

1964

Finding an Expert Witness in the Sciences

Ralph K. Davies

Follow this and additional works at: <https://engagedscholarship.csuohio.edu/clevstrev>



Part of the [Evidence Commons](#), and the [Science and Technology Law Commons](#)

[How does access to this work benefit you? Let us know!](#)

Recommended Citation

Ralph K. Davies, Finding an Expert Witness in the Sciences, 13 Clev.-Marshall L. Rev. 309 (1964)

This Article is brought to you for free and open access by the Journals at EngagedScholarship@CSU. It has been accepted for inclusion in Cleveland State Law Review by an authorized editor of EngagedScholarship@CSU. For more information, please contact library.es@csuohio.edu.

Finding an Expert Witness in the Sciences

Ralph K. Davies*

JUST AS THE GENERAL PRACTITIONER has almost disappeared from medicine, to be replaced by specialists, so has the general chemist been replaced by colloidal chemists or instrumental analytical chemists. The same thing has happened in the other branches of science.

To the uninitiated a classification of diversified sciences upsets the notion that science is one field of knowledge. There are times when even a scientist in one area has difficulty in locating an expert in another area. How then does one find a scientific expert?

The Librarian already has made an attack on the classification of scientific endeavors which will aid the search. The Dewey decimal system distinguishes between Pure Science and Technology, assigning 500 numbers to the former and 600 to the latter.

The classifications of science and technology are given here, with a few of the subdivisions.

- | | |
|--|--|
| I. Pure Science | B. Sound |
| A. Philosophy and Theory | C. Modern Physics (nuclear) |
| B. Periodicals | V. Chemistry |
| C. Organizations and Societies | A. Physical and Theoretical |
| II. Mathematics | B. Analytical (Quantitative and Qualitative) |
| A. Arithmetic | C. Inorganic |
| B. Algebra | D. Organic |
| C. Geometries | VI. Crystallography |
| III. Astronomy and allied sciences | VII. Mineralogy |
| A. Earth (astronomical geography) | VIII. Earth Sciences |
| B. Celestial Navigation | IX. Paleontology |
| C. Chronology | X. Anthropology & Biology |
| IV. Physics | A. Bio-chemistry |
| A. Mechanics of solids, liquids, gases | XI. Botanical Science |
| | XII. Zoological Sciences |

* Assoc. Prof. of Chemistry, Dept. of Chemistry, Baldwin-Wallace College.

Technology has the following divisions:

- | | |
|-----------------------------------|--|
| I. Technology | B. Home planning |
| A. Philosophy, Theory | C. Household management (sanitation, child care) |
| B. Organizations and Societies | |
| II. Medical Sciences | VI. Business |
| III. Engineering | VII. Chemical Technology |
| A. Sanitary and municipal | A. Industrial chemicals |
| IV. Agriculture | B. Explosives and fuels |
| A. Useful invertebrates | C. Food Technology |
| B. Hunting and fishing industries | VIII. Metallurgy |
| V. Home Economics | IX. Manufacturers |
| A. Food | X. Others |
| | XI. Building Construction |

A more detailed division and subdivision of the above areas may be found by (1) enlisting the aid of the Librarian and (2) utilizing the Table of Contents of abstracts of each category. The abstracts contain a useful summary of all articles published in one field for a specific time period, *e.g.*, "Chemical Abstracts." This specific abstract, organized under thirty-one special branches of chemistry, contains indexes of subject, author and formulae. Therefore, an inspection of it will quickly define and narrow the area under investigation.

Once the specific area is designated, the next problem is how to find someone proficient in it.

Professional scientists may be found in groups organized for three fundamental reasons: (1) specific interests, (2) professional interests, (3) educational or scholarly interests.

Specific interest groups are those in which the specialized talents of the scientist are used to control the quality of a product and to develop new ones, *i.e.*, industrial groups. For a question on paints, for example, seek the aid of the technical personnel of a paint company. Government agencies, set up for advancement and utilization of scientific knowledge, may be contacted at the national, state, and county levels, *e.g.*, the Public Health Service and the National Institute of Health. Also, some Research Institutes and Foundations are organized for the utilization of special scientific talents. Contacting any one of these groups is a matter either of using a local directory or writing to the Department of Health, Education, and Welfare, Washington, D. C.

Professional groups, organized for helping the specialist to keep abreast of developments in his and related fields, are known as Societies, examples of which are listed below:

Alpha Chi Sigma	Cleveland Regional Council of Science Teachers
American Assoc. of Cost Engineers	Cleveland Society of Medical Technologists
American Ceramic Society	Cleveland Society of Profes- sional Engineers
American Chemical Society	Cleveland Society for Paint Tech.
American Electro-Platers Society	Construction Specifications Inst.
American Foundrymen's Society	Elec. Maintenance Engineers Assn.
American Inst. of Architects	Electrochemical Society
American Inst. of Aeronautics and Astronautics	Gas Appliance Engineers Society
American Inst. of Chemical Engineers	Illuminating Engineering Society
American Institute of Chemists	Institute of Electrical Engineers
American Inst. of Industrial Engineers	Instrument Society of America
American Inst. of Mining, Met- allurgical & Petr. Engineers	Manufacturing Engineering Society
American Inst. of Plant Engineers	National Assoc. of Corrosion Engrs.
American Material Handling Society	Northern Ohio Geological Society
American Society of Civil Engineers	Naval Reserve Research Company
American Society of Heat., Re- frig. & Air Cond. Engineers	Society for Advancement of Management
American Society of Lubri- cation Engineers	Society for Applied Spectros- copy
American Society of Mech. Engineers	Society of American Military Engrs.
American Society for Metals	Society of Automotive Engineers
American Society for Quality Control	Society for Experimental Stress Analysis
American Society of Safety Engineers	Society of Packaging & Han- dling Engrs.
American Society for Testing Materials	Society of Photographic Scien- tists & Engineers
American Society of Tool & Mfg. Engin.	Society of Plastic Engineers
American Welding Society	Society of Women Engineers
Armed Forces Chem. Asso- ciation	Special Libraries Association
Association for Computing Machinery	Standards Engineers Society
Association of Iron & Steel Engineers	Tech. Association of Paper & Pulp
Cleveland Engineering Society	
Cleveland Physics Society	

Most of these organizations publish journals listing the names of scientists as well as the addresses of various headquarters. The Science and Technology division of large libraries will be helpful as a source for such journals. A rather recent development in some industrial areas has been the growth of Technical Centers. They will represent fifty or more specialized fields, and maintain a directory of local scientists. It should be noted that these Centers will not support or help any commercial enterprises. They are purely scientific in nature.

The third group which may be used as a source of information is the nearest college or university. Frequently faculty members are quite willing to offer their services, or direct the investigator to a particular expert.

At this point our man in search of an expert has found (1) the specialized area of the science related to his problem, and (2) the groups or societies to which the scientist belongs. The next problem is to utilize the witness' expert knowledge.

This may be made easier by understanding of some of the common characteristics inherent in his training. The outstanding trait of such a person is that he is not afraid to say that he does not know the answer. Nor is he reluctant to admit that data may not be conclusive, for these people are dedicated to the search for truth, not the quick answer. Because the training of a scientist requires that he question the procedure, materials and conclusions of every project, it is easy for him to think that all evidence is inconclusive. This would appear to be a barrier to the search for truth. But the probable effects of this trait can be measured by his work and his professional reputation, *i.e.*, membership in professional organizations, number of publications in the field, recommendations from his colleagues, etc. An exceptionally good measure of ability is the amount of time he has devoted to the study of his specialty, and his own contributions to the field.

The nature of scientific work encourages individual performance while discouraging public demonstrations of ability. Therefore a scientist must be prevailed upon to appear in public chiefly on the ground that he is serving truth and justice. Although his work tends towards slow, methodical and deliberate thinking, making him unprepared for rapid exchanges of ideas, a brief preliminary discussion with him can prepare him sufficiently without inferring that he is being coached or fettered.