

Books Reviewed in Science

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- Affinity and Matter*, T. H. Levere, 19 May 1972, 786
- Aging and Society*, vol. 3, M. W. Riley, M. Johnson, and A. Foner, 20 Oct. 1972, 294
- American Medicine and the Public Interest*, R. Stevens, 26 May 1972, 901
- American Physicians in the Nineteenth Century*, W. G. Rothstein, 1 Dec. 1972, 975
- The Anatomy of the Nervous System of Octopus vulgaris*, J. Z. Young, 29 Sept. 1972, 1183
- Annual Review of Biophysics and Bioengineering*, vol. 1, M. F. Morales, W. A. Hagins, L. Stryer, and W. S. Yamamoto, Eds., 8 Dec. 1972, 1083
- Aphasia, Apraxia, and Agnosia*, J. W. Brown, 9 Feb. 1973, 557
- Aphid Technology*, H. F. van Emden, Ed., 2 Feb. 1973, 470
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- Biological Fixation of Atmospheric Nitrogen*, E. N. Mishustin and V. K. Shil'nikova, 2 Feb. 1973, 467
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- Biophysics and Physiology of Excitable Membranes*, W. J. Adelman, Jr., Ed., 16 Feb. 1973, 676
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