experiment was conducted. The starting material had a density of 0.9674 g/cm³, a melting peak temperature at atmospheric pressure of 134.0°C, and was spherulitic in appearance when examined with the polarizing microscope. Spherulites ranged from 20 to 50 μ in diameter and showed typical maltese cross extinction patterns with negative birefringence.

The results listed in Table I were obtained in PDTA runs on several

TABLE I
Melting and Crystallization of Folded-Chain Polyethylene under Pressure

Trace	P, bars	Melting temperature T_m, °C	Crystallization temperature T_x, °C
Avg	1	134.0	124.3
55	200	138.4	127.6
59	607	145.8	134.4
83	774	151.1	138.0
29	1000	157.0	139.9
57	1210	156.0	143.9
41	1750	166.0	153.4
42	1900	—	155.2
43	1985	—	156.7
32	2000	169.7	156.8
38	2260	—	160.8
38	2270	174.3	—
60	2610	—	166.2
60	2630	179.4	—
35	2880	—	169.4
35	2920	184.2	—
36	2940	—	170.3
48	3157	186.5	—
48	3174	—	170.8
63	3530	—	178.1
63	3690	195.4	—

samples of this polymer. The same sample was used for several runs. In each instance, the points represent the corrected peak-temperatures.

The heating rate was 4°C/min. The melting temperature at atmospheric pressure, 134.0°C is the average of nine determinations and has a standard deviation for a single measurement of ±0.7°C. All other points represent individual measurements.

The crystallization temperature represents the plateau which occurs upon cooling of the sample from the melt at constant pressure. In any such procedure the observed crystallization temperature will depend upon the cooling rate. In the present experiments the cooling rate was approximately 2°C/min.