SAFETY EDUCATION 1 (1956).

131. W. LAMMEY, *POWER TOOLS AND HOW TO USE THEM* 4 (1958); H. STACK & L. RODY, *HOW TO DO IT SAFELY* 3 (1962).

132. For example, the number of persons involved in do-it-yourself activities has been estimated at 12,000,000. Stumpf, *supra* note 130, at 1. "There is a home workshop in every fourth house on the block . . .," and "householders are going all out for a new and most useful servant—the portable power tool. . . ." H. STACK & L. BRODY, *supra* note 131, at 2. "The average handyman in this country probably has between two and three power-driven tools in his shop." Stumpf, *supra* note 130, at 1.

133. HOME WORKSHOPS, 1959, at 1.

The bench saw, the hazards of which seem fairly representative of power tools generally,<sup>134</sup> is basically a table mounted on a frame and an arbor that holds a cutter and is driven by a belt connecting the pulleys of the arbor to the motor. The cutting edge protrudes through an opening in the table and the motor and arbor are connected within the frame. The most obvious hazard in operating a power tool is that the hand, fingers, or arm of the operator may come in contact with the cutting surface—in the case of the bench saw, the cutting blade. Because of the teeth and fast revolution of the blade, the machine can severely lacerate human tissue. This hazard is present in almost any operation performed with the bench saw, but the risk of injury is greatest in ripping or resawing narrow pieces of stock by hand-feeding.<sup>135</sup> Injury may also result if the operator tries to adjust the machine while it is running, either by tilting the table or the saw or by re-aligning the stock or the guard. This type of injury can occur during normal use for cutting operations and can be caused by slight carelessness of the operator.

The consumer is usually informed of the described hazard because manufacturers' instruction manuals and workshop textbooks warn him to be careful not to touch the rotating blade. Nevertheless, because slight carelessness may cause blade contact, a blade guard, which is placed over the cutting blade and allows the stock to pass under it, has been developed.<sup>136</sup> This guard, if properly designed and adjusted, can save operators from serious injury. Fortunately, it is a well-recognized safety device.

Some manufacturers include blade guards with the basic unit, but most provide them only as accessories at an additional charge. Because manufacturers and distributors, books on woodworking and shop work, and the National Safety Council<sup>137</sup> emphasize the necessity of blade guards for all bench saws, it is recommended that all bench saws be required to have blade guards as standard equipment, with the cost included in the base price. Blade guards should also meet specified minimum standards. An article analyzing the effectiveness of a currently used blade guard reported that it was "a flyweight fiber glass hood that's

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134. The other power tools will be discussed only insofar as they present additional hazards.

135. J. ADAMS & E. STIERS, *COMPLETE WOODWORKING HANDBOOK* 314 (1963); E. ANDERSON, *HOME WORKSHOP AND TOOL HANDY BOOK* 208-09 (1964); W. Lammey, *supra* note 131, at 21; Waltner, *Tool Use Rights and Wrongs from the Safety Standpoint*, *WORKBENCH* 31 (Sept., 1958).

136. The operator's fingers or hand hit the guard to warn of pending danger, but the guard does not stop the fingers or hand from passing under it.

137. Stumpf, *supra* note 130, at 3.

rather flimsy, bracketed to the pivoting motor mount.”<sup>138</sup> Although each manufacturer claims that his guard is the safest, the consumer has no means of determining whether or not a particular guard will give adequate protection. Minimum performance standards should be developed and compliance made mandatory.<sup>139</sup>

For protection additional to the blade guard, the saw blade should contrast in color with the table top. A red or yellow saw blade would enable the operator to see the blade better as he is feeding stock, although it may be difficult to maintain blade color after prolonged use. Similarly, a safety zone should be painted on the table top around the blade area.

Some of the hazards encountered in using the bench saw can best be overcome by the manufacturer or the distributor. A serious hazard in operating a bench saw exists during ripping operations. The wood may bind the saw blade when the cut is finished and, because the blade revolves toward the operator, the stock may be kicked back at high speed. One obvious method of avoiding injury is to stand to the side of the saw blade, as manufacturers' instruction manuals and reference books recommend. A better method is to use anti-kickback pawls and a splitter, devices usually supplied with the blade guard. Manufacturers and distributors should be required to provide these devices as standard equipment on all models of bench saws.

Because the saw is turned by a belt-pulley system, the operator's hand or clothing may come in contact with the belt or pulley unless the system is equipped with an adequate guard. Only when the manufacturer provides the motor and the bench saw as a unit is the drive mechanism completely guarded; otherwise, the belt guard is an accessory. When the bench saw and the motor are sold together, a belt guard should be included as standard equipment. However, because many consumers buy motors separately to use with other power tools, it would be unreasonable to require that each motor come with a bench saw belt guard. Instead, each bench saw should be equipped with a belt guard, whether or not a motor is included in the sale.

As a practical matter, only the manufacturer can provide an on-off switch that is readily accessible during operation to stop the saw quickly in case of difficulty. The recommended position is at the front of the

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138. Lees, *Rockwell's New 10-in. Table Saw*, POPULAR MECHANICS, Oct., 1966, at 195.

139. For example, a metal guard cannot be cut by the saw blade but it obstructs the vision of the operator. Conversely, the plexiglas guard does not obstruct vision but it can be cut by the saw blade. Although the plexiglas guard seems more popular and structural design changes have minimized the cutting risk, further tests and analysis will be needed to determine the safest material.

table<sup>140</sup> and all bench saws should be so constructed.

However, for financial and practical reasons, the main burden of overcoming many hazards necessarily lies with the consumer, once he has been properly educated and warned. First, the consumer should buy a machine that meets specified safety standards and reject any saw that carries an obvious design defect such as a large opening around the blade and no provision for inserts. Similarly, he should buy the accessories necessary for his particular use of the saw, *e.g.*, table extensions to stabilize the saw while cutting large stock. He should provide proper maintenance, as recommended in the instruction manuals, and make periodic inspections to discover hazards caused by normal wear and tear, such as a loose or cracked saw blade. While operating the machine, he should avoid wearing loose clothing that may be caught in the saw, and he should wear shatter-proof glasses or a safety eyeshield to protect his eyes from sawdust or woodchips thrown into the air. Instruction manuals also warn the consumer of special hazards that exist during particular types of sawing, and it remains for the consumer to heed such warnings.<sup>141</sup>

A band saw, which consists of two wheels, one above the other, around which a cutting blade is mounted, presents many of the hazards of the bench saw, particularly the danger of injury from contact with an unguarded cutting blade or belt-pulley system. But the band saw also presents a significant hazard of its own: the blade may break or be forced off the wheel while the machine is operating. This may happen for several reasons that usually result from the operator's carelessness: turning a radius too short for the blade design; using worn out or inferior ball bearings, improper blade tension, improper blade guards, improper blade size, or improper cutting material; twisting the blade while it is in motion; striking nails while cutting wood; failing to follow the saw cut when backing out of the cut; or touching the back guide with the blade. The consumer is warned against most of these hazards in the manufacturers' literature and he is provided with charts of the minimum cutting radius for each blade width and with a scale to determine the proper blade tension for each job.

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140. J. ADAMS & E. STIERI, *supra* note 135, at 309.

141. For example, most instruction manuals recommend that a push stick, easily made by the consumer, be used when narrow pieces of stock are cut. In crosscutting or mitering, if a wide board is held against the miter gauge and one edge is allowed to come down on the saw blade, the operator's fingers may be pinched. Also during this operation, the edge of the stock against the miter gauge must be straight or the stock may twist and kick back when it is advanced against the saw blade. In ripping, if the stock is not held against the fence until the blade has made a deep cut, the stock will wobble and the cut will swerve out of line. The operator's fingers may then be pulled into the blade.



A third type of saw, the power jigsaw, includes a table, which can be tilted both right and left, resting upon a base. The cutting blade extends through a hole in the table, and chucks are above and below this hole. If a jeweler's blade is used, it is attached to both the upper and the lower chucks; if a saber blade is used, it is attached to the lower chuck only. Aside from the usual hazards presented by unguarded blades and belt-pulley systems, most of the hazards of the jigsaw seem to result from the consumer's carelessness or use of improper operating procedures. A blade that is insecurely attached to the chuck may fly off during operation and injure the operator. Similarly, a blade may break during operation and be thrown from the machine because of twisting the blade, using a worn-out blade, improperly feeding the stock, using an inferior blade, or using a blade not designed to cut the particular material. The operator may also be injured by the blade if he tries to adjust the machine or tilt the table while the saw is operating. Again, the manufacturer should be responsible for warning the consumer of these hazards in the instruction manual.

Two other types of stationary tools, the drill press and the grinder, present significant hazards to the consumer. The drill press consists of a table and large vertical column at the top of which is the "head." The head is basically a spindle that revolves in a vertical position and is housed with the quill, which is a movable sleeve. At the end of the spindle, there is a key chuck into which the drill is inserted. A belt connects the motor pulley and spindle pulley and provides the drive mechanism for rotating the spindle.

It is recommended that two safety devices be made standard equipment on all drill presses. The first is a column collar placed below the drill press head to act as a safety stop should the head slip. The second is an elastic band attached to the chuck key and the drill press to prevent the key's being thrown from the machine during use if the operator forgets to remove it from the chuck.

The operator of a drill press may also be injured when holding small stock with his hands, if the drill binds in the work and it revolves on the table. Therefore, it is recommended that small work, especially metal, be clamped to the drill press table or held in a vise and that the manufacturer be required to warn the consumer against using a drill press for small work without such a clamp or vise.

A grinder consists of a horizontal spindle with an abrasive grinding wheel attached at the end. An important hazard is presented by the possibility of eye injuries caused by the throwing of particles of abrasive matter or of the stock. Therefore, it is recommended that wheel guards be required on all grinders and that the manufacturer warn the consumer

of the need for eyeshields or safety glasses. As with other power tools, there is always the danger that the operator's hand may come in contact with the grinding surface. Some operators have tried to overcome this hazard by wearing gloves or holding the work with a rag, but great care is necessary to prevent the glove or rag from being caught in the wheel. Another hazard is the chance that the grinding wheel may break and that fragments of it may be thrown from the machine. Breakage may be caused by either a defective wheel or improper operating procedures. Respecting the latter, the manufacturer can only provide instructions or warnings.

Portable power tools, such as the electric drill, may result in injuries similar to those caused by stationary power tools. But these tools also present other hazards. The electric drill, which is basically a motor that rotates a drill fastened within a chuck, has a pistol grip with a trigger switch. This type of switch presents a hazard in some cases. For example, in 1966 one kind of single-speed drill was reported to have a lock-on switch that could be activated inadvertently by a slight upward pressure on the trigger.<sup>142</sup> Injury may also occur if the operator tries to change the bit or attachments without unplugging the drill, because he may accidentally start it. A chuck key keeper with a strap or clip to hold the key is available and can be attached to the power cord near the plug to act as a reminder to unplug the drill before changing the bit or attachments. As of 1966, only half of the single and multiple-speed drills studied came equipped with this device,<sup>143</sup> and it is therefore recommended that a chuck key keeper be required as standard equipment on all portable drills.

Any portable tool may slip from the operator's hands, or from the work, during normal use. Although an auxiliary handle is useful to stabilize the drill, *Consumer Reports* found that a handle cannot be attached to some drills and that it is only an accessory to others.<sup>144</sup> Further study is needed to establish minimum safety standards in this regard. Also a hazard is the possibility that the bit may slip from the chuck or break during use. Because these hazards probably result from consumer carelessness rather than structural defects, appropriate operating instructions in the manufacturers' instruction manuals should be adequate to protect the user. Similarly, the consumer should be warned to use the variable speed trigger properly, whenever it is available, to prevent the material's slipping under the bit when the drilling begins.

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142. *Electric Drills*, CONSUMER REPORTS, Feb., 1966, at 57-58.

143. *Id.* 58; *Multiple Speed Electric Drills*, CONSUMER REPORTS, July, 1966, at 355.

144. *Electric Drills*, CONSUMER REPORTS, Feb., 1966, at 58-60, 135-37.

Several other power tools—the jointer,<sup>145</sup> the shaper,<sup>146</sup> the radial-arm saw,<sup>147</sup> the woodturning lathe, and the portable electric saw—present few hazards other than those already mentioned. Generally, the hazards to the consumer are those caused by improperly guarded cutting surfaces and belt-pulley systems, possible kickback of the material being cut, a loose blade thrown into the air, and flying particles of the stock. However, the radial-arm saw, because of its movable overhead arm, presents a special hazard if the operator tries to adjust the machine before the blade has coasted to a complete stop. An automatic brake, which can easily remedy this situation, should be required.

The problem of unauthorized use is common to all power tools. Such tools present a particular hazard to children because of their lack of experience and knowledge. Although specific data on the number of children injured by power tools is unavailable, the potential for injury is great. It has been suggested that the home workshop have a central switch and fusebox, locked and placed out of a child's reach, to control electric power to all machines.<sup>148</sup> However, this would not solve the problem of the consumer who has only one power tool or no workshop. A better method of protection would be to equip each power tool with a key switch, so that when the power tool was locked in an "off" position it could not be started without the key. This would also provide the operator with a safeguard when adjusting the power tool. Most radial-arm saws are already equipped with such a device, and all stationary power tools should be so equipped, if feasible.

There are no federal statutes dealing with the mechanical hazards of power tools used in the home and apparently no state statutes. Power tool manufacturers conduct their own testing and research with respect to their products and have made numerous improvements in the design of power tools, such as the development by the Boice-Crane Company of the bench saw's SupRsafe Saw-Dado Guard,<sup>149</sup> which unlike other guards need not be removed during angle ripping, dadoing, or thin stock sawing. However, it is doubtful that the industry as a whole carries on an adequate program of self-policing.

Many private groups also test products and recommend safety

145. A jointer is used mainly to plane the surface of wood materials, although it is also used to cut a true face and edge on warped, twisted, or otherwise irregular stock, to taper and plane, and to rabbet.

146. A shaper is used for straight shaping, irregular shaping, matched shaping, tonguing, grooving, planing, fluting, reeding, and sanding.

147. The radial-arm saw, a table with a movable overhead arm to which a motor and saw blade are attached, is used for crosscutting, ripping, and mitering.

148. E. ANDERSON, *supra* note 135, at 15; Capotosto, *How to Lay Out Your Shop*, HOME WORKSHOP, 1967, at 25.

149. Boice-Crane Co., Boice-Crane Catalog No. BC103, at 4-8.

devices and procedures. For example, the publishers of some magazines, including *Popular Science*, *Popular Mechanics*, *Consumer Bulletin*, and *Consumer Reports*, test power tools and make public the results. Many authors of books on workshop practices also voice their opinions regarding the mechanical design of power tools. The National Safety Council and insurance companies provide information on safety practices for using power tools and recommend safety devices.

Final conclusions on the adequacy of present controls must await further research. However, it appears that existing controls are inadequate to protect the household consumer, and it is therefore assumed that the ultimate findings will support these preliminary judgments. Self-regulation by individual manufacturers does not appear to protect the household consumer sufficiently. The testing done by magazine publishers benefits the consumer with respect to the defects found in some power tools, but it is not extensive enough for adequate consumer protection. The recommendations of the National Safety Council, the insurance companies, and the authors of workshop books have not always been followed by the industry.

[U]nfortunately, there are no established government standards for the Machinery and Machine Tool Industry as there are for drugs, dairy products, foods, etc. Therefore, the Purchaser must rely on the experience of others, the reputation of the Manufacturer and, most important of all, the integrity and experience of the Manufacturer's Dealer.<sup>150</sup>

The question remains whether or not the consumer's reliance and trust are being respected.

There appears, therefore, to be a need for government action if industrial self-policing does not improve. Of course, self-policing should be further encouraged before government regulations and sanctions are imposed. Should such an effort fail, there are several possible approaches to governmental action. For example, the Government could set minimum safety standards for all power tools. Similarly, it could encourage increased consumer education through adult education classes and instructional programs offered by the retail dealers of power tools. The educational element of governmental action is particularly important, because it appears that the consumer cannot operate power tools properly without instruction by trained persons.

Specific recommendations for individual power tools have already been made, but in any case a broad study should be made to determine

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150. Letter from Dave Huttner, Mgr., Machinery Dep't, Vonnegut Hardware Co., Indianapolis, Ind., to School Administrators, Vocational & Industrial Arts Personnel.

whether or not the power tools now manufactured provide adequate protection for the consumer, and to establish safety requirements for each kind of tool. A group of experts in this field could be formed to test every kind of power tool available to the average consumer. The Government's potential role in this area of consumer protection will depend largely on the outcome of such a study.

#### N. *Private Swimming Pools*

Lack of time and manpower prevented any special consideration during the present project of private swimming pools and swimming pool equipment. However, a recent project by a related seminar at Indiana University resulted in the publication of a study with some relevance. *Legal Problems Affecting Private Swimming Pools*<sup>151</sup> was the final report of the Mayor's Swimming Pool Study Commission. The Commission was composed of members of the Seminar in Land Use at the Indiana University School of Law;<sup>152</sup> its mission was to study the general problems of private swimming pools, with special reference to conditions in Bloomington, Indiana. It is believed not only that an examination of this report would serve as a foundation for a more intensive study of private swimming pools but also that it is relevant to the field of household goods generally.

In addition to subjects such as nuisance, escaped water, zoning, taxes, contractual liability, and municipal authority to regulate, the study included consideration of the physical hazards of drowning, injury, and disease.

To guard against disease, chapter three<sup>153</sup> recommended the following mechanical controls :

##### A. *Back Yard Swimming Pools*

1. The owner should be allowed to construct either a recirculation, fill-and-draw, or flow-through pool.
2. A filtration system should be required only if the owner constructs a recirculation pool. If such a pool is constructed, the filter should clean the water of impurities once during every 18 hours of use. The builder should be required to install a commercial filtration system.
3. The pool water supply inlet into any fill-and-draw or flow-through pool should be at least two and one-half times higher above the surface of the water than the diameter of the inlet pipe.

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151. MAYOR'S SWIMMING POOL STUDY COMM. (F.R. DICKERSON ED.), *LEGAL PROBLEMS AFFECTING PRIVATE SWIMMING POOLS* (1961).

152. The National Swimming Pool Institute and its attorneys provided valuable help.

153. *Id.* ch. 3 (footnotes omitted).

4. The pool water supply inlet in any recirculation pool, where connected through the filtration system or directly to the pool through the wall, should be protected from siphonage into the municipal water supply by an anti-syphon device.
5. Skimmers or overflow gutters should be required for private pools. If a skimmer is used, it should be capable of handling 50 percent of the pool water and should be located on the side of the pool opposite the direction of the prevailing summer winds.
6. A removable basket or screen should be placed in the skimming device to prevent large particles from flowing into the filtration system.
7. Each bather should take a shower before entering the pool. However, since this is unenforceable by municipal officials, it should not be made a requirement for this kind of pool.

#### B. *Group Swimming Pools*

1. Flow-through pools or recirculation pools with filtration systems should be required.
2. The filter should be of commercial design with sufficient capacity to remove impurities from the pool once during every 18 hours of operation.
3. Same as 4 above.
4. The recirculation pool should be constructed to include either skimmers or an overflow gutter. If skimmers are used, there should be one skimmer for every 800 square feet of surface area. The skimmers should be capable of handling at least 50 percent of the pool water and should be located at opposite ends or sides of the pool.
5. Same as 6 above.
6. Since personal pool hygiene is already covered adequately by the Indiana State Board of Health in Regulation HSE 16, no additional requirements are proposed.

Also, to guard against disease, chapter four<sup>154</sup> recommended the following chemical controls:

#### A. *Back Yard Swimming Pools*

1. The water used in back yard swimming pools should be required to be disinfected. No particular method of disinfection should be required. However, if chlorine is used, the free chlorine residual should be not less than 0.3 p.p.m.,<sup>155</sup> and not more than 1.0 p.p.m., when the pool is in use. Regardless of the method of disinfection used, the water bacteria count should not exceed the standard prescribed by

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154. *Id.* ch. 4.

155. Parts per million (footnote added).

Regulation HSE 16, sections 25 and 26, of the Indiana State Department of Health.

2. The pH value of the water should be required to be not less than 7.2 and not more than 8.0.

B. *Group Swimming Pools*

1. With respect to pool water disinfection, the same recommendations made above for back yard pools apply to group pools.
2. All bathers should be required to take a shower bath and a foot bath before entering the pool.
3. Persons with open sores or any communicable disease should not be permitted to use the pool.
4. Such practices as spitting, spouting water, or blowing the nose in the pool should not be permitted.
5. Visible dirt should not be allowed to accumulate and if it does, it should be removed at frequent intervals.
6. The general pool area should be disinfected at frequent intervals.
7. Toilet facilities should be kept in good working order.
8. Such things as common towels, common combs, and common drinking cups should be prohibited.
9. If the pool water is heated and the pool is not enclosed, the temperature should not be permitted to exceed 78 degrees F.
10. Where chlorine is used as a disinfecting agent, proper equipment for making orthotolidine tests should be available and a minimum number of tests to determine chlorine residual and pH value should be required each day.

In Indiana, since the State Board of Health's Regulation HSE 16 already includes those precautions for community or group pools, no specific action with respect to such pools is necessary.

To guard against the risks of falling into the pool and of drowning and those of "falling on slippery or faulty diving boards or slides, falling on slippery walkways or stairs around or in the pool, striking drainage pipes that extend from the bottom or sides of the pool into the water, cutting or bruising by foreign objects or broken glass in the pool, hitting caused by careless use of playing devices in the pool, striking one's head because of insufficient depth for diving, falling because of insufficient lighting around the pool, and burning by electric shock caused by faulty wiring," chapter five<sup>156</sup> made the following recommendations.

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156. MAYOR'S SWIMMING POOL STUDY COMM. (F.R. DICKERSON, ED.), LEGAL PROBLEMS AFFECTING PRIVATE SWIMMING POOLS ch. 5 (1961).

1. Walls should be constructed of a light, smooth-finished material that enables persons to see into the water to rescue unconscious victims and to prevent injuries from unseen objects on the bottom.
2. Floors should be made of a non-slippery material to prevent falling while standing on the bottom of the pool.
3. There should be no sudden drops in depth in the shallow end of the pool. This protects inexperienced swimmers from falling suddenly into water over their heads. The drop, however, may be steeper in water over five feet deep.
4. Pipes provided for ingress and egress of water should be flush with walls of the floor of the pool. No pipe should project from the wall or floor on which a swimmer might strike his head when diving or on which he might cut or bruise a part of the body when swimming.
5. Pipe ends should be covered with a grating so that no swimmer can be caught by pipe suction and trapped beneath the surface or have a member entangled or injured. [*sic*]
6. The diving board should be no higher than can safely be used with the depth of water in the pool. For a diving board thirty inches from the water, the minimum pool depth five feet from the tip of the diving board is eight feet; for a diving board one meter (39.37 inches) from the water, the minimum pool depth five feet from the tip of the diving board is eight and one-half feet.
7. At least one ladder or recessed stairway should be installed for ease of egress and safety.
8. The steps of the ladder should be at least three inches wide and made of a non-slippery material.
9. Ladders should be equipped with handrails.
10. The pool should be surrounded by a walkway made of non-slippery material to reduce the danger of slipping on water splashed from the pool.
11. Walkways should slope away from the pool at least  $\frac{1}{4}$  inch per foot in width, but not greater than  $\frac{3}{8}$  inch per foot. This prevents the flow of dirty, contaminated water back into the pool and keeps water, as far as possible, off the walkway.
12. Sufficient pool lighting should be provided if the pool is to be used at night.
13. Surface lighting should be sufficient for night-time pool use to reduce the danger of persons falling into the pool.
14. Underwater lighting should be provided if the pool is used at night-time. This lighting is necessary to facilitate rescue of an unconscious swimmer.



15. Electric wiring should be installed in accordance with the local wiring code.
16. No electrical line should pass over or around the pool within 15 feet of the pool area. Should a wire fall or be exposed, the pool area, where persons are wet, should be a safe distance away.
17. Metal fences and permanent metal fixtures should be grounded.
18. A metal, wooden, or closely-spaced shrubby fence or a wall should be maintained around the pool to keep out trespassing children.
19. Life-saving equipment, consisting of buoys and light-weight poles, should be maintained near the pool.
20. Life saving and first aid equipment should be kept nearby.
21. The telephone number of the nearest available rescue squad should be displayed at each telephone outlet maintained by the owner.

Requiring the presence of a skilled swimmer or lifeguard, even though a desirable safety measure, would be an unreasonable burden on the family pool owner and would, in most cases, be unnecessary. The family without swimmers is unlikely to build a back yard swimming pool. Forbidding the use of dangerous instrumentalities, such as bottles, which might break, or of heavy objects of play, which might knock a person unconscious, would tend to reduce the number of injuries but would be an unenforceable intrusion into matters that are better left to the discretion of the particular household.

The recommended requirements for private group pools are the same as those for private pools, with three additions. These are:

22. An experienced swimmer should be on duty whenever the pool is in use. (This added safety requirement, considered unnecessary for family pools, is needed because of the greatly increased number of persons who will use such a pool.)
23. A ladder or recessed stairway should be provided for each 80 feet of perimeter.
24. A telephone should be maintained in a conspicuous place on the pool premises for use in case of injury. The number of the nearby hospital or rescue squad should be prominently displayed thereon.

Chapter six<sup>157</sup> dealt with the special problem of children and the doctrine of attractive nuisance. Concluding that the doctrine should extend to private swimming pools, it made the following recommendations:

Even though the law in some jurisdictions would allow a landowner or occupier to construct and maintain a private swimming pool on his premises with impunity, it is submitted that

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157. *Id.* ch. 6.

regardless of the status of the law in any particular jurisdiction, a landowner or occupier should be required—by ordinance or statute—to take suitable precautionary measures to protect children from the dangers of private swimming pools. In an effort to balance the landowner's or occupier's interest in the beneficial enjoyment of his property as opposed to the interests of society in protecting its youth from harm, the following recommendations are offered.

1. Every private residential swimming pool should be completely enclosed by a protective barrier, either encompassing the periphery of the pool, or surrounding the lot on which the pool is located. The barrier should be at least four feet high and constructed of durable materials. Openings in the barrier should be equipped with gates fitted with self-closing latches and locks.
2. The pool should be equipped with at least one stair case or ladder leading out of the pool, and at least two, in the case of pools other than private residential pools.
3. It should be provided that if the pool owner fails to comply with the ordinance or statute incorporating the above recommendations and a trespassing child suffers injury or death because of the pool, such non-compliance constitutes negligence *per se*.

Drafts of proposed implementing ordinances, regulations, and statutes were included in appendices.

*Legal Problems Affecting Private Swimming Pools* also contains the following pertinent discussion of sanctions.

These regulations should be enforced by requiring the pool owner to submit his proposed pool plans to the local building authorities and by authorizing them to refuse a building permit unless the safety features are incorporated in the plan. In addition, a municipal officer should be directed to inspect the pool premises periodically. Failure to comply with the safety requirements should be made a misdemeanor.

Authority to impose a criminal penalty, however, raises an additional problem of possibly increased pool owner's civil liability, even though this increased liability is not intended. The violation of a statute or municipal ordinance may be used in Indiana as negligence *per se* and warrant recovery by a person injured as a result of the violation without proving actual negligence if (1) the standard of conduct has been prescribed by the statute or ordinance, (2) the injury is proximately caused by its violation, and (3) the statute or ordin-

ance was enacted to protect the class of persons of which the injured party is a member. Once the state legislature or the city council prescribes the standard of care, any deviation from it amounts to negligence *per se*. Consequently, an inquiry into actual common law negligence is unnecessary, as is any need to submit the question of actual negligence to the jury. The standard may be greater than that imposed by the common law. Thus the duty to protect social guests from injury, for example, may be enlarged to require the exercise of reasonable care in all circumstances. Moreover, the class protected need not be limited to those to whom a particular common law duty of care is owed, but, it seems, may also be extended to those persons to whom no prior duty or a lesser duty existed. Although it is generally agreed that regulations governing the condition of land or buildings are to protect only those who are rightfully upon the premises, and not trespassers, the statute or ordinance may also be expressly designed to protect, and may be construed to confer a civil remedy on, the trespasser.

The statute or ordinance may confer a civil remedy expressly or it may provide only for a criminal penalty. Courts frequently construe the criminal remedy as non-exclusive and allow the injured person to maintain a civil action for injuries sustained as a result of the violation, using the violation of the statute as proof of negligence, even though the legislature apparently did not tend this result. The statute or ordinance, however, may be worded so as to prohibit the use of its violation as proof of negligence so that no civil action may be predicated upon it alone.

The health and safety requirements of the proposed ordinances are designed, at least in part, to prevent injury to business visitors, social guests and licensees, trespassers, and the community. Since a violation of a penal ordinance may constitute negligence *per se* and since anyone who might be injured on the premises is within the class of persons protected by the regulations, the pool owner's potential liability would be significantly enlarged over that of the common law if the requirement were construed as extending the classes of persons to whom the owner owes a civil duty. However, except as it may be desirable to extend the doctrine of attractive nuisance to include swimming pools, it is not the purpose of these ordinances to impose greater civil liability on the pool operator than

exists at common law. Consequently, the ordinance should state that a violation of the proposed regulations may not be used as proof of negligence and that no additional civil liability results merely because an injury was caused by failure to comply with the ordinances. In this way, the landowner's liability for common law negligence will not be enlarged by the adoption of the recommended requirements.<sup>158</sup>

#### O. Other Product Hazards

Lack of time and manpower has also prevented any special consideration of other product hazards that available statistical data suggests as fruitful areas for investigation. On the basis of their past histories, the following product hazards would appear to warrant at least preliminary study: baby blankets and plastic bags (suffocation hazard), cooking utensils (burning and scalding hazards), electric fans (mechanical hazard), hot water heaters (scalding hazard), ladders and step stools (falling hazard), liquefied petroleum gas (explosion, fire, and poisoning hazards), and tractors, snow removal machines, and mechanical garden equipment other than powered lawn mowers (mechanical hazards).

### VI. RECOMMENDATIONS FOR THE ESTABLISHMENT OF A REPORTING SYSTEM†

The biggest problem encountered by the authors of the product studies in this Report has been a shortage or an absence of basic data. For this reason, many of the conclusions reached must remain tentative. The shortcomings resulting from this lack of information will reappear in later sections of this Report, where possible solutions to the problem of hazardous products are discussed. Thus, it seems fair to say that before responsible and definitive steps may be taken to solve the over-all problem, means must be found to gather more complete information.

This want of specific information prompted Mr. Phil Dykstra, Manager of the Home Department of the National Safety Council, to make the following comment: "The most important thing Senate Joint Resolution 33 can accomplish at this point is the establishment of a reporting system for accidents which specifies the cause of the harm."<sup>159</sup>

There are various reasons for the shortage, but as important as any other reason is the traditional approach to safety. It is generally assumed that all product accidents result from the user's carelessness

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158. *Id.* ch. 15 is an extensive bibliography. See also Gorfinkel, *Residential Swimming Pools and "Attractive Nuisance" in California*, 13 HASTINGS L.J. 38 (1961).

† By Robert D. Hawk.

159. This comment was made to the writer during a personal interview with Mr. Dykstra in his Chicago office.

instead of a possible product failure, and in most cases this assumption is probably true. However, this traditional approach has limited investigation into the causes of specific accidents and has caused investigators to be satisfied by attributing accidents to immediate generalized causes such as "fires," "burns," and "falls" without regard to what caused the fire, burn, or fall. Until recently, this approach has also tended to limit the interest shown in product safety. As a consequence, beyond the outstanding exceptions in the cases of power lawn mowers and plate glass, there exists little available research in the general area of product safety.

Although much clinical testing by manufacturers, which is useful in disclosing design defects, is performed in this country, access to the results is limited. Moreover, clinical testing is not enough, it needs to be supplemented by detailed accident reports. Briefly, continuous, systematic reporting of the results of clinical tests and of the causal details of specific accidents is needed.

At present, there is an annual, extensive system for the collection of accident facts—the United States National Health Survey, conducted by the United States Public Health Service. Unfortunately, the value of its findings to understanding the problems of product safety is limited, because under "causes" it lists fires, falls, burns, and so forth without further detail.

The National Health Survey is not the only source of statistics on product safety. There are private, independent studies on topics such as power mowers, plate glass, wringer washers, and refrigerators, but these studies have several limitations. First, they do not represent a systematic attempt to canvass the broad range of product safety. Rather, they constitute a sporadic, hit-or-miss affair wholly dependent on the interests of particular individuals in particular problems.

Another problem involves the accuracy of the respective projections. The investigation in each case has been limited and on this basis a projection has been made for the whole nation. Although the projection technique can be valid, its soundness in a particular case depends on how it has been set up in that instance. Thus, to know the reliability of the projections from one of these studies, one must first evaluate the study.

In some product hazards the incidence of occurrence is not critical. In the case of a design defect, the occurrence of one fatality may be enough to show the need for correction. At the present time, the discovery of fatalities from the use of products is haphazard, particularly if access to the data is from the newspaper. Not only is there the possibility that the news item reporting a fatality will be missed, but also there may be a serious time lag between the event and when it comes to the attention

of the interested parties. The longer the time between discovery and correction, the greater the chance of recurrence.

The reporting of fatalities is done in more detail and with greater accuracy than other types of injuries. A broken arm from the use of an unsafe product is not newsworthy and may go unreported and unnoticed. A well organized reporting system would fill this gap.

A detailed accident reporting system is important because many significant accidents are not newsworthy enough to be reported in the normal news media. For example, children under the age of five years have a high incidence of burns from floor grates.<sup>160</sup> The burns are not fatal and rarely call for hospitalization, but they are often serious enough to require a doctor's care.

Some product hazards are revealed through accident reports and not through testing. A good example is the refrigerator, in which the chief hazard is not from its intended use but from the danger that youngsters will become entrapped once the refrigerator has been abandoned or otherwise taken out of use. Therefore, to rely exclusively on testing would be to overlook some serious hazards.

Just as clinical testing has its limitations so has accident reporting. Regardless of how detailed an accident report is, testing may be needed to discover the specific cause of the accident. For instance, suppose an aluminum chair is designed to support only 125 pounds and suppose it collapses during use. That the metal was not strong enough for its intended use could easily be shown through testing. The same would be true of materials designed to withstand heat or bending.

Many trade associations, manufacturers, laboratories, and independent standard associations test products and prescribe standards for their manufacture. However, there are products for which none of the above prescribe standards. If bought by the Government, these products are tested and have standards prescribed for them by the General Services Administration. Although the results of GSA tests are not available, their product standards are. But standards set by a private group are not adequate unless it is also known who is not meeting them. Another problem with the private associations is that, because the manufacturers themselves often belong to or finance these associations and presumably exert an influence on the standards they develop, there is always the possibility that the standards have been set too low or have been otherwise compromised.

The problem of a lack of an adequate reporting system for injuries and the lack of reporting of the results of clinical tests could be easily

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160. See V(G), *supra*.

solved within existing governmental machinery and at almost no additional expense. By adding several questions to the already existing National Health Survey, it would be possible to have a comprehensive accident reporting system for the whole nation. This would allow the interviewer to ask the specific questions necessary to show whether and how the accident resulted from the use of a household product. The United States Public Health Service employs its own statisticians, who could turn the raw data into the statistics desired.

This proposal could be adopted not only with a minimum of expense but also with a minimum of delay. Reports could be submitted annually or more often to the National Commission on Product Safety or to the Special Assistant to the President for Consumer Affairs.

An advantage of this system is that it would provide a single repository for the collection of statistics and other information relating to product safety. This would greatly improve the present situation, in which the available relevant statistics are scattered across the nation and access is difficult.

In 1949, on the recommendation of President Truman, Congress created the General Services Administration and charged it with the responsibility of insuring that the Government got the most for its tax dollar when making purchases.

In discharging this responsibility, GSA has invested heavily in trained personnel and equipment to carry out its testing program. The testing is done for the purpose of creating standards of quality required of manufacturers before they may sell their product to the Government under its procurement programs. The findings of these tests are not currently available, although the Government's standards are. Access to the GSA findings would be helpful to any investigation of product safety.

The cooperation of GSA regularly by the submission of annual reports of the results of its testing during the preceding year would be invaluable. GSA could also be assigned additional products to test and report results either to the National Commission on Product Safety or to the Special Assistant to the President for Consumer Affairs.

This proposal, like that for a comprehensive accident reporting system, is economical because it does not require creating a new agency and the hiring of additional personnel. It takes advantage of existing governmental machinery with already trained, skilled personnel. This proposal could also be put into effect with almost no delay.

The two proposed reporting systems, supplementing each other, would insure that the relevant data on product safety would become accessible to the most interested parties and to those in the most strategic positions to protect the consumer.

## VII. SOLUTIONS TO THE PROBLEM: IMPROVING THE PRODUCT

A. *Introduction*

The need for consumer protection is a function of the characteristics of the product and the vulnerability of the consumer. Thus, the problem can be, and often is, attacked by trying to improve both the product and the consumer's capacity for dealing with it. For example, publicizing that a product is defective is effective not only because it gives the manufacturer an incentive to remove the defect and thus avoid a drop in sales but also because it informs the consumer of the presence of the defect and thus increases his capacity to protect himself if he uses the product.

Expressed broadly, the way to improve a product is to minimize the number of its defective versions that reach the consumer. However, several steps must first be taken before this goal can be reached. The first is to determine the nature of the concept of legal "defect." The second is to develop appropriate techniques for discovering whether a product in fact conforms to the minimum standards of quality necessary to avoid defectiveness. The third is to select sanctions adequate to prevent a seller from producing or marketing defective products.

B. *When Is a Product Defective?*

Action should not be taken against the seller of a product dangerous to the consumer unless the product is legally "defective." The mere fact that a product is dangerous is not enough; it must be unreasonably so. There is no warrant in expecting the manufacturer to change the performance characteristics of the product, to add a safety device, or even to give an appropriate warning if the hazard is not reasonably removable and if the consumer is fully aware of the hazard and can otherwise cope with it. Examples include the obvious hazards inherent in knives, axes, chain saws, explosives, and pork intended to be eaten only after cooking.

Recent studies have suggested general criteria for determining the defectiveness of products for the purposes of strict liability where the parties have not agreed on a special standard of performance.<sup>161</sup> The

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161. Discussion has been confined for the most part to the last six years. Recent discussions include Dickerson, *The Basis of Strict Products Liability*, 17 BUS. LAW. 157, 162-166 (1961), in 16 FOOD DRUG COSM. L.J. 585, 592-96 (1961), and in 468 INS. L.J. 7, 12-15 (1962); Freedman, "Defect" in the Product—*The Necessary Basis for Product Liability in Tort and in Warranty*, 33 TENN. L. REV. 323 (1966); James, *The Untoward Effects of Cigarettes and Drugs: Some Reflections on Enterprise Liability*, 54 CALIF. L. REV. 1550 (1966); Keeton, *Products Liability—Liability Without Fault and the Requirement of a Defect*, 41 TEXAS L. REV. 855 (1963); Keeton, *Products Liability—The Nature and Extent of Strict Liability*, 1964 U. ILL. L.F. 693, 701; Traynor, *The Ways and Meanings of Defective Products and Strict Liability*, 32 TENN. L. REV. 363 (1965); Wade, *Strict Tort Liability of Manufacturers*, 19 SW. L.J. 5, 13 (1965). See also RESTATEMENT (SECOND) OF TORTS § 402A, comments g-k (1965); Boshkoff, *Some Thoughts About*



most recent study concludes that a product is "legally defective" in consumer suits for damages if it meets the following conditions :

1. The product carries a significant physical risk to a definable class of consumer and the risk is ascertainable at least by the time of trial.
2. The risk is one that the typical member of the class does not anticipate and guard against.
3. The risk threatens established consumer expectations with respect to a contemplated use and manner of the use of the product and a contemplated minimum level of performance.
4. The seller has reason to know of the contemplated use and, possibly where injurious side effects are involved, has reasonable access to knowledge of the particular risk involved.
5. The seller knowingly participates in creating the contemplated use, or in otherwise generating the relevant consumer expectations, in the way attributed to him by the consumer.<sup>162</sup>

Although such criteria have broad validity for the present study, there are some respects in which the concept of legal defectiveness appropriate to direct regulation may differ from that appropriate to civil responsibility. Thus, there may be areas in which the consumer is undesirably vulnerable and should be protected even though he has developed no definable pattern of expectation with respect to either the product or the particular hazard. Here, the Government may want to broaden consumer protection by regulating design characteristics not heretofore considered by the consumer to involve defects.

A question likely to be increasingly important is the extent, if any, to which the automobile consumer has legally protectable expectations in the event of an accident. If the manufacturer has represented that the roof is seamless, he must make good to the consumer whose head is cut by a jagged seam. But suppose there is no express undertaking. In *Evans v. General Motors Corp.*, the United States Court of Appeals for the Seventh Circuit held that the manufacturer had no duty to replace its X frame with a perimeter frame, which gives better protection against impact from the side.

Although there is some tendency to discuss such cases in the context of non-contemplated use, automobile accidents are

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*Physical Harm, Disclaimers and Warranties*, 4 B.C. IND. & COM. L. REV. 285 (1963). For an earlier discussion, see R. DICKERSON, *PRODUCTS LIABILITY AND THE FOOD CONSUMER*, ch. IV (1951).

162. Dickerson, *Products Liability: How Good Does A Product Have To Be?*, 42 IND. L.J. 301, 331 (1967).

a generally foreseeable incident to normal use. It seems more appropriate to ask whether the consumer has definable expectations respecting quality of performance under conditions that he does not normally contemplate. Conceivably, these expectations could extend to such matters as appropriate padding, the absence of needless projections, doors that stay shut, and collapsible steering columns. And yet, in the absence of special assurances, how can the consumer be said to expect what it has not been customary for the manufacturer to provide? As it was with safety glass, it seems logical to conclude that consumer expectations will lag behind actual practices, and the further extension of safety practices designed to minimize the consequences of accidents will depend either on direct regulation or on the development of a broader rationale of seller responsibility. This means that one is not limited to protecting the existing consumer expectations inherent in the concept of reliance, which underlies the seller's current civil obligations as to the quality of the goods he sells.<sup>163</sup>

Another example may be the hazardous product that is too new to have developed, in the consumer's mind, a contemplated use and contemplated level of performance. Thus:

[t]he drug cases present problems that are hard to solve even with the help of a sophisticated philosophy of consumer protection. Part of the problem lies in the fact that for many new drugs no clear concept of "normal use" has yet emerged. Chemical X may be good for curing flea bites, fair for curing eczema, and poor for curing seborrhea. What expectations have sufficiently crystallized to serve as a criterion here?<sup>164</sup>

In at least one kind of transaction, the concept of legal defectiveness now being applied in products liability cases is stricter, rather than more lenient, than that appropriate to direct regulation. This is where the seller custom-tailors his undertaking to the consumer's special, announced purpose by making an express or implied warranty of fitness. For the purposes of civil responsibility, a product is legally defective in such a case if it fails to serve the consumer's announced purpose, even though the product is entirely adequate for its ordinary purposes. This kind of transaction needs no direct regulation.<sup>165</sup>

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163. *Id.* 313-14.

164. Dickerson, *Recent Developments in Food Products Liability*, 8 *PRAC. LAW.* 17, 31 (April 1962).

165. *UNIFORM COMMERCIAL CODE*, §§ 2-312, 2-314.

### *C. Prohibition of the Product*

The most drastic action that can be taken with respect to a product is to prohibit its manufacture and sale altogether or to prohibit its sale to specified classes of users. So drastic an approach must be reserved for products that have dangers greatly disproportionate to the benefits of their use. Examples are addictive drugs and otherwise useful drugs, such as thalidomide, that have devastating side effects.

If the social need or demand is great enough, the inevitable hazards, though reducible, may ultimately need to be endured. So it appears to be with automobiles, explosives, chain saws, axes, blood plasma, anesthetics, and the Pasteur treatment for rabies. The degree of hazard is, by itself, an inadequate test; strong consumer need or demand often relegates the sanction of prohibition to a relatively minor role.

The need or demand for a product may recede or disappear as a result of the availability of alternative products. Thus, the withdrawal of thalidomide was made tolerable by the availability of sedatives that have no serious side effects. Fortunately, the approaches that are useful for defining and discovering disproportionately dangerous products and preventing their manufacture or use are the same approaches that are useful with respect to defective products generally.

### *D. Prohibition of the Defect*

As effective in most cases as, and far less drastic than, prohibiting the product is prohibiting the legal defect. Normally, this takes the form of prohibiting not the product or the defect as such but the product in its defective condition. In most cases, compliance involves improving the performance capabilities of the product itself. For example, automobile brakes can be made safer by reducing fading or by reducing the number of feet that it takes to stop the automobile when it is moving at a particular speed. An automobile may be made safer by improving its capacity to absorb shock in a collision. It may also be made safer by adding a safety device. These are matters of design and, as such, they usually affect all units of the product.

Improving the product may also involve improving existing methods of manufacture to reduce the number of off-standard units that result from manufacturing errors. For example, a bottled soft drink can be made safer by improving manufacturing operations, including inspection procedures, so as to reduce the number of injuries resulting from occasional deviation from accepted methods of manufacture. This poses the general problem of quality control.

### *E. Standards for Determining Defectiveness*

Central to any system for making consumer goods safer is the setting of specific standards for determining whether or not a particular product is defective. This raises several problems. First, what kinds of standards should be developed? Second, who should develop them, and how? What techniques are useful in making this determination? Finally, once standards have been set, how can one detect and deal with non-compliance?

#### *1. Kinds of Product Standards†*

The most important product standard is quality. The most familiar standard of quality is the standard that specifies a particular design or particular kinds of materials that must be used by all manufacturers of a product. Building or electrical codes that specify sizes of wiring exemplify this type of standard. Such standards might specify that a particular kind of guard must be installed on all rotary power lawn mowers or that the glass used in glass doors must be of a specified type.

The second type of standard of quality has been called the "performance standard." This does not require that a manufacturer use any particular design or material. Instead, it prescribes the manner in which the product must perform and leaves it to each manufacturer to achieve the prescribed result in his own way. For example, a performance standard would simply demand that rotary power lawn mowers be so made that they could not throw rocks or that glass to be used in glass doors must be able to withstand a specified number of pounds of pressure.<sup>166</sup>

Standards for particular products may combine both approaches. The type of standard that will be most effective depends, of course, on the particular hazard. In general, the performance standard would seem to be more flexible and simple to promulgate. Also, the performance standard leaves the manufacturer free to innovate and use the research and testing facilities he has developed for safety research. Further, if manufacturers were free to innovate and develop their own safety features, competition would tend to develop between manufacturers on the safety aspects of their respective brands. This type of competition is generally beneficial to the consumer.

In contrast with standards of quality are standards of identity. These are much used by the Food and Drug Administration under section 401 of the Federal Food, Drug, and Cosmetic Act, which directs the Secretary of Health, Education, and Welfare to "promulgate regula-

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† By Robert V. Kixmiller.

166. A performance standard recently promulgated for refrigerators appears in 15 C.F.R. § 260.3 (1966).

tions fixing and establishing for any food, under its common or usual name so far as practicable, a reasonable definition and standard of identity. . . ."<sup>167</sup> For example, it is provided that:

[t]he preserves or jams for which definitions and standards of identity are described in this section are the viscous or semi-solid foods each of which is made from a mixture composed of not less than 45 parts of weight . . . of one of the fruit ingredients specified in paragraph (b) of this section to each 55 parts by weight . . . of one of the optional saccharine ingredients specified in paragraph (d) of this section. Such mixture may also contain one or more of the following ingredients: . . .<sup>168</sup>

It would seem, however, that standards of identity are more useful in the area of protecting consumers against fraud and deception or against exorbitant prices under war-time price control than in the area of consumer safety. The name by which a product is sold appears to have little connection with the consumer's safety in the household product area, except as it may affect the consumer's expectations respecting the normal, contemplated use of the product.<sup>169</sup> So far as the standard of identity is used in a legal context that excludes similar sub-standard products that contain deleterious ingredients from the market, it serves to support a consumer protection.

Because of the weaknesses in the private efforts to set standards action by the Federal Government would seem to be necessary. The methods that the Government could use should parallel those used by private groups: rely primarily on testing to supply the data according to which the standards are formulated. The results of such tests should be made public not only to educate the consumer but also to persuade manufacturers to comply.<sup>170</sup>

There is much precedent for government testing activities. The General Services Administration currently tests products bought under government procurement programs.<sup>171</sup> The same or similar testing facilities could be used to test household products, and the results could then be disseminated to the consumer. Recent developments in the automobile industry exemplify what can result from alerting consumers to safety features.

It would seem desirable, however, for the Government to direct most of its resources to household products that are not adequately handled by

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167. 21 U.S.C. § 341 (1964).

168. 21 C.F.R. § 29.3(a).

169. See VII(B), *supra*.

170. See the discussion of publicity in section VII(F)(2)(e) *infra*.

171. See 41 C.F.R. § 5-1.5203 (1967).

private agencies or are unlikely to be adequately handled even with appropriate governmental encouragement. This will assure that the Government's efforts are made in an area where they are most needed and that they will not be dissipated by efforts in areas where private action is already doing an adequate job. It will also conserve government funds. But where the Government relies on private testing and evaluation, it should watch closely to see that the evaluation is fair and that results are adequately publicized.

## 2. *Who Sets the Standards, and How?*<sup>†</sup>

Numerous organizations are now engaged in setting standards or their practical equivalent. These organizations do not always have as their primary purpose the establishment of standards. Although many visualize themselves mainly as consumer education groups, they incidentally take action resulting in the development of standards.

The ability to set meaningful standards does not necessarily include the ability to enforce them, at least in the sense that the criminal law is enforced. Although many of the organizations now instrumental in developing standards are private, some of them have been effective in inducing compliance.

Testing is the principal method by which standards are developed. Examples are not hard to find. Wringer washing machines are a prolific source of injuries because the operator's extremities may be caught in the wringer. Most wringers, however, now have release latches for such a contingency. Tests can be conducted to determine how accessible they are, how feasible their use is, and how much force is required to release them. Particular types of glass used in home doors can be tested for strength and breaking point. Gas appliances can be checked for adequate venting and for the presence of a device to shut off the flow of gas if the pilot flame goes out.

The public demand for product information has been the generating force behind the establishment of private testing organizations. These firms test a wide variety of products and report their evaluations. The success of such an organization depends on the reliability of its conclusions.

Probably the best known private testing group is the Underwriters' Laboratories, which attaches its seal to 800,000 different products, made by about 8,000 manufacturers. UL annually tests more than 20,000 new products, retests 150,000, and distributes over 1,100,000,000 seals. The program was initiated by insurance companies, which realized the

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<sup>†</sup> By Robert V. Kixmiller and Edward L. Murphy.

need for some type of product evaluation to keep losses down. UL was established about seventy-four years ago to serve this purpose. After the program was initiated, manufacturers came to accept the value of the Underwriters' Laboratories seal. Recently, the public itself has come to realize that the seal means something important, although it is not sure just what.

Although UL has no policing authority, it hardly needs it. The attachment of a UL label has gained such significance through public acceptance that approval is virtually mandatory for all manufacturers. Today, UL's reputation is so widespread that there are many outlets that will not sell electrical products unless they have the UL seal of approval.

UL requirements are developed by its engineering staff in consultation with manufacturers, governmental officers having responsibility for product safety, insurance representatives, and the public. To receive the seal of approval, a manufacturer writes a letter of application that thoroughly describes the product. The Underwriters' Laboratories sends him a form that specifies the maximum cost of the test and the amount of the initial deposit. If UL finds that a product meets its safety requirements, it publishes the name of the manufacturer of the product in one of its lists and, under suitable safeguards, authorizes the use of the seal on the product as evidence of compliance with its safety requirements. The services of UL include a factory follow-up program to determine that subsequently made products meet the established safety requirements. About 425 inspectors pay unannounced visits to factories to assure continuing compliance.

Quality ratings of products such as "excellent," "good," and "poor" are not developed by UL. Its service provides a check only on product engineering and product control as they relate to minimum standards. Products either pass or fail. Some ratings are developed, in conjunction with the testing activities of the Fire Protection Department, in the specialized fields of fire resistance and fire hazard classification.

The product areas covered fall into five major equipment or material groupings: electrical, heating and air conditioning, chemical and casualty, burglary protection and signalling, and fire protection. UL's "Published Standards List" shows the scope of its testing activities.

Only items that are produced commercially by an established manufacturer are eligible for testing. Articles may be received in the model stage, examined, and tested, and a report may be made to the applicant for his guidance in further development. However, the report does not commit UL to accepting these articles in commercial form when they are later submitted for final examination and testing.

Not everyone is satisfied with UL's tests. Some manufacturers

say that the tests take too long. Others say that the costs are too high even though clients are billed at cost, subject to a minimum of fifty dollars per listing. Other manufacturers have charged that test requirements are too stringent and could even force them out of business. But there is no denying that UL has contributed greatly to consumer protection.

The *Good Housekeeping* Consumers' Guarantee Seal was initiated to help protect the consumer from fraudulent advertising claims. The seal on a product guarantees that, if the product fails to perform as advertised, the magazine will refund the purchase price. In 1902, when the seal was adopted, manufacturers had inadequate means of quality control and therefore products were not of uniform quality. The adoption of the seal and its guarantee was a significant step toward the development of adequate consumer protection.

Modern technology has overcome many of the production deficiencies of the past. The major problems now are to curb the over-exuberant claims of advertisers, to clarify the ways in which a product can safely be used, and to make clear what the consumer should expect from it. Because of the failure of advertising to solve these problems, *Good Housekeeping* refuses to accept, because its standards are not met, advertising having a potential revenue of over 500,000 dollars each year.

The Consumers' Guaranty is an integral part of *Good Housekeeping's* service to its readers and is described on page six of every issue of the magazine. In today's increasing competition and resulting consumer confusion, the guaranty continues to guide millions in their purchases. The influence of the *Good Housekeeping* seal is shown by a recent Crossley S-D Survey in 1964, which stated that eighty percent of today's householders are influenced in their purchases by the *Good Housekeeping* Seal.

The testing department of *Good Housekeeping* now includes eleven kitchens; a laundry laboratory; a home care center; a beauty clinic; chemical, textile, and engineering laboratories; a children's center; a home serving and needlework room; a show leather and plastics center; and offices for a staff of 100. These departments are:

- (1) the Appliance and Home Care Department, which tests more than 100 different kinds of products including major appliances, small appliances, kitchen implements, and cleaning and laundering aids;
- (2) the Beauty Clinic, which conducts practical use tests on beauty products;
- (3) the Chemical Bureau, which chemically analyzes many kinds of products including food, cosmetics, pharmaceuticals, de-



- tergents, paints, and cleaners;
- (4) the Engineering Department, which investigates the mechanics of hundreds of products per year including large and small appliances, toys, mattresses, furniture, building products, heaters, and air conditioners;
  - (5) Foods and Cooking, which tests each recipe before it is published;
  - (6) Sewing and Needlework, which investigates sewing machines and all sewing products; and
  - (7) The Textile Laboratory, which evaluates textiles and fibers for shrinkage, color fastness, wearability, and washing and cleaning claims.

Although the *Good Housekeeping* requirements vary in specific detail according to product category, there are two main requirements: the product must perform as the consumer expects it to and the manufacturer's advertising claims must be supportable by *Good Housekeeping's* tests. The *Good Housekeeping* Testing Bureau does not give quality ratings but views products as acceptable or unacceptable. The results of the investigatory work form the basis for many of the magazine's editorials. The success of *Good Housekeeping* testifies to the protection that it gives the consumer. Its safeguarding of the consumer began long before consumer protection became headline material.

A third major testing bureau is Consumers Union, which conducts extensive tests in many consumer product areas and reports its findings in the magazine, *Consumer Reports*. The activities of the Union combine the type of testing done by the Underwriters' Laboratories with the type of reporting done by *Good Housekeeping*. Because of the importance of this organization and the large amount of testing that it does, more detailed information on their methods and areas of testing than is now available should be obtained.

A fourth well-known organization is the United States of America Standards Institute.<sup>172</sup> This organization has applied for a Congressional charter that, if granted, will increase the weight given to the standards it sets.

All these organizations contribute to the safety of the consumer either by setting safety standards for the product or by educating the consumer as to its use. The success of firms such as the Underwriters' Laboratories, *Good Housekeeping Magazine*, and Consumers Union reflects the great concern of the consumer with safety. Through the continuing efforts of these groups, bolstered by the establishment and

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172. Formerly the American Standards Association.

growth of new ones, the goal of consumer protection through product safety can be brought closer to realization.

Even though private testing organizations play a valuable role, they alone cannot adequately protect the consumer. As noted earlier, many privately developed standards are not developed with consumer protection as their principal goal or even as an important factor. According to J. Herbert Hollomon, Acting Under Secretary of Commerce,

... [a]lthough many standards contribute to safety, for example in assuring performance of function, it is not clear when human safety is built into these standards through identifiable levels of safety related to performance. I note that household appliances are not covered by any large number of safety standards identified in that Panel's [the Commerce Department's Advisory Panel on Engineering and Commodity Standards] study [1964].<sup>173</sup>

It seems clear that many privately developed standards are promulgated or approved by industry-oriented, not consumer-oriented, groups. Using the United States of America Standards Institute (USASI) as an example, it is suggested that a study of that organization's constitution, by-laws, and organizational structure will reveal that, although purporting to give fair representation to "consumers" in the process of approving standards, it is dominated by industry and those with primarily industrial sympathies. For instance, the board of directors of USASI includes seventeen "Member Body" (mostly industry trade associations) representatives, thirteen "Company Member" (manufacturers) representatives, and only five representatives from the so-called "Consumer Council." When the number of industry-oriented representatives of the "Consumer Council" is considered, it becomes apparent that actual consumer representation is fragmentary and insubstantial. Moreover, as Mr. Hollomon pointed out,<sup>174</sup> the "consumer" said to be represented by many standards organizations is often the industrial consumer, such as the manufacturer buying raw materials. Mr. Hollomon further commented that:

[t]he most serious question raised about the process [of establishing private standards] is one of involvement—whether the affected interests, including the consumer, participate in developing the standard by which a product is measured.

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173. *Hearings on S.J. Res. 33 Before the Consumer Subcommittee of the Senate Commerce Committee*, 90th Cong., 1st Sess., ser. 90, pt. 1, at 14 (1967).

174. *Id.* 15.

... *The end consumer is more often not represented.*<sup>175</sup>

This is not to say that industry is unconcerned about product safety. But it is also clear that industrial economic interests and consumer safety interests do not always coincide.

Most manufacturers are not indifferent to the safety of the products they offer to the consumer for his use. Many producers carry on extensive programs related to the safety of products.

*Yet, the fact remains that hundreds of thousands are injured every year in and about their home.*<sup>176</sup>

Undue criticism of standards organizations such as the USASI is not intended; they perform a valuable function. However, because this type of organization does not adequately represent the consumer's interest, an investigation of a product by a governmental body should not be eliminated merely because private standards have already been developed. The consumer must also be adequately represented in government agencies that promulgate or approve product safety standards.<sup>177</sup>

The main limitation in the present system of private testing is the reluctance of the testing institutions to go beyond a simple pass-or-fail type of grading. To the average consumer, the private testing programs use myriad standards, tests, and investigations leading to a product's being judged either "safe" or "unsafe." Where the line is drawn between the products that pass and those that fail is rarely disclosed to the consumer. Nor is the difference in the degree of safety between the best unsafe product and the worst safe product often disclosed. The rising incidence of consumer injuries also warrants disclosure of which of the so-called "safe" products are the safer.

The problem can be alleviated through the use of standardized quality ratings that tell the consumer what degree of safety he is buying. If a product is rated as "excellent" by one group, it should not be rated

175. *Id.* (emphasis added).

176. *Id.* 13 (emphasis added).

177. The index to the Code of Federal Regulations under the heading "Standards" shows that several government agencies are involved in some way in setting performance standards for products:

- (1) 41 C.F.R. § 101-29 (1965) (GSA standards-automobiles);
- (2) 15 U.S.C. § 1193 and Regulations (standards for flammable fabrics);
- (3) 15 U.S.C.A. § 1391 (2) (definition of motor vehicle safety standard); and
- (4) 15 C.F.R. § 10 (1966) (government participation in the development of voluntary standards).

The National Traffic and Vehicle Safety Act of 1966, 15 U.S.C. § 1391-1425 (1966) implements many of the methods of regulation discussed in this section and provides a good example of such methods in operation. There are many other examples.

by others, under a different system, as "fair" or "good." The ratings should have a reasonably uniform meaning. The biggest handicap to the implementation of quality ratings is the added cost. Whereas a minimum number of tests may determine whether a product is "safe" or "unsafe," to rate it by grades such as "superior," "average," "below average" and "unsafe" requires much more extensive and refined testing.

Another limitation in private testing is that no sanctions are imposed on the product rated "unsafe." The results of almost all private grading are released only with respect to products that pass. Those that fail the safety check may still be marketed in competition with the safe product. The only difference is that the safe product may have the marketing advantage of the Underwriter's Laboratories' or *Good Housekeeping* seal, which only partly reduces the incidence of harm. This is a rather insignificant difference when viewed against the amount of harm that may result from unsafe products. A sanction against products that do not pass the test is needed to insure greater consumer safety.

Private testing groups almost universally charge the producer for their tests. In the case of both the Underwriters' Laboratories and *Good Housekeeping*, the products are submitted only voluntarily. Many producers can thus avoid unfavorable test results merely by refusing to submit their product. The National Better Business Bureau is concerned primarily with business practices rather than products. For this reason, it considers the grading or testing of a particular consumer item secondary to the establishment of a fair bargaining relationship between the merchant and the customer.

Before a problem can be solved, it must be defined. This writer has yet to find a private or governmental group that keeps records broken down according to: (1) the product that caused the harm, (2) the degree of injury inflicted, and (3) the source of the injury incurred (kind of defectiveness or misuse). Such a breakdown is badly needed. Although the failure to report some injuries means that statistics can never be complete, even an incomplete system could effectively show problem areas and eliminate much of the guesswork now necessary in the consumer safety field.

Although existing private testing helps to safeguard the consumer, the current system falls short of assuring adequate protection to the consumer. Some handicaps, *e.g.*, the fact that submission of products for testing is voluntary, are so severe as to hamper the effectiveness of the whole system. Economically and realistically, it seems likely that an effective testing system can result only from a combined private industry and government effort.<sup>178</sup>

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178. For more information, see BUS. WEEK, Sept. 18, 1965.

### 3. *Are the Standards Met?*<sup>†</sup>

After satisfactory standards have been set, the problem becomes one of enforcement. This requires techniques for determining whether or not the standards for safe products have been met.

Here again, testing appears to be the most useful and most reliable tool. Another helpful technique for checking the compliance of the product with the standard, where sensory acuity allows such a determination to be made, is inspection. Thus, inspection of the manufacturing process is a useful method for controlling the quality of materials and workmanship that go into a product where these elements bear on its safety. Since the Federal Food and Drug Administration does extensive inspecting, it is a prime source for details regarding the system's operations.

Inspection may be directed to the product itself, manufacturing operations, or business records. The first poses no problem beyond finding a typical item to inspect; this generally involves no more than obtaining it through the normal channels of distribution. More significant is the question of the right to enter manufacturing facilities for the purpose of examining buildings, equipment, materials, containers, records, files, and papers. Politically, this is a sensitive area.

The first question is who should inspect. The manufacturer has a duty to make all reasonably feasible inspections, both during and after the manufacturing process, that are necessary to secure a safe product. A manufacturer who fails to use reasonable care in making such inspections is civilly liable for any harm caused by a defective product in its anticipated use. However, manufacturers are not obliged to inspect under all conditions. It is only where a feasible inspection would be effective to discover defects that it is required. In general, the manufacturer's duty to inspect is assessed in the light of the physical and economic feasibility of doing so and the dangers to be anticipated from the failure to inspect.<sup>179</sup>

The time and place of inspection are important, as is indicated by *Ebers v. General Chem. Co.*<sup>180</sup> In this case the manufacturer of an insecticide was held liable for damages to the plaintiff's peach trees. The defendant tried to exonerate himself by proving that the United States Department of Agriculture had found the product safe for use. The

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<sup>†</sup> By Robert V. Kixmiller & John R. Wilks.

179. Although there is a tendency in products liability cases to refer to a "duty to inspect," "duty to test," "duty to warn," or "duty to provide a safety device" as if these were independent duties, it seems preferable to approach these "duties" as alternative, supplementary, or intermediate means of discharging a single, broader duty to provide, under prescribed conditions, a product that does not violate the consumers normal expectations by exposing him to an unreasonable and concealed danger. Civil liability for defective products no longer rests on a negligence basis.

180. *Ebers v. General Chem. Co.*, 310 Mich. 261, 17 N.W.2d 176 (1944).

evidence showed that tests had been made in various localities but that no tests were made in Michigan, where the plaintiff's farm was located. Since soil conditions might have been different in Michigan, the court ruled that it was for the jury to decide whether or not the defendant was negligent in failing to perform field tests in that locality before marketing the product there.

Another way of checking compliance with a standard is to provide for inspection by the Government. Until recently, the Government was thought to have an absolute right, not dependent on first obtaining either a warrant or the occupant's consent, to enter business premises for the purposes of inspection. The right against unlawful searches and seizures was believed to pertain only to places of residence, not to business premises.

Limitations on the Government's right to enter business premises for inspection purposes were announced in *See v. Seattle*.<sup>181</sup> In this recent decision, the United States Supreme Court did recognize the growing need for effective investigatory techniques.<sup>182</sup> Nevertheless, the Court found that the fourth amendment's previous application to the administrative subpoena of corporate books and records strongly supported their holding that warrants were a "necessary and tolerable" limitation on the right to enter and inspect commercial premises.

The effect of the *See* case is to limit administrative entries to searches where the subpoena is limited in scope, relevant in purpose, and specific in directive. The administrative agency may still demand the right to inspect by use of the administrative subpoena, but the demand may not be made and enforced by the inspector in the field. The subpoenaed party may obtain judicial review of the subpoena's reasonableness without incurring penalty for refusal to comply. The constitutional result of *See* is to assure that the decision to enter and inspect will not depend on the unreviewed discretion of the enforcement officer in the field. The central point of the decision is that the basic element of a reasonable search under the fourth amendment—that it not be enforced without a suitable warrant procedure—applies to business as well as residential premises. Administrative entry, without consent, on areas of the commercial premises that are not open to the public may only be compelled, through prosecution or physical force, within the framework of a warrant procedure.

The Court did not, however, question such regulatory techniques

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181. *See v. Seattle*, 387 U.S. 541 (1967).

182. Official entry on commercial property is a technique commonly adopted by administrative agencies to enforce a variety of regulatory laws; the entrance may be to permit inspection of the business premises, products, or the company's financial books and records.

as licensing programs, which require inspection before operating a business or marketing a product. This would seem to allow the continuation of warrantless inspections in the food and drug areas. By the same reasoning, these areas could probably be expanded to include all manufacturing operations that deal with a product that, if defective, becomes imminently dangerous. However, the likelihood of injury from a defective household product is usually too remote, in many product areas, to allow warrantless searches under the umbrella of license.

Will administrative searches be hampered by the standard of the *See* case? Except for their procedural requirements, this is doubtful. The necessity for inspection, the relatively low standard of probable cause, and the policy of safeguarding the public health would tend to support the issuance of any warrant the administrative agency considered necessary. However, because the isolation of the warrant procedure would invalidate inspection, the requirements laid down by the *See* case should be met by administrative agencies that need to inspect.

In the inspection of manufacturing operations, the problem arises as to which items of the product should be inspected; this is important because the inspection process varies according to the nature and use of the product.

One of the most common means of inspecting is by sample. Some courts have held or implied that inspection by sample only, as distinguished from an individual check of each article, falls below the acceptable standard of care and, therefore, constitutes negligence. However, if the only effective inspection is one that destroys the article, as in the case of trichinous pork, mere sampling is sufficient. Thus, whether to inspect individually or by sample must be decided according to industry practices and the nature of the product involved.

Another problem in inspection is the determination of the qualifications necessary for the person who is to do the inspecting. Because of the complexity of products and modern manufacturing methods, inspection should be done by experts. Nowhere is this more true than in the inspection of company financial records. The person inspecting should be an auditor or an accountant with a specialized background in auditing.

This raises a problem of economics. The use of qualified experts requires a large public expenditure merely for wages and salaries. Therefore, the relevant economic factors must be weighed before government inspection can safely be authorized in any product area. The test should be whether or not the risk of harm if a defective product is allowed to enter the field is great enough to justify the cost of government inspection. Among others, the following specific questions should be answered: how serious a harm would a defective product be likely to produce; how

discoverable is the defect; how much expertise would an inspector need; how successful has testing by manufacturers been in this field; and would government inspection significantly lower the injury rate?

Where the product is complicated, inspection of the manufacturing process may be better suited to finding and correcting defects than inspection of the finished product. The advantage of inspecting the manufacturing process is that a complex article can be broken into its components, which are easier to handle and inspect. Of course, one kind of inspection does not preclude the other.

The difficulties of inspecting the manufacturing process make the procedure advisable only in special circumstances. The first disadvantage is that inspection of the manufacturing process is more expensive than inspection of the finished product. Also, inspection of the manufacturing process is frequently less reliable than inspection of the finished product, because it may not reach defects resulting from a faulty final assembly.

Because both government and consumer awareness of the physical hazards created by a product is necessary to protect the consumer, provision should also be made for developing, maintaining, and collecting pertinent records, reports, and other information from manufacturers and sellers. This is for enforcement purposes and for dissemination to the consumer. In this respect, a useful model is found in the National Traffic and Vehicle Safety Act of 1966:<sup>183</sup>

(c) [e]very manufacturer . . . shall establish and maintain such records, make such reports, and provide such information as the Secretary [of Health, Education, and Welfare] may reasonably require to enable him to determine whether such manufacturer has acted or is acting in compliance with this subchapter and motor vehicle safety standards prescribed pursuant to this subchapter. . . .

(d) Every manufacturer . . . shall provide to the Secretary such performance data and other technical data related to performance and safety as may be required to carry out the purposes of this chapter. The Secretary is authorized to require the manufacturer to give such notification of such performance and technical data at the time of original purchase to the first person who purchases a motor vehicle or item of equipment for purpose other than resale, as he determines necessary to carry out the purposes of this chapter.

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183. 15 U.S.C. § 1401(c) (d) (Supp. II, 1965-66).



Thus, it is clear that the expansion of the present government inspection program would undoubtedly reduce the incidence of defective products now available in the market. However, in many areas government inspection would prove uneconomical or otherwise infeasible. Only after a careful study of each product can the Government know when additional inspection is necessary. Judging from the *See* case, government inspection will be more limited than heretofore in what it can inspect, when it can inspect, and where it can inspect.

#### F. *Enforcement*

The inquiry now turns to methods by which the production and marketing of safe products can be encouraged, if not secured. What legal sanctions, if any, are appropriate? What methods other than legal sanctions are available? How should they be administered, and by whom?

##### 1. *Criminal Governmental Sanctions*†

The method most often suggested to protect the consumer is the imposition of criminal sanctions. But can criminal liability be used effectively to promote safety in the manufacture of household products? Hall urges that, before the decision to utilize the criminal law is made, the mores of the community and possibility of accomplishing the statutory purpose in this manner should be considered.<sup>184</sup> He believes that alternative methods of discouraging undesirable conduct, such as seizure, injunction, civil liability, or adverse publicity should first be carefully evaluated.

This belief reflects the practical limitations on the use of criminal sanctions. Even where there is a clear violation and a party is found on whom criminal sanctions may be imposed, prosecution may never result, because

. . . even when a law enforcement official believes that a particular scheme has been made actionable by statute, he often does not prosecute because of a widely held belief that, except in the most egregious circumstances, fraudulent operators should not be treated like criminals. Lawyers, business leaders and prosecutors have stated that "judges, juries and district attorneys do not like to put businessmen in jail." One district attorney, when asked by the attorney general to prosecute an alleged fraudulent operator, retorted: "I can't even get a con-

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† By John R. Wilks.

184. J. HALL, *GENERAL PRINCIPLES OF CRIMINAL LAW* 321-24 (2d ed. 1960).

viction when they stick a gun in somebody's back, how can I get one when they just talk him out of his money."<sup>185</sup>

If a criminal sanction is not enforced, the trouble taken to enact it is wasted. Since the imposition of a jail sentence would be unusual in the field of consumer protection, should not imprisonment be abandoned?

A fine may be more appropriate. Yet enforcement experience under the Federal Food, Drug, and Cosmetic Act suggests that the chief problem with a fine is that the violator may be able to avoid the impact of it. Subject to the limitations imposed by price competition, if any, he may be able to increase prices to meet the added cost, thus passing it on to the consumer.

Another factor relevant to effectiveness of criminal sanctions is the type of persons sought to be controlled. It may make a difference, for example, that they are minors, incompetents, or corporations, instead of adult individuals. What makes the criminal sanction a greater deterrent than civil liability for an adult individual is the stigma of being branded a criminal. For household products, this raises a preliminary problem: who is the wrongdoer? Suppose the lawnmower body is manufactured by one company, the motor by another, and the blade by a third. Assembled, the product carries a name given it by the assembler. Suppose further that a statute imposes large fines on companies responsible for product defects. Who should bear the burden of a fine when a defective blade breaks? The manufacturer of the part? The assembler? A handler who could have discovered the defect by reasonable inspection? A distributor? And who should bear the burden if the consumer, in the absence of clear instructions, attached the lawnmower blade upside down?

Although civil products liability has developed answers to these problems where the difficulties of proving causation can be surmounted, they are not necessarily appropriate to criminal responsibility. In general, private law has tended to impose civil liability on the manufacturer of the offending part and any later processor, assembler, or handler of the product to whom or through whom the injured consumer can trace the defect, generally on the ground that financial pressure even on the innocent distributor tends to exert back pressure on those who are closer to controlling the design and method of manufacture.<sup>186</sup> But it does not follow that the criminal law should do likewise. The distributor, who without contributing to the creation or perpetuation of the hazard

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185. Sand & Weisburg, *Translating Sympathy for Deceived Consumers into Effective Programs of Protection*, 114 U. PA. L. REV. 395, 426 (1966).

186. R. DICKERSON, PRODUCTS LIABILITY AND THE FOOD CONSUMER 247-69 (1951); Dickerson, *The Basis of Strict Products Liability*, 16 FOOD DRUG COSM. L.J. 585, 589 (1961).

has only passed the product along, does not seem a fit object of criminal sanctions.

Horack's study of criminal sanctions<sup>187</sup> is helpful in determining whether they are appropriate devices for protecting the consumer. He recognizes five kinds of criminal sanctions: (1) permanent elimination of the offender, (2) temporary elimination of the offender, (3) temporary restraint and supervision of the offender, (4) removing the offender's ability to act, and (5) removing the offender's desire to act. Permanent elimination of the offender from society is normally achieved by death, life imprisonment, or deportation—sanctions that are unlikely to be appropriate to any foreseeable threat to consumer safety. Temporary elimination of the offender is achieved by imprisonment for a term. If an offender is imprisoned, society is rid of him for the time, but upon release he is free to resume the forbidden activity if the threat of reincarceration does not deter him. However, prison sentences appear to be unlikely occurrences in this area, even if prescribed by statute. Subjection of the offender to temporary restraint and supervision suggests temporary probation or parole, use of a peace bond, or an injunction. Such a method might be an appropriate sanction to impose on a manufacturer or distributor. Removing the offender's ability to commit a violation can be accomplished by taking away his civil capacities. Although fear of such a punishment might be an effective deterrent, its relative harshness suggests that it would fall into quick disuse. By helping to remove the offender's desire to act, publicizing the imposition of a criminal sanction might be the most effective single control to be imposed on a seller of defective goods. The success of a manufacturer is, of course, measured by the money he makes; although a mere fine might not endanger the offender's financial security, the fear that through adverse publicity he might lose professional and social caste, and even customers, might well inspire him to market a better product.

How does the consumer react to the adverse publicity about a seller? Does he continue to buy the products of a manufacturer labeled a criminal? To determine the force of adverse publicity, a study might profitably be made of instances in which manufacturers have received adverse publicity from legal action and governmental investigation. But what about cigarettes? Although the cigarette industry has suffered harsh adverse publicity, cigarette sales have generally increased. Here, two points can be made. First, the publicity in this instance led directly to an increased general concern for safety. Second, the publicity related to the nature and degree of physical risk, not to criminal responsibility. If

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187. F. HORACK, *CASES AND MATERIALS ON LEGISLATION* 178-86 (2d ed. 1954).

cigarette companies had been found criminally culpable, it seems likely that public notice of the fact would have had an even stronger effect. Horack suggests that, whereas a fine is often only a business expense and an inconvenience, the real punishment is the notoriety connected with apprehension, charge, and trial.

Underlying Horack's analysis of sanctions is the recurrent theme of deterrence. Some current observers, on the other hand, contend that the deterrent effect of criminal sanctions is almost nonexistent. Some of these views apparently result from misreading the fact that every crime exemplifies the nondeterrence of the prescribed sanctions. They tend to overlook the instances in which potential violators have actually been deterred. These, of course, are much harder to determine.

One of the most serious limitations on the effectiveness of the criminal sanction is the frequent absence of, or difficulty in proving, guilty intent, formally known as *mens rea*. It is not often that the defectiveness of a product results from wilfulness or wantonness, which are the classic mental elements of criminality. As a result, there has been a movement to adopt "strict criminal liability" in the field of consumer protection—a kind of liability of which *mens rea* is not an element.<sup>188</sup> Thus, the most troublesome question today is not whether criminal liability should be imposed, but whether the traditional requirement of criminal intent should be softened or dispensed with, as has been done in some areas of consumer protection.

For consumer goods, this concept emerged about the middle of the nineteenth century. Wolfram suggests that two factors prompted legislatures to adopt it.<sup>189</sup> First, the doctrine of *caveat emptor* allowed the consumer little civil recourse when unreasonably dangerous products were put on the market. Modern concepts of products liability law had not yet developed. Second, when defective products were put on the market, public authorities could do little about them. The remedy of seizure, for example, did not yet exist. But these are arguments for criminal liability and not necessarily for strict criminal liability. Hall says that the real cause for the movement has been the difficulty in proving *mens rea*.<sup>190</sup>

After its inception, strict criminal liability expanded into many areas. Today, it is identified closely with "public welfare" offenses. At least four justifications are currently given for imposing such liability: it is too hard to prove *mens rea*, strict criminal liability stimulates

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188. J. HALL, *supra* note 184, at 325.

189. Wolfram, *Guilt Without Guilty Intent—Strict Liability Food Laws*, 10 FOOD DRUG COSM. L.J. 355, 370 (1955).

190. J. HALL, *supra* note 184, at 348-49.

efficiency in manufacturing, manufacturers can avoid such liability in most cases by testing their products, and courts can avoid harshness by using discretion in imposing penalties. However, some of the factors that led to the original adoption of strict criminal liability have shrunk in significance. The consumer now has a relatively broad recourse through products liability law, and seizure and other direct sanctions and approaches have become available procedures. The justifications for an expanded strict criminal liability are now being questioned.

Another objection to the imposition of criminal sanctions for unsafe products is that efficiency and design can be improved only when feasible alternatives exist within the state of the art. Furthermore, the dangers in products such as butcher knives and chain saws inhere in those products and cannot be eliminated by design changes or improved manufacturing methods. Here, educating the unsophisticated consumer seems to be the only feasible alternative and the main question is how much of the burden of such education can appropriately be placed on the seller. Even testing, although it is effective in reaching defects in design, is not a panacea for defects resulting from slips in manufacture, because testing every item that is produced is, for most products, impractical. That mass production does not lend itself to such meticulous care was recognized in *United States v. Heinle Speciality Co.*, where the court said that ". . . dealers cannot be expected to employ expert chemists to examine the great variety of commodities. . ." <sup>191</sup> entering commerce. The cost of such testing would be an economic impossibility for many kinds of producers. For most mass-produced products, only spot testing is feasible.

Despite such misgivings, strict liability is widely used. Subject to reservations to be mentioned below, the United States Supreme Court has apparently found it constitutionally acceptable for public welfare offenses. <sup>192</sup> Yet experience with the use of strict liability in one important area of household safety has raised doubt about its general desirability. Food and drugs, which were first controlled by the Pure Food and Drug Act of 1906, are now controlled by the Federal Food, Drug and Cosmetic Act. As products produced and distributed in mass quantities, they represent typical problems in the detection and control of consumer hazards. Food and drugs represent greater hazards only because, being normally ingested, they involve a more intimate, personal use.

The Pure Food and Drug Act of 1906 prohibited the introduction of misbranded or adulterated goods into interstate commerce. A violator could be fined up to 200 dollars for the first offense. For the second, a 300 dollar fine and a maximum prison sentence of one year could be

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191. 175 F. 299, 301 (E.D. Pa. 1910).

192. Packer, *Mens Rea and the Supreme Court*, 1962 SUP. CT. REV. 107.

imposed. But the effectiveness of these penalties may be questioned. During its first twenty-eight years, not one person served a prison sentence for violating the Pure Food and Drug Act.<sup>193</sup> Only three prison sentences were imposed and all three were suspended by the court and the parties put on probation. Lee notes that if the fines were low their "payment . . . amounted to a small license fee for doing the illegal business."<sup>194</sup> If the fines were high, they were usually remitted by the courts.<sup>195</sup>

Why are courts and juries unsympathetic to strict criminal liability? The general reason appears to be that the penalties are too heavy in view of the options reasonably available to the defendant. The attempt to support strict criminal liability on the ground that courts use discretion in applying criminal penalties subverts accepted criminal theory; harsh or oppressive laws cannot be justified by assuming that judges will apply them in a lenient manner.

Legislatures should carefully weigh these considerations before adopting strict criminal liability as a practical incentive to improve product safety. Because food, drugs, and cosmetics present the strongest case for imposing strict criminal liability, any reason for rejecting it for those products would seem to apply with even greater force to other household products.

On closer examination the issue of whether to adopt "strict criminal liability" or "criminal liability requiring mens rea" in a particular case appears to be a false one, because it cannot be resolved until the content of mens rea has been defined for that context. What appears to be a simple choice between two clear-cut alternatives is a more complicated choice among several. At the one extreme, the guilty mind consists, as some authorities contend, solely of wilfulness or wantonness.<sup>196</sup> Under this approach, "strict criminal liability" consists of criminality based on actions not involving either state of mind; thus, it would include criminality based on other states of mind such as carelessness.

At the other extreme, mens rea is often loosely defined as the state of mind necessary to criminality in the particular case. This includes not only wilfulness and wantonness but ordinary carelessness and mere knowledge of significant facts. In this sense, every crime involves mens rea, because it pre-supposes some minimum awareness by the criminal of the factual environment in which he is acting. Indeed, in the field of product safety, criminal liability, no matter how strict, would be almost

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193. Lee, *The Enforcement Provisions of the Food, Drug, and Cosmetic Act*, 6 LAW & CONTEMP. PROB. 70, 77, 78 (1939).

194. *Id.*

195. Was there no workable middle range?

196. J. HALL, *supra* note 184, at 325-26.

inconceivable where, for example, the defendant had no reason to know of the hazardous use to which the consumer was putting his product. So broad a concept as mens rea leaves "strict criminal liability" nothing to which it can be applied beyond the pure accident. For this, criminal liability would, of course, make no sense.

Fortunately, it is unnecessary in the present study to resolve the current uncertainties respecting the most appropriate definition of mens rea and the comparable concept underlying strict criminal liability. The important problem is to determine for each kind of undesirable conduct, and for each proposed sanction, what state of mind or knowledge it is appropriate to require as a condition precedent to criminal responsibility.

Among other things, such a determination is conditioned by developing ideas of substantive due process. As the state of mind or knowledge presumed by a proposed criminal statute becomes more attenuated, the likelihood increases that a problem may arise under the Constitution. Cases such as *Robinson v. California*,<sup>197</sup> and the developing body of doctrine that it has produced, increase the likelihood that a criminal statute that fails to take into account basic notions of criminal responsibility will be struck down. What minimum mental element will ultimately be required for public welfare legislation involving defective products has yet to be clearly defined.

To condition criminality solely on the wilfulness or wantonness of the accused would be to fail to provide an effective incentive in areas where civil and other noncriminal sanctions or approaches are operating inadequately, *e.g.*, where the likelihood of a successful civil action is seriously prejudiced by the difficulty of tracing a particular consumer injury to the offending product. In such cases, it might be desirable to erect a criminal counterpart to strict civil liability. Here the sanction could be tailored to the particular need and to the abilities of the criminal to respond to it in the desired way. The causal difficulty of tracing a known product defect to its specific source would, of course, remain.

One of the weaknesses of strict criminal liability is the fact that the stigma of criminal culpability, which Horack emphasizes as one of the most effective incentives to compliance, is likely to be diluted as the concept of criminality is extended to actions not involving culpability and its accompanying moral taint. This has been forcefully stated by Hall:

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197. 370 U.S. 660 (1962), discussed in Packer, *Making the Punishment Fit the Crime*, 77 HARV. L. REV. 1071 (1964). With respect to vagrancy, see *Fenster v. Leary*, 20 N.Y.2d 309, 229 N.E.2d 426, 282 N.Y.S.2d 739 (1967). With respect to public intoxication, see *Driver v. Hinnant*, 356 F.2d 761 (4th Cir. 1966) and *Easter v. District of Columbia*, 361 F.2d 50 (D.C. Cir. 1966). *But see* *United States v. Dotterweich*, 320 U.S. 277 (1943), discussed in Packer, *supra* note 192; *United States v. Balint*, 258 U.S. 250 (1927).

“[p]aramount in any realistic appraisal is that the stigma ordinarily attached to a conviction is vitiated by the knowledge that neither moral culpability nor negligence is implied.”<sup>198</sup> What this means in practical effect is that, in the area in which strict criminal liability operates, it must be supported by deterrents other than severe legal sanctions and the practical stigma attaching generally to criminality. Even if there is some immediate carry-over here so that some stigma results, ultimately the semantic currency is debased. So what sanctions are left?

In most cases, the sanction of imprisonment would be too harsh, but a reasonable range of fines sufficiently heavy to avoid ineffectual leniency might not. Imprisonment could thus be reserved for crimes involving, as a minimum, the most extreme consumer hazards or actions involving wilfulness or wantonness. On this basis, a legislature could carefully select the elements of knowledge considered relevant to the circumstances at hand. The problem here closely parallels the problem in defining “defectiveness” for the purposes of strict civil liability in the case of products that actually harm the consumer.<sup>199</sup>

Again, a limiting factor is the thought that society should not punish someone for failing to produce a perfect product. Perfection in manufacturing is impossible no matter what degree of care is attempted at each state of production. Perfection in design, too, is often impossible. Deterrent influences can go only so far. Criminal liability can provide no more than an incentive and an incentive should not be disproportionate to what is reasonably attainable. The severity of criminal sanctions should be decreased as the approaches to perfection offer smaller and ultimately negligible opportunities for success.

Even with this reservation, one requirement for criminal legislation might be that the manufacturer or distributor sell only products reflecting the current state of the safety art. If new designs or ingredients, or methods of inspection, testing, or production, that would significantly lessen the possibility of harm to the consumer are both available and economically feasible, product hazards resulting from a failure to adopt them could be considered a basis for criminal responsibility. Although this would not require perfection, it would constitute a defensible type of “strict criminal liability.” However, violation of such a duty would seem to call for the imposition of a sanction no heavier than a reasonable fine. Ideally, the fine should be severe enough to put the defendant under a competitive handicap if he tries to pass it on to the consumer but not so severe as to risk putting him out of business. Practically, it will be hard

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198. J. HALL, *supra* note 184, at 346.

199. See Dickerson, *Products Liability: How Good Does a Product Have To Be?*, 42 IND. L.J. 301 (1967).



for a legislature in defining ranges of fines, and for a court in applying them, to make adequate factual appraisals. As in so many places in the law, the determination in each case may have to rest on a rough estimate.

In a case such as this, the reason for adopting strict criminal liability is not that mens rea is hard to prove but that mens rea in the traditional sense of wilfulness or wantonness, or even ordinary carelessness, simply does not exist. Note, too, that this kind of situation does not involve pure accident. Another approach is to say that the traditional content of mens rea should be extended to include the kind of mental element involved here.

A less drastic requirement would be to require the seller to meet the safety standards current in the industry. A violation of this traditional notion of due care would seem to call, again, for a fine, and not imprisonment. The latter could well be reserved for the intentional or wanton introduction of product defects—action involving traditional elements of mens rea. This, of course, would not include cases where for defensible economic reasons the manufacturer intentionally refrained from adopting approaches that, although known to scientists, had not been adopted by the industry.

Thus, it would appear that a criminal sanction should not be imposed unless it is likely to serve as an effective and fair incentive to improve household product safety. Although the threat of a civil action may be an effective deterrent in product cases in which the injured consumer can successfully trace his injury to the defendant's product, there are many types of defects for which the difficulties of proof of causation make the civil action inadequate. It is here that criminal sanctions have their greatest appeal.<sup>200</sup>

## 2. *Non-Criminal Governmental Sanctions*

### (a) *Licensing: Revocation*†

Governmental approval, as expressed in a license, permit, or certifi-

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200. For further information regarding this subject, see P. ARENS & H. LASSWELL, *IN DEFENSE OF PUBLIC ORDER—THE EMERGING FIELD OF SANCTION LAW* (1961); A. BECHT & F. MILLER, *THE TEST OF FACTUAL CAUSATION IN NEGLIGENCE AND STRICT LIABILITY CASES* (1961); J. FORDHAM, *THE STATE LEGISLATIVE INSTITUTION* (1959); J. HALL, *GENERAL PRINCIPLES OF CRIMINAL LAW* (2d ed. 1954); F. HORACK, *CASES AND MATERIALS ON LEGISLATION* (2d ed. 1954); *The Imposition of Punishment by Civil Courts: A Reappraisal of Punitive Damages*, 41 N.Y.U.L. REV. 1158 (1960), reprinted in 17 LAW REV. DIGEST 60 (1967); Lee, *The Enforcement Provisions of the Food, Drug, and Cosmetic Act*, 6 LAW & CONTEMP. PROB. 70 (1939); Packer, *Mens Rea and the Supreme Court*, 1962 SUP. CT. REV. 107; Sand & Weisburg, *Translating Sympathy for Deceived Consumers into Effective Programs of Protection*, 114 U. PA. L. REV. 395 (1966); L. Wolfram, *Guilt Without Guilty Intent—Strict Liability Food Laws*, 10 FOOD DRUG COSM. L.J. 351 (1955).

† By Alan N. Baker.

cation, is a condition precedent to engaging in many activities. Such approval may relate to the entire professional activities of the licensee, as in the case of a physician, or it may be more narrowly drawn to relate to only a specific activity, as in the case of the manufacture of a particular drug. Because the Government may withhold its approval or withdraw it after it has been granted, the power to grant licenses is an effective sanction for the enforcement of standards sought to be imposed on the licensee.<sup>201</sup> Whether or not the sanction may be effectively used in the interests of product safety is the question to be considered here.

Three main advantages attach to the licensing sanction. First, it is a preventive sanction since it operates prospectively. By prohibiting all unlicensed activity, whether or not otherwise unlawful, licensing tends to minimize harmful conduct not within the reach of other sanctions because of its obscurity or because of ignorance of its specific harmful effects. Second, licensing shifts to the licensee the burden of establishing compliance with governmental policies. This is especially desirable where critical information relating to the licensed activity is peculiarly within his knowledge and control. Third, a licensing statute is often regarded as a declaration that the regulated activity is a "privilege" rather than a "property right," which has often made the courts more receptive to strict government regulation.<sup>202</sup>

On the other hand, the advantages of licensing an activity may be outweighed by the administrative burdens that must be borne by the Government and the private interests involved. The necessity of prior approval also tends to delay the public's enjoyment of the benefits of the activity.

Despite these limitations, there has been an increasing use of the licensing sanction,<sup>203</sup> which indicates that the advantages of licensing have often been found to outweigh the disadvantages.<sup>204</sup> For instance, where circumstances dictate that only one person or a limited number of persons may engage in a particular activity, contests among applicants may be resolved through the licensing procedure. This method is used by the Federal Communications Commission in the allocation of broadcast frequencies. Also, a particular activity may require a high degree of skill or competence and present opportunities for misconduct so varied and complex that it would be impossible to prescribe them specifically; the

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201. See generally J. LANDIS, *THE ADMINISTRATIVE PROCESS* 117-118 (1938).

202. See K. DAVIS, *ADMINISTRATIVE LAW* § 7.19 (1959) for a critique of the disappearing "right-privilege" distinction.

203. See Warp, *Licensing as a Device for Federal Regulation*, 16 *TUL. L. REV.* 111 (1941).

204. See Moore, *The Purpose of Licensing*, 4 *J. LAW & ECON.* 93 (1961), where it is observed that the raising of revenue is also an important factor in licensing.

professions are such activities and they have been regulated by licensing. In some circumstances the extreme gravity of the harm to be prevented, apart from other considerations, is sufficient to justify a requirement of prior approval. For example, the hazards of constructing a nuclear reactor are so great that the approval of the Atomic Energy Commission must first be obtained.

In considering whether or not the licensing sanction or other prior-approval procedure would be a workable device for product safety legislation, it is useful to examine the Federal Food, Drug, and Cosmetic Act, which deals with problems of consumer protection that are generally similar to those that are involved in the regulation of household products. Clearly, the magnitude of the potential harm in the food and drug area is very large, as is shown by the tragic consequences of the use of the drug thalidomide. Indeed, the fact that the drug was not approved by the Food and Drug Administration and, therefore, was not generally in use in the United States, reflects the effectiveness of the licensing sanction. Because of the possibility of great harm to the public health and because of other factors mentioned below, licensing has been used extensively as a sanction in the food and drug laws. Ever since the enactment of the current Act in 1938, Congress and FDA have brought about a marked "change in the thrust of administrative activities from the originally intended purpose of 'policing' (using court techniques of seizure, injunction, and criminal prosecution) to 'licensing' activities requiring prior approval before the sale or distribution of the product involved."<sup>205</sup>

Under the food and drug laws, a multitude of items must be licensed before they may be introduced into interstate commerce. Most licenses deal not with the over-all business of the licensee but with specific areas of the business or even with specific acts. For example, because of the likelihood that defects may arise in the manufacture of insulin, section 506<sup>206</sup> requires certification by FDA on a "batch-by-batch" basis; section 507<sup>207</sup> makes similar provision for antibiotics.<sup>208</sup> When the hazard may result not from faulty manufacture but from lack of knowledge of the nature of a newly-discovered drug, section 505<sup>209</sup> requires that the manufacturer obtain a license and a manufacturing

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205. Fisher, *Procedural Techniques in Food and Drug Administration Proceedings*, 17 FOOD DRUG COSM. L.J. 724, 725 (1962) (parenthetical in original).

206. 21 U.S.C. § 356 (1964).

207. 21 U.S.C. § 357 (1964).

208. See Duckworth, *Antibiotic Certification—A Reappraisal After Sixteen Years' Experience*, 17 FOOD DRUG COSM. L.J. 229 (1962).

209. 21 U.S.C. § 355 (1964).

quota from FDA before making the new drug available to the public.<sup>210</sup>

For food additives, food colorings, and pesticides, licensing is in effect required even though the statutory mandate is couched in terms of conventional rule-making or the promulgation of regulations. According to the statutory scheme, such an article may not be introduced into interstate commerce unless it is the subject of a "regulation" promulgated by the Secretary of Health, Education, and Welfare. In practice, such a regulation is issued only when a particular manufacturer has petitioned for one, because in most instances the petitioning manufacturer is the only person interested in using the additive or pesticide in question. Because the item may not be shipped without a regulation, the practical effect of the procedure is to require prior approval for food additives, just as a license and a manufacturing quota are required for new drugs. Thus, "much of the so-called rule-making is indistinguishable from adjudicatory licensing proceedings."<sup>211</sup>

Section 404<sup>212</sup> provides still another type of licensing. Whenever the Secretary of Health, Education, and Welfare finds that local conditions, such as an epidemic, make it likely that a class of food manufactured or processed in the locality will become unfit because of "contamination with micro-organisms," he may require all manufacturers of that class of food in the locality to obtain "emergency permits." Permits are issued only to manufacturers who comply with regulations issued by the Secretary to deal with the emergency condition.

The number of items now required to be licensed under the food and drug laws is very large. A particularly broad category is that of "food additives," which includes almost any ingredient or component of food, whether intended for consumption by humans or by animals, food packaging materials, and even radiation processes, unless the substance or process is one "generally recognized as safe" by the medical profession. Briefly, "all new food ingredients for man and animals are now subject to prior approval."<sup>213</sup> There is also a large number of new drug petitions each year.

Licensing is required so extensively under the food and drug laws

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210. See Cavers, *Administering That Ounce of Prevention: New Drugs and Nuclear Reactors*, 68 W. VA. L. REV. 109, (1966), 21 FOOD DRUG COSM. L.J. 455, 478 (1966).

211. Fisher, *Procedural Techniques in Food and Drug Administration Proceedings*, 17 FOOD DRUG COSM. L.J. 724, 725 (1962). Mr. Fisher does not dispute that these items should be "licensed," whatever the process is called, but he does contend that these "regulations" cases should be treated as "adjudication" rather than "rule-making" under the Administrative Procedure Act.

212. 21 U.S.C. § 344 (1964).

213. Austern, *Sanctions in Silhouette: An Inquiry into the Enforcement of the Federal Food, Drug, and Cosmetic Act*, 51 CALIF. L. REV. 38, 42 (1963), 18 FOOD DRUG COSM. L.J. 617 (1963).

that a heavy burden is placed upon industry and the Government in complying with the statute. Although a large portion of the expenses, time, and effort of licensing is spent in investigating articles that turn out to be unobjectionable, it does not follow that it is wasted.

The burdens of licensing must be justified by the gravity of the harm sought to be prevented: serious injury to the public health. Because the goal of other product safety legislation appears to be substantially the same, it might be suggested that some form of prior approval of new products, new processes, or new designs be included in the arsenal of sanctions in the regulation of other household hazards. However, the analogy to the food and drug laws may be drawn too closely because there are other factors in the food and drug field, described below, that make the licensing sanction peculiarly appropriate there. These factors are not present to the same degree in the case of most other hazardous household goods.

First, the likelihood that a new food additive or a new drug will prove to be seriously unsafe is much greater than the possibility that a particular household product will present a comparable hazard. Many thousands of relatively harmless products are produced each year and, measured in significant hazards, the expenditure of time and effort in investigating clearly safe household products would be proportionately much greater than in the case of foods and drugs. Although it is possible to characterize some types of products as more likely to involve serious hazards than others, by the time such a determination has been made there is usually enough information to enable the Government to establish standards and impose less drastic sanctions.

Second, it is often hard to determine whether or not a food or drug is, in fact, injurious to health. Where the determination must be made over a long period, the licensing process is useful in that it protects the public during the time between discovery or development of the product and ascertainment of its hazardous nature. On the other hand, other household product hazards, even those whose characteristics are not readily discoverable by the average consumer, may be more readily identified by experts and there is consequently less need for interim protection of the consumer.

Third, there is often a considerable time lag between the marketing of a new food or drug and the discovery of its harmful effects. This lag may reflect the gradual process by which the product affects its victims or the difficulty, once the effects have been discovered, of identifying the offending element. Without a requirement of prior approval, the Government could not move to eliminate a hazard until many persons had been injured by the unlicensed product. Among most household products,

however, there are few creeping hazards and there is usually little difficulty in tracing an injury to its source. In such cases, the Government may appropriately dispense with prior approval and act only upon discovery of the hazard after its introduction to the public.

Fourth, the development of a new drug usually follows many years of research into its effectiveness and, even if only incidentally, into its safety. Licensing procedures have served to require the manufacturer to disclose the results of this research (the duplication of which by the Government would be very costly) and to bear the burden of establishing that his drug is safe. On the other hand, information on possible hazards in household products is not usually within the exclusive control of the manufacturer; the hazard is often apparent upon physical examination of the product.

If this analysis is sound, there is no justification for a comprehensive scheme for licensing the manufacturing or marketing of household products. Specific types of products might, of course, be found to present circumstances comparable to those relating to foods and drugs, but these do not appear to include any of the products included in this study. (Prior approval is already given to some of these products by private organizations such as the Underwriters' Laboratories.) Despite the possibility of exceptions, there appears to be little need for the licensing sanction in the field of household product safety. Consequently, because of its great cost in time, money, and effort and the severe burden that it imposes on the manufacturers, this sanction should be used sparingly.

(b) *Seizure; Special Public Injunction*†

In many instances Congress has provided for the seizure of property by government officials as a means of enforcing laws regulating the conduct of the owners or possessors of that property. Sometimes the objects seized are the instrumentalities of crime, such as counterfeiting paraphernalia<sup>214</sup> or gambling devices.<sup>215</sup> In other instances the items seized are articles of trade that have been transported in violation of a federal statute regulating interstate commerce.

Many kinds of governmental action are included in the general term "seizure." At one end of the spectrum is the summary taking and destroying of property without compensation and without an administrative or a judicial hearing to determine the validity of the Government's action. Such a procedure was held not to violate the due process clause of the Constitution in a 1908 Supreme Court case<sup>216</sup> in which health

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† By Alan N. Baker.

214. 18 U.S.C. § 492 (1964).

215. 15 U.S.C. § 1177 (1964).

216. *North American Cold Storage Co. v. Chicago*, 211 U.S. 306 (1908).

inspectors entered a meat warehouse, determined that some of the chickens stored there fell within the statutory classification "putrid, decayed, poisoned, and infected," and destroyed them on the spot. The opinion emphasizes clearly, however, that putrid chickens are an inherent threat to the public health and that such chickens have no appreciable "salvage value." Where there is no imminent danger to health from the mere existence of the property or where the property has some salvage value or may be restored or repaired, such a summary taking and destroying would be of doubtful validity.

Seizure under modern regulatory statutes avoids constitutional complications by using a more refined procedure. The property is temporarily confiscated pending a judicial determination of whether it has in fact been introduced into interstate commerce in violation of the law and the court decides what disposition shall be made of it. Partly because of legal tradition and partly because of practical necessity, proceedings against such goods are brought by libel of information as in admiralty. Two such provisions that are particularly relevant to hazardous household products are section 304 of the Federal Food, Drug, and Cosmetic Act<sup>217</sup> and section 6 of the Hazardous Substances Labeling Act.<sup>218</sup> The discussion that follows is intended to show that similar statutory sanctions would be helpful in certain areas of product safety but that other sanctions would be more appropriate in other circumstances.

Each of these statutes provides that articles introduced into interstate commerce in violation of specified sections of the statute ". . . shall be liable to be proceeded against in interstate commerce, or at any time thereafter, on libel or information and condemned in any district court of the United States within the jurisdiction of which the article is found."<sup>219</sup> Upon the filing of the libel by the Attorney General, the court issues process by which the property is seized and brought within the control of the court. The claimant (the person from whom the property has been taken) may before trial obtain samples of the seized items for the purpose of preparing his case.

The trial on the merits is conducted, so far as possible, according to the rules of admiralty, with the important exception that issues of fact are tried by a jury on request of either the Government or the claimant. If at the trial the property is in fact condemned, the court may dispose of it in several ways. It may order the property destroyed; it may order it sold, with the proceeds of the sale to be paid to the Government; or, if the claimant has paid the costs of the action and executes a bond conditioned

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217. 21 U.S.C. § 334 (1964), *as amended*, 79 Stat. 232 (1965).

218. 15 U.S.C. § 1265 (1964).

219. 21 U.S.C. § 334(a) (1964), *as amended*, 79 Stat. 232 (1965).

on the property not again being introduced into interstate commerce in violation of the statute, the court may order the property to be returned to him either to be destroyed or to be changed to comply with the applicable statutory provision.

Seizure and condemnation have been an effective means of enforcing the food and drug and the hazardous substances laws, particularly when used against fly-by-night operators and small-scale purveyors of quack medicines. Such persons are often able to evade the in personam processes of the court; even if a restraining order is issued against them, they are often willing to risk contempt charges by violating it. In the case of such small-scale operators, the consumer is not protected adequately even though the offender is ultimately punished. The consumer interest requires here that the most efficient available sanction—seizure and destruction of the harmful or deceptive items—be used.

Most of the hazardous products studied in this Report are made by large and generally reputable manufacturers who can be expected to obey, however reluctantly, administrative orders or judicial decrees. The adverse public reaction to disobedience would make it unprofitable to try to evade such official commands. The less reputable manufacturers, however, might risk the gamble and in extreme cases the seizure sanction should be used to deprive them of the opportunity. Consequently, most regulatory product-safety legislation should have a seizure provision similar to that in the Federal Food, Drug, and Cosmetic Act.

In many areas of product safety, however, actual use of the seizure sanction would be either impractical or unnecessary. Hazardous household products, unlike adulterated food, may have an appreciable salvage value. Indeed, many of the present product studies show that the cost of eliminating a hazard is often slight. Destroying such items would be wasteful, and selling them for the benefit of the United States Treasury would be widely criticized as unsuited to the offense. In most cases, then, seizure would result in a return of the product to the manufacturer on condition that he comply with the applicable safety criteria. This libel-seizure-condemnation-return procedure would be primarily a supplement to the more direct sanction of ordering the manufacturer to change the product before sale. Although seizure should be used only on rare occasions, its availability would be a powerful bargaining weapon for government representatives seeking voluntary compliance.

Full use of the seizure sanction against hazardous household goods may be impractical as a result of physical limitations. Most of the hazards studied in this report involve defects of design, rather than defects resulting from careless manufacture. Design defects are duplicated in thousands of units scattered across the country and it would be



impossible for government agents to locate all of them, much less take possession of them.

Although circumstances may preclude the actual seizure of many items, a court of equity can nevertheless remove the goods from circulation. The regulation of motor vehicle safety presents the same problems. Section 109(b) of the National Traffic and Motor Vehicle Safety Act of 1966 provides :

[t]he United States District Courts shall have jurisdiction . . . to restrain violations of this title, or to restrain the sale, offer for sale, or the introduction or delivery for introduction, in interstate commerce, or the importation into the United States, of any motor vehicle or item of motor vehicle equipment which is determined, prior to the first purchase of such vehicle in good faith other than for resale, not to conform to applicable Federal motor vehicle safety standards. . . .<sup>220</sup>

The statute further provides that in such cases the manufacturers or distributors must either repurchase the automobiles still in the hands of dealers, paying all expenses, or pay the dealers for making any necessary modifications.

This kind of provision has much to recommend it. It seems unlikely that a large manufacturer would try to violate a federal injunction. Local dealers, of course, might be tempted to ignore the injunction and make isolated sales or even create a temporary "black market" in vehicles but for the fact that the statute removes the economic motive by providing that the manufacturer must repurchase the automobiles from the dealer at the full price paid, which may be higher than the going price because the publicity incident to the issuance of the injunction tends to depress the prices that consumers are willing to pay. This provision, by the common device of injunction, prevents further entry of the vehicles into the consumer market just as effectively as if they had been physically seized by the Government.

This efficiency is achieved, of course, only by placing the heavy burden of repurchase on the manufacturer. However, this is not an unjust burden because the safety of the vehicle and compliance with safety standards (which according to the Act are to be set well in advance) are within the exclusive control of the manufacturer. In estimating the weight of the burden it is also significant that this is a sanction intended as a deterrent to non-compliance and should be seldom invoked. The only real burden on the manufacturer is the burden of compliance

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220. 80 Stat. 774 (1966).

with the safety standard, which is the object sought to be achieved by all the sanctions discussed in the Report.

A provision similar to that described above should be included in all legislation controlling hazardous household products. As in the Traffic and Motor Vehicle Safety Act, it should be applied only where the manufacturer is violating a definite standard for which he has had time to prepare. The burden of repurchase would probably be oppressive if it came as a surprise to a manufacturer who had no reason to believe that his product was unreasonably hazardous.

The merits of such a provision are that it (1) solves the problem of protecting the consumer from the continued distribution of a product known to be hazardous in situations where seizure is impossible, and (2) places the loss occasioned by the hazard on the manufacturer, even where the goods are in the hands of wholesalers or retailers.

Nearly all the sanctions discussed in this Report are punishments of the wrongdoer and protect the consumer only against future violations by the manufacturer or others who may respond to the deterrent effect of his punishment. Seizures and injunctions against future sale, however, are directed not only at the wrongdoer but also at the product itself. They operate to protect the consumer retrospectively by removing from the market products that have already been produced and that otherwise might be sold by unscrupulous or unknowing distributors. This is the great advantage of these sanctions.

(c) *General Public Injunction*†

Injunctions imposed as the result of governmental action can take two general forms: (1) the “public nuisance” action brought by a public official in the name of the state for the benefit of the public, and (2) the administrative action.

The “public nuisance” type of action has been used under statute by public prosecutors and similar officials to enjoin such nuisances as dumps and dance halls. Because the courts have generally held that an individual may not maintain an action for injunction where the only injury shown is one that he suffers in common with the public, statutes have authorized various public officials to proceed in such cases. The public official can bring an action similar to one that could be brought by an individual on a showing of special injury.<sup>221</sup>

Action by the state to enjoin a public nuisance must be under specific statutory or constitutional authorization. The Indiana statute on injunctions is perhaps typical of state regulation in this area. It provides

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† By Donald C. Bussell.

221. For a discussion of private injunctions, see VII(F) (3) (c), *infra*.

that “. . . whatever is injurious to health, or indecent, or offensive to the senses, or an obstruction to the free use of property, so as essentially to interfere with the comfortable enjoyment of life or property, is a nuisance, and the subject of an action.”<sup>222</sup> Although this statute authorizes an individual to bring a private action to abate a private nuisance, the Indiana courts have held that only the state may bring an action against a public nuisance. An individual may not bring such an action where the only injury he suffers is one in common with the public; he must show special injury.

To be a “nuisance,” a hazardous condition must be proximate to the persons affected; to be a “public nuisance,” the condition must either annoy the part of the public that comes in contact with it or obstruct the free use of property by a community or neighborhood. Thus, a crumbling building is a “public nuisance” because it presents an immediate hazard to anyone in the vicinity. A leaking sewer is a “public nuisance” because it is a health hazard to all who live in the immediate area.

On the other hand, unsafe products are seldom a hazard to an entire neighborhood; they are more likely to be a hazard, in the normal sense, to those who actually use them. For example, a faulty glass door is a hazard only to those who frequent the house where the door is. Therefore, if the concept of “public nuisance” is to be a useful one in the product safety area, there must be either an expansion of its content or a broader view taken of what constitutes a hazard to the public.

Under an expanded view, the public nuisance would not consist of the actual use of an unsafe household product but would consist of the fact that a broad hazard is imposed on the public by the sale or offer for sale of an unsafe product. Such a hazard would extend beyond the individual to all members of the consuming public. The public nuisance would consist of exposing the community to the danger that an individual might buy an unsafe product. The hazard would exist whether or not any member of the community actually bought or used the product.

If the courts were to accept this reasoning, actions could be brought under present law by the statutorily designated public officials to prevent the sale of any product that a court found to be unsafe. However, it would be hard to persuade a court that a product was a “public” nuisance merely because it might be bought by a member of the community who might then be injured by it. Legislation, therefore, would probably be necessary.

An injunction that was brought against a manufacturer by a public official would have substantially the same effect as an injunction granted

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222. IND. ANN. STAT. § 2-505 (Burns 1946 Repl.).

in a private action. A sanction that prohibited a manufacturer from producing a product in which he had invested thousands of dollars could be very harsh. Hardest hit by such a sanction would be the small manufacturer who had only a limited range of products. Enjoining even one product might put such a manufacturer out of business, because many tools are highly specialized and not adaptable for making other products. However, it seems unlikely that a product would be found unsafe in its entirety and thus prohibited. In most cases an injunction could be directed toward a particular part of the design, which might be changed to meet the standards.

The greatest hardship of adopting an enforcement system that regularly used the injunction would occur during the initial periods when manufacturers would be required to make the greatest changes. After safety criteria had become well established, new products could be designed and developed with these criteria as guides.

A course of action that seems to be more in line with the present trend of legislation would be the creation of an administrative board in the specialized area of product safety. Such a board could issue an order to the manufacturer to cease manufacturing that product so long as it contained the defect. Accompanying the order could be a description of the defect as determined by the board. The normal administrative appeal system could then be used by the manufacturer. Such a system would have an advantage over the court determination in that the order would be more specific and the manufacturer would have the opportunity to remove the defect and continue manufacturing. An additional advantage of such an agency would be that its personnel could be drawn from a group of persons with specialized knowledge, and a permanent staff could constantly review products that were offered to the consumer.<sup>223</sup>

#### (d) *Import Controls*†

Today, many household products used by the consumer are made abroad and imported into the United States. The following table gives examples of the volume (in millions of dollars) of household products imported.<sup>224</sup>

<i>Manufactured Goods</i>	1958	1959	1960	1961	1962	1963	1964	1965
Glass, glassware, and pottery	100	143	142	127	143	140	164	168
Clothing	174	259	309	259	368	395	451	543

223. For further information, see IND. ANN. STAT. §§ 2-505, 507 (Burns 1964 Repl.); 73 C.J.S. *Public Administrative Bodies and Procedure* (1951); 66 C.J.S. *Nuisances* (1950).

† By Lewis E. Bloom.

224. UNITED STATES DEPARTMENT OF COMMERCE, BUREAU OF THE CENSUS, STATISTICAL ABSTRACT OF THE UNITED STATES, 1966, at 833.

Sound reproducers, musical instruments and parts	19	30	47	63	68	92	118	157
Rubber and plastic goods	27	54	50	52	62	73	99	118
Toys, games, and sporting goods	33	49	84	85	109	124	141	155
Floor coverings and tapestries	35	53	58	54	57	45	54	54

In any undertaking to protect the consumer against hazardous household products, the role of the imported household product must be considered. If a product is so hazardous that it should be prohibited, if regulations should be prescribed for its manufacture, or if labelling or design changes should be required, the product's importation, as well as its domestic production, should be controlled. To allow a product to be imported into the United States when it does not meet the requirements of safety applicable to domestically produced products exposes the consumer to the hazards sought to be prevented; it is also unfair to the United States manufacturer. These principles were recognized in the Federal Food, Drug, and Cosmetic Act;<sup>225</sup> the Flammable Fabrics Act;<sup>226</sup> and the Federal Hazardous Substance Act.<sup>227</sup>

Under the Federal Food, Drug, and Cosmetic Act, the Secretary of Health, Education, and Welfare may provide for the examination of samples of food, drugs, devices, and cosmetics that are imported or offered for importation into the United States. If it appears from an examination of these samples or otherwise that the article (1) has been processed under unsanitary conditions, (2) is forbidden or restricted in sale in the producing or exporting country, (3) is adulterated or misbranded, or (4) violates the section on new drugs,<sup>228</sup> the article must be refused admission. The Secretary of the Treasury must have the refused articles destroyed unless they are exported.<sup>229</sup>

Pending a decision as to the eligibility for admission of an article, the Secretary of the Treasury may authorize delivery of the article to an owner or consignee who has executed an adequate bond for the payment of liquidated damages in the event of default. If the Secretary of Health, Education, and Welfare believes that an article that is adulterated or misbranded or violates the section on new drugs can, by relabelling or other action, be made to comply with the Act or changed so that it is no longer a food, drug, device, or cosmetic, final determination as to admission may be deferred and the Secretary may, on application, authorize the owner to relabel or take other action. This authorization may include

225. 21 U.S.C. § 301-92 (1964).

226. 15 U.S.C. § 1191-1200 (1964).

227. 15 U.S.C. § 1261-1273 (1964).

228. 21 U.S.C. § 355 (1964).

229. 21 U.S.C. § 381(a) (1964).

destruction or export of all or part of the rejected articles.<sup>230</sup>

Under the Flammable Fabrics Act, the importation of wearing apparel that is so highly flammable as to be dangerous when worn by individuals is forbidden.<sup>231</sup> The Federal Trade Commission may take action in any district court of the United States to seize and confiscate any article of wearing apparel or any fabric that the Commission has reason to believe violates the Act.<sup>232</sup> The Act also provides that a person who has exported or tried to export such a product from any foreign country into the United States may be prohibited by the Federal Trade Commission from importing wearing apparel or fabrics, unless he files a bond with the Secretary of the Treasury in a sum twice the value of the products and any applicable duty. This bond is conditioned on compliance with the Act.<sup>233</sup>

Under the Federal Hazardous Substances Act, the importation of any misbranded package of a hazardous substance is forbidden.<sup>234</sup> The Secretary of Health, Education, and Welfare may request the Secretary of the Treasury to deliver to him samples of hazardous substances that are being imported or offered for importation into the United States. If it appears from an examination of the samples or otherwise that the hazardous substance is in misbranded packages or in a food, drug, or cosmetic container, the hazardous substance shall be refused admission. The Secretary of the Treasury must cause the destruction of any hazardous substance refused admission, unless it is exported.<sup>235</sup> Pending a decision as to the eligibility for admission of a hazardous substance, the procedures for delivery to the owner or for relabelling closely parallel those available when the eligibility of articles subject to the Federal Food, Drug, and Cosmetic Act is being considered.<sup>236</sup>

Any legislation protecting consumers against product hazards should provide for import control. The Act should provide for testing the products, seizing unlawful imports, and giving the importer an opportunity to conform to the applicable requirements. The import provisions of the Federal Food, Drug, and Cosmetic Act, the Flammable Fabrics Act, and the Federal Hazardous Substances Act furnish models for such legislation.

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230. 21 U.S.C. § 381(b) (1964).

231. 15 U.S.C. § 1192 (1964).

232. 15 U.S.C. § 1195(b) (1964).

233. 15 U.S.C. § 1198 (1964).

234. 15 U.S.C. § 1263 (1964).

235. 15 U.S.C. § 1273(a) (1964).

236. 15 U.S.C. § 1273(a) (1964); a discussion of this procedure follows note 229, *supra*.

*(e) Adverse Publicity*†

On November 10, 1959, the Secretary of Health, Education, and Welfare announced at a press conference that his investigators had discovered the presence of aminotriazole in a large segment of that year's crop of cranberries. Aminotriazole, the Secretary said, was a substance known to induce cancer in laboratory animals. This unsettling disclosure, partly because of the abrupt and dramatic manner in which it was made, had a marked influence on the consumer; very little of the 1959 cranberry crop found its way to the nation's Thanksgiving and Christmas dinner tables and eighty-six percent of it was never sold.

The Secretary's cranberry message is the most notable example of the use of the "direct" publicity sanction. This is an announcement made solely to generate adverse publicity in the hope that protection of the public can be achieved without other governmental action. In the cranberry affair, the Secretary was acting under section 705 of the Food, Drug, and Cosmetic Act, which authorizes him to ". . . cause to be disseminated information regarding food, drugs, devices, or cosmetics in situations involving, in the opinion of the Secretary, imminent danger to health or gross deception of the consumer."<sup>237</sup> The power to make such announcements and to disseminate information is, however, an inherent one and express statutory authorization is unnecessary; indeed, even section 704 has been said to be superfluous.<sup>238</sup>

Apparently, the only restraint on the use of the direct publicity sanction is the judgment and good faith of the administrator who wishes to use it. The courts have long regarded the dissemination of information as a purely discretionary act. Consequently, public announcements cannot be enjoined, nor can later proceedings be brought for damages against the officer making the announcement, on libel or any other theory.<sup>239</sup> Furthermore, because the mere dissemination of information does not direct or forbid anyone to do anything and does not adjudicate any legal relation or claim, it has no recognized legal effect. It is not the kind of governmental action to which the law attaches a right of judicial review, a requirement of notice or hearing, or any other of the customary safeguards against unwarranted administrative action.

On the other hand, the practical effect of the direct publicity

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† By Alan N. Baker.

237. 21 U.S.C. § 375 (1964).

238. See, e.g., *Hoxsey Cancer Clinic v. Folsom*, 155 F. Supp. 376 (D.D.C. 1957).

239. The most significant case in this area is *Barr v. Matteo*, 360 U.S. 564 (1959), which held that former government employees could not maintain a libel action predicated upon a press release charging them with misconduct during their employment. The Court ruled that even malicious defamation, if "within the outer perimeter" of an administrator's line of duty, is absolutely privileged.

sanction may be devastating. The cranberry announcement illustrates the fact that the public relies heavily on the opinions of government experts concerning public safety. Although other sanctions are more effective, the Government may not resort to them except by observing various formalities and incurring delays, which may not be practical in an emergency. The public's fear for its safety and its lack of technical knowledge make an announcement by the Government a damaging sanction in terms of decreased sales and other economic hardships. In addition, unfavorable publicity as to one aspect of a business may be imputed by the public to other aspects of the same business.

The force of the direct publicity sanction may often be unfortunate. There is little relief for the innocent manufacturer if the Government's *ex parte* determination proves to be wrong. (In the cranberry situation, the hazard appears to have been greatly exaggerated.) Even if it is right, it violates the traditional notions of administrative fairness for a business to be destroyed or impaired in so summary a manner. Certainly, even in the field of product safety, where the primary concern is the consumer interest, use of the publicity sanction should be restricted to the situations in which it is appropriate.

One necessary condition to the application of the direct publicity sanction is that time be of the essence. In most cases, this requires that the product be seasonal. To refer again to the cranberry episode, it is apparent that, if action was called for, immediate action was necessary, because Thanksgiving, the time of peak cranberry consumption, was drawing near. There was no time to use another sanction. Had aminotriazole been detected the previous June, there would have been no justification for the Secretary's action under section 705, because there would have been enough time for him to use other available statutory procedures that would have been even more effective and would not have been summary. During such proceedings, the public would have been protected by the incidental publicity sanction, discussed below, and by the fact that the demand for cranberries in July is slight. The cranberry growers and distributors would thus have had a chance to establish that the danger was minimal or nonexistent.

Relatively few household products are seasonal. One example is Christmas toys. In the recent past, the direct publicity sanction has often been used against flammable dolls or cowboy suits by local health officials or by interested private parties such as newspapers and television stations.

Often adverse publicity is generated, not because the Government has made an announcement as an intended sanction, but because it has taken other action, such as beginning an investigation, issuing a com-



plaint, or bringing a proceeding in libel and the news media find it newsworthy. Whether the Government intends to encourage the publicity or not, this may be called the "incidental" publicity sanction.

The immediate effect of incidental publicity may be as devastating as that of direct publicity.<sup>240</sup> The consumer is influenced by news of government action as much as by a government announcement. Indeed, in the former case the effect may be even greater because the consumer may infer that the Government would not have instituted proceedings against a product unless it had a good case against it.

But there is one distinctive feature of incidental publicity: where the loss of sales or reputation is brought about by the institution of government proceedings, the manufacturer may at least partly restore the product's reputation by vindicating it in those proceedings. Restoration, of course, can rarely be complete, because some consumers will never again trust the product no matter how safe it is shown to be and there is no way to recapture sales made by competitors during the pendency of the Government's action. Besides, for seasonal items vindication may come too late (which is why the direct sanction in such a case is no more onerous than the incidental).

Nevertheless, incidental publicity, because of the opportunity of vindicating the product's reputation, ordinarily is not an intolerable burden on manufacturers and, indeed, it must be tolerated because there is no way to avoid it short of conducting all hearings or investigations in secret. Even so, the Government has some control over the publicity generated by both the institution and the conclusion of its actions and should wield its power carefully according to the circumstances of each case.

In product safety litigation, the incidental publicity sanction may perform an important function. When the Government is still investigating a product or proceeding against it or using whatever administrative machinery is finally adopted in this field, the public's uncertainty and the resulting *de facto* condemnation of the product will have some of the effect of a temporary restraining order or an interlocutory injunction. Consequently, the public will be at least partly protected for the time being and the hearings will not need to be conducted as if an emergency existed. Also, the publicity incident to an injunction issued under a provision similar to section 109(b) of the National Traffic and Motor Vehicle Safety Act of 1966<sup>241</sup> will tend to depress the market price for a

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240. Nevertheless, the allegation that substantial adverse publicity will result is not a sufficient showing of irreparable injury to support a suit to enjoin administrative action.

241. See VII(F)(2)(b), *supra*.

product and induce dealers to put pressure on manufacturers to repurchase, thus limiting the spread of products determined to be unreasonably hazardous.

There will undoubtedly be unusual circumstances in which the direct or incidental publicity sanctions will need to be invoked as an ultimate sanction. Where administrative or judicial orders are disobeyed, property has been hidden from investigators, criminal defendants have fled, or someone flaunts the administrative process, the Government is justified in making the facts known to the public, not only as a sanction against the persons involved but also as a means of protecting the public from hazardous items that are beyond the reach of other sanctions.

### 3. *Privately Initiated, Judicially Imposed Sanctions*

#### (a) *Suit for Damages: Products Liability*

Besides performing its principal function of compensating the injured consumer, the civil action for damages performs, in cumulative effect, the important function of putting financial pressure on manufacturers and on other handlers to minimize the hazards that give rise to consumer suits and complaints. The preventive value of products liability has long been recognized:<sup>242</sup>

. . . [t]here is little reason to doubt the effectiveness of claim pressure in inducing the large food companies to take all feasible precautions to minimize consumer injury. Money settlements are well worth saving and the loss of existing or potential business is to be avoided if possible. Not only is each complainant a potential customer for competing products, but he is a potential claim-breeder or business dampener as to all persons within gossiping distance.<sup>243</sup>

Despite the valuable general inducement that cumulative claims and civil liability provide to processors and other handlers to improve the quality of the products they sell, there are serious limitations in their effectiveness. The most serious involve problems of causation:

. . . [t]o be the subject of a claim the food defect must be traced to its source . . . . [The civil action] does not adequately reach food defects that make themselves felt after long delay

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242. *E.g.*, Llewellyn, *On Warranty of Quality, and Society: II*, 37 COLUM. L. REV. 341, 407-8 (1937). ". . . [B]y making everyone responsible who handles food products intended for human consumption a greater stimulus is provided to insure that none but wholesome food is sold." *Griggs Canning Co. v. Josey*, 139 Tex. 623, 634, 164 S.W.2d 835, 840 (1942).

243. R. DICKERSON, *PRODUCTS LIABILITY AND THE FOOD CONSUMER* 252 (1951). *See also* C. GILLAM, *PRODUCTS LIABILITY IN THE AUTOMOBILE INDUSTRY* 185-88 (1960).

and only cumulatively. Much less does it deter the flow of goods whose substandard qualities or over-refinements are detectable only by the dietician or chemist. In other words the pressure of civil claims helps to protect the consumer only from the more violent and dramatic personal injuries. It does not assure him a fully wholesome product, nor even one that is acceptable under minimum standards of wholesomeness.

. . . Even in discouraging the violent, dramatic personal injury, the civil remedy has deficiencies. . . . Even a casual perusal of the reported cases shows that the great majority of defendants come from the ranks of the large, well-known, and financially impressive producers, distributors, and restaurant keepers. . . . [Accordingly, there is] much less pressure from claims on the small food merchant to provide a claim-proof product. . . .<sup>244</sup>

Excepting these limitations, the current trend toward strict liability has, however, decidedly improved the general effectiveness of civil liability in its preventive aspects: "[t]o hold the defendant to a standard of 'due care' is to encourage only his keeping abreast of existing technology. To hold him absolutely accountable is to put pressure on him to better those standards."<sup>245</sup>

Although, beginning with the rapid disappearance of the privity requirement in warranty cases and the adoption of section 402A,<sup>246</sup> strict liability has been taking general hold in the field of products liability, there has still been some reversion to notions of culpability. This may be seen in the reticence of some courts to impose strict accountability on processors where the consumer's injury was caused by an unexpected side effect that, at the time of manufacture, could not have been foreseen by any means known to the state of the art. Here, the policy question is whether attempting to provide an incentive to improve the state of the art itself does not, by creating an excessive business risk, unduly impair the most basic incentive to produce needed new products. The issue has not been fully resolved:

[s]uppose that at the time of sale the risk was unknown even to scientists, but is known at the time of trial. The policy argument for imposing liability in such a case is similar, except that the incentive here would be not merely to keep abreast of existing scientific knowledge, but actively to foster scientific research. This assumes that the general class of producers of which

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244. DICKERSON, *supra* note 243, at 259-60.

245. *Id.* 261.

246. RESTATEMENT (SECOND) OF TORTS § 402A (1964).

the defendant is a member is financially formidable. Faced with this problem in *Lartigue v. R. J. Reynolds Tobacco Co.*, the United States Court of Appeals for the Fifth Circuit denied recovery. It said that to recover the plaintiff must 'show that the warranted product contained an element from which, on the basis of existing human knowledge, harm might be expected to flow.'

The *Lartigue* case seems to stand for the general proposition that strict liability should not be imposed unless the risk in question was known, at the time of sale, at least to scientists. If this view is accepted, it probably makes a significant difference, however, only where the injury incurred is an undesirable side-effect, such as cancer, hepatitis, or allergy. Here the consumer has no affirmative expectation that the manufacturer has directly undertaken to meet. Any assumption that the use will result in no undesirable side effect normally is tacit and unconscious.

Where, on the other hand, injury results from a defect that frustrates normal, bargained-for performance, as with the Electras or Salk vaccine, there is less reason to talk about strict tort liability and more reason to talk about what in common expectation the seller has affirmatively undertaken to deliver. Should not the law be stricter in such a case? Indeed, even if we stay with strict tort liability as tempered by general foreseeability, is not every injury in such a case ipso facto 'foreseeable' in the sense used by the court?<sup>247</sup>

Fortunately, the manufacturer may have several ways of responding to financial pressure to protect the consumer. He may, by redesigning the product, improve its performance or he may add a safety device. If neither of these approaches is feasible, ". . . he can help the consumer protect himself, at little cost to the manufacturer, by including with the product adequate warnings or direction for use."<sup>248</sup>

In any event, one limitation remains in the preventive aspects of products liability: there is normally a point beyond which ". . . it is no longer profitable to make technological improvements. . . . [Here, we can expect] that preventive measures will cease and the risk of practically unavoidable injuries [will] be assumed instead."<sup>249</sup> For this purpose,

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247. Dickerson, *Products Liability: How Good Does A Product Have To Be?*, 42 IND. L.J. 327 (1967) (footnotes omitted).

248. *Id.* 307.

249. R. DICKERSON, *supra* note 243, at 262.

the seller can obtain products liability insurance coverage or, if he has a high-volume operation, set up a reserve for claims (thus becoming a "self-insurer").<sup>250</sup> By increasing prices, he can spread among his customers the cost of paying insurance premiums on claims.<sup>251</sup>

Who should bear the brunt of strict liability? The person economically best able to control the quality of a product may be the retailer in one case, the intermediate distributor in another, and the processor in still another. Attempts to categorize all the significant kinds of situations have not been notably successful.<sup>252</sup> The simplest, and perhaps most workable, approach is simply to give the consumer an action based on strict liability against each and let him decide whom, under the circumstances, he prefers to sue. Presumably, he will concentrate his fire on the seller who is the most attractive financially. This is usually the person in the chain of manufacture and distribution who calls the tune.<sup>253</sup>

Permitting the consumer to sue any seller to whom or through whom the defect is traceable . . . will facilitate the placing of the ultimate burden on those who are best able to control the manufacture of the article and the price at which it is to be retailed.<sup>254</sup>

This is the direction in which products liability has steadily been developing.

If this analysis is sound, products liability for defective household products is a valuable supplement to, rather than replacement for, direct regulation:

. . . civil and criminal sanctions operate more effectively where they supplement, and not merely duplicate, each other. With respect to the kinds of defects now reached by claims, health departments will do their communities a greater service by concentrating more of their attention on the smaller food sellers, than by watching only those larger enterprises which the individual consumers themselves are keeping well in line. Even where it is appropriate to emphasize direct governmental surveillance, the pressure of unfettered civil responsibility is frequently a valuable instrument of government in buttressing hard-to-enforce criminal sanctions.<sup>255</sup>

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250. *Id.* 265-69. See also Dickerson, *The Expanding Risks of Product Liability*, 16 BUS. LAWYER 682, 685 (1961).

251. R. DICKERSON, *supra* note 243, at 269-72.

252. *Id.* 273-75; e.g., Comment, *The Marketing Structure and Judicial Protection of the Consumer*, 37 COLUM. L. REV. 77 (1937).

253. R. DICKERSON, *supra* note 243, at 277-78.

254. *Id.* 280.

255. *Id.* 284.

(b) *Suit for Treble Damages; Punitive Damages*†

Another possible sanction is to allow an injured plaintiff to recover, in a civil action, more than his actual damages. This type of sanction is presently incorporated into the federal antitrust laws. Section 4 of the Clayton Act<sup>256</sup> authorizes private civil suits for treble damages by persons or businesses damaged by acts in violation of the antitrust laws. Concerning the use of this provision, it has been said that

[d]uring the Sherman Act's first 50 years, private antitrust plaintiffs succeeded in only 13 of 175 actions brought. Since World War II, however, this picture has altered sharply. From June 1947 to June 1951, private antitrust suits pending in District Courts jumped from 118 to 367. Recoveries, moreover, increased almost correspondingly. Since 1951, growth has been even more rapid.<sup>257</sup>

The purpose of allowing private treble damage suits in antitrust cases is threefold: to provide compensation for the injured litigant, to deter future violations of the antitrust laws, and to encourage suits by individuals, thereby aiding the Government in enforcing the antitrust laws.<sup>258</sup> With the increased use of the private treble damage action has come the feeling, shared by many people, that it is an effective deterrent and a valuable aid in the enforcement of the antitrust laws.<sup>259</sup>

The authorization of treble damage actions might well fulfill the same objectives in the consumer protection area as it does under antitrust laws. The possibility that such an action might be brought by an injured plaintiff would have a deterrent effect on any would-be wilful violator of federal safety standards or regulations. Thus, the encouragement of private suits would aid the Government in enforcing such standards.

However, the adoption of this sanction would have some disadvantages. First, a recovery of treble damages provides a clear windfall to the successful plaintiff that might encourage the filing of groundless suits. Second, the judgments taken against Cutter Laboratories (involving defective Salk vaccine) suggest that treble damages might in some instances impose an unbearable financial burden on the defendant, thus

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† By Robert V. Kixmiller.

256. 15 U.S.C. § 15 (1964).

257. 1955 U.S. ATT'Y GEN. NAT'L COMM. ANTITRUST LAWS 378.

258. See Clark, *The Treble Damage Bonanza: New Doctrines of Damages in Private Antitrust Suits*, 52 MICH. L. REV. 363 (1954).

259. See Daniel, *Enforcement of the Sherman Act by Actions for Treble Damages*, 34 VA. L. REV. 901, 926 (1948); McConnell, *The Treble Damage Action*, 1950 U. ILL. L.F. 659, 665; Wham, *Antitrust Treble Damages Suits: The Government's Chief Aid in Enforcement*, 40 A.B.A.J. 1061, 1062 (1954).

discouraging the development of new and badly needed products. For this reason, it might be desirable to limit such suits to cases in which a defendant has wilfully or wantonly violated the applicable standards.

Two intermediate positions might be taken to partly overcome the disadvantages of an extra-damage suit, while retaining its benefits. First, the recovery might be for double damages rather than treble. This would mitigate the harshness of the penalty and reduce the plaintiff's windfall, yet still offer sufficient encouragement of suits. Second, although general criteria must be set, the allowance of extra damages might be left to the discretion of the trial judge. He could then award extra damages only when to do so would further the objectives of allowing such suits and would not impose undue hardship in the particular case.

If this approach is sound, it might be desirable also to engraft the right to extra damages onto the conventional products liability action. This would involve enacting, with changes incorporating this feature, federal versions of the Uniform Commercial Code and section 402A of the *Restatement Second of Torts*, or inducing the legislatures of the several states to take comparable action.

The author of a study of the imposition of punitive damages<sup>260</sup> suggests that even where criminal sanctions are ordinarily imposed punitive damages might serve two additional functions. He states that

[w]here the criminal punishment is a fine and the defendant is wealthy, punitive damages may provide greater deterrence, especially where the maximum fine is insignificant in relation to the defendant's wealth. In addition to the one useful deterrent function, the imposition of punitive damages for conduct ordinarily punished criminally might also provide plaintiffs with additional compensation.<sup>261</sup>

The author feels, however, that it is preferable to expand the law of compensatory damages, as some states have already done, through legislation.

### (c) *Private Injunction*†

The injunction is an equitable remedy the granting of which is generally left to the discretion of the court.<sup>262</sup> The grounds for granting an injunction have traditionally been limited to cases where an irreparable injury to the personal or property rights of the individual will occur

260. Note, *The Imposition of Punishment by Civil Courts: A Reappraisal of Punitive Damages*, 41 N.Y.U.L. REV. 1158, 1185 (1966).

261. *Id.* 1185.

† By Donald D. Bussell.

262. See generally 43 C.J.S. *Injunctions* (1945).

for their individual injury and many would probably be unwilling to take the time and incur the expense of seeking an injunction against the manufacture and sale of the product. In most cases, they can protect themselves against future harm by avoiding the products that injure them and buying safer ones (if available). This is the same protection that they would receive if sales of the offending products were enjoined. Private injunction seekers would also be faced with the traditional judicial view that injunctions are instruments for preventing future injuries to them and are neither for punishing the one responsible for past injuries nor for preventing future injuries to others. Clearly, monetary damages are the most attractive objective for this kind of complainant.

Injunctions might also be sought by interested third parties. There are undoubtedly persons with the incentive, resources, and the special knowledge of a particular product that would warrant them in seeking judicial determination. Unfortunately, under the present law, such individuals have no standing to take action. The complainant must be a direct party in interest, and a third person could not qualify.

Another manufacturer (or group of manufacturers) might, for various reasons, wish to prohibit the manufacture and sale of an unsafe product, but under the present law, he, too, would probably not be allowed to obtain an injunction. There is a highly uncertain line between eliminating the making and distributing of an unsafe product and increasing the competitive advantage of the manufacturer bringing the action. The courts have not allowed suits for injunction where the purpose has been the economic advantage of the plaintiff and a probable lessening of competition.

Even without this reservation, it seems unlikely that a manufacturer would be willing to bring such an action. The tendency seems to be to cooperate rather than to conflict in the product safety area; this is accomplished largely through manufacturers' trade organizations. However, by itself, such a consideration should carry little weight so long as it seems likely that even a few manufacturers would, subject to proper precautions, be willing to act on the consumer's behalf.

Besides these factors, problems arise respecting how a court should set appropriate safety standards. These problems should not, however, be significantly different from those of determining legal defectiveness in products liability suits.<sup>263</sup> The main limitation is that standard setting by judicial action normally results in a multiplicity of determinations, frequently inconsistent. In this respect, the public injunction suit may offer an advantage.<sup>264</sup>

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263. See VII(B) *supra*.

264. For a discussion of public injunctions, see VII(F)(2)(c).



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264. For a discussion of public injunctions, see VII(F)(2)(c).

Technical legal difficulties can be overcome with proper legislation. Even without legislation, an injunction might conceivably be obtained in appropriate circumstances from a sympathetic court. The basic problem is, instead, a policy one: under what conditions, if any, should an injunction be granted?

An injunction against a manufacturer could be a harsh remedy. Even the smallest manufacturer has a heavy investment in machinery and tools; much of it is in special tools useless for other purposes. If used carefully, however, the injunction could be a useful sanction for eliminating unsafe products. The problem is to grant judicial standing without encouraging frivolous suits or harassment or creating undue hardship.

One solution would be to authorize an injunction ancillary to an action for damages. If the plaintiff in the action were unwilling to pay the extra expense of litigating the injunction and if interested and competent third parties were allowed to participate for this purpose, the question of product safety could be adequately determined both for the plaintiff with respect to damages and for the general public with respect to the injunction. In such an action, a plaintiff for damages would have the benefit of the knowledge of a third party and the third party would have a forum in which to litigate his injunction claim. However, because in practice many damage actions are decided on issues other than the safety of the product, some of the alleged advantages of such a joinder may be illusory.

For third parties, a separate action would seem to be a more forthright solution. Before filing such a suit, the third party could be required to establish his special competence. Special standing to seek an injunction might be reserved for organized (and perhaps licensed) groups whose charters authorized them to take action on behalf of the consumer. Legislation might well grant this standing to organizations legitimately interested in product safety.<sup>265</sup>

#### 4. *Other Private Sanctions*†

##### (a) *Boycotts*

The boycott is a device presently used by some consumer groups, generally against the retailer, to enforce their demands. In 1966, Denver housewives, who were dissatisfied with recent price increases, boycotted local supermarkets; their success was, however, limited. Store managers

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265. For further reading, see Note, *Current Trends in Injunctions*, 78 HARV. L. REV. 994 (1965); Annot., 90 A.L.R.2d 7 (1963) (discussion of right to enjoin business competition from unlicensed or otherwise illegal acts or practices); 43 C.J.S. *Injunctions* (1945); 66 C.J.S. *Nuisances* (1945).

† By Donald C. Lewis and John R. Wilks.

responded with drastic cuts on some items to lure customers back into their stores. Milk, for example, sold for as little as five cents a gallon. Beyond that, little accrued to the consumer. The problem with the consumer boycott is to organize and maintain interest. Unless a group can be successfully organized with some continuity of interest and action, its influence can only be sporadic and temporary.

As used today, the consumer boycott of local retailers has concerned itself solely with price. The price problem lends itself better to the boycott because the one being boycotted has greater control of price than he does of quality. It may also be true that at the time of purchase consumers tend to be more price-minded than safety-minded. In any event, it is hard to sustain individual interest in safety long enough to provide the organizational adhesive necessary for group action.

Consumer protection is a nation-wide problem. Achieving it only locally and sporadically is unlikely to help the consumer generally. An electrical appliance is as unsafe in Phoenix as it is in Newark, yet organizing a consumer boycott on a national scale would be a difficult, if not impossible, task. An individual naturally has primary concern for himself. His normal attitude is that, if a product is unsafe, he will not buy it; if someone else wants to take the chance, let him. Although a large decrease in sales is always feared by a manufacturer, even a large number of spontaneous individual reactions do not add up to an effective boycott. Not only is it undirected, but it fails to point unequivocally to the source of the consumers' discontent.

### (b) *Self-Policing*

A great potential source for insuring that safe products are produced is the manufacturer himself. Manufacturers claim that they do a great deal of self-policing. They claim that they do research and testing on their own initiative; that they make certain that the products they make are safe; that they do their part in educating the consumer; and that they exercise a rigid system of inspection as a result of which production faults are discovered and corrected. From the study of toys in this Report,<sup>266</sup> for example, one sees that these claims can be at least partly substantiated. However, it is often hard to tell whether a company is initiating better performance on its own or responding to outside economic or governmental pressures. In some cases, "self-policing" is nothing more than a systematic compliance response.

The Playskool Manufacturing Company may be chosen as an example of how self-policing can work; Playskool's *Inspection and*

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266. V(K) *supra*.

*Quality Control Guide* shows the type of assembly line inspection that it uses. Inspections are made by employees, foremen, and supervisors at the end of each final assembly line, and a roving inspector inspects each assembly line at least four times during each eight-hour shift. Inspections are spaced equally during the day to produce a representative sampling. The roving inspector also inspects samples of each unit during each visit.

Besides the normal inspections, samples of items that are shipped unassembled are fully assembled according to the directions at least twice during the day to be certain that all parts fit and that the instructions can be followed easily in putting the toy in operating condition. When a minor defect (such as a minor quality flaw, defect in painting, or mar) is noted by the inspector, he calls it to the attention of the plant manager and, if a sample check of those packed since the last inspection shows this defect in more than ten percent of the toys, they are all opened for correction. If a major defect is noted (such as a missing piece, a mechanical failure, or broken, cracked, or splintered parts), the inspector immediately notifies the plant manager. The production line is stopped, all items since the most recent clear inspection report are checked out, and the defective units are laid aside. Steps are immediately taken to put the parts in working order before the line resumes operation.

Playskool also provides in its inspection and control guide for calling a mistake to the attention of all employees that either caused it or passed it. This is to stimulate their desire to correct the mistake on future production runs. If employees know that their mistakes may cause not only consumer injury and greater industry expense but also serious consequences to themselves personally, they are more likely to use greater care in their operations.

Unfortunately, many manufacturers are reluctant to incur the time and expense needed for a strong self-policing system. Unless they are willing to do this, faulty products will continue to reach the consumer. That many manufacturers do not measure up in this respect shows that, although self-policing is a valuable aid where it exists, manufacturers as a whole cannot be counted on to take the needed safety precautions on their own initiative.

There are, nonetheless, numerous forces that encourage a manufacturer to exert his own efforts to produce the safest possible product. Two of these forces, which may often be overlooked, deserve discussion.

The first is the trade association, which is an organization formed by the members of an industry or group of industries to pursue their common interests more effectively and more economically than could be done by the members acting individually or in small groups. These common interests may spring from the materials or processes used, the

functional nature of the products, the market to be reached, or a combination of these factors. The major activities of a trade association include accounting, advertising, marketing, education, improvement of employer-employee relations, research, standardization, simplification, and statistics. Trade associations are usually in a strategic position to help members improve the quality and quantity of their products; both business and the consumer can benefit as a result.

There are numerous groups that can be classified as trade associations or professional societies. Many of these represent nation-wide industries. Others represent more modest interests. The important fact is that the growing complexity of the social structure often makes group action more effective and economical than individual action. This is most evident in consumer education programs. For example, it is more effective and less expensive to have the bicycle industry inform the consumer about the dangers of bicycles and bicycling than to have individual manufacturers assume the responsibility.

Standards for maintaining membership in trade associations often include specifications as to the quality of the products made by the members. Members who violate such standards, including standards that benefit the consumer, may lose the benefits of membership. When a member is removed from the association, he loses his interest in the funds or property of the association. This sanction has proved very effective.

An important function of the trade association is product standardization. This function tends to go unnoticed, because the individual who, for example, buys a lamp or light fixture usually takes for granted that its sockets will receive any brand of light bulb. Standardization, incidentally, promotes safety because it lessens the number of factors that tend to divert attention from substantive factors affecting safety.

Trade associations also work toward simplification. This includes attempts to make specific products simpler and easier to understand and use. The less complicated a product is, the less trouble a consumer is likely to have with it. Thus, through improved consumer understanding, trade associations try to reduce the hazards of injury through misuse. Unfortunately, these attempts are often more that offset by the general proliferation of qualitative differences resulting from a tendency in today's market to appeal to more specialized consumer needs.

More than 150 trade associations have minimum quality programs through the use of seals and evidences of acceptability. A good example is the "Certified Products Seal," used by the Crayon, Water Color and Craft Institute. When placed on art supplies, this seal assures the consumer that the products are harmless even if eaten. A study of the

certified products program and the work of the Institute can be found in the study of toys included in this Report.<sup>267</sup>

Trade associations do much research and encourage their members to do so. The purpose is to find new and less expensive methods of production and to improve the quality of the products. Much of the research done by trade associations relates to broad problems of common interest that would not justify financing by a single manufacturer. Through this kind of community effort, much research is done that would not otherwise be undertaken. Under specific grants, trade associations often commission research work by universities. In this way, the association, the manufacturer, and the consumer benefit from improved quality, while educational benefits accrue to the participating university. Also, research foundations have often been established by industries for the purpose of improving safety and other standards of quality. Such foundations often work through universities.

The trade associations also help the Government by providing valuable information. They are often involved in general safety education, even beyond their immediate fields of interest. A trade association dealing in boat motors, for example, might provide safety information about many forms of summer recreational activities. The work of the Bicycle Institute of America is discussed more thoroughly in the study of toys; its work in consumer education has been extensive. Each bicycle is accompanied by a pamphlet that recites the rules of bicycle safety and a bicycle safety publicity kit is distributed to schools, police departments, service clubs, and other community-minded groups. The Institute also offers free bicycle inspections.

Generally, trade associations are doing much to protect the consumer. Their main aim is to better the industry and through the accomplishment of this objective the consumer often benefits. At the same time, it is clear that at many important points business interests and consumer interest cannot both be served. In these instances, business interests are likely to receive the greater and more favorable attention. Although self-policing has been helpful to the consumer, it cannot be counted on to do the whole job.

A second force that is exerted on the manufacturer to police himself comes from insurance companies that write products liability insurance. Many insurance companies maintain engineering departments and usually the company will make the department available to the insured for consultation concerning a product. But the engineering department generally does not seek defects in a product

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267. *Id.*

on its own before an injury occurs. For example, few companies require the insured to submit design details or specifications on a new product before it is marketed. Thus the insurer's role before a claim is filed is relatively passive.

But once claims begin to come in, the insurer becomes active in determining specifically what caused each injury and in educating the insured on how to correct defects. This education sometimes takes the form of merely telling the insured that a reduction of claims will bring about a reduction of insurance rates. On the other hand, the insurer may point out correctable defects or defects inherent in the design of the product, or it may even suggest improvements in instruction sheets or warnings that accompany the product into the consumer's hands. The indirect effect of claims pressure on insured manufacturers may thus be comparable to the direct effect of claims pressure upon uninsured manufacturers.<sup>268</sup>

### VIII. SOLUTIONS TO THE PROBLEM: IMPROVING THE CONSUMER†

#### A. Introduction

As was pointed out earlier,<sup>269</sup> consumer protection is a function not only of the characteristics of the product, but also of the vulnerability of the consumer. Most of this vulnerability consists of having an inadequate appreciation of (1) the nature and characteristics of the product, (2) what its purpose is and how to use it, and (3) the hazards that it presents. It follows that anything that can be done to improve the consumer's appreciation of these factors is likely to lessen the incidence of physical harm. "Improving the consumer" is thus almost synonymous with "educating the consumer."

Some critics of government intervention claim that America's proud system of free competition can solve the problems connected with hazardous household products. Such critics necessarily assume that the consumer is adequately informed and ready to express his considered judgment by buying the safe product and avoiding the unsafe. The available statistics on injuries, however, show that consumers are not well informed and that they buy items that the advocates of free competition apparently assume they will not. Without a solid basis of information, the elements

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268. For further reading on this subject, see J. BRADLEY, *THE ROLE OF TRADE ASSOCIATIONS AND PROFESSIONAL BUSINESS SOCIETIES IN AMERICA* (1965); R. DICKERSON, *PRODUCTS LIABILITY AND THE FOOD CONSUMER* (1951); W. MITCHELL, *HOW TO USE YOUR TRADE ASSOCIATION* (1951); H. SORENSON, *THE CONSUMER MOVEMENT—WHAT IT IS AND WHAT IT MEANS* (1941); Kennedy, *Practical Theory in Preplanning Claims Investigations*, 1966 *INS. L.J.* 5.

† By Kelly N. Stanley.

269. VII(A) *supra*.

of free competition that are still effective cannot be expected to reach their full potential.

In a message to Congress in March 1962 that resulted in the present Committee on Consumer Interests, President Kennedy recognized several basic consumer rights. Among these were (1) the right to safety, including the right to be protected against the marketing of goods that are hazardous to health or life, and (2) the right to be informed, including the right to be protected against fraudulent, deceitful, or grossly misleading information, advertising, labelling, or other practices and the right to be given the facts needed to make an informed choice. President Johnson has reaffirmed this right and Congress has begun to respond.

One of the most important advantages of consumer education is that it provides a degree of protection that does not incur the headaches of enforcement; it is for the most part self-executing. The question is how can consumer education best be accomplished. Ralph Nader, the automobile critic, believes that informing the public by disclosing the results of product testing is the best way to improve product safety and eliminate or discourage the manufacture of hazardous products. There is now ample statutory precedent. In 1965, Congress required the tobacco industry to display a health warning on each package of cigarettes sold. In 1966, Congress enacted the Automobile Traffic Safety Act, authorizing the Secretary of Commerce to compel automobile manufacturers to disclose the findings of such tests as they may have performed. In 1966, Congress also enacted the Fair Packaging and Labeling Act, requiring in each case that the net quantity be shown on the product label. The present Congress is considering a "truth in lending" bill.

Fortunately, the administrative machinery through which the Government can make the informed consumer a realistic objective already exists. With the adoption of the reporting system recommended in section VI of this Report, the Government would have in one place the information necessary for informing the consumer. The results of the testing done by the General Services Administration, which tests all products procured by the Government, could be published for his benefit. If an annual accident report on a particular product showed the existence of a significant hazard, that fact could be disclosed. If the National Commission on Product Safety or the Office of the Special Assistant to the President for Consumer Affairs were made a central repository of a comprehensive accident reporting system and a testing reporting system, and if the states and the United States Public Health Service were to submit copies of the studies of product safety conducted by local agencies, the benefits of these studies could be passed to the consumer.



A system of public disclosure would serve two basic purposes, both of which would benefit the consumer: (1) it would make it possible for him to select the safer product rather than the more hazardous or to be on guard against hazards in products that he has been induced to buy, and (2) it would create competitive pressure on the manufacturer of the hazardous product to improve his wares. Happily, such an approach can be taken within the general context of private enterprise with a minimum of government interference and with no direct government controls.

### *B. Improving the Consumer Through Advertising*

Advertising can, and often does, provide important information to the consumer; information from advertising provides much of the foundation on which consumers base their decisions. As a federal judge has pointed out in describing some of the methods used by advertisers to persuade the public to buy, "[t]he men of Madison Avenue have sold shirts by depicting a man with an eye patch and they have sold soap by advertising it to be 99 and 44/100% pure without bothering to add the noun. . . ."<sup>270</sup> To be sure, some advertising is factual and informative. On the other hand, much advertising, while effective and appealing, is not informative. But advertising can, and should, supply the consuming public with valuable safety information. Because the advertising industry has little control over commercial copy, this would need to be done through institutional advertising and through the tactful encouragement of individual advertisers by individual advertising agencies.

Experience shows that product safety has not been an area of primary concern to advertising groups. However, if the advertising industry, with the encouragement of the Government and private consumer groups, were to recognize the consumer's right to product safety and were to add it to its already impressive list of standards, the burden of other groups interested in reducing the incidence of injuries from the use of household products might be reduced significantly. In some areas, advertising has already proved a valuable source of information to the consumer. It may well be that, reminded of other basic rights of the consumer, it might exploit even more fully its capacity for protecting the consumer and the public.

### *C. Private Safety Information Sources*

Advertising is not the only source of information available to the consumer. Many other sources are available to the consumer who is willing to seek them out. Among these, two are worthy of special mention:

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270. F. WILHELMS, *A CONSUMER ECONOMICS*, Part 12, at 169 (3d ed., 1966).

organizations that test products and publish the results, and organizations that publish safety information developed by others.<sup>271</sup>

There are two consumer financed testing services that publish the result of their tests: Consumers' Research in Washington, New Jersey, and Consumers Union in Mount Vernon, New York. The former publishes the *Consumer Bulletin* and the *Annual Bulletin* and the latter publishes *Consumer Reports*, which includes its annual *Buying Guide* issue. Neither company accepts free samples from manufacturers nor do they permit test results to be used in product advertising. The test results of both organizations on the same items are generally similar<sup>272</sup> and the consumer with the initiative to seek out these sources of information will find the tests fairly reliable. These organizations provide the only easily available comparison of standard products usable by ordinary retail buyers. Unfortunately, their product and brand coverage is limited.

Other private publications furnish miscellaneous information to the consumers they reach but their circulation is too small to be widely effective. Among these is *The Journal of Home Economics*, published by the American Home Economics Association, which provides its members with information on research related to consumer problems. The Council on Consumer Information publishes a *Newsletter*, which serves people with an expressed interest in consumer affairs.<sup>273</sup> *Changing Times*, published by the Kiplinger Washington Editors, is a monthly magazine of information on consumer affairs. *Changing Times* has also sponsored a television program devoted to educating the consumer.

Although valuable resources exist that would enable an alert and energetic consumer to improve himself, there is much room to improve the resources available to him. The fragmentary and uncoordinated nature of the safety information now available from private sources suggests that, valuable as this information is, it needs to be broadened and supplemented by information from other sources.

#### D. Public Safety Information Sources

The Government itself is a valuable source of consumer publications. Through the Government Printing Office, agencies such as the Department of Agriculture have published consumer-oriented pamphlets on a variety of subjects. Unfortunately, these sporadic efforts suffer from the same limitations as their private counterparts. But more important than improving such a service would be making available to the consumer pertinent information developed by the General Services Administration

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271. I. OPPENHEIM, *THE FAMILY AS CONSUMERS* (1965).

272. Beem, *Consumer-Financed Testing and Rating Agencies*, *THE JOURNAL OF MARKETING*, January, 1952, at 272.

273. Council on Consumer Information, Colorado State College, Greeley, Colorado.

(and perhaps other agencies) in the course of testing products bought by the Government.

The use of the public schools should also be considered. Many elementary and secondary schools offer instruction in "Health and Safety" or similar courses. Such courses often provide information on consumer affairs generally, but they seldom touch on product safety. This suggests a point at which a valuable exposure to consumer safety problems might be feasible. But the exposure need not be limited to a specific course. Indeed, several might lend themselves to a broad program of educating the consumer. For example, physics classes could be modestly expanded to recognize some of the more serious hazards in household products, such as electrical shock or scalding.

#### *E. Miscellaneous Sources*

Even retail merchants can help educate the consumer. The retailer has frequent opportunity to instruct his customers on the proper way to use the products he sells and to warn them of their dangers. Thus, a retail seller of fresh pork might post notices or enclose cooking instructions advising the buyer to cook the product thoroughly to a safe recommended minimum of 137 degrees. Groups already involved in civic or public affairs could be encouraged to devote part of their attention to consumer safety education. A women's club, a service club, the Boy Scouts, or a similar group might from time to time undertake special programs designed to create an awareness in the consumer of at least the more significant product hazards.

#### *F. Warnings and Instructions for Use*

The seller's obligation to the consumer in the case of a hazardous product is not necessarily one of removing the offending condition. If removal is impossible or impractical, an appropriate warning may be enough. Warning as an effective device for protecting the consumer is well recognized in products liability law:<sup>274</sup>

if it is not feasible to improve the product's performance  
or to provide a safety device for situations in which the con-

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274. *E.g.*, *Canifax v. Hercules Powder Co.*, 237 Cal. App.2d 44, 46 Cal. Rptr. 552 (1965) (dynamite with fast fuse); *Foster v. Ford Motor Co.*, 139 Wash. 341, 246 Pac. 945 (1926) (tractor). *Cf.*, *Ford Motor Co. v. Wolber*, 32 F.2d 18, 20 (7th Cir. 1929). On warnings and directions for use generally see Annot., 76 A.L.R.2d 9 (1961); L. FRUMER & M. FRIEDMAN, *PRODUCTS LIABILITY*, § 8 (1965); *RESTATEMENT (SECOND) OF TORTS*, § 402a, comment j (1965); Dillard & Hart, *Products Liability: Directions for Use and the Duty to Warn*, 41 VA. L. REV. 145 (1955); Noel, *Manufacturer's Negligence of Design or Directions for Use of a Product*, 71 YALE L.J. 816 (1962); Noel, *Recent Trends in Manufacturer's Negligence as to Design, Instructions, or Warnings*, 19 Sw. L.J. 45 (1965).

sumer appears to be undesirably vulnerable, the answer may lie in requiring appropriate warnings or instructions for use.

Although there is a tendency in such cases to refer to a 'duty to warn' or 'duty to provide a safety device' as if they were independent duties, it seems preferable to approach these 'duties' as alternative means of discharging a single, broader duty to provide, under prescribed conditions, a product that does not violate the consumer's normal expectations by exposing him to an unreasonable and concealed danger. The 'duty to warn' is thus a duty only in the sense that in particular circumstances a warning may be the most feasible alternative.<sup>275</sup>

Despite the emergence of a contingent, judicially developed duty to warn, there are instances where common law doctrine lags behind consumer need or where the cumulative pressure of private actions is insufficient to induce the manufacturer to adopt this needed precaution. In such cases, direct regulatory measures such as those taken in the Federal Hazardous Substances Labeling Act,<sup>276</sup> the Federal Insecticide, Fungicide, and Rodenticide Act,<sup>277</sup> and the Federal Cigarette Labeling and Advertising Act,<sup>278</sup> may be effective in improving the consumer's ability to protect himself with respect to the particular product. Direct regulation has the added advantage of greater specificity, certainty, and uniformity.

It is often easier to determine that a warning to the consumer should be required than it is to determine what it should say. Although the consumer is free to disregard a warning, he should have the knowledge necessary for making a choice. A needed warning should be located on or with the product and be printed so as to catch the eye of the typical consumer of that product. Also, it should carry information that, if read and considered, would be likely to head off the threatened harm. Because of limitations of space and the consumer's normal tendency to read on the run, the key elements of the warning must be couched in relatively few words, and with sufficient specificity to convey the seriousness of the threat. Merely labeling the article as "dangerous" may not be enough. It has been held that merely stating on a bottle of carbon tetrachloride a direction to use "with adequate ventilation" and to avoid prolonged breathing of vapor does not adequately warn of the danger of death.<sup>279</sup>

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275. Dickerson, *Products Liability: How Good Does a Product Have to Be?*, 42 IND. L.J. 301, 307 (1967). The warnings on aerosol cans are discussed at V(J), *supra*.

276. 15 U.S.C. §§ 1261-73 (Supp., II, 1965-66).

277. 7 U.S.C. § 135 (1964).

278. 15 U.S.C. §§ 1331-39 (Supp., II, 1965-66).

279. *Tampa Drug Co. v. Wait*, 103 So.2d 603 (Fla. 1958).

On the other hand, a warning may be inadequate if it tells, in highly technical language, more than the typical consumer can practically assimilate under the circumstances. How much the seller can expect the consumer to read, study, and act on depends partly on the nature of the product and the normal conditions of use.<sup>280</sup> For example, a consumer can be expected to read more about equipment for a home workshop than about a can of paint.

Thus, directions for use, even though they do not contain the substance of an effective warning,

. . . may be effective in discharging the seller's general duty not to market a defective product, even apart from a warning, if they effectively channel users of the kind in question into a use and manner of use of the product that eliminates or minimizes the risk. Unfortunately, for many products it may be difficult or impossible to write instructions that accomplish that result. The area in which instructions for use may be effective independently of warning may, therefore, remain narrow.<sup>281</sup>

#### IX. CONSUMER COUNSEL†

Because of the diffuse and non-organic nature of the consumer interest, it seems clear that what has been referred to as "the consumer" in this Report is for the most part incapable of striking a unified legal blow on his own behalf. Effective consumer protection can only come from organizations, such as the Food and Drug Administration, whose principal mission is directed toward protecting the interest in consumption, or from strategically placed individuals with a similar responsibility. Unfortunately, the existing organizations tend to be highly specialized. As a result, the consumer interest is often not effectively represented when important governmental decisions affecting the consumer are being made. It would seem that, both as a means of finding solutions to the safety problems of the consumer and as a means of making the solutions work once they have been adopted, the interests of the consumer must be adequately and effectively represented.

Although this deficiency has been resolved at the near-cabinet level through the establishment of the Special Assistant to the President for Consumer Affairs, it would seem desirable that special representatives of the consumer interest be available at strategic points in lower echelons of government. Whether it is administratively more desirable to locate them under the Special Assistant to the President and detail them as the

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280. See *Hartman v. National Heater Co.*, 240 Minn. 264, 6 N.W.2d 804 (1953).

281. Dickerson, *supra* note 275, at 311.

† By Roger L. Meredith.

occasion demands to particular trouble spots or to locate them in the respective agencies, is a question needing further study.

To be effective, a consumer counsel should have the following powers:

- (1) A consumer counsel should have ready access to the factual background pertinent to his area of responsibility. This should include the authority to obtain all non-confidential information in the possession of other government officials and agencies and an adequate staff for collecting outside information. The consumer counsel should also be equipped to compile available accident and injury statistics from hospital records, insurance reports, and fire department reports and he should be authorized to receive complaints from individual users.
- (2) A consumer counsel should have the right to appear before governmental departments, boards, and agencies, and legislative bodies to speak on behalf of the consumer.
- (3) A consumer counsel should be given the legal standing necessary to bring actions for injunctive and other appropriate relief. An injunction could be awarded when the manufacturer has withheld safety information or when he has issued false or misleading information. It could be awarded when the judicial or administrative body determines that a product already on the market has proved itself unsafe.
- (4) The consumer counsel should be given the power to recommend legislation.

Other duties and powers may also be considered desirable, but the ones named appear to be necessary if consumer counsel is effectively to prevent or minimize product injuries.

So far as has been discovered, there is nothing comparable to the suggested consumer counsel now in existence. Even the Special Assistant to the President on Consumer Affairs has no power to regulate or to enter legal proceedings in behalf of the consumer. The closest thing to such a consumer counsel has been functioning in California since 1959. This consumer representative is at the executive level and is appropriately called "consumer counsel." The California consumer counsel and the assistants, advisors, and committees needed to aid him are appointed by the governor and all serve at his pleasure. The consumer counsel may make studies, give reports, appear before governmental agencies on behalf of the consumer interest, advise the governor on matters affecting the consumer interest, and recommend the enactment of legislation necessary to protect and promote that interest.

The California plan appears to be a step in the right direction. It may be that the enabling statute can be interpreted to give him the power to consider safety problems since the statute does not limit the scope of his activity to the sphere of existing legislation. However, he is limited to giving advice and making recommendations. He cannot enter or otherwise engage in legal proceedings on the consumer's behalf. This fact severely limits his effectiveness; ultimate action for consumer safety and protection must take place in the legislature.

Whether or not the governor, upon advice of the consumer counsel and acting through the attorney general, may bring an action similar to one for an injunction, remains to be seen. If so, the California consumer counsel may have some indirect legal effectiveness. At any rate, his functions should be surveyed in greater detail. They may provide valuable insight into effective consumer representation at the state level.

At present, five other states have some form of consumer representation in the executive branch. Of these, Michigan (1966) and New Hampshire (1966) are of such recent origin that significant information was not readily available at the time of this study. Connecticut (1959), Rhode Island (1966), and Massachusetts (1963) have consumer representatives with varying duties and powers.

Connecticut's Consumer Protection Department is limited in its activity to protection of the consumer with respect to food, drugs, cosmetics, and related products. It does not appear to consider product safety outside those areas. It is also limited to enforcing existing legislation. Rhode Island's Consumer Council was established to promote the health, prosperity, and welfare of the state's citizens and it may develop and disseminate consumer information. It may represent the consumer in all matters where the cost, quality, and extent of services or commodities is regulated by state law. Here, too, the agency seems to be limited to acting within the sphere of existing legislation. Massachusetts' Consumer Council has been given broad power but it appears that this body, too, is limited in authority. Its authority does not appear to include product safety. The Massachusetts statute provides that:

[t]he council shall conduct studies, investigations and research and advise the executive and legislative branches in matters affecting consumer interests, co-ordinate consumers' services carried on by departments and agencies, further consumer interests, co-ordinate consumers' services carried on by departments and agencies, further consumer education, inform the public, through appearances before state and federal committee, commission or department hearings, or otherwise, of such policies, decisions or legislation as are beneficial or detri-

mental to consumers, inform the governor and the attorney-general and other law enforcement agencies of such violations of laws or regulations affecting consumers as its investigations or studies may reveal, and study and report all matters referred to it by the general court of the governor. The council may appear, through its chairman or a member or a person designated by him, or through the attorney-general, for and in behalf of the people of the commonwealth before boards, commissioners, commissions, departments or agencies of the commonwealth in any hearing or matter affecting the rights of the consuming public or in any proceeding seeking the curtailment of railroad services or an increase of rates or costs of services or commodities, and shall be deemed an aggrieved party for the purpose of judicial or administrative review of any decision or ruling in any such proceedings in which it has so appeared, any other provisions of law to the contrary notwithstanding. . . . It may call upon any department, board, commission or officer of the commonwealth or of any political subdivision of the commonwealth for such information as it may desire in the course of its duties. . . .<sup>282</sup>

Twenty-one states have some form of consumer fraud or protection agency, which generally functions in the office of the attorney general. Although the exact make-up of these organizations varies from state to state, generally they have authority to protect the consumer through mediation, litigation, education, investigation, and legislation. States with consumer fraud or protection agencies are :

Alaska	Kansas	New Jersey
Arizona	Kentucky	New Mexico
California	Maine	New York
Connecticut	Massachusetts	North Dakota
Hawaii	Michigan	Ohio
Illinois	Minnesota	Pennsylvania
Iowa	Missouri	Washington

Statewide consumer organizations exist in :

Arizona	Maryland	New Mexico
California	Massachusetts	Ohio
Colorado	Minnesota	Pennsylvania
Connecticut	Missouri	Texas
Georgia	New Jersey	Wisconsin

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282. MASS. ANN. LAWS tit. II, ch. 6, § 115 (1963).



City or county consumer organizations exist in :

Cincinnati, Ohio	St. Louis, Missouri
Dade County, Florida	Sacramento, California
New York, New York	Woodside, California
Palo Alto, California	

Generally, these organizations are concerned with fraud, misrepresentation, and false advertising, and not with product safety. They are listed here because product safety could easily be integrated with their existing functions.

In most states, the attorney general, as the law enforcement officer of the state, can be regarded as lacking authority to operate within the area of consumer safety unless, in unusual instances, there is an existing statute to that effect. He is traditionally called on to enforce existing legislation and to render opinions regarding proposed legislative or executive action. He does not normally recommend legislation or enter legal proceedings on behalf of anyone except the state.

At present, a private consumer counsel can be no more effective than a lobbyist. Unless granted special authority or status by statute, a person acting privately has no legal authority or status beyond his own interests as a consumer. He must rely on the pressure he can bring to bear on the manufacturer to make its product safer.

Serious consideration should be given to providing for the registration of private consumer counsel and endowing them by statute with legal standing to take appropriate judicial action and with many of the specific powers recommended for public consumer counsel. Although it may be taken for granted that few individuals would be induced to assume this role, it may also be assumed that a few individuals and organizations would be sufficiently motivated and financially equipped to strike an occasional blow on behalf of the consumer interest. This could be a valuable supplement to the other available consumer protections. No compelling reason appears for refusing to arm the occasional individual champion of the consumer who is willing to assume the hardships and expenses of acting in his behalf.

#### X. COMPENSATING THE INJURED CONSUMER

Unfortunately, no matter how much is done to protect the consumer from injuries resulting from household products, injuries cannot be wholly eliminated. Thus, troubling questions will remain with respect to how the injured consumer may be compensated, from whom compensation should come, and what procedures should be followed.

### A. Suit for Damages: Products Liability

It seems likely that any current evaluation of the general adequacy of the civil suit to compensate the injured consumer must rest largely on general observation and personal judgment. Scientific data appear to be almost wholly lacking. Even so, several general conclusions seem defensible.

The broadest of these is that the injured consumer who can surmount the difficulties of proof is likely to be adequately compensated so far as his injury is monetarily compensable. In this respect, the typical, successful plaintiff may have little about which to complain.

An early study in this field<sup>283</sup> pointed out that whether the plaintiff sued for breach of warranty or sued in negligence, there was no significant difference in the measure of actual recovery despite the fact that under the two approaches the temporal vantage points for measuring foreseeability were theoretically different.<sup>284</sup>

Several possible deficiencies in the consumer's remedies were, however, noted. In some jurisdictions, for example, in instances where there was no physical impact, recovery for mere fright or other mental distress, however reasonable and convincing, has been denied.<sup>285</sup> If, on the other hand, the mental distress accompanies a physical injury

. . . the courts are willing to see a few extra dollars thrown in the pot to pay for the latter, even though the opportunities for fraud are greater than where simple mental distress has resulted. The courts apparently assume that injury assures his general veracity, whereas every claim adjuster knows that he defendant's most persistent fraud problem is that of claim *exaggeration*.<sup>286</sup>

Other limitations may lie in the fact that the death of the injured person snuffs out any right to collect for injuries and suffering sustained while the victim still lived (unless there is an applicable survival act) and creates no right in any affected survivor (unless there is an applicable Lord Campbell's Act).<sup>287</sup>

With such minor reservations, and taking into account the demise of the privity requirement, the civil action appears to be doctrinally adequate. Whether or not the injured consumer of household products is being adequately compensated in fact is another question.

A fragmentary study of the food industry made some years ago

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283. R. DICKERSON, PRODUCTS LIABILITY AND THE FOOD CONSUMER (1951).

284. *Id.* 234.

285. *Id.* 236.

286. *Id.* 241.

287. *Id.* 242.

suggested that the consumer's ultimate success may depend on the kind of risk involved, especially if it affects the consumer's ability to trace the cause of his injury. Thus

. . . illness alone, unidentified by a tangible mark with a specific source, has much less opportunity of becoming the subject of a claim [than an injury caused by the intrusion of a foreign object]. This is because it is difficult to trace the fault and the product at fault, and to find a defendant to sue. It is particularly true of a cumulative poison such as arsenate of lead.

. . . .

Even where the consumer gets to the point of making a claim for money, his chances of making it stick are substantially less where he has no tangible clue to the seller's responsibility. . . .<sup>288</sup>

Although the present study is not immediately concerned with food, the broad judgments made in the earlier study may have some relevance here. Even though the problem of causation may not loom so large in the non-food cases, it is hardly negligible. Arsenic poisoning may result from sucking on improperly painted toys, for example, and there may be other household risks the specific sources of which are often not readily traceable. If the injured consumer cannot locate the source of his injury, even an otherwise adequate legal remedy is small comfort.

Suppose the source is known. How adequate have the settlements and recoveries been? For food, it has been suggested that :

[h]ow adequately these recoveries and settlements fulfill the plaintiff's legitimate claims for compensation it is impossible to know. Pending an adequate study, it may be legitimate to say that a reading of the reported cases, studies of claim files, and discussions with officials of large claim departments give the impression that on the whole claimants who succeed in getting paid by large food companies or companies carrying products liability insurance are generously compensated. The situation with respect to small uninsured food sellers remains obscure.<sup>289</sup>

With the well known general increase in the generosity of juries in personal injury cases, spurred in part by a more aggressive and more sophisticated plaintiffs' bar, it seems likely that any overstatement in the conclusions of the earlier study has been more than compensated for.

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288. *Id.* 245.

289. *Id.* 247.

If there is a significant weakness in the consumer's arsenal of compensatory weapons, it most likely exists in the area of causation, an inherent weakness that is unlikely to respond to mere tinkering with the requirements of proof. The only apparently reparable link in the chain of proof would seem to be the availability of adequate legal counsel to low-income consumers. Here, improved legal aid services might well make a significant difference.

### B. *Financial Responsibility of the Seller*†

When a person is injured by a defective product and looks to the courts for redress, there is one primary consideration on his mind: money. The judgment might be important to the court but the person injured by the defective product is interested in converting that judgment into cash. The "successful" plaintiff knows that justice is not adequately served when the defendant is unable to respond in damages.

The extent to which the products liability plaintiff is left with a financially irresponsible defendant is unclear. It will remain unclear until a definitive study is made similar to that made by Columbia University on compensating the victims of automobile accidents.<sup>290</sup> In place of such a study, some tentative conclusions may be suggested as to the need for financial responsibility laws in the products liability area. Also, the approaches used by state legislatures to assure the financial responsibility of motorists can be surveyed.

The appropriateness of assuring the financial responsibility of the seller revolves around two basic questions. First, is it desirable that every person who manufactures, assembles, or sells a household product and who may be found legally responsible for an injury arising out of a defect in it be in a position to pay compensation for that injury? Second, if so, which of the approaches discussed below is best calculated to achieve this goal?

Certainly, it is desirable for everyone who may be held liable for injuries resulting from his defective products to be in a position to pay the judgment. Fortunately, the problem is less acute than formerly. With the erosion of the privity requirement, strict liability in warranty or tort has largely replaced the traditional negligence action. The *Restatement (Second) of Torts* states that one who sells any product in a "defective condition unreasonably dangerous to the user or consumer" is liable for injuries to the ultimate user or consumer caused by the defect even though the seller "has exercised all possible care in the preparation and sale of

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† By Donald C. Lewis.

290. COMMITTEE TO STUDY COMPENSATION FOR AUTOMOBILE ACCIDENTS, REPORT TO THE COLUMBIA UNIVERSITY COUNCIL FOR RESEARCH IN THE SOCIAL SCIENCES (1932).

his product" and even though "the user or consumer has not bought the product from or entered into any contractual relation with the seller."<sup>291</sup> A similar trend is reflected in the Uniform Commercial Code.<sup>292</sup>

The result is that it is becoming easier for the injured plaintiff to skip over the financially shaky retailer and sue any financially responsible participant in the chain of production and distribution. The plaintiff will ordinarily concentrate on the most financially responsible defendant.

It is likely that the political feasibility of financial responsibility laws in the products liability area would be low. This can be seen by comparing workmen's compensation laws and motor vehicle financial responsibility laws with the proposal now being discussed. Workmen's compensation laws were enacted because employers generally, through the defenses of contributory negligence, assumption of risk, and the fellow servant rule, were able to defeat employee actions at common law.<sup>293</sup> Motor vehicle accident compensation laws arose because the financially irresponsible driver who was legally liable for a judgment had no assets to pay the judgment against him. The plaintiff, in short, could not turn his judgment into cash. This is no longer true in products liability law because the plaintiff can ordinarily reach the person in the product distribution chain with the deepest pocket.<sup>294</sup>

Alabama is the only state to require products liability insurance even in limited circumstances.<sup>295</sup> Under Alabama law, any person

291. RESTATEMENT (SECOND) OF TORTS, § 402A (1964).

292. Permanent Editorial Board for the Uniform Commercial Code, *Section 2-318, Third Party Beneficiaries of Warranties Express or Implied:*

Alternative A

A seller's warranty whether express or implied extends to any natural person who is in the family or household of his buyer or who is a guest in his home if it is reasonable to expect that such person may use, consume or be affected by the goods and who is injured in person by breach of the warranty. A seller may not exclude or limit the operation of this section.

Alternative B

A seller's warranty whether express or implied extends to any natural person who may reasonably be expected to use, consume or be affected by the goods and who is injured in person by breach of the warranty. A seller may not exclude or limit the operation of this section.

Alternative C

A seller's warranty whether express or implied extends to any person who may reasonably be expected to use, consume or be affected by the goods and who is injured by breach of the warranty. A seller may not exclude or limit the operation of this section with respect to injury to the person of an individual to whom the warranty extends.

THE PRACTICAL LAWYER, Feb., 1967, at 62.

293. It has been estimated that eighty percent of all employee actions at common law were defeated. B. SMALL, WORKMAN'S COMPENSATION LAW OF INDIANA 2 (1950).

294. In those states that still have the privity requirement, for political reasons it may be easier to eliminate the privity requirement than to require products liability insurance.

295. 7 ALA. CODE ANN. tit. 26, § 179 (59) (Supp. 1965).

wishing to sell liquefied petroleum gas must obtain products liability insurance, a surety bond, or a personal bond.

It must be questioned whether compulsory products liability insurance makes, every person who might be found legally responsible for injury arising out of a defective product capable of paying damages. Products liability insurance is merely a variant of ordinary liability insurance. It is specifically designed to protect the insured against loss by reason of claims brought by injured third persons. The coverage of the policy is limited. The typical products liability policy distinguishes between risks of loss from research and development and those resulting from production errors. It has an exclusion clause providing that the policy does not apply

to bodily injury or property damage resulting from the failure of the named insured's products or work completed by or for the named insured to perform the function or serve the purpose intended by the named insured, if such failure is due to a mistake or deficiency in any design, formula, plan, specifications, advertising material or printed instructions prepared or developed by any insured.<sup>296</sup>

It seems clear that this clause withholds indemnity in at least some of the situations in which the harm results from performance limitations inherent in design. The clause continues ". . . but this exclusion does not apply to bodily injury or property damage resulting from active malfunctioning of such products or work."<sup>297</sup> The full import of this clause awaits interpretation by the courts. In any event, the limitation is important because many product injuries involve supposed defects in design.<sup>298</sup>

Products liability insurance applies only to losses that occur after the insured has lost contact with the product. Thus, a distinction is made between losses that occur on the premises and those that occur after the product leaves the premises of the insured.<sup>299</sup> This, too, can create problems. Suppose, for example, that the insured operates a grocery

296. Mutual Insurance Rating Bureau and the National Bureau of Casualty Underwriters Standard Comprehensive General Liability Policy Clause (3)(K) (Oct., 1966).

297. *Id.*

298. R. NADER, *UNSAFE AT ANY SPEED* (1965); R. SERLING, *THE ELECTRA STORY* (1963).

299. "[C]ompleted operations hazard" includes bodily injury and property damage arising out of operations or reliance upon a representation or warranty made at any time with respect thereto, but only if the bodily injury or property damage occurs after such operations have been completed or abandoned and occurs away from premises owned by or rented to the named insured.

Mutual Insurance Rating Bureau and the National Bureau of Casualty Underwriters, Standard Comprehensive General Liability Policy (Oct., 1966).

store. A customer buys a bottle of coke, which explodes and injures the customer before he leaves the premises. The customer sues the grocer. Under the definition of "completed operations," this loss would not be covered by the policy. This gap would need to be filled by buying additional coverage.<sup>300</sup>

Another gap is what one author has called the "sister-ship exclusion."<sup>301</sup> Under the typical products liability insurance policy, the insured is obligated to take steps promptly and at his own expense to prevent other losses from arising out of the same or similar conditions.<sup>302</sup> If the insured does not take such steps, the insurer may deny coverage.

These three gaps in coverage demonstrate the undesirability of making compulsory this type of insurance, as it is now limited. It is doubtful that insurers could effectively be induced, by law, to broaden their coverage. Also, the political attractiveness of compulsory products liability insurance would be rather low. In the analogous area of compulsory insurance for motor vehicle drivers, only three states (Massachusetts, North Carolina, and New York) have adopted compulsory systems. This is true even though the first such law was enacted in 1925 and similar laws have been proposed in many other states.<sup>303</sup>

The insurance industry has consistently opposed compulsory liability insurance for motor vehicle drivers. At first blush, it might seem that the insurance industry would welcome any law that required people to buy their product. But this is not the case, because the rates for required insurance are rigidly controlled by the state.<sup>304</sup> This, coupled with the fact that the rates fixed by the state do not cover the claims, is enough to alienate the insurance industry. Thus, it is reasonable to assume that the same opposition would be invited by proposals for compulsory products liability insurance.

Under a financial responsibility law, the seller would be required to file security with the state when the aggregate of his claims reached a prescribed level. Products liability insurance above the statutory minimum would fulfill the requirement of security. Many variations of this plan could be advanced. The principal criticism of this type of law is that the requirement of security is premised on a minimum number of unprotected

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300. Anderson, *Current Problems in Products Liability Law and Products Liability Insurance*, 31 *INS. COUNSEL J.* 436 (1964).

301. Mutual Insurance Rating Bureau and the National Bureau of Casualty Underwriters, *Standard Comprehensive General Liability Policy Clause (4)* (Oct., 1966).

302. Sorensen, *The New Comprehensive General Liability Policy's Products Liability Coverage*, 1966 *INS. L.J.* 645 (1966).

303. Grad, *Recent Developments in Automobile Accident Compensation*, 50 *COLUM. L. REV.* 300, 313-17 (1950).

304. Comment, *The Financially Irresponsible Motorist: A Survey of State Legislation*, 10 *VILL. L. REV.* 545 (1965).

claims. The first victims may be uncompensated. Despite this weakness, state legislatures have looked with favor on similar statutes in the field of motor vehicle accident compensation. All states have enacted some kind of motor vehicle financial responsibility statute.<sup>305</sup> These laws have succeeded mainly because the insurance industry prefers them to compulsory insurance laws.

These are the two basic approaches for insuring the financial responsibility of the seller. Their desirability depends ultimately on a determination that there is a significant number of people injured by defective household products who are unable to collect compensation from financially responsible defendants.<sup>306</sup>

### C. Public Consumer Insurance†

The United States has a population of 200 million people. At least ten million each year, as of 1960, have accidents. Of these 100,000 are fatalities.<sup>307</sup> Thus, over five percent of the population annually become accident victims. Naturally, not all of these victims, or possibly even a large percentage of them, are victims of unsafe products. Although the percentage is unknown, these figures suggest the possible scope of the problem. The National Safety Council estimates that in lost wages and medical expenses alone the cost of these accidents runs to five billion dollars annually.<sup>308</sup>

Questions as to how many of these accidents result from the use of defective products, how many of the victims are compensated, and how adequately they are compensated cannot be answered. However, it is assumed here that, for such reasons as failure to prove causation, a substantial percentage is now being denied compensation. The purpose

305. For a complete list of the citations see *Kesler v. Dep't of Public Safety*, 369 U.S. 153, nn. 29-39 (1962).

306. A. EHRENZWEIG, *FULL AID INSURANCE FOR THE TRAFFIC VICTIM* (1954); R. HURSH, *AMERICAN LAW OF PRODUCTS LIABILITY* (1961); Brown, *The Financial Responsibility Laws*, 3 *LAW & CONTEMP. PROB.* 505 (1936); Dickerson, *The Expanding Risks of Products Liability*, 16 *BUS. LAW.* 682 (1961); Jackson, *Wrestling with Strict Liability*, 1966 *INS. L.J.* 133; Kimball, *Legislative and Judicial Control of the Terms of Insurance Contracts: A Comparative Study of American and European Practice*, 39 *IND. L.J.* 675 (1964); Kimball, *Administrative Control of the Terms of Insurance Contracts: A Comparative Study*, 40 *IND. L.J.* 143 (1964); Wendorff, *The "Business Risk" Problems of Products Liability Insurance*, 35 *WIS. B. BULL.* 29 (1962).

† By Robert D. Hawk.

307. NATIONAL SAFETY COUNCIL, *ACCIDENT FACTS 3* (1958); NATIONAL SAFETY COUNCIL, *ACCIDENT FACTS 3* (1959); NATIONAL SAFETY COUNCIL, *ACCIDENT FACTS 3* (1960).

308. NATIONAL SAFETY COUNCIL, *ACCIDENT FACTS 4* (1958); NATIONAL SAFETY COUNCIL, *ACCIDENT FACTS 4* (1959); NATIONAL SAFETY COUNCIL, *ACCIDENT FACTS 4* (1960). This figure includes for wage loss, wage losses due to temporary inability to work, lower wages after returning to work due to permanent impairment, and the present value of future earnings of those totally incapacitated or killed.



of the present discussion is to consider one of the alternatives to the present system of private compensation that inheres in products liability. This alternative is public compensation.

The term "accident compensation," when "accident" is used in its broadest sense to include all except intentional harm, is broad enough to cover a wide variety of approaches: (1) compensating all consumers, careless or not, whose injuries resulted from using manufactured products; (2) compensating all consumers whose injuries resulted from using defectively manufactured products; (3) compensating careful consumers whose injuries resulted from using defectively manufactured products; or (4) compensating careful consumers whose injuries resulted from using defectively manufactured products and who have made a reasonable, but unsuccessful, attempt to collect from the seller or manufacturer. There is also a wide variety of ways to measure the amount of consumer compensation. The injured consumer could be compensated similarly to injured employees under workmen's compensation; that is, either according to impairment of his earning power or according to a pre-established schedule. Another means of measuring compensation is to litigate damages as is now done in products liability cases. Under this approach, the injured consumer can recover for pain and suffering or any other compensable loss that he can claim at common law. A third approach is simply to pay the consumer the income he lost during his period of disability.

Although the idea of accident compensation is not new, it has thus far met with only limited success in English-speaking countries. The province of Saskatchewan, Canada, adopted a limited version of accident compensation in 1952 with the passage of its Automobile Accident Insurance Act. This act does not require the claimant to show that the accident resulted from any defect in the automobile or that he was without fault. It requires only that the claimant be injured in an automobile accident. In such a case he is compensated on the basis of the impairment of his earning power or according to a pre-established schedule specifying the amount of the award for the specific injury. If the injured party believes that he can prove fault, he may sue in the courts and try for a full common law recovery. But even if he loses, he retains his right to benefits under the statute. None of Saskatchewan's sister provinces, however, has emulated her.

England, like many of her European neighbors, has enacted a comprehensive system of social insurance of which compensation for accidents forms only a part. It includes other insurance such as unemployment, sickness, maternity, and widowhood insurance. This system does not try to compensate the injured consumer for his loss but to

provide him with an income while he is incapacitated. The consumer or other victim is, therefore, not compensated for specific injuries or for loss of earning power. This system co-exists with the traditional court remedies based on a showing of fault.

In the United States, where discussion of public accident insurance has been limited to automobile accidents, the idea of a system such as England's was debated with some fervor in the early thirties. In 1932, the *Columbia Report*<sup>309</sup> recommended the adoption of a system in which compensation would be based either on the impairment of earning power or on a pre-established schedule for specified injuries and would be limited to the victims of automobile accidents. In recent years only the Bar Association of the State of California seems to have concerned itself with the possibility of an accident compensation plan and it ultimately rejected the idea.<sup>310</sup>

Thus, the answer to the question "which plan and why?" depends on what a legislature hopes to accomplish. This in turn depends on whether it considers accident compensation as a supplement or as an alternative to the civil remedies of products liability, or as something more.

Compensating the careful consumer through accident compensation does not involve a radical departure from present substantive law. Theoretically, a careful consumer injured by a defective product may recover from the manufacturer or distributor if he can prove negligence or establish a warranty or other strict liability on the part of the manufacturer. But despite the increasing application in recent years of strict liability against manufacturers, there remains a substantial number of cases in which the consumer, although guiltless himself, is unable for legal or practical reasons to recover and must thus absorb the loss himself. These furnish the incentive for adopting a system of accident compensation for the careful consumer.

Other arguments advanced for public accident compensation for the careful consumer are: (1) that those who benefit from the use of a product should share in the burden of paying for the losses that result from its defective manufacture; (2) that compensation for the harm resulting from the marketing of a defective product is a cost of production that should be borne by the manufacturer, much as accidents to employees are recognized as a cost of production under workmen's compensation; (3) that because of the great number of personal injury cases on the

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309. COMMITTEE TO STUDY COMPENSATION FOR AUTOMOBILE ACCIDENTS, REPORT TO THE COLUMBIA UNIVERSITY COUNCIL FOR RESEARCH IN THE SOCIAL SCIENCES (1932).

310. Jenkyn, Glass & Hughes, *Liability Without Fault*, 37 AUSTRALIAN L.J. 209, 215 (1963).

court dockets, there is a great delay in the prosecution of legal actions, with the result that a citizen has to wait overly long to gain appropriate relief; and (4) that, under the present system, the burden of the uncompensated accident falls on the person least able to afford it.

In addition to causation the consumer should be required to prove only two things to become eligible to be compensated: that he was free from contributory fault, and that the offending product was defective. He should not be required to prove that someone else was at fault.

Because the system proposed envisages the continuation of the doctrines of assumption of risk, contributory negligence, and mitigation of damages, there seems to be no justification for limiting the amount of consumer's recovery. He should be entitled to recover all losses for which he would be allowed recovery at common law, including loss of wages, medical expenses, property damage, and pain and suffering.

Manufacturers whose products are marketed in interstate commerce would be required to take out a specified amount of liability insurance to guarantee the injured consumer a recovery. Because only the careful consumer would be covered under such a plan, it is unlikely that it would result in a large increase in litigation. Therefore, litigation could be handled within the existing court structure. The issues to be litigated at trial would be limited to proof of causation, defectiveness of the product, damages, and the absence of contributory fault. Reduced to its simplest terms, this approach would merely assure that civil products liability offered more than the benefits of a mere cause of action. In essence, it is a system of compulsory products liability insurance.

This approach seems acceptable. It presents only minor problems of finance and administration and disturbs none of the traditional substantive law. The main objection is that, because of the difficulty of showing the consumer's contributory fault, it might tend to underwrite the consumer's expectations even when he is careless.

Under prevailing legal principles, if a person's own fault has contributed to the cause of the accident in which he is injured, he is barred from recovery; our courts do not recognize the doctrine of comparative negligence. Thus, the arguments for compensating the careless consumer must look for justification outside the existing legal and political traditions of the United States.

It can be argued that accidents are inevitable in a highly industrialized, mechanized society and that it is unrealistic to expect that citizens will not, at times, be careless in their use of the myriad available consumer products. American society is highly dependent on the manufacture and use of such products. Therefore, it does not seem that those who are injured by these products, whether negligent or not, should

be forced to absorb alone the loss from their use, from which the public benefits and on which it is strongly dependent.

The validity of this argument has been recognized in workmen's compensation laws, which do not require that the injured employee be free from fault. Workmen's compensation accepts the proposition that human beings are imperfect and that on occasion they carelessly injure themselves. The employee receives compensation for his injury and the cost of compensation is treated as an element in the cost of production. This approach appears no less valid when applied to the over-all cost of living in an industrial society and extended to cover those accidents that result from the use of the automobile that takes us to work or from the plate glass windows that enclose large commercial buildings. It seems unrealistic to distinguish between the accident on the job and the accident in the home or on the highway on the basis that one is a legitimate cost of production in an industrial society and the other is not. If people did not buy and use these products produced by the industrial complex, there would be no such complex. The private individual has no real choice as to whether or not he will use these products.

The careless consumer should be required to prove only that the accident resulted from the use of a manufactured product, that the product was defective, and what his loss was. How much compensation the careless consumer should receive is problematical. Because this system of compensation would greatly increase the number of persons eligible for relief, it would probably be undesirable to allow him to recover all that he might recover at common law.

This suggests two possible options. The first would be to adopt a system of compensation similar to that of workmen's compensation; that is, to allow the victim to recover for loss of wages and medical expenses growing directly out of the accident. If the loss of a limb or other permanent disability were involved, the amount of the recovery would be determined by a pre-established schedule. This is the type of compensation system that was recommended by the *Columbia Report* and adopted by the province of Saskatchewan, Canada. The second option would be to adopt a system of accident insurance such as that adopted in England. This does not try to compensate the victim so much as to provide him with living expenses during his period of incapacitation. Such a system of accident compensation could be financed by requiring all manufacturers engaged in interstate commerce to buy a specified amount of insurance or by requiring all citizens to pay for its support through increased taxes.

Under either option, a governmental agency would be needed to administer the program. A commission would be needed not only to determine the award but also to decide such questions as whether or not

the manufacturer of the product involved was engaged in interstate commerce and whether or not the accident resulted from the use of a defectively manufactured product. It would also be desirable to provide for judicial review. Another problem is whether the victim's right to sue at common law should be preserved, as in Saskatchewan, or whether the victim should be limited to recovery under the act.

The adoption of either option would involve a radical departure from both substantive and procedural legal traditions in the United States. Criticism on the substantive side would focus on: the abandonment of the doctrine of fault as a basis for liability; the fact that an individual may protect himself simply by purchasing accident insurance; the fact that many persons are covered by accident insurance and hospitalization insurance through their employment; the fact that every state has unemployment benefits on which an incapacitated person may rely; the fact that not only is automobile insurance purchased by most motorists but a motorist may also buy automobile insurance that will protect him if the motorist causing the accident has none; and the fact that the liability of the manufacturer has broadened through warranty and other strict products liability. There is also the question of whether such legislation would encourage the consumer to behave carefully or would tend to make him lax.

If it were decided not to preserve the victim's common law right to sue, the adoption of such a system would be open to further criticism on the ground that it did not fully compensate the victim who had exercised due care. Another criticism is that it would not distinguish between victims who earned 50,000 dollars a year and those who earned only 5,000 dollars a year. Both would be entitled to the same amount.

Opposition to such a plan would probably be considerable. If manufacturers were to carry the burden through having to take out additional insurance, they would probably resist the measure on the grounds that (1) the manufacturer should not be forced to carry the burden of an industrial society that benefits all; (2) they will be unable to pass the total burden to the consumer in higher prices—this will lower capital incentive and profits; (3) even assuming they could pass on the burden, the consumer of manufactured products should not be forced to carry the burden of an industrial society that benefits all; and (4) an increase in the cost of their product is likely to effect the demand for the product and thereby discourage industrial expansion and encourage the growth and services, which is not in the best interests of the nation. The insurance companies are likely to oppose one of the options as the first step toward state insurance and political interference in the setting of rate schedules. Many of the attorneys who depend on personal injury litigation at least to

pay their overhead, if not to provide the substance of their livelihood, would probably be apprehensive lest such a system reduce the role of the lawyer and his importance to society. As for the typical citizen, there is no question of the appeal of security, but whether or not the American people are willing to accept this kind of social welfare legislation at this point in history is another question.<sup>311</sup>

#### TAB A†

#### INVENTORY OF FEDERAL STATUTES RELATING TO HOUSEHOLD PRODUCTS SAFETY

Section 6 of Senate Joint Resolution 33<sup>312</sup> specifically excludes from present consideration most of the federal acts dealing with product safety in the field of household goods. There are, however, a few statutes, not excluded by section 6, that deal directly or indirectly with the area.

The Refrigerator Safety Act,<sup>313</sup> although aimed basically at the same hazards as its state counterparts, provides only that transportation in interstate commerce of any refrigerator not equipped with a safety device allowing the door to be opened from the inside, is prohibited and the Secretary of Commerce is authorized to prescribe regulations and standards for the devices to be used on refrigerator doors. A violation of the Act is a misdemeanor and carries a maximum fine of 1,000 dollars.

The National Safety Council is incorporated by a statute<sup>314</sup> that, although not a safety statute as such, creates a corporation whose stated purposes are to promote safety in public as well as private places, to publish data on safety methods and procedures, and generally to arouse public interest in accident prevention. Although the Council is not engaged in regulating product manufacture and design, it serves a useful educational purpose in the area of household products safety.

There are several other federal acts that, although not aimed specifically at household products safety, indirectly deal with a few specific areas of concern. The Labeling of Wool Products Act,<sup>315</sup> while aimed specifically at unfair trade practices, has an indirect effect beneficial to a person sensitive to wool. The Labeling of Fur Products Act<sup>316</sup> has the

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311. For further information in this area, see Franklin, Chanin, & Mark, *Accidents, Money, and the Law: A Study of the Economics of Personal Injury Litigation*, 61 COLUM. L. REV. 1 (1961); Friedman, *Social Insurance and the Principles of Tort Liability*, 63 HARV. L. REV. 241 (1949); *Liability Without Fault*, *supra* note 310; Morris & Paul, *The Financial Impact of Automobile Accidents*, 110 U. PA. L. REV. 913 (1962).

† By James H. Eskridge.

312. Act of Nov. 20, 1967, Pub. L. 90-146, 81 Stat. 466.

313. 15 U.S.C. §§ 1211-14 (1964).

314. 36 U.S.C. §§ 461-79 (1964).

315. 15 U.S.C. § 68 (1964).

316. 15 U.S.C. § 69 (1964).

same indirect effect, although it, too, is aimed at unfair trade practices. The Textile Fiber Products Identification Act<sup>317</sup> indirectly has much the same effect as the state laws dealing with the labeling of bedding materials and furniture, although it, too, is aimed at unfair trade practices. Under another statute, the transportation of fireworks into a state that prohibits their sale and use, except for transportation directly through to another state, is punishable by a fine of 1,000 dollars, one year in prison, or both.

Thus, there are few specific statutes dealing with the safety of products used in the home and these are enforced and administered by widely divergent agencies. The large percentage of hazards noted in this Report have received no federal coverage. A few are dealt with by local law at the state level. Even taking account of the statutes excluded by section 6 of Senate Joint Resolution 33,<sup>318</sup> statutory coverage of the area is sparse at both the state and federal levels. This points up the need for a detailed review and re-evaluation of the needs and possibilities for legislation or other regulation.

#### TAB B†

##### INVENTORY OF STATE STATUTES RELATING TO HOUSEHOLD PRODUCTS SAFETY

This statutory survey deals with "household products," defined in Senate Joint Resolution 33 as "products customarily produced or distributed for sale through retail sales agencies or instrumentalities for use by a consumer or any member of his family."<sup>319</sup> The survey does not deal with state regulation of products specifically excluded from that definition by section 6 of the Resolution. Thus, it does not include products regulated under the National Traffic and Motor Vehicle Safety Act of 1966,<sup>320</sup> the Flammable Fabrics Act,<sup>321</sup> the Hazardous Substances Labeling Act,<sup>322</sup> the Federal Cigarette Labeling and Advertising Act,<sup>323</sup> the Federal Insecticide, Fungicide and Rodenticide Act,<sup>324</sup> and the Federal Food, Drug, and Cosmetic Act.<sup>325</sup>

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317. 15 U.S.C. § 70 (1964).

318. Act of Nov. 20, 1967, Pub. L. 90-146, 81 Stat. 466.

† By James H. Eskridge & Donald Lewis.

319. Act of Nov. 20, 1967, Pub. L. 90-146, 81 Stat. 466.

320. 15 U.S.C. §§ 1381-1425 (Supp. II, 1965-66).

321. 15 U.S.C. §§ 1191-1200 (1964).

322. 15 U.S.C. §§ 1261-73 (Supp. II, 1965-66).

323. 15 U.S.C. §§ 1331-39 (Supp. II, 1965-66).

324. 7 U.S.C. § 135 (1964).

325. 21 U.S.C. §§ 301-92 (1964). State coverage of these areas is collected in a report by the House Committee on Government Operations concerning consumer protection activities of the state governments. Some of the data has been published. See HOUSE COMMITTEE ON GOVERNMENT OPERATIONS, CONSUMER PROTECTION ACTIVITIES

Two striking features emerged from the state statutory survey. First, the number of products regulated in each state is small. The products can be grouped into a small number of major categories each of which receives substantially the same treatment in each of the fifty states. The vast majority of states have statutes concerning refrigerator abandonment, fireworks, bedding, and upholstered furniture. A smaller percentage have statutes concerning glass doors, plastic bags, B-B guns, gas and electric appliances, and fossil fuel burners. The second feature of state regulation is the uniformity of the sanctions used among product groupings in each state. There is heavy reliance upon criminal sanctions, usually in the form of a misdemeanor. Violators are subjected to fines, confinement, or both, in most instances. In some instances, seizure is authorized for products such as unsanitary bedding and fireworks.

Rather than include a summary of each statute, the writers have tried to describe a typical statute for each product area. After each typical statute, the states with similar statutes have been noted and citations included. No attempt has been made to evaluate the effectiveness of the statutes listed.

#### *Air Rifles, B-B Guns, and Slingshots*

The statutes in this area usually prohibit the sale of air rifles, B-B guns, and slingshots to any person under sixteen years of age. It is usually unlawful for a person under that age to possess an air rifle, B-B gun, or slingshot unless the person is on a target practice range under the supervision of an adult. There are, however, variations from the typical statute. Connecticut, for example, classifies air rifles, B-B guns, and slingshots as dangerous weapons. The states usually authorize police officers to seize such weapons. Merchants selling them in violation of the statute may be fined from twenty-five to 200 dollars.<sup>326</sup>

#### *Bedding and Upholstered Furniture*

There is almost universal regulation of the sanitation of bedding materials and upholstered furniture among the several states. The typical statute applies not only to bedding and upholstered furniture but also to articles such as quilts, pillows, and mattress pads. It is usually unlawful for any person, firm, or corporation to manufacture, renovate, sell, or hold for sale bedding or upholstered furniture in violation of the statute.

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OF GOVERNMENTS, H.R. REP. NOS. 445, 921, 88th Cong., 1st Sess. (1963). Other sections of the report were projected but never published.

326. 28 CONN. GEN. STAT. ANN. § 53-206 (1960); DEL. CODE ANN. tit. 11, § 464 (Supp. 1966); ILL. ANN. STAT. ch. 38, § 82-1 et seq. (Smith-Hurd Supp. 1966); ME. REV. STAT. ANN. tit. 17, § 854 (Supp. 1965); MASS. ANN. LAWS ch. 269, § 12A et seq. (Supp. 1966); N.H. REV. STAT. ANN. § 571:20 (1955); PA. STAT. ANN. tit. 18, § 3841 et seq. (1952).



All second-hand materials that are used in manufacturing or renovating bedding or upholstered furniture must be sanitized in accordance with standards promulgated by an administrative agency.

Usually, mandatory registration and licensing requirements exist for the manufacturer and dealer. Each article of bedding or upholstered furniture must be labeled and the label must state the type and quantity of the materials used and whether they are new or used.

Most states make a violation of the statute a misdemeanor with resultant fines, confinement, or both. The usual fine is not more than 100 dollars, while in some states it is as high as 500 dollars. The usual confinement is ninety days, while in some states it may be as much as six months. A number of states provide that each unlawful article constitutes the subject of a separate offense.

Other sanctions are also available under these statutes. Unlabeled or infected articles may be seized or subjected to injunction. Permits and licenses may be revoked by the administrative agency.<sup>327</sup>

### *Electricity and Specific Electrical Appliances*

For the most part, the states do not regulate the manufacture and sale of household appliances and devices. Regulations and statutes for the most part deal only with commercial uses and with wiring specifications under the state building codes. Two states, however, have entered the field to some extent and bring regulation and inspection to the household electrical appliance level. These states, Oregon and North Carolina, seem to be the only ones that have done any real legislating in the area.

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327. ALA. CODE tit. 57, § 95 et seq. (1958); ARIZ. REV. STAT. ANN. § 36-626 (1956); ARK. STAT. ANN. § 82-716 et seq. (1960 Repl.); CAL. BUS. & PROF. CODE § 19000 et seq. (West 1964); COLO. REV. STAT. ANN. § 66-17-4 et seq. (1963); CONN. GEN. STAT. ANN. § 19-4-19 et seq. (1960); DEL. CODE ANN. tit. 16, § 2101 et seq. (1953); FLA. STAT. ANN. § 556.021 et seq. (Supp. 1966); GA. CODE ANN. § 88-1301 et seq. (1963); HAWAII REV. LAWS § 55-1 et seq. (1955); ILL. ANN. STAT. ch. 111.5, § 301 et seq. (Smith-Hurd 1966); IND. ANN. STAT. § 35-3601 et seq. (Burns 1966 Repl.); IOWA CODE ANN. § 209.1 et seq. (1949); KAN. GEN. STAT. ANN. § 65-801 et seq. (1964); KY. REV. STAT. § 214.280 et seq. (1962); LA. REV. STAT. ANN. § 40:1191 et seq. (1965); ME. REV. STAT. ANN. tit. 26, § 81 et seq. (1964); MD. ANN. CODE art. 43, § 65 et seq. (1965 Repl.); MASS. ANN. LAWS ch. 94, § 270 et seq. (Supp. 1966); MICH. STAT. ANN. § 18.381 et seq. (1957 Repl.); MINN. STAT. ANN. § 325.25 et seq. (1966); MO. ANN. STAT. § 421.010 (1952); NEB. REV. STAT. § 71-508 (1966 Reissue); NEV. REV. STAT. § 444.010 et seq. (1963); N.H. REV. STAT. ANN. § 339:56 et seq. (1966 Repl.); N.J. REV. STAT. § 26:10-1 et seq. (1966); N.Y. GEN. BUS. LAW § 383 et seq. (McKinney 1951); N.C. GEN. STAT. ANN. § 130-171 et seq. (1964 Repl.); N.D. CENT. CODE ANN. § 23-12-01 et seq. (1960); OHIO REV. CODE ANN. § 3713.01 et seq. (Page 1954); OKLA. STAT. ANN. tit. 63, § 59 (1961); ORE. REV. STAT. § 433.405 et seq. (1965); PA. STAT. ANN. tit. 35, § 972 et seq. (1952); R.I. GEN. LAWS ANN. § 23-26-1 et seq. (1956); S.C. CODE ANN. § 32-1351 et seq. (1962); TENN. CODE ANN. § 53-2221 et seq. (1966 Repl.); TEX. REV. CIV. STAT. art. 4476a (1966); UTAH CODE ANN. § 26-12-1 et seq. (1953); VA. CODE ANN. § 32-117 et seq. (1964 Repl.); WASH. REV. CODE ANN. § 18.45.010 et seq. (1961); WIS. STAT. ANN. § 146.04 et seq. (1961).

The Oregon Act<sup>328</sup> provides that, to be approved by the Labor Commissioner, a manufacturer must maintain its own inspection laboratories and must follow through with his testing on products when they are sold. Electrical products under this law expressly include household products. Combination gas and electric appliances must meet both the standards of the American Gas Association and the standards of the Labor Commissioner, which are based on those of the Underwriters' Laboratories. A product that meets these standards is a "Certified Electrical Product" and may be sold within the state. All dealers are required to register with the Commissioner, who has the power to inspect for violations. The Commissioner may remove or disconnect any installation or device found hazardous and may seek injunctions when necessary. Violations of the statute are punished by a fine of not more than 100 dollars, confinement for sixty days, or both.

The North Carolina Act<sup>329</sup> provides that every person, firm, corporation, or association must, before selling or offering for sale at retail to the general public any electrical materials, devices, or appliances, determine whether the article complies with the regulations set forth in the statute. All such articles must have the maker's name, trade mark, or other identifying symbol on it and there must be a label on the article setting forth the voltage, current, wattage, and other appropriate ratings necessary to determine the character of the article. It is unlawful for anyone but the purchaser to remove a label.

The State Electrical Inspector is directed to enforce the statute and to accept without further inspection any article meeting the standards of Underwriters' Laboratories. If an article is not on the UL list, the Inspector may test it and hear evidence on its behalf before allowing it to be sold. But the Inspector may decline to accept any evidence of safety other than that of UL certification. A violation of the statute is a misdemeanor punishable by a fine of not more than fifty dollars, imprisonment for not more than thirty days, or both.

### *Fireworks*

The majority of states regulate or prohibit altogether the manufacture, sale, or use of fireworks within their borders. The typical definition of these articles is any explosive or combustible substance or combination of substances prepared to produce a visible or an audible effect by combustion, explosion, or detonation. In a number of states there is a catch-all provision for "other devices containing any explosive substance."

In this area, many exceptions are encountered as to the types of

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328. ORE. REV. STAT. § 479.510 (1965).

329. N.C. GEN. STAT. ANN. § 66-23 (1965 Repl.).

substances included in this general definition. Some states categorize fireworks as permissible and non-permissible types. The non-permissible types usually include the larger variety of skyrockets, roman candles, torpedoes, and dago bombs. The permissible types include the smaller firecrackers containing not more than 100 grams of powder and not more than three inches in length and one-half inch in diameter.

Some states prohibit the sale of any type of fireworks except for a certain period around the Fourth of July and even in these states the types that may then be sold are highly regulated. In all states the use of fireworks by railroad, steamship, and other transportation companies for signaling purposes is always permitted, as is their use by law enforcement officers. Industrial uses, too, are excepted in every state. Toy guns using paper caps with not more than .25 grains of power are excepted in most states. The use of blank cartridges for theatrical, athletic, or armed service events is also excepted.

In all states, public displays are permitted upon the issuance of a permit, usually from the local municipal authorities. In this situation, most states require supervision of the display by a competent operator and posting of a bond to cover any property damage or personal injuries resulting from the display. The bond is usually 2,000 or 3,000 dollars, although in some states it is as high as 10,000 dollars.

The state fire marshal's office in each state is usually given the power to enforce the statute and promulgate regulations necessary for the proper implementation of the statute. Along with the fire marshal, the law enforcement officers of the state are also required to carry out the provisions of the statute.

Possession and use of fireworks is usually a misdemeanor with fines of not more than 100 dollars, imprisonment for not more than thirty days, or both. Some states provide stiffer penalties for the unlawful manufacture, sale, or use of fireworks and the usual fine here is not less than 100 dollars nor more than 500 dollars, and the usual imprisonment is for not more than a year. Some states also provide that for each day a violation continues there is a separate offense.

In most states, the agency charged with administering and enforcing the law is also given the power to obtain injunctions and restraining orders against violators. The power to seize and destroy illegal or contraband fireworks is also given in the majority of states.<sup>330</sup>

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330. ALA. CODE tit. 14, § 125 (1958); ARIZ. REV. STAT. ANN. § 36-1602 (1956); CAL. HEALTH & SAFETY CODE § 12500 et seq. (West 1964); COLO. REV. STAT. ANN. § 53-5-1 et seq. (1963); DEL. CODE ANN. tit. 16, § 6901 et seq. (1953); GA. CODE ANN. § 92A-801 et seq. (Supp. 1966); IDAHO CODE ANN. § 39-2601 et seq. (1961); ILL. ANN. STAT. ch. 127½, § 101 et seq. (Smith-Hurd Supp. 1966); IND. ANN. STAT. § 20-1101 et seq. (Burns 1964 Repl.); IOWA CODE ANN. § 695.27 et seq. (1950); LA. REV. STAT. ANN.

*Gas Appliances and Fossil Fuel Burners*

The statutes in this area run the gamut from very specific provisions on the type of flues and vents that must be used in conjunction with approved appliances and burners to very general statutes that authorize an administrative agency to develop rules and regulations. Some statutes deal with specific products such as second-hand space heaters, while others attempt generally to minimize the explosion hazard common to the product area.

The various statutes have two things in common. Violators are guilty of a misdemeanor and a fine is imposed. In most states the violator may also be imprisoned. Fines range in magnitude from twenty to 500 dollars and imprisonment ranges from several days to three months. The second area of similarity is that the products controlled by these statutes must be of a type approved by an administrative agency, based on the standards of approval set forth by the American Gas Association and the Underwriters' Laboratories.<sup>331</sup>

*Glass Doors*

The typical statute in this area makes it unlawful after a named date to install other than safety glass in any building where such glass is used for an opening subject to human impact. This includes entrance ways, storm doors, patio doors, shower doors, and other sliding glass doors. The type of glass required in one state is a type so manufactured,

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§ 14:318 (1951); ME. REV. STAT. ANN. tit. 8, § 211 (1964); MD. ANN. CODE art. 48A, § 103 (1964 Repl.); MASS. ANN. LAWS ch. 148, § 9 et seq. (1964); MICH. STAT. ANN. § 28.440 (Rev. 1954); MISS. CODE ANN. § 7015-01 et seq. (Supp. 1966); MONT. REV. CODES ANN. § 69:2701 et seq. (1964 Repl.); NEB. REV. STAT. § 28.1003 et seq. (1964); NEV. REV. STAT. § 244.367 (1963); N.H. REV. STAT. ANN. § 160.1 et seq. (1964 Repl.); N.J. REV. STAT. § 21:2-1 et seq. (1966); N.M. STAT. ANN. § 40A-17-4 (1964 Repl.); N.Y. PEN. LAW § 1894 (McKinney 1951); N.C. GEN. STAT. § 14-410 et seq. (1953 Recomp.); N.D. CENT. CODE § 23-15-01 et seq. (1960); OHIO REV. CODE ANN. § 3743.27 et seq. (Page 1954); OKLA. STAT. ANN. tit. 11, § 655 (1961); ORE. REV. STAT. § 480.110 et seq. (1965); PA. STAT. ANN. tit. 35, § 1271 et seq. (1952); P.R. LAWS ANN. tit. 66, § 497 et seq. (1956); S.C. CODE ANN. § 66-551 et seq. (1962); S.D. CODE § 13.1607 et seq. (Supp. 1960); TENN. CODE ANN. § 53-3001 et seq. (1966 Repl.); TEX. PEN. CODE art. 1725 (1966); UTAH CODE ANN. § 11-3-1 et seq. (1953 Repl.); VT. STAT. ANN. tit. 20, § 3130 et seq. (1959); V.I. CODE ANN. tit. 23, § 731 et seq. (1966); VA. CODE ANN. § 59-214 (1950); WASH. REV. CODE ANN. § 70.77.100 et seq. (1961); WIS. STAT. ANN. § 167.10 (1961).

331. ARIZ. REV. STAT. ANN. § 36-1621 et seq. (1956) (gas appliances); CONN. GEN. STAT. ANN. § 29-59 (1960) (fuel oil burners); ME. REV. STAT. ANN. tit. 25, § 2445 et seq. (1965) (gas appliances and fossil fuel burners); MASS. GEN. LAWS ANN. ch. 148, § 25A et seq. (1965) (second-hand space heaters); MICH. STAT. ANN. § 5.2901 et seq. (1958 Rev.) (fossil fuel burners); MINN. STAT. ANN. § 463.11 (1963) (furnace); OHIO REV. CODE ANN. § 2923.25.1 (Page 1954) (gas heaters); OKLA. STAT. ANN. tit. 52, § 293 (1961) (oil and gas burners); R.I. GEN. LAWS ANN. § 23-36-2 (1956) (oil burners and stoves); TEX. REV. CIV. STAT. art. 1068 (1966) (chimneys); V.I. CODE ANN. tit. 23, § 878 (1966) (chimneys, gas and oil burners).

fabricated, or treated as to contain the safety features of laminated, wired, or tempered glass. In other states, the glass must meet the tests prescribed by the American Standards Association test Z26. These statutes usually come under the state building code and are therefore enforced by state and local inspectors. In other states an administrative agency is authorized to adopt regulations concerning glass doors. Violations usually constitute a misdemeanor, with fines from ten to fifty dollars or a ten-day confinement.<sup>332</sup>

### *Liquefied Petroleum Gas*

The statutes broadly define liquefied petroleum gas as gas composed predominantly of any of the following hydrocarbons or mixtures of them: propane; propylene; butanes, either normal butane or isobutane; and butylenes. The state fire marshal's office is the usual regulatory agency in this area, but in a few states a liquefied petroleum gas administration has been set up. The regulatory agency in every state is given the power to adopt and enforce rules, regulations, and specifications for minimum standards of design, construction, location, and installation of equipment for storing, handling, transporting, and utilizing the product. Among the most important of these is the provision for odorization of the gas. These minimum standards, which exist in virtually every state, are based on the standards set forth by the National Board of Fire Underwriters and the National Fire Protection Association.

Most states require the licensing of manufacturers and dealers. The agencies required to enforce these statutes also have rule making powers; for the most part these rules and regulations do not apply to home storage facilities or appliances using this type of gas except as to specifications for the manufacture of the containers for the gas.

In many states, products liability insurance—usually 25,000 dollars' worth—must be carried, while in others a bond of the same amount must be obtained before a dealer or manufacturer will be allowed to do business within the state. In a few states personal injury and property damage insurance must be held. Other states simply require a bond for persons delivering and installing this type of equipment.

Generally, it is a misdemeanor to violate these statutes; usually there are fines of not more than 100 dollars, confinement for not more than thirty days, or both. In some states, fines as high as 500 dollars and as much as a ninety-day confinement, or both, are possible. Other states

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332. CAL. HEALTH & SAFETY CODE § 17922.5 (West Supp. 1966); PA. STAT. ANN. tit. 35, § 5801 (1952); WASH. REV. CODE ANN. § 70.89.020 (1961).

also impose a civil penalty of 100 dollars for each day the violation continues.<sup>333</sup>

### *Plastic Bags*

The typical statute in this area defines a plastic bag as a polyethylene bag other than one used for food products, weighing not more than five pounds, intended for household use, larger than five inches in diameter, and made of a thin film of a thickness less than .001 inch. These statutes then provide that no person, firm, corporation, or association may package, deliver, or sell such an article for use around the home unless it has a warning against the suffocation hazard clearly printed on it. The typical types of warning are as follows:

(a) Keep From Children—may cause suffocation.

(b) Warning: Keep this bag away from babies and children. Do not use in cribs, beds, carriages or playpens. The thin film may cling to nose and mouth and prevent breathing.

Frequently cartoons and other things that may appeal to children are prohibited from being placed on the bag. Violators are usually fined not more than 100 dollars.<sup>334</sup>

### *Refrigerators*

The typical refrigerator abandonment statute provides that any person who abandons an icebox, refrigerator, or other partially airtight container in an area accessible to children, without first removing the door or hinges, is guilty of a misdemeanor. A substantial number of states also provide the same sanction for any owner, lessee, or manager of property who allows such a container to remain on the property without first removing the door or hinges.

The standard penalty imposed for a violation of the statute is a fine of not more than 100 dollars, imprisonment for not more than thirty days, or both. Usually each day the violation continues constitutes a separate offense. Some states provide for higher penalties for subsequent violations. A few states specifically provide that a violation of the statute will not, in itself, make the violator guilty of manslaughter.<sup>335</sup>

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333. ALA. CODE tit. 26, § 179(59) et seq. (1958 Recomp.); ILL. ANN. STAT. ch. 104, § 119 et seq. (Smith-Hurd 1966 Supp.); N.M. STAT. ANN. § 65-7-1 (1953); OKLA. STAT. ANN. tit. 52, § 420 (1961); ORE. REV. STAT. § 480.410 et seq. (1965); S.D. CODE § 31.03A06 et seq. (1960 Repl.); VA. CODE § 27-88 (1964 Repl.).

334. CAL. BUS. & PROF. CODE § 22200 et seq. (West 1964); MASS. ANN. LAWS ch. 111, § 5D (Supp. 1966) (here power to adopt regulations concerning plastic bags is given to a state administrative agency); R.I. GEN. LAWS ANN. § 11-9-16 (1956).

335. ALA. CODE tit. 6, § 371(1) (1958); ALASKA STAT. § 18.60.400 et seq. (1962); ARIZ. REV. STAT. ANN. § 36-1651 (1956); ARK. STAT. ANN. § 82-730 (Supp. 1965); CAL.

*Toys*

The statutes dealing with toys in general attempt to minimize the risk of unsanitary or poisonous toys. Typically, the statute prohibits the sale or offering for sale of toys that contain certain hazardous chemicals such as lead or acid, contain contaminated or filthy substances, are produced under unsanitary conditions, are stuffed or lined with toxic materials, or are stuffed, padded, or lined and are not securely wrapped or packaged. Violators are guilty of a misdemeanor and are usually subject to a small fine, short imprisonment, or both.<sup>336</sup>

A few states have statutes dealing only with toy pistols.<sup>337</sup> The typical statute in this area prohibits the sale or offering for sale of toy pistols or other devices that are used for the purpose of exploding caps or wafers containing fulminates or other explosive compounds. In at least one state, however, the statute only covers blank cartridges and specifically excludes caps. Violators are guilty of a misdemeanor with fines of ten to fifty dollars or imprisonment for from ten to twenty days.<sup>338</sup>

*Miscellaneous Statutes*

Connecticut requires that second-hand hats be labeled as such when sold. Violators are guilty of a misdemeanor and may be fined up to 100 dollars and imprisoned for one year.<sup>339</sup> North Dakota requires that

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PEN. CODE § 402B (West 1964); CONN. GEN. STAT. ANN. § 53-206 (1958); DEL. CODE ANN. tit. 11, § 437 (Supp. 1966); FLA. STAT. ANN. § 3823.07 et seq. (1965); GA. CODE ANN. § 71-106 (1964); IDAHO CODE ANN. § 18-5816 (Supp. 1965); ILL. ANN. STAT. ch. 23, § 2356 (Smith-Hurd Supp. 1966); IND. ANN. STAT. § 10-490 et seq. (Burns 1956 Repl.); IOWA CODE ANN. § 732.20 et seq. (Supp. 1966); KAN. GEN. STAT. ANN. § 38-710 (Corrick 1964); KY. REV. STAT. § 438.150 (1962); LA. REV. STAT. ANN. § 14:324 (Supp. 1966); ME. REV. STAT. ANN. tit. 17, § 3951 (1965); MD. ANN. CODE art. 27, § 334 (1967 Repl.); MASS. ANN. LAWS ch. 271, § 46 (1956); MICH. STAT. ANN. § 28.761(4) (1954 Rev.); MINN. STAT. ANN. § 609.675 (1964); MISS. CODE ANN. § 2055.5 (1966 Recomp.); MO. ANN. STAT. § 564.665 (Vernons Supp. 1966); MONT. REV. CODES ANN. § 35-269 (1962 Repl.); NEB. REV. STAT. § 15-1211 et seq. (1962); NEV. REV. STAT. § 202.560 (1963); N.H. REV. STAT. ANN. § 147:21a (1964 Repl.); N.J. STAT. § 170:25-2 (1966); N.M. STAT. ANN. § 40A-8-6 (1953); N.Y. PEN. LAW § 1919 (McKinney 1966 Repl.); N.C. GEN. STAT. § 14-318.1 (1953 Recomp.); N.D. CENT. CODE § 12-18-11 (1960); OHIO REV. CODE ANN. § 3767.29 (Page 1954); OKLA. STAT. ANN. tit. 21, § 1208 (1961); ORE. REV. STAT. § 166.560 (1965); PA. STAT. ANN. tit. 18, § 4699.8 (1952); R.I. GEN. LAWS ANN. § 11-9-10 (1956); S.C. CODE ANN. § 16-94 (1962); S.D. CODE § S13.1626 (Supp. 1960); TENN. CODE ANN. § 39-2212 (1956); TEX. PEN. CODE art. 1721A (Vernon 1966); VT. STAT. ANN. tit. 13, § 1310 (1959); VA. CODE ANN. § 18.1-415 (1960 Repl.); WASH. REV. CODE ANN. § 9.03.010 (1961); WIS. STAT. ANN. § 167.25 (1961); WYO. STAT. ANN. § 35-485 (1957).

336. CAL. HEALTH & SAFETY CODE § 25895 et seq. (West 1964); CONN. GEN. STAT. ANN. § 19-210b (Supp. 1966) (disinfection of stuffing required); KAN. GEN. STAT. ANN. § 65-2701 et seq. (1964).

337. In the majority of states, toy pistols are covered by the fireworks statutes.

338. IND. ANN. STAT. § 10-4703 (Burns 1956 Repl.); IOWA CODE ANN. § 695.27 et seq. (1950); KAN. GEN. STAT. ANN. § 38-701 (1964); LA. REV. STAT. ANN. § 14:319 (1951); UTAH CODE ANN. § 76-23-6 (1953); WIS. STAT. ANN. § 167.10 (1961).

339. CONN. GEN. STAT. ANN. § 19-425 (1958).

before there may be a public sale of second-hand clothes, bedclothes, furniture, or any article used to furnish or decorate a home, the article must be thoroughly disinfected in a manner approved by the State Board of Health. A violation constitutes a misdemeanor with a fine of not less than twenty nor more than 100 dollars or imprisonment for not less than thirty days or more than ninety.<sup>340</sup>

Tennessee requires all manufacturers of clothing and cigars to register with the State Board of Health. All manufacturing establishments, factories, or workshops must be kept in a "cleanly state" based upon the rules set forth by the State Board of Public Health. If an unsanitary condition is found by either the Board of Health inspectors or the Inspector of Factories, such orders as the public health may require shall be issued. The Board of Health is authorized to condemn or disinfect any infectious or contagious articles found. The Board is also authorized to inspect any articles of clothing transported into the state. Violators of the statute or rules of the Board of Health are fined from ten to 100 dollars for each offense.<sup>341</sup>

#### TAB C†

##### GENERAL BIBLIOGRAPHY

R. DICKERSON, *PRODUCTS LIABILITY AND THE FOOD CONSUMER* (1951).

W. HADDON, E. SUCHMAN, & D. KLEIN, *ACCIDENT RESEARCH* (1964).

DEP'T. OF HEALTH, EDUCATION AND WELFARE PUBLIC HEALTH SERVICE, *ESTIMATES OF INJURIES ASSOCIATED WITH PRODUCTS, EQUIPMENT AND APPLIANCES IN THE HOME ENVIRONMENT* (1966).

HOUSE COMMITTEE ON GOVERNMENT OPERATIONS, *CONSUMER PROTECTION ACTIVITIES OF FEDERAL DEPARTMENTS AND AGENCIES* H. R. REP. NO. 121, 87th Cong., 1st Sess. (1961).

I. OPPENHEIM, *THE FAMILY AS CONSUMERS* (1965).

H. SORENSON, *THE CONSUMER MOVEMENT—WHAT IT IS AND WHAT IT MEANS* (1941).

F. WILHELMS, *A CONSUMER ECONOMICS* (3d ed. 1966).

Dickerson, *Group Interests in the Field of Food Law*, 13 RUTGERS L. REV. 497 (1959).

Jensen, *Preventive Implication of a Study of 100 Children Treated for Serious Burns*, 24 PEDIATRICS 623 (1959).

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340. N.D. CENT. CODE § 23-12-02 (1960).

341. TENN. CODE ANN. § 53-2201-04 et seq. (1966 Repl.).

† By James H. Eskridge.



Nader, *The Engineer's Professional Role: Universities, Corporations and Professional Societies*, ENGINEERING EDUCATION (Feb. 1967).

Sand & Weisburg, *Translating Sympathy for Deceived Consumers into Effective Programs for Protection*, 114 U. PA. L. REV. 395 (1966).

Wolfstone, *Major Legal Problems: Glass Door Accidents*, TRIAL, Oct.-Nov. 1966, at 25.

*Accident Beliefs Shattered by Survey*, TRIAL, Oct.-Nov. 1966, at 4.  
*Symposium on Consumer Protection*, 64 MICH. L. REV. 1203 (1966).