

## Book Reviews

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### Informational Film Year Book, 1948

Published (1948) by the Albyn Press, 42 Frederick St., Edinburgh, 2, Scotland. 200 pages. 21 figures.  $5\frac{3}{4} \times 8\frac{3}{4}$  inches. Price, 12s. 6d. net.

This second volume of the *Informational Film Year Book* follows the same pattern as the initial volume published last year. However, many additional data have been included making the book of even more value than before to producers and consumers of nontheatrical motion pictures. Eight feature articles appear on various phases of documentary films, filmstrips, and equipment. The remainder of the book consists of listings and directories covering films of the year, who's who in documentary, various organizations and societies the world over, film producers, special service firms, and equipment suppliers. The pictorial section, although not everything to be desired, adds flavor to the book and prevents it from becoming a mere compilation of articles and other information. Because of the international character of the publication, it would be helpful if a few notes were given concerning the contributors since it is not generally the case that authors are well known outside their respective countries.

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### The High-Current Carbon Arc, by Wolfgang Finkelburg

Published (1947) by the Office of Military Government for Germany (U. S.) Field Information Agency, Technical, Final Report No. 1052, through the Office of Technical Services, U. S. Department of Commerce (Publication Board No. 81644). Paper covers, photo offset from typewritten manuscript. 219 pages + x pages. 129 figures. 8 tables. 90 references.  $7\frac{1}{2} \times 10$  inches. Price, \$5.00.

This book, in the first German edition of 1944, was prepared as a confidential text for the guidance of scientists in Germany working on carbon-arc searchlight development. Since the Allies came to rely on radar communication while the enemy was still expanding the size and intensity of his antiaircraft searchlights, these latter reached a much higher state of development than here in the United States. For instance, 450- and 1000-ampere carbon-arc searchlights were in active combat use and an advanced stage of development, respectively, in Germany, as compared with the 195-ampere maximum employed by United States forces. Since searchlight arcs differ in no important theoretical respect from those employed in motion picture photography and projection, these developments are of particular interest to technicians in the motion picture industry. The book presents "the whole knowledge" in Germany of the physical properties, theory, and application of carbon-arc light sources. In addition to a treatment of previously published material, a large amount of hitherto unpublished information from the author's own laboratory as well as from other German workers and firms is included.

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The author classifies carbon arcs as of two fundamental types, low-current and high-current, depending upon the current density at the anode, and independent of the composition. He finds, for instance, that the plain "low-intensity" carbon arc, as we term it, behaves much as a high-intensity arc if it is operated at comparable current densities. Of course, the unsteadiness and the noise of this overload low-intensity arc are too great for most commercial uses, but the physical processes in the arc itself, particularly at the anode, are found to be identical with those which govern high-intensity arc operation. The first part of the book is devoted to a detailed description of the operating characteristics which distinguish the two fundamental types of arcs.

The next chapters deal with the operating properties of high-current carbon arcs, including not only the radiant output, but studies of arc temperature, carbon consumption, the transport of material through the arc, arc behavior in pure gases and at different pressures, magnetic properties of several types of arcs from the standpoint of stabilization, and chemical processes within the arc. This prepares the reader for the following theoretical section of the book, where a theory is presented explaining the fundamental differences between low- and high-current carbon arcs. In particular, the increase in arc voltage with increasing current which distinguishes the behavior of the high-current carbon arc from the negative characteristic of the low-current type, and the observed relations between current, brilliancy, and core composition are explained in terms of the author's theory.

The concluding chapter of the book deals briefly with applications of the high-current carbon arc, the section on searchlights being of particular interest on account of the very high current units employed in Germany. The German practices in the motion picture studio and projection fields and medical therapeutics are interestingly described. A concluding section, treating the carbon arc as a tool in high-temperature chemistry studies, well illustrates the author's hope that the book serve primarily as a basis and incentive for further research on the theory and application of the high-current carbon arc. To anyone interested in this field, the book provides a very worth-while background.

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### George Mitchell Receives ASC Award

The American Society of Cinematographers presented George Mitchell, Associate member of the SMPE, with a certificate of appreciation in recognition of his ceaseless pioneering in the field of motion picture photographic equipment, and his immeasurable contribution to the advancement of cinematography as an art and as a science.

The award, the first given by the Society in its thirty years of existence, was made in a surprise presentation to Mr. Mitchell, September 11, 1948. Similar awards will be made by the Society from time to time, to others whose contribution to cinematography is considered equally noteworthy.