



Fig. 9. Widmanstätten pattern in the Carlton meteorite,  $20\times$  .



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## REFERENCES

ADLER I. and DWORNIK E. J. (1961) Geological Survey Research 1961, 263-265.

ARMSTRONG H. L. (1958) Trans. Met. Soc., A.I.M.E. 212, 450-451.

METALS HANDBOOK (1948), A.S.M. Cleveland.

BARRER R. (1951) Diffusion in and through Solids. Cambridge.

Birks L. S. and Brooks E. J. (1957) Rev. Sci. Instr. 28, 709-712.

BUFFINGTON F. S., HIBANO K. and COHEN M. (1961) Acta Met. 9, 434-439.

CASTAING R. (1952) Ph.D. Thesis, University of Paris.

CASTAING R. and DESCAMPS J. (1955) J. Phys. & Rad. 304-317.

CASTAING R. (1960) Advances in Electronics and Electron Physics. L. MARTIN, (Editor), 13, Academic Press, New York, 317.

FELLER-KNIEPMEYER M. and Uhlio H. H. (1961) Geochim. et Cosmochim. Acta 21, 257-265

GOLDBERG E., UCHIYAMA A. and BROWN H. (1951) Geochim. et Cosmochim. Acta 2, 1-25.

HANSEN M. (1958) Constitution of Binary Alloys. McGraw-Hill, New York.

HENDERSON E. P. (1941) Amer. J. Sci., 239, 407.

HENDERSON E. P. and PERRY S. H. (1958) Proc. U.S. Nat. Mus. 107, 339-403.

HIRANO K., COHEN M. and AVERBACH B. L. (1961) Acta Met. 9, 440-445.

JOST W. (1960) Diffusion in Solids, Liquids, Gases. Academic Press, New York.

KRINOV E. L. (1960) Principles of Meteoritics. Pergamon Press, Oxford.

MACRES V. G. (1958) Sc.D. Thesis, Massachusetts Institute of Technology.

MARINGER R. E., RICHARD N. A. and AUSTIN A. E. (1959) Trans. Met. Soc., A.I.M.E., 215, 56-58.

Maringer R. E. and Manning G. K. (1959) WADC Tech. Rep. 59-164.

MASON B. (1962) Meteorites. John Wiley, New York.

MASSALSKI T. B. and PARK F. (1961) To be published.

ERRIL G. P. (1913) Amer. J. Sci. 4th Ser. 209, 509-525.

MULVEY T. (1959) Rev. Met. 56, 163-171.

PERBY S. H. (1944) The Metallography of Meteoric Iron U.S. Nat. Mus. Bull. 184, 206 pp.

Peterson N. L. (1961) Sc.D. Thesis, Massachusetts Institute of Technology.

Vogel R. (1958) Chem. Erde, 19, 147-169.

Vogel R. and BAUR H. (1931) Arch. Eisenhuttenw. 5, 269-278.

WITTRY D. B. (1957) Ph.D. Thesis, California Institute of Technology.

YAVNEL A. A., BOROVSKI I. B., ILIN N. P. and MARCHUKOWA I. D. (1958) Dokl. Akad. Nauk. SSSR, 123, 256-258.

