

**THE LIGHTING OF SCHOOL-
ROOMS: A MANUAL FOR
SCHOOL BOARDS, ARCHITECTS,
SUPERINTENDENTS AND
TEACHERS**

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The Lighting of School-Rooms: A Manual for School Boards, Architects, Superintendents and Teachers by Stuart H. Rowe

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A MANUAL FOR
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SUPERINTENDENTS AND TEACHERS

BY

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PREFACE

It has been common report that the principles on which the lighting of a school depended were not known and that the whole subject was still in a chaotic state. My studies had, on the contrary, led me to the conclusion that all the important principles were not only definitely known but were capable of actual demonstration. Accordingly I made it my business to test this conclusion carefully, to ascertain the facts and the reasons underlying them. The result demonstrated quite thoroughly that the main problems of school lighting are solved already, and solved practically.

It must be admitted that one would "never guess it" from an inspection of an average half dozen or half hundred school-houses, but the fact remains that the mechanics of light is adequately known, that, given the data, the lighting value of a window of a certain size at a certain location can be readily ascertained and the effect of obstructions measured, and that the typical shapes possible for a building have all been tried. The problem for the future is simply to get all concerned *to know and respect the requirements*. There is no reason for failure except ignorance, crim-

inal negligence, and misplaced economy—no more excuse for a poorly lighted school-building than there is for an unsafe bridge. Somebody is to blame.

It is the purpose of this book to present as clearly as possible the principles on which the lighting of a school-building depends, and enough of argument to establish them without becoming unnecessarily prolix. If any apology is needed for the dabbling of a pedagogue in this problem of school architecture, let it be found in the historic fact that the architects have left it to the teachers to make demands, which they granted or not, according to their convenience. Practically every great advance in hygiene as applied to school architecture has come as the result of painstaking investigation on the part either of educators or physicians and the scientists whose aid may have been enlisted.

It was only recently that I visited a new school-building connected with a very generously endowed institution. The school itself cost several hundred thousand dollars and was a comparatively small school at that. The plans had undoubtedly been drawn by an expert architect and supervised and studied by an experienced corps of advanced educators. The day was rainy, and the rooms were dark; but the cause was not hard to determine. Neighboring buildings obstructed the light and the upper three square feet of each window (that yielding by far the best light) had been cut off from the window proper, and then, to crown all

stupidity, *curtained off permanently* by tacking shade material around it. When attention was called to it, the blunder was immediately seen and acknowledged. Similar errors in schools and college buildings could be cited almost without end. It is accordingly the design of this book so to free the principles involved from the murkiness of technique that it may prove to be a guide not merely to school-boards, superintendents, inspectors, and architects, but may quicken the teacher's perception of errors where they exist and lead him to a fuller appreciation of the necessity of his co-operation in the plans made for the lighting of his room and his school.

It is all the more necessary that teachers know the requirements of a well-lighted school-room, inasmuch as they almost never work under the direction of the architect, but in their own way make use of the appliances furnished. If it is true (and I believe it is) that the teacher is indirectly responsible for the majority of defective eyes found among pupils enjoying the advantages of well-lighted modern buildings, it is of the highest importance that he know both the requirements and how to make intelligent use of the means given him for living up to them.

No effort has been spared to include every point of vital importance, a thorough search being made through all the standard authorities. These points have been examined critically, and some which were found to rest on false principles or assumptions, and

others which were amply covered by principles already stated, have been omitted for the sake of greater clearness in the essentials. Only such titles have been included in the bibliography as have been actually used by the author or are regarded by him as absolutely essential for any extended study of the subject. For example, I have a list of forty-six titles of contributions made on this and kindred subjects by Dr. Herman Cohn. Of these only two are included.

I wish to acknowledge my indebtedness to Architects C. B. J. Snyder and L. W. Robinson for many courtesies, to Dr. S. D. Risley for his Introduction, to Dr. W. T. Harris for assistance in dealing with lighting problems in soft-coal centres, and to Dr. Charles H. Judd for help with the proof.