

SECTION J

CORRESPONDENCE

J.1-J.266

J.1-J.228

GENERAL SCIENTIFIC CORRESPONDENCE

Correspondence with individuals. In alphabetical order with an indication of information of particular biographical, historical or scientific interest.

J.229-J.266

SHORTER SCIENTIFIC CORRESPONDENCE

In chronological order.

- J.10 - Bilby, B.A. 1955, 1957, 1982
1982 correspondence is re J.D. Eshelby Memorial Fund and Bilby's Royal Society memoir of Eshelby.
- J.11 Blackman, M. 1975, 1976, 1983
- J.12-J.14 Braun, E. ?1984
"First draft" of Braun's chapter "Mechanical properties of solids" sent to Frank for comments.
3 folders.
- J.15 Buckingham, A.D. 1976-78
Isotropic segregation effects.
- J.16, J.17 Bunn, C.W. 1961
Draft of Bunn's paper on melting points sent to Frank for comments.
2 folders.
- J.18 Burch, C.R. 1960-83, nd.
- J.19-J.21 Cabrera, N. 1970-82
- J.19 1970-71. Proposed visit to UK.
- J.20 1974-76. Proposed visit to UK.
- J.21 1981-82. "Celebration" of 1951 paper by Frank, Cabrera and W.K. Burton "The growth of crystals and the equilibrium structure of their surfaces" (*Bibliog.* 30) during British Association of Crystal Growth meeting, September 1981.

- J.22 Cahn, J.W. 1982-85
1982 correspondence is re Cahn's paper "Transitions and phase equilibria among grain boundary structures".
- J.23 Candler, C. 1952-53
Spectrographic analysis of diamond dust.
- J.24 Chandrasekhar, S. 1981, 1983
Visits to Bristol.
- J.25-J.27 Cherian, K.A. 1977-85
- J.25 1977-79. Chiefly re overgrowths on diamond.
- J.26 1980. Metastable growth of diamond at low pressure.
- J.27 1981, 1985. 1981 material is re Cherian's paper "Crystallization of diamond at atmospheric pressure".
- J.28-J.30 Cladis, P.E. 1974-83
- J.28 1974, 1976.
- J.29 1981-82. Chiefly re cholesteric blue phases.
- J.30 1983.
- J.31 Davies, M. 1983-84
Chiefly re Davies's tribute to P. Debye published in *Phys. Bull.* 35 (1984).
- J.32 Decker, P. 1973
Crystal growth.

- J.33 De Gennes, P.G. 1972-77
- 1977 material is letter to Frank from De Gennes entitled "Difference between random walk probabilities and statistical weights for ideal chains near a wall", with drafts of Frank's reply and manuscript notes and calculations.
- J.34 Dew-Hughes, D. 1963
- Visit to Bristol to discuss superconductivity.
- J.35, J.36 DiMarzio, E.A. 1979
- 2 folders.
- J.37 Domb, C. 1975, 1977
- 1975 material is re paper "Cluster shapes in lattice gases and percolation" by Domb et al.
- J.38 re Eades, J.A. 1973
- J.39 Eisner, E. 1967
- J.40-J.44 Elton, Margaret Ann, Lady, and others 1972-76
- Correspondence and papers re the future of the Sir Arthur Elton Collection of historical material on the Industrial Revolution. After Sir Arthur Elton's death in 1973 the Treasury accepted the Collection in lieu of death duties. It is now held by the Ironbridge Gorge Museum.
- J.40 1972, 1973.
- J.41 1974, 1975.
- J.42 1976.
- J.43 Obituaries 1973.
- J.44 Background material.

- J.45-J.49 Eshelby, J.D. 1960-79, nd.
- J.45 1960. Comments on paper by J.P. Hirth and J. Lothe (*Phys. Rev.* 115).
- J.46 1965, 1966.
- J.47 1968.
- J.48 1970-79.
- J.49 Nd.
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- J.50, J.51 Evans, T. 1962-81
- Evans studied for his B.Sc. and Ph.D. at Bristol University.
- J.50 1962, 1975.
- J.51 1981. Includes Frank's comments on Evans and Z. Qi's paper "The kinetics of the aggregation of nitrogen atoms in diamond".
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- J.52 Evison, F.F. 1965-66
- Earthquake sources.
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- J.53-J.55 Fisher, J.C. 1960-82
- J.53 1960-73. Includes calculation of relative fuel consumption per passenger-mile of Concorde and the Queen Mary.
- J.54 1975-76. Includes correspondence re Fisher's paper "Elementary particle model based on a non-linear 8-component Fermion field.
- J.55 1980-82.
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- J.56 Flory, P.J. 1962
- re Flory's paper "On the morphology of crystalline state in polymers".

- J.57-J.59 Forty, A.J. 1953-83
- Forty was Frank's first research student at Bristol.
- J.57 1953. Includes draft of Forty's paper "Some evidence for the existence of dislocations in crystals" with Frank's comments.
- J.58 1964-65.
- J.59 1982-83.
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- J.60 Freeman, G.P. 1952
- Slip-bands in diamond.
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- J.61-J.64 Friedel, J. 1972-80
- J.61 1972-75, 1980. 1975 correspondence is re surface diffusion on ice.
- J.62-J.64 1977. Drafts of papers on dislocations by Friedel with comments by Frank and M. Kléman. 3 folders.
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- J.65 Geach, G.A. 1949
- Furrow structure on aluminium.
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- J.66 Gibbs, D.F. 1973-81
- 1980-81 correspondence is re Physics Teachers' Forum.
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- J.67, J.68 Giess, E.A. 1980-83
- J.67 1980-81. 1981 correspondence is re paper by Giess et al "Gadolinium gallium garnet liquid phase epitaxy and the physical chemistry of garnet molten solutions".
- J.68 1982-83. Chiefly re paper by K. Watanabe and Giess.

- J.86-J.88 Hoffman, J.D. 1959-86
- J.86 1959, 1960, 1962. Polymer crystals, spherulitic growth.
- J.87 1975, 1976, 1979. 1979 correspondence is re fibrils formed by flow-induced crystallisation.
- J.88 1981-86.
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- J.89 Holland, W.P. 1980, 1984
- 1984 correspondence is re "eutectic" phase in liquid (or "fluid") crystals.
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- J.90-J.92 Holt, D.B. 1965-80
- J.90 1965, 1968. 1968 material is draft of Holt's paper "Antiphase boundaries in semiconducting compounds" with Frank's comments.
- J.91 1974-75.
- J.92 1980. Draft of Holt's paper "Polarity reversal and symmetry in the sphalerite structure" with Frank's comments.
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- J.93 Hoyle, F. 1947
- Hydrogen-helium ratio in stars.
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- J.94 James, A.N. 1977-79
- Crystal growth pressures.
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- J.95-J.122 Jones, R.V. 1949-84
- Jones was a contemporary of Frank's at Oxford, graduating in 1932. They became close friends as postgraduates while Jones was studying infra-red radiation.
- At the outbreak of war Jones was working in scientific intelligence for the Air Ministry. Frank joined his team, at Jones's request, in November 1940. The wartime activities of Jones and his colleagues are documented in Jones's book *Most Secret War* (1978).
- After the war Jones was appointed Professor of Natural Philosophy at Aberdeen University.
- The material is scientific and non-scientific correspondence and drafts sent to Frank for comment.

- J.95 1949-51, 1956, 1957. 1949 correspondence is chiefly re lithium fluoride crystals.
- J.96 1960-64. 1960 correspondence is chiefly re proposed crystal growth conference. 1961 material is re Jones's articles in *The Times* on "Scientists at War".
- J.97 1968-70.
- J.98 1971. Includes copies of Jones's correspondence with R.E. Peierls re momentum.
- J.99 1972.
- J.100 1973. Chiefly re Royal Society meeting on the effect of the world wars on British science.
- J.101 1974 February, May.
- J.102 1974 June-December. Includes copy of Jones's "Epilogue" to Royal Society meeting on science and the world wars (J.100).
- J.103 1975.
- J.104 1976. Includes letter of 8 October enclosing Jones's first draft of *Most Secret War* sent to Frank for comments, and Frank's reply of 15 November.
- J.105-J.111 Draft of *Most Secret War*. The draft is incomplete because Jones only sent the later sections and because Frank returned those pages he had annotated. 7 folders.
- J.112 Press-cutting re and reviews of *Most Secret War*, including Frank's.
- J.113 1977. Chiefly correspondence with D.G. Kendall re "number problem" first put to Kendall by Jones in 1975.
- J.114 1978. Includes copy of tribute to Jones by N.E. Butcher.
- J.115 1979. Includes copy of tribute to Jones by L.R.B. Elton.
- J.116 1980. Includes letter of 21 August enclosing Jones's "draft of the bulk of the paper on technology and conflict" sent to Frank for comments, and Frank's reply of 11 September.
- J.117,J.118 Draft of "Some impacts of new technology on conflict". 2 folders.

- J.119 1981-83.
- J.120 1984 March-June. Chiefly correspondence with Jones and P.L. Rose, a historian of science, re the German attempts to harness atomic power during the Second World War.
- J.121 1984 November. Draft of "Heisenberg, German morality and the atomic bomb 1939-1945" by Rose.
- J.122 Nd. Includes untitled draft by Jones beginning "The devices of Archimedes in the defence of Syracuse gave an earnest of what would happen in warfare as scientific knowledge expanded".
- J.123 Kay, H.F. 1964-69
- J.124 Keith, H.D. 1976-83
- J.125, J.126 Keller, A. 1960-83, nd.
Keller was a colleague in the Bristol Physics Department.
- J.125 1960, 1965, 1970. 1970 material is copy of Keller's inaugural lecture as Research Professor in Polymer Science.
- J.126 1974-77, 1983, nd. 1974 material is research proposal; 1976 correspondence with Keller and D.S. Oliver re discussion on fibre reinforced plastics; 1977 correspondence chiefly re research on elongational flow.
- J.127 Kelly, A. 1969-72
Includes draft of Kelly's paper "The core of the earth - a conjecture", with Frank's comments.
- J.128 Kern, R. 1968-71

J.129-J.143 King, G.C.P., and others 1970-81

King applied for Royal Society Paul Instrument Fund grants for 1970-72 for the construction of a wire strain gauge, and 1975-81 for building geophysical tiltmeters. Frank on both occasions consented to act as assessor.

J.129	1970	J.137	1977 (3)
J.130	1971	J.138	1978
J.131	1972 (1)	J.139	1979 (1)
J.132	1972 (2)	J.140	1979 (2)
J.133	1974, 1975	J.141	1979 (3)
J.134	1976	J.142	1980
J.135	1977 (1)	J.143	1981
J.136	1977 (2)		

J.144, J.145 Kléman, M. 1975-85

J.144 1975-78.

J.145 1979-85. Includes 1983-84 material re Kléman and P. Oswald's paper "Experimental evidence for helical instabilities of screw dislocation lines in Sm A phases".

J.146 Knight, C.A. 1971-80

J.147, J.148 Landauer, R. 1978, 1980-81

J.147 1978. Notes on overdamped soliton motion etc. by Landauer.

J.148 1980-81. Solitons.

- J.149-J.153 Lang, A.R. 1962-87, nd.
Lang was a colleague in the Bristol Physics Department.
- J.149 1962-65. 1965 material is Frank's comments on Lang and H.H. Schlössin's paper "A study of repeated twinning, lattice imperfections and impurity distribution in amethyst".
- J.150 1966-68. Letter of 10 October 1967 is re proposed research on crystals.
- J.151 1977, 1979, 1983
- J.152 1987. Cold fusion. Includes copy of Lang's letter to *The Times* drawing attention to Frank's 1947 article in *Nature* (*Bibliog.* 13) which first introduced the idea of meson-catalysed fusion. With a photocopy of the article and other background material.
- J.153 Nd.
- J.154 Laves, F. 1964, 1975
- J.155-J.157 Lawn, B.R. 1966-80
Lawn was Postdoctoral Fellow in the Bristol Physics Department 1963-66.
- J.155 1966. Lawn's paper "Hertzian fracture in single crystals, with special reference to diamond".
- J.156 1967-73.
- J.157 1975, 1980.
- J.158 re Levich, V.G. 1972
Soviet Academician Levich was expelled from his Chair at Moscow University for seeking permission to emigrate to Israel. The material relates to the campaign in the West on his behalf in which Frank was involved.
- J.159 Lewis, B. 1971-72
Chiefly re nucleation theory.

- J.160 Lothe, J. 1958-59
- J.161 McGregor, A.G. 1967
- J.162, J.163 Mackley, M.R. 1976-83
- J.162 1976. Includes Mackley and M.V. Berry's paper
 "The six-roll mill: unfolding an unstable
 persistently extensional flow" with Frank's brief
 comments.
- J.163 1977-83. 1982-83 correspondence re disclination
 loops.
- J.164 Mevrel, R. 1974-75
- J.165 Meyer, R.B. 1968-77
- 1968 material re Meyer's paper "Effects of electric and
 magnetic fields on the structure of cholesteric liquid
 crystals".
- J.166 Miles, M.J. 1981
- Material on slackness elements and calculation of velocity
 profiles sent to Frank by Miles, retained in original
 envelopes.
- J.167 Mitchell, J.W. ?1951
- Mitchell was a colleague in the Bristol Physics Department.
 Duplicated typescript papers by Mitchell.
- J.168 Moore, A.M. 1969, 1972, 1974
- Moore studied for his M.Sc. and Ph.D. at Bristol.

- J.169-J.172 Mott, N.F. 1946-83, nd.
- Mott was Professor of Theoretical Physics at Bristol when Frank joined the Physics Department in 1946 and held the H.O. Wills Chair of Physics 1948-54. In 1954 he was appointed Cavendish Professor of Experimental Physics at Cambridge.
- J.169 1946, 1948-50. Much of the early correspondence is letters received by Mott and passed on to Frank.
- J.170 1950. Translations from Soviet periodicals dealing with the relationship between science and the Soviet State, sent to Mott by the Foreign Office and passed on to Frank.
- J.171 ?1952, 1954-56.
- J.172 1966, 1983, nd.
- J.173 Munk, W.H. 1981
- J.174-J.176 Nabarro, F.R.N. 1949-87
- Nabarro was Royal Society Warren Research Fellow in the Bristol Physics Department from 1945. In 1949 he took up a post in the University of the Witwatersrand, returning to Bristol as Visiting Professor 1959-60.
- J.174 1949-64.
- J.175 1965-74.
- J.176 1975-87. 1975 material chiefly re proposed visit to UK.
- J.177-J.180 Nicolaysen, L.O. 1980-81
- Correspondence re drafts of papers by Nicolaysen on theory of the Earth's core.
- 4 folders.
- J.181 Owen, H.G. 1976
- re Owen's paper on "The expanding earth".

- J.182 Pamplin, B.R. 1974-75, 1979
1974-75 correspondence re Paul Instrument Fund support for Accelerated Crucible Rotation Crystal Growth.
- J.183-J.185 Pârasnis, A.S. 1969, 1980-84
Pârasnis studied for his Ph.D. at Bristol as Research Fellow 1958-59.
- J.183 1969. Growth of sodium chloride crystals from vapour.
- J.184 1980. Draft of Pârasnis and K. Rao's paper "Dislocation dipoles and charged dislocations in Magnesium Oxide" with Frank's comments.
- J.185 1981-84. Visits, research.
- J.186-J.192 Parkin, D.W. 1967-81
Correspondence and papers re work submitted for publication by Parkin.
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| J.186 | 1967, 1969, 1971-72 | J.190 | 1978 (2) |
| J.187 | 1973 | J.191 | 1978 (3) |
| J.188 | 1974-75 | J.192 | 1979-81 |
| J.189 | 1978 (1) | | |
- J.193 Pennings, A.J. 1969-71
Crystallisation phenomena.
- J.194-J.198 Plumley, G.A.K. 1978-83
Theory of thermodynamics.
- | | | | |
|-------|---------|-------|------|
| J.194 | 1978 | J.197 | 1982 |
| J.195 | 1979 | J.198 | 1983 |
| J.196 | 1980-81 | | |

- J.210 Richardson, M.J. 1965
re Frank's comments on Richardson's paper "Thermodynamic properties of polyethylene single crystals".
- J.211 Rossi, G. 1969
Crystal surfaces.
- J.212-J.214 Sadler, D.M. 1982-87, nd.
Sadler was a colleague in the Bristol Physics Department.
J.212 1982-84.
J.213 ?1986. Draft of Sadler's paper "On the growth of two dimensional crystals" with Frank's comments.
J.214 ?1987, nd. Includes drafts of Sadler's papers "A new explanation of chain folding" and "Kinetic theories of crystallization" with Frank's comments.
- J.215 Sciama, D.W. 1974.
Funds for gravitational wave detector.
- J.216 Simon, F.E. 1949, 1950, 1955
- J.217 Small, P.A. 1948-49
Dissociation pressure of polymethyl methacrylate.
- J.218 Surek, T. 1975
Direction of growth on crystal surface.
- J.219 Suzuki, T. 1956, 1959
- J.220 Tabor, D. 1949, 1971, 1977, 1980

- J.221 Thomas, J.M. 1973, 1975, 1976
 1976 material includes draft of Thomas, S.E. Morsi and J.O. Williams's paper "Stacking sequences and partial dislocations as interpretative frameworks for solid state reactions in organic molecular crystals" sent to Frank for comment.
- J.222 Tolansky, S. 1948-49
 Triangular pits on diamond, inflected fringes, thin films.
- J.223 Vadilo, P.S. 1961-62, 1976
 1976 material includes draft of Vadilo's paper "Sculpture of diamond and its significance" sent to Frank for comment.
- J.224 Wells, P.N.T. 1981
 Measurement of pressure changes in the bladder. Frank suggested a means of calculation involving the measurement of the resonant frequency of a small air-bubble injected into the bladder.
- J.225 Whiffen, D.H. 1981
 Scientific symbols.
- J.226 Wirtz, K. 1945-50, 1960
- J.227 Wylie, R.G. 1949, 1959, 1969, 1977
 1959 material re dissolution properties of crystal surfaces.
- J.228 Young, P.H.J. 1979-82
 Letter of 25 February 1981 re "The Jet Engine".

SHORTER SCIENTIFIC CORRESPONDENCE

J.229	1936-43	J.248	1975 January-June
J.230	1944, 1947, 1948	J.249	1975 July-November
J.231	1949	J.250	1976 January-June
J.232	1950	J.251	1976 July-December
J.233	1952-54	J.252	1977 February-June
J.234	1955	J.253	1977 July-November
J.235	1956	J.254	1978
J.236	1957-59	J.255	1979 January-April
J.237	1960-61	J.256	1979 June-November
J.238	1962-63	J.257	1980
J.239	1964-66	J.258	1981 January-May
J.240	1967-68	J.259	1981 June-November
J.241	1969	J.260	1982
J.242	1970	J.261	1983
J.243	1971	J.262	1984 January-March
J.244	1972 January-June	J.263	1984 April-October
J.245	1972 August-December	J.264	1985, 1986
J.246	1973	J.265	1987
J.247	1974	J.266	Nd.