

## Imperial College Archives

B/GABOR/11

### **DENNIS GABOR F.R.S.: LECTURE NOTES, PUBLICATIONS, BIOGRAPHICAL INFORMATION AND OTHER PAPERS, 1943-1989**

Deposited by Mrs A Gabor, sister in law of Dennis Gabor, on the instruction of her husband André, in September 1996.

Dennis Gabor was an electronic engineer, physicist and humanist. His inventions include holography and the flat television tube and he was awarded the CBE in 1970 and the Nobel Prize for Physics in 1971 for his contribution to the field of physics.

Gabor was born on the 5 June 1900 in Budapest, Hungary to Bertalan Gabor, engineer, and Adrienne Kalman (Gabor), actress. He was the eldest of three sons and in 1915, at the age of 15, Dennis and his brother George built an epidiascope, a Tesla coil and had experimented with x-rays. Despite this precocious talent, Gabor's entrance in to University was delayed by a term of compulsory military service during which he was posted to Italy.

When he returned in 1918, he attended Technical University in Budapest to study mechanical engineering and, in 1921, he went on to study electrical engineering at the Technische Hochschule in Berlin where he obtained the Diplom-Arbeit. Following the award of a doctorate in Engineering in 1927 for his work on transient waveforms, Gabor gained employment at Siemens and Halske in Berlin.

In 1934, following the election of Hitler, Gabor came to England where he worked for the British Thomson Houston Company and married Marjorie Butler who also worked at BTH. Here he continued with his work on the plasma state as well as on electron beam properties in lamps, television tubes, electron microscopes and 3-D cinema image projection.

Gabor's brother, André, whom Gabor often referred to as Bandi, came to England in 1938, where he remained due to impending war in Europe, and where he and Dennis published mathematics and social science papers together throughout the 1950s. Dennis Gabor became a naturalised British citizen in 1946.

Dennis Gabor was appointed Reader in Electron Physics at Imperial College, London in 1948 and was elected Fellow of the Royal Society (F.R.S.) in 1956. In 1958 he was appointed to personal Chair of Applied Electron Physics at Imperial College where he remained until his retirement in 1967. Gabor continued to work, after his retirement from Imperial College, as a part time consultant for CBS Laboratories in Connecticut.

Dennis Gabor died on 9 February 1979 in South Kensington.

## **Introduction**

This deposit has been arranged in chronological order with any undated material listed at the end of the appropriate section with the exception of the publications which are first arranged into alphabetical order by publication. The majority of the deposit is written in English unless stated otherwise and all publications are written by Dennis Gabor unless stated otherwise.

For other papers and correspondence of Dennis Gabor, see separate lists.

## CONTENTS

Lecture Notes	4
Publications	8
Typescript Material	17
Biographical Information	19
Related Material	20

## LECTURE NOTES

The lecture notes are arranged in chronological order by the date of the draft or copy or, where this is not given, by the date of the lecture. Where the date or location of the lecture is not given it is unknown.

- |   |  |             |
|---|--|-------------|
| 1 | ‘Nuclear Science: The Constitution of Matter’<br>Draft of a lecture given at the Percival Guildhouse, Rugby on 23-24 Mar 1946. Typescript with annotations. 10pp.              | 16 Mar 1946 |
| 2 | ‘A New Picture Tube’<br>Draft of a lecture given before the Television Society on 25 Oct 1956. Typescript with annotations and diagrams. 23pp.                                 | 25 Oct 1956 |
| 3 | ‘Inventing the Future’<br>Draft of a talk given to the Cambridge Heretics on 30 Oct 1960. Typescript with annotations. 8pp.  | 29 Oct 1960 |
| 4 | ‘Leisure in a Prosperous Society’<br>Draft of a talk given to the British Council of Social Service on 10 Nov 1960. Typescript with annotations. 5pp.                          | 10 Nov 1960 |
| 5 | ‘The Future of Computers’<br>Draft of an after dinner talk given at the Programming Systems Symposium, L.S.E., on 5 July 1962. Typescript with annotations. 4pp.               | 5 Jul 1962  |
| 6 | ‘Technology, Life and Leisure’<br>Draft of a lecture given to the Society of Instrument Technology at the Royal Institution on 24 Oct 1963. Typescript with annotations. 12pp. | 24 Oct 1963 |
|   | For a copy of the article published in the Society journal, see 11/109.  |             |
| 7 | ‘Future Possibilities of Science’<br>Draft of a lecture given to H. M. Treasury on 10 Jan 1964. Typescript. 10pp.  | 10 Jan 1964 |
| 8 | ‘Inventing the Future’<br>Shortened draft of a talk given to the National Physical Laboratory on 10 Feb 1965. Typescript. 4pp.   | 10 Feb 1965 |

- B/GABOR/  
11/9      'Freedom in an Advanced Industrial Civilisation'      12 Feb 1965
- First draft of a contribution to Bertrand de Jouvenel's Conference on Les Institutions Politiques à Venir, Paris held on 4-7 Apr 1965. Typescript with annotations. 4pp.
- 10      'Freedom in an Advanced Industrial Civilisation'      18 Feb 1965
- Second draft of a contribution to Bertrand de Jouvenel's Conference on Les Institutions Politiques à Venir, Paris held on 4-7 Apr 1965. Typescript. 6pp.
- 11      'Fighting Existential Nausea in the Technological Society'      30 Sep 1965
- Contribution to the International Symposium on the Technological Society in the Center for the Study of Democratic Institutions, Santa Barbara in Dec 1965. Typescript with diagrams. 10pp.
- 12      'Weiner and the Art of Communication'      9 Oct 1965
- Draft of a talk given at the Weiner Memorial Meeting, Genoa on 26-30 Oct 1965. Typescript with attached visual aids. 13pp.
- 13      'Les Transformations de l'Information en Optique'      29 April 1966
- Photocopied draft of a talk given to the General Assembly of the International Commission for Optics and Conference on Recent Progress in Physical Optics in Paris on 2-7 May 1966. Typescript with annotations. In French. 6pp.
- 14      'The Future of Western Civilisation'      6 Oct 1966
- Photocopy of an address to the General Studies students of Imperial College on 6 Oct 1966. Typescript with diagram. 11pp.
- 15      'The Dangers of Automatism'      28 Jan 1967
- Photocopied draft of a talk given at the Institute of Government and Public Affairs at the University of California on 6 Feb 1967. Typescript. 8pp.
- 16      'Open Ended Planning'      8 Feb 1967
- Photocopied draft of a lecture given to the RAND Corporation, Santa Monica, California on 8 Feb 1967. Typescript with diagrams. 13pp.
- 17      'Open Ended Planning'      8 Feb 1967
- Printed copy of a lecture given to the RAND Corporation, Santa Monica, California on 8 Feb 1967. Typescript with diagrams. 13pp.

- B/GABOR/  
11/18 'Industry and Society' 8 May 1967  
Photocopy of a lecture given to open the discussion on The Next Thirty Years, Session V, in the Royal Society on 12 May 1967. Typescript with diagram. 6pp.
- 19 'Changing Man and Society through Scientific and Technological Progress' 14 Jul 1967  
Photocopy of a lecture given at the Japan Economic Research Centre Conference, 'The World in 2000', Tokyo on 25-30 Sep 1967. Typescript. 12pp.
- 20 'The Prospects of Industrial Civilisation' 12 Mar 1968  
Photocopied draft of lecture given on 12 Mar 1968. Later published in Volume 96 of the Journal of the Institute of Metals, 1968. 15pp.
- 21 'Material Development' 12 Sep 1967  
Introduction to the Discussion on Material Development given at the International Future Research Inaugural Congress at Oslo on 12-15 Sep 1967. Typescript. 9pp.
- 22 'Science, Technology and Social Change' 23 Oct 1968  
Photocopy of a talk in the series 'Science and Culture' given to the State University of New York on 19 Nov 1968. Typescript. 7pp.
- 23 'The Future of Progress' 21 Jan 1969  
Photocopied draft of the Touchstone Lecture given on 23 Jan 1969. Typescript. 8pp.
- 24 Extract from a lecture given on the developments in holography, at the Royal Institution Discussion on 7 Feb 1969. Untitled. Typescript. 1pp.
- 25 'A New Anthropology' 19 Feb 1969  
Photocopied draft of a paper to be read at the Center for the Study of Democratic Institutions, California on 5-9 May 1969. Typescript. 9pp.
- 26 'Die Naturwissenschaften im Zeitalter des Unbehagens in der Kultur' 15 Jul 1970  
Draft of the formal address given at the opening of the new Max-Planck-Gesellschaft Building, Heidelberg on 15 Jul 1970. Typescript with annotations. In German. 13pp.

- B/GABOR/  
11/27      ‘Die Weltvorräte an Energieträgern und deren  
Verteilung’      21 Jan 1974  
Photocopy of a lecture given to the Schweizerischer  
Ingenieur und Architekten-Verein, Zurich on 22 Feb  
1974. Typescript. In German. 9pp.
- For published article in Schweizerische Bauzeitung in  
April 1974, see 11/101
- 28      ‘Der Schwere Weg zur Reifen Gesellschaft’      27 Apr 1974  
Photocopied draft of a talk given to the Forum der  
Textil-Wirtschaft, Heidelberg on 7 Jun 1974. Typescript  
with annotations. In German. 11pp.
- 29      ‘The Transition to a Mature Society’      25 Apr 1974  
Photocopied draft of a lecture given at the Spring  
Meeting of the Nive Nederlandse Vereniging Voor  
Management, The Hague on 11 Jun 1974. Typescript.  
13pp.
- 30      ‘Sketching the Development of Mankind and our  
Outlook for the Future’      27-30 Nov  
1975  
Copy of paper given at the 4<sup>th</sup> International Conference  
on the Unity of the Sciences, New York on 27-30 Nov  
1975. Typescript. 3pp.

B/GABOR  
/11/ **PUBLICATIONS**

The following publications are arranged alphabetically by publication and chronologically within this. For an alphabetical list of publications see the index.

- 31 **Advance Energy Conversion**  
'The Theory of Gas Discharges with Extraneous Ion Supply'  
Reprint. Typescript. 8pp. 1963
- 32 **Archiv der Elektrischen Übertragung**  
'Der Nachrichtengehalt eines Elektromagnetischen Signals'  
Reprint. In German. 5pp. 10 Jan 1953
- 33 **British Thomson-Houston Company**  
'Electron Optics'  
Signed 'With compliments D.G'. Enclosed is an article from Electronic Engineering 'Unique Electron Micrographs' dated Jul 1943. 20pp. Jun 1943
- 34 'Dynamics of Electron Beams: Applications of Hamiltonian Dynamics to Electronic Problems'  
Signed 'To Bandi with love Dennis'. 16pp. Jun 1945
- 35 **Communication Theory**  
'A Summary of Communication Theory'  
Reprint from papers read at a Symposium on Applications of Communication Theory held at the Institution of Electrical Engineers, London on 22-26 Sep 1952. 23pp. 1953
- 36 **Conference on Microscopy**  
'Problems and Prospects of Electron Diffraction Microscopy'  
Reprint from the Proceedings of the Conference on Microscopy held in Delft on 4-8 Jul 1949. 5pp. 4-8 Jul 1949
- 37 **Cybernétique, La**  
'La Théorie des Communications et la Physique'  
Extract from La Cybernétique. In French. 34pp. 1951
- 38 **Discovery**  
'Unborn Instruments'  
Copy of an article written for Discovery. 6pp. 11 May 1965
- 39 Letter from Dennis Gabor to Bandi, dated 19 May 1965, enclosing the above copy of the article for Discovery. Typescript signed 'Dennis'. 1 pp. 19 May 1965



- Elektronotechnik und Maschinenbau**  
 B/GABOR 'Die Zukunft der technischen Zivilisation' 1965  
 /11/40  
 Reprint from an article published in Sep 1964. In German.  
 6pp.
- Encounter**  
 41 'Oedipus, Macbeth and Mary: Prophecies, Predictions and Survival' 24 Jul 1961  
 Draft of an article for Encounter. Typescript with  
 annotations. 9pp.
- Endeavour**  
 42 'Holography and its Applications' Jan 1969  
 Reprint of an article, by Dennis Gabor and George W.  
 Stroke, published in Endeavour, Volume XXVIII,  
 Number 103, Jan 1969. 8pp.
- Die Entwicklungsgeschichte des Elektronenmikroskops**  
 43 'Die Entwicklungsgeschichte des Elektronenmikroskops' 1 Aug 1957  
 Published copy of a lecture given to the Institute of  
 Physics in Bournemouth on 29 May 1953. In German.  
 9pp.
- Family Planning**  
 44 'Babies, Wanted and Unwanted' 28 Jan 1965  
 Draft of an article for Family Planning magazine.  
 Typescript. 2pp.
- Futuribles**  
 45 'La Liberté dans une Civilisation Industrielle Avancée' 1966  
 Published copy of a lecture given at the Conference  
 Internationale de Futuribles, Paris on 5-7 Apr 1965. 4pp.
- Giornate delle Scienza**  
 46 'Theory of communication and cybernetics' 12-17 Apr  
 Extract from the Proceedings of Session 4 of the 1954  
 Convegno di Elettronica e Televisione held in Milan on  
 12-17 Apr 1954. 34pp
- I Modelli nella Tecnica**  
 47 'Models in Cybernetics' 1-4 Oct 1955  
 Extract from Volume II, Atti del Convegno di Venezia,  
 held on 1-4 Oct 1955. 11pp.
- Information Theory**  
 48 'Optical Transmission' 12-16 Sep  
 Reprint from papers read at a Symposium on Information 1955  
 Theory, held at the Royal Institution, London on 12-16  
 Sep 1955. 8pp.

- B/GABOR /11/49 **Institute of Government and Public Affairs, UCLA**  
 'Thoughts on the Future' 20 Oct 1972  
 Summary of the lecture given at UCLA on 20 Oct 1972.  
 17pp.
- 50 **L'Institut de Science Économique Appliquée**  
 'L'Entropie comme Mesure de la Liberté Sociale et  
 Économique' Nov 1958  
 Article by Dennis and André Gabor. In French. 14pp.
- 51 **Institution of Electrical Engineers** 18 Jan 1944  
 'Energy Conversion in Electronic Devices'  
 Proof of a paper first received on 15 Nov 1943, and  
 revised 18 Jan 1944. Typescript. 14pp.
- 52 'Energy Conversion in Electronic Devices' 15 Sep 1944  
 Reprint from Volume 91, Part III, Number 15. Inscribed  
 'With the author's compliments'. 17pp.
- 53 'Theory of Communication' 26 Nov 1946  
 Reprint from Volume 93, Part III, Number 26. 28pp.
- 54 'New Possibilities in Speech Transmission' Nov 1947 and  
 Reprint from Volume 94, Part III, Number 32 and  
 Volume 95, Part III, Number 33. 22pp. Jan 1948
- 55 'A New Cathode-Ray Tube for Monochrome and Colour  
 Television' May 1958  
 Paper, first received on 4 Nov 1957 and revised on 17  
 Mar 1958. This paper is republished in Volume 105, Part  
 B of the Proceedings of the Institution, 1958 (see 11/57).  
 Written by D. Gabor, P. R. Stuart and P. G. Kalman.  
 24pp.
- 56 'A Flat Television Tube' Nov 1958  
 Reprint from Volume 4 (New Series), Nov 1958. 4pp.
- 57 'A New Cathode-Ray Tube for Monochrome and Colour  
 Television' Nov 1958  
 Paper by D. Gabor, P. R. Stuart and P G. Kalman, first  
 received 4 Nov 1957, revised 17 Mar 1958 and read  
 before the Radio and Telecommunication Section on 14  
 May 1958. Published in the Proceedings of the Institution  
 of Electrical Engineers, Volume 105, Part B, Number 24.  
 24pp.
- 58 'A Fully Electrostatic, Flat, Thin Television Tube' Apr 1968

- Report by D. Gabor, H. A. W. Tothill and J. E. Smith-Whittington published in the Proceedings of the Institution of Electronic Engineers, Volume 115, Number 4. 12pp.
- B/GABOR /11/59 **International Congress on Electron Microscopy**  
 'The History of the Electron Microscope from Ideas to Achievements' 1974  
 Extract from Volume 1 of the Proceedings of the Eighth International Congress on Electron Microscopy, Canberra held in 1974. Typescript. 7pp.
- 60 **International Institute for Peace**  
 'Peace and the Oil Crisis' 1974  
 Report written for a Symposium on Peace and the Sciences held in Vienna in 1974. 3pp.
- 61 'Wissenschaft und Frieden' 1974  
 Report written for a Symposium on Peace and the Sciences held in Vienna in 1974. In German. 4pp.
- 62 **Israel Institute of Technology**  
 'Inventing the Future' 30 May 1965  
 Published copy of The Joseph Wunsch Lecture given at the Israel Institute of Technology in Haifa on 30 May 1965.
- 63 **Journal of Electronics**  
 'Theory of Preoscillating Magnetron: I' Jul 1955  
 Article, first received on 13 May 1955, and published in Series 1, Volume I. 10pp.
- 64 'Theory of Preoscillating Magnetron: II  
 Perturbations of a Double Stream Steady Rate' Nov 1955  
 Article by D. Gabor and G. D. Sims published in Series 1, Volume I. 32pp.
- 65 **Journal of the Institute of Metals**  
 'The Prospects of Industrial Civilisation' 12 Mar 1968  
 Copy of a lecture given at Church House, Westminster, London on 12 Mar 1968. Published in Volume 96. 5pp.
- 66 **Merkur**  
 'Zivilisation und Erfindung' Mar 1961  
 Article published in XV Jahrgang, 3. Heft. In German. 17pp.
- 67 **Nature**  
 'Acoustical Quanta and the Theory of Hearing' 3 May 1947  
 Reprint from Nature, Volume 159. 10pp.

- 68 'A New Microscopic Principle' 15 May 1948  
Reprint from Nature, Volume 161. 4pp.
- 69 'Photons and Waves' 28 Oct 1950  
Reprint from Nature, Volume 166. 7pp.
- B/GABOR 'Velocity of Electron Pulses' 28 Aug 1954  
/11/70  
Reprint from Nature, Volume 174. 3pp.
- 71 'Experimental Evidence for the Collective Nature of the 23 Apr 1955  
Characteristic Electron-Energy Losses in Solids'  
Reprint from Nature, Volume 175, of an article by D.  
Gabor and G. W. Jull. 5pp.
- 72 'Langmuir's Paradox' 12 Nov 1955  
Reprint from Nature, Volume 176, of an article by D.  
Gabor and Dr E. A. Ash and D. Dracott. 8pp.
- 73 'A Wilson Cloud Chamber with Time-Marking of 12 Oct 1957  
Particle Tracks'  
Reprint from Nature, Volume 180, of an article by D.  
Gabor and B. Hampton. 7pp.
- 74 'A New Thermionic Generator' 28 Jul 1960  
Draft paper with annotations and attached diagrams for  
publication in Volume 189, Mar 1961. Typescript. 14pp.
- 75 'Technology, Life and Leisure' 9 Nov 1963  
Reprint from Nature, Volume 200, Number 4906. 13pp.
- 76 'Character Recognition by Holography' 30 Oct 1965  
Reprint from Nature, Volume 208, Number 5009. 5pp.
- 77 'Reconstruction of Phase Objects by Holography' 18 Dec 1965  
Reprint from Nature, Volume 208, Number 5016, of an  
article by D. Gabor, Prof. G. W. Stroke, D. Brumm, A.  
Funkhouser and A. Labeyrie. 4pp.
- 78 'Holographic Model of Temporal Recall' 10 Feb 1968  
Reprint from Nature, Volume 217, Number 5128. 2pp.
- 79 'Improved Holographic Model of Temporal Recall' 30 Mar 1968  
Reprint from Nature, Volume 217, Number 5135. 2pp.
- The New Scientist**
- 80 'The Next Ten Years in Engineering and Technology' 14 Jan 1960  
Article published in Volume 7, Number 165. 3pp.
- 81 'Three Dimensional Cinema' 14 Jul 1960  
Article published in Volume 8, Number 191. Signed  
'With love Dennis'. 5pp.

82

'Holography, or the "Whole Picture"  
Article published in Volume 29, Number 478. 5pp.

13 Jan 1966

- Omega**  
 B/GABOR /11/83 'Technology and Society in the Last Quarter of the Twentieth Century' 1973  
 Reprint from Omega, Volume 1, Number 2. 3pp.
- 84 **L'Onde Électrique**  
 'La Meilleure Utilisation des Plaques Photographiques pour l'Enregistrement des Quanta de Lumière' n.d.  
 Extract of article. Refers to work in 1954. In French. 4pp.
- Optical Society of America**  
 85 'Interference Microscope with Total Wavefront Reconstruction' Jul 1966  
 Reprint from Volume 56, Number 7 of an article by D. Gabor and W. P. Goss. 10pp.
- Optik**  
 86 'Ernst Rukas großes Lebenswerk' 1966/1967  
 Article published in Optik 24, Heft 2. In German. 5pp.
- 87 'Informationstheorie in der Optik' Jun 1973  
 Lecture given at the ICO and DGaO Symposium, Aalen on 12-16 Jun 1973 and published in Optik 39, Heft 5. In German. 7pp.
- Philosophical Magazine**  
 88 'Communication Theory and Physics' Nov 1950  
 Reprint from Series 7, Volume XLI. 26pp.
- 89 'Collective Oscillations and Characteristic Electron-Energy Losses' Jan 1956  
 Reprint from Series 8, Volume I. 17pp.
- Physical Society**  
 90 'Microscopy by Reconstructed Wave Fronts: II' 1951  
 Reprint from the Proceedings of the Physical Society, B, Volume LXIV. 21pp.
- Physics Letters**  
 91 'Optical Image Synthesis (Complex Amplitude Addition and Subtraction) by Holographic Fourier Transformation' 15 Aug 1965  
 Article published in Volume 18, Number 2, by D. Gabor, G. W. Stroke, R. Restrick, A. Funkhauser and D. Brumm. 3pp.
- Physikalsche Blätter**  
 92 'Wellenfront Rekonstruktion oder "Holographie"' 1966  
 Article published in 22 Jahrgang, Heft 6. In German. 10pp.

- B/GABOR /11/93 'Demokratie und Technologie' 1972  
Article published in 28 Jahrgang, Heft 12. In German.  
7pp.
- 94 **Research**  
'Diffraction Microscopy' 1951  
Reprint from Research 4-3. Inscribed in German by  
Dennis Gabor to his brother André, and dated 19 May  
1951. 6pp.
- 95 **Royal Society**  
'Stationary Electron Swarms in Electromagnetic Fields' 1945  
Reprint from Volume 183. Report first received on 12 Jun  
1944. 18pp.
- 96 'Microscopy by Reconstructed Wave-Fronts' 1949  
Reprint from Volume 197. Report first received on 23  
Aug 1948, revised on 28 Dec 1948 and read on 17 Feb  
1949. 33pp.
- 97 'Wave Theory of Plasmas' 1952  
Reprint from the Proceedings of the Royal Society,  
Volume 213. Report first received on 13 Sep 1951,  
revised on 3 Jan 1952 and read on 27 Mar 1952. Signed  
'With love Dennis'. 14pp.
- 98 'Experimental Investigations on Electron Interaction' 1955  
Reprint of an article from the Proceedings of the Royal  
Society, Volume 228 by D. Gabor and E. A. Ash. 15pp.
- 99 'The Theory of Deep Holograms' 1968  
Extract from the Proceedings of the Royal Society,  
Volume 304 of an article by D. Gabor and G. W. Stroke.  
First received on 5 Sep 1967 and read on 1 Feb 1968.  
24pp.
- 100 'Thomas Ralph Merton, 1888-1969' Nov 1970  
Reprint from the Biographical Memoirs of Fellows of the  
Royal Society, Volume 16, written by D. Gabor and H.  
Hartley. 19pp.
- 101 **Schwieizerische Bauzeitung**  
'Die Weltvorräte an Energieträgern und deren  
Verteilung' 25 Apr 1974  
Article published in 92 Jahrgang, Heft 17. In German.  
6pp.

For a photocopy of the original lecture given to the  
Schweizerischer Ingenieur und Architekten-Verein,  
Zurich on 22 Feb 1974, see 11/27.

- B/GABOR  
/11/102
- The Science Forum**  
'Dynamics of Electron Beams' Sep 1944
- Article published from a lecture given to the Joint Meeting of the N.W Section of the Institution of Electronics and the Manchester District Branch of the Institute of Physics on 14 Apr 1944. 21pp.
- 103 **Science Policy Foundation Lecture**  
'The New Responsibilities of Science' May 1972  
Text of the Eighth Annual Science Policy Foundation Lecture given at the Royal Institution on 19 Apr 1972. 8pp.
- 104 **Scientia**  
'Character recognition' 7 Oct 1966  
Photocopied typescript draft with attached diagrams for publication in Volume CII, 1967. 8pp.
- 105 **The Scientist Speculates**  
'The Dimensions of Consciousness' May 1961  
Photocopied draft. 4 pp.
- 106 'The Dimensions of Consciousness' n.d. [1960s]  
Uncorrected proof copy of extract taken from The Scientist Speculates. 6pp.
- 107 **The Social Context of Art**  
'Art in the Age of Leisure' 10 Dec 1965  
Photocopied draft. 8pp.
- 108 **Social Science Research Council**  
'The Economics of Abundance' Feb 1968  
Article published in Newsletter 2. 3pp.
- 109 **Society of Instrument Technology**  
'Technology, Life and Leisure' Dec 1963  
Article published in Volume 15, Number 4, from a lecture given at the Royal Institution on 24 Oct 1963. Enclosed is a newspaper cutting 'Gracious Living Answer to Housewives Boredom' about a lecture Gabor gave to a Conference on Science in the City, in London. 7pp.
- For the draft of this lecture dated 24 Oct 1963, see 11/6.
- 110 **The Sunday Times**  
'Living with the Hydrogen Bomb' 4 Feb 1961  
Draft of an article written for the Sunday Times which was published on 5 Mar 1961. Typescript with annotations. 6pp.



- B/GABOR 'America Corners British Lead in 3-D Photography' 23 Apr 1968  
/11/111
- Copy of an article written for the Sunday Times and published on 14 Apr 1968. Typescript with signature of D. Gabor. 4pp.
- Symposium on Astronomical Optics and Related Subjects**
- 112 'Collecting Information on Partially Known Objects' 1956  
Reprint from the Proceedings of the Symposium, held at the University of Manchester on 19-22 Apr 1955. 8pp.
- The Times Science Review**
- 113 'Information Theory' 1953  
Article published in Issue Number 7. 1pp.
- University of Southampton**
- 114 'The Proper Priorities of Science and Technology' 16 Nov 1972  
Fawley Foundation Lecture given at the University on 16 Nov 1972. 16pp.

B/GABOR **TYPESCRIPT MATERIAL**  
/11/

These are a collection of papers by Dennis Gabor which do not denote their purpose. All available information has been given.

- 115 'That Britain Would be Better Governed by Technicians' 27 Jan 1945  
Typescript draft with annotations. 4pp.
- 116 'Note on the Concept of Entropy, in Thermodynamics, in 28 Jun 1950  
Statistical Mechanics and in Information Theory'  
Typescript photocopy. 3pp.
- 117 Illustrations and diagrams on the subject of projection. 5 Feb 1953  
Figure 1. Three dimensional moving pictures in a shop window  
Figure 2. Three dimensional projection unit  
Figure 3. Explaining the principle of projecting on a lenticular screen  
Figure 4. Improved type of projection screen  
Figure 5. Producing spatial images with multi-objective projector  
Figure 6. Ones of stereoscopic vision  
Figure 7. Film standard with eight views, 1948 model  
Figure 8. Recommended film standard with nine views  
Figure 9. 16mm film standard, for amateur use  
Figure 10. 8mm film standard, for amateur use  
Figure 11. Amateur camera  
Figure 12. Simultaneous adjustment of nine objectives  
Figure 13. Projector for continuous operation  
Figure 14. Film drum for continuous projection  
Photocopy. 4pp.
- 118 'The Perils of Leisure' 1963  
Photocopied section of an article. 2pp.
- 119 'The Heritage of Aldous Huxley' 4 Feb 1964  
Signed typescript draft. 4pp.
- 120 Preliminary programme of a visit to Israel from 20 May-2 20 May-2 Jun  
Jun 1965. Includes the Joseph Wunsch Lecture. 2pp. 1965
- 121 Typescript notes written in response to a BBC interview 14 Jan 1969  
with Ramsey Short given on 14 Jan 1969. A compliments slip is attached addressed to 'Bandi' and signed by Gabor. 6pp.
- 122 'The Mass University' 3 May 1969  
Photocopy of the first draft. Typescript. 5pp.

B/GABOR /11/123	'The Mass University'  Typescript photocopy with diagrams and an appendix attached titled 'The Motivations of Rebellious Students'. 11pp.	23 May 1969
124	'Science Policy-Or Policy for a Civilisation?' Typescript photocopy. 8pp.	8 Jul 1969
125	'Can Christianity Survive?' Typescript draft with annotations presumed to be written by Dennis Gabor. 2pp.	n.d.
126	Collection of diagrams unattached to any document in this deposit. Refers to work in 1948, 1963 and 1964. 4pp. Figure 1. Coherence of two point sources. Figure 2. Wavefront reconstruction. Figure 3. Wavefront reconstruction, Gabor 1948. Figure 6. Wavefront reconstruction, Leith and Upatnieks, 1963 and 1964.	n.d.
127	Photocopied sheets showing photographs unattached to any document in this deposit. 2pp. Figure 9. Gabor NRDC flat TV tube EXPTL model electron optical system. Figure 10. Demountable vacuum tank for electron optical development. Figure 11. Gabor NRDC flat colour TV tube shadowmask. Figure 12. Gabor NRDC flat colour TV tube first coloured phosphor strip. Figure 13. Glass envelope. Figure 14. Pre-stressing oven for envelopes: open. Figure 15. Pre-stressing oven for envelopes: closed.	n.d.

B/GABOR **BIOGRAPHICAL INFORMATION**  
/11/

- |     |   |              |
|-----|---|--------------|
| 128 | Curriculum Vitae of Dennis Gabor summarising his personal history, education, employment and achievements to date. Typescript photocopy. 2pp. | 19 Feb 1958  |
| 129 | Biographical article in Magyar Hírek with brief detail of his inventions.   | 17 July 1986 |

B/GABOR **RELATED MATERIAL**  
/11/

- 130 Notice of a paper 'Microscopy by Reconstructed Wavefronts' written by Gabor, to be communicated by Sir Lawrence Bragg at the Royal Society on 17 Feb 1949. 1pp. 17 Feb 1949
- For a reprint of the lecture see 11/96.
- 131 'Diversity and Freedom of Choice in a Steady State Society' Typescript draft of an article by Jan-Olaf Willums. 18pp. Jan 1973
- 132 Photocopied letter from Dennis Gabor to Jan-Olaf Willums containing his remarks upon the draft article (ref no above). Typescript with signature. 24 Mar 1973
- 133 Copy of Holography, magazine of the Museum of Holography, New York. Volume 14, Number 2. Contains mentions of the developments in the Dennis Gabor Laboratory, p17. 1986
- 134 'A New Computing Principle' Extract of an article, by H. A. Fatmi and G. Resconi, from Il Nuovo Cimento, Volume 101 B, Number 2. The cover is inscribed 'To Mr Andre Gabor: With best wished for health and in loving memory of his brother. Harry Fatmi. 30 March 1989'. 4pp. Feb 1988
- 135 'A New Approach to Invariance and Transformations in the Physical World' Typescript paper by Harry Fatmi, with pencil annotations. The front is inscribed 'To Mr Andre Gabor: with best wishes for a speedy recovery & in living memory of his brother. Harry Fatmi. 30 March 1989'. 38pp. Mar 1989
- 136 'Population versus Prosperity' Typescript draft of an article by André van Dam, sent to Gabor for comments. 8pp. n.d.
- 137 Hand-written notes referring to articles or books Gabor has contributed to in 1976 and 1978. Presumed to be written by Dennis Gabor. n.d.
- 138 Hand-written note referring to an illustration in the New Scientist on 23 Sep 1971. Presumed to be written by Dennis Gabor. n.d.

## INDEX

Advanced Energy Conversion	31
Archiv der Elektrischen Übertragung	32
Ash, Dr. E.	72, 98
BBC	121
British Council of Social Service	4
British Thomson-Houston Company	33, 34
Brumm, D.	77, 91
Cambridge Heretics	3
Center for the Study of Democratic Institutions, California	25
Center for the Study of Democratic Institutions, Santa Barbara	11
Communication Theory	35
Conference on Les Institutions Politique à Venir, Paris	9, 10
Conference on Microscopy, Delft	36
Conference on Recent Progress in Physical Optics, Paris	13
Convegno di Elettronica e Televisione	46
Convegno di Venezia	47
Cybernétique, La	37
Dam, André van	136
Discovery	38
Dracott, D.	72
Elektrotechnik & Maschinenbau	40
Encounter	41
Endeavour	42
Entwicklungsgeschichte des Elektronenmikroskops	43
Family Planning	44
Fatmi, H.	134, 135
Fawley Foundation (also see Southampton University)	114
Forum der Textil-Wirtschaft	28
Funkhauser, A.	77, 91
Futuribles	45
Gabor, André	34, 39, 50, 54, 121, 134, 135
General Assembly of the International Commission for Optics	13
Gionarte delle Scienza	46
Goss, W.	85
Hampton, B	73
Hartley, H.	100
H.M.Treasury	7
Holosphere	133

Huxley, Aldous	119
I Modelli nella Tecnica	47
Imperial College	14
Information Theory	48
Institut de Science Économique Appliquée	50
Institute of Government and Public Affairs at the University of California	15, 49
Institution of Electronic Engineers	35, 51-58
International Conference on the Unity of the Sciences, New York	30
International Congress on Electron Microscopy	59
International Future Research Inaugural Congress	21
International Institute for Peace, Vienna	60, 61
International Symposium on the Technological Society	11
Israel Institute of Technology	62
Japan Economic Research Centre Conference	19
Journal of Electronics	63, 64
Journal of the Institute of Metals	65
Jouvenel, Bertrand de	9, 10
Jull, G.	71
Kalman, P. G.	55, 57
Labeyrie, A.	77
Magyar Hirek	129
Max-Planck-Gesellschaft Building, Heidelberg	26
Merkur	66
Merton, T.	100
Museum of Holography, New York	133
National Physical Laboratory	8
Nature	67-79
New Scientist, The	80-82
Nive Nedelandse Vereniging Voor Management, The Hague	29
Nuovo Cimento, II	134
Omega (International Journal of Management Science)	83
L'Onde Électrique	84
Optical Society of America, The	85
Optik	86, 87
Percival Guildhouse, Rugby	1
Philosophical Magazine	88, 89
Physical Society, The	90
Physics Letters	91
Physikalische Blätter	92, 93
Programming Systems Symposium, L.S.E.	5

RAND Corporation	17
Resconi, G.	134
Research	94
Restrict, R.	91
Royal Institution	6, 24, 48, 103, 109
Royal Society, The	18, 95-100, 130
Schweizerische Bauzeitung	101
Schweizerischer Ingenieur und Architekten-Verien, Zurich	27
Science Forum: A Journal of Applied Science	102
Science Policy Foundation Lecture	103
Scientia	104
Scientist Speculates, The	105, 106
Sims, G.	64
Smith-Whittington, J.	58
Social Science Research Council	108
Social Context of Art, The	107
Society of Instrument Technology	6, 109
State University of New York	22
Stroke, G. W.	42, 77, 91, 99
Stuart, P. R.	55, 57
Sunday Times, The	110, 111
Symposium on Astronomical and Related Objects	112
Television Society	2
Times Science Review, The	113
Tohill, H.	58
University of Southampton (also see Fawley Foundation)	114
Weiner Memorial Meeting	12
Willums, Jan-Olaf	131, 132
Wunsch, J.	62, 120