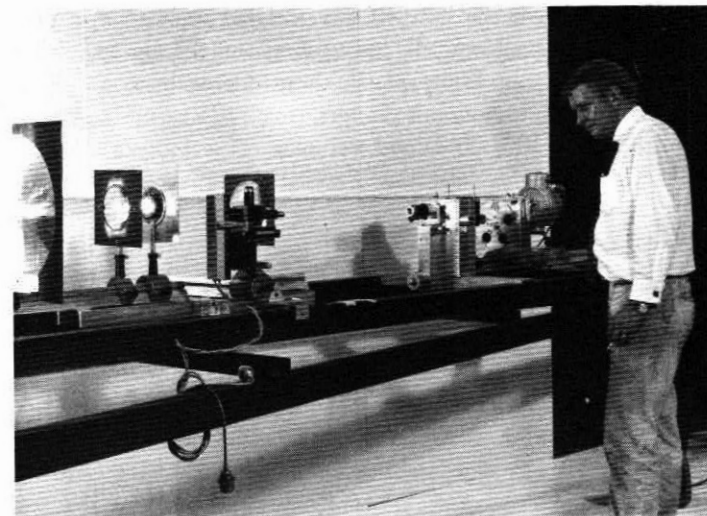


1961: "Development of a Step-and-Repeat Camera for Producing Microimages by Xerography" was one of 8 grants relating to microcopying that CLR awarded in 1961 (59 grants were awarded in total that year). The \$177,209 award to the Bell & Howell Company was CLR's second-largest grant that year.

Although microfilming had been in use for some time because it could be easily and faithfully duplicated, saved wear-and-tear on original sources, and required less storage space than its paper counterparts, the 1958 CLR annual report noted that it had "created perhaps fully as many problems as it has solved." The Council thus sought to identify areas "where it might profitably intervene."

CLR's Fifth Annual Report for the period ending June 30, 1961, describes the step-and-repeat camera in the context of CLR's other awards for microcopying that year (pp. 23–25).



HIGH REDUCTION MICROCOPYING — This optical bench is being used in conjunction with the study, at Intectron Incorporated, of various factors involved in photocopying at high ratios of reduction. More information is needed about various aspects of high reduction microphotography.

Microcopying. Although photocopying at high ratios of reduction offers advantages for dissemination (by making it possible, for example, to reproduce 10,000 pages at the cost of one), the technical problems are severe. More information is needed regarding the relationships between light, lens, emulsion, film base, and the other components of a high-reduction system. An investigation looking to the development of such information, to be so presented as to assist a microphotographer in making a best choice of components to achieve a desired result, has been undertaken for the Council by Intectron, Inc. of Boston, Massachusetts.

In the field of standardization of microfilming practice, the Council has assisted the American Library Association's Committee on Library Standards for Microfilming to prepare a new edition of the *Guide to Microfilming Practice*.

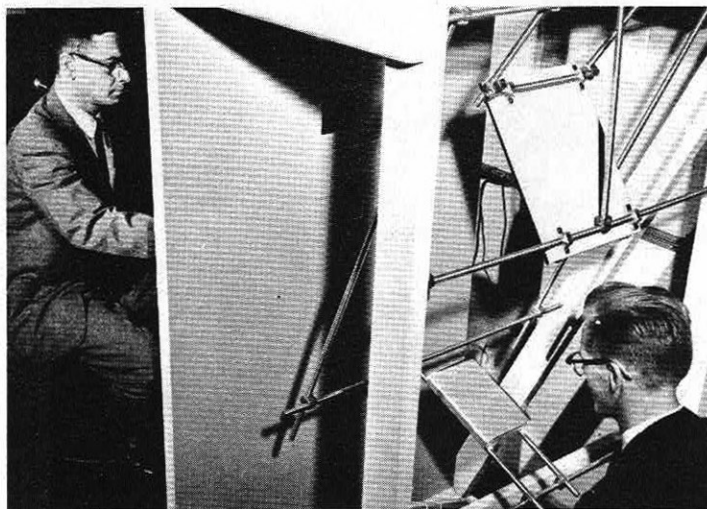
One of the most obvious advantages to be obtained by libraries from microcopying is in saving of storage space, but the cost of microcopying is so great as rarely to justify its use for space-saving alone. Additional justification is required, such as saving of binding costs, preservation against deterioration, ease of duplication, or adaptation to mechanized duplicating or information storage-and-retrieval devices.

During the year the Council has initiated studies on several aspects of the problem. It has commissioned a study from Messrs. Forbes and Waite of Waltham, Massachusetts, of the technological and economic factors involved in miniaturizing a collection of 100,000 bound volumes of periodicals, with a view to ascertaining whether the costs of microcopying can be so reduced by various devices as to give it an economic advantage in storage cost over the retention of the originals. The Council has also arranged with the AVCO Corporation for the addition of hard-copy read-out, based upon the Print-apix tube (a cathode ray tube capable of producing through electrostatic printing a facsimile of stored information) to the high-density store previously described.¹⁰ In addition, the National Bureau of Standards is preparing for the Council a state-of-the-art review, publication of which is expected, of information storage and retrieval devices making use of photofacsimile storage.

The Council has also attempted to promote the development of devices for library use in producing microcopies. One such device is a step-and-repeat camera for making microcards or microfiches by an inexpensive, dry and immediate process.

¹⁰ IV: 29-30.

TOWARD GREATER PLEASURE IN READING MICROFILM— Various factors affecting the reading of microfilm images are being investigated with the aid of this apparatus especially constructed for the purpose by the Battelle Memorial Institute. Especial note is made of "typical" reader reactions.



Another device, the "scholar's camera," is intended to produce fully processed 35 mm. microfilm within a few minutes of copying. Both devices are being engineered by the Bell and Howell Company.

The Council has continued its search, previously reported at some length, for devices to increase the contribution of the microforms to individual research by freeing their use from dependence upon the institutionalized reading machine.¹¹ In one inquiry the John R. Miles Company has continued work on a 10x-30x variable microscope magnifier for reading microtext; in another, the Battelle Memorial Institute is conducting an investigation of the factors affecting reader satisfaction in the use of microcopy, with a view to developing more satisfactory devices.

Communication of Information. One of the Council's earliest grants made possible a demonstration of the use of closed-circuit television between the central and branch libraries of a university.¹² The results were, for several reasons, not such as to justify general adoption of the idea. Nevertheless, it would appear that the techniques of telecommunication should be able to contribute to the efficiency of library work by widening the geographic service area of individual libraries and, in the process, by reducing the required number of collections of specialized or little-used material. The Council has consequently hoped that continuing development in the arts of graphic communication might at some stage make these contributions feasible. In order to evaluate the present state of these arts for the purpose, a survey of available techniques, equipment and channels for telefacsimile applicable to a library installation is being made by Image Instruments, Inc. of Boston, Massachusetts.

Electronic applications find their place, too, in systems for providing reading matter for the blind. The Council is supporting a project, conducted in part by the Library of Congress and in part by Recording for the Blind, Inc. of New York, for testing the effectiveness of tape recordings of "talking books," so encapsulated as to make them simple for a blind reader to use, in comparison with the heavier and more cumbersome disk recordings now used for the purpose.

¹¹ IV: 31-37.

¹² I: 22-23.