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TITLE INFORMATION

FIBRINOGEN MEMOIRS 2

The Rise And Fall Of The Fibrin Cross-linking Controversy

Michael W. Mosesson

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BOOK REVIEW

Disagreement over a blood-clotting protein sparks mild rancor among researchers in this second volume of a memoir.

In this book, Mosesson, a University of Wisconsin Medical School professor and research scientist, revisits arguments about the structure of fibrin, a protein molecule that clots blood by forming long, ropelike fibrils. At issue is the way in which individual fibrin molecules hook together into fibrils via substructures called “gamma chains.” Do the gamma chains form “longitudinal” cross-links that bind together end to end into single fibrils or “transverse” cross-links that connect two fibrils? The author is on Team Transverse—he engaged in a spirited debate on the subject in a 2004 issue of the *Journal of Thrombosis and Hemostasis*—and here challenges the ascendancy of the longitudinal cross-linking model. He proffers research to support his position, including imaging studies with electron microscopes, protein-folding surveys, and theoretical considerations that ascribe the elasticity of blood clots to the stretching properties of transverse cross-links. Along the way, he sketches a history of research on fibrin and sprinkles in recollections, appreciations, and criticisms of other scientists, including his nemesis, John Weisel, a University of Pennsylvania professor and leading proponent of the longitudinal cross-link mode. Mosesson maintains cordial relations with the man despite Weisel’s “stubbornness” in rejecting the “mountain of evidence supporting *transverse* cross-link positioning.” The author’s memoir is aimed squarely at scientists who investigate fibrin and blood clotting, with prose pitched at the esoteric, technical level of a journal article: “That same year, Lorand et al. published his findings concerning the assembly and cross-linking of D Domains in the presence of a synthesized divalent peptide ligand that was functionally equivalent to a Fibrin E Fragment lacking Fibrinopeptide A (*des A Fragment E*).” *Occasionally, Mosesson’s writing takes a livelier, lyrical bent—he styles himself “Sleeping Beauty,” jarred awake by the longitudinal juggernaut, and passionately decries scientists’ “zombie opposition to new ideas and discoveries.”* The book’s colorful diagrams helpfully clarify the author’s descriptions of fibrin’s structure. It’s all heavy going, and Mosesson never explains why fibrin’s cross-linking configuration is important. Still, specialists in the field will find his examination of the science and the disputes around it intriguing, and lay readers with some knowledge of undergraduate biochemistry and a lot of patience should be able to get the gist of it.

An informative but dry and arcane account of an obscure scientific controversy.

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