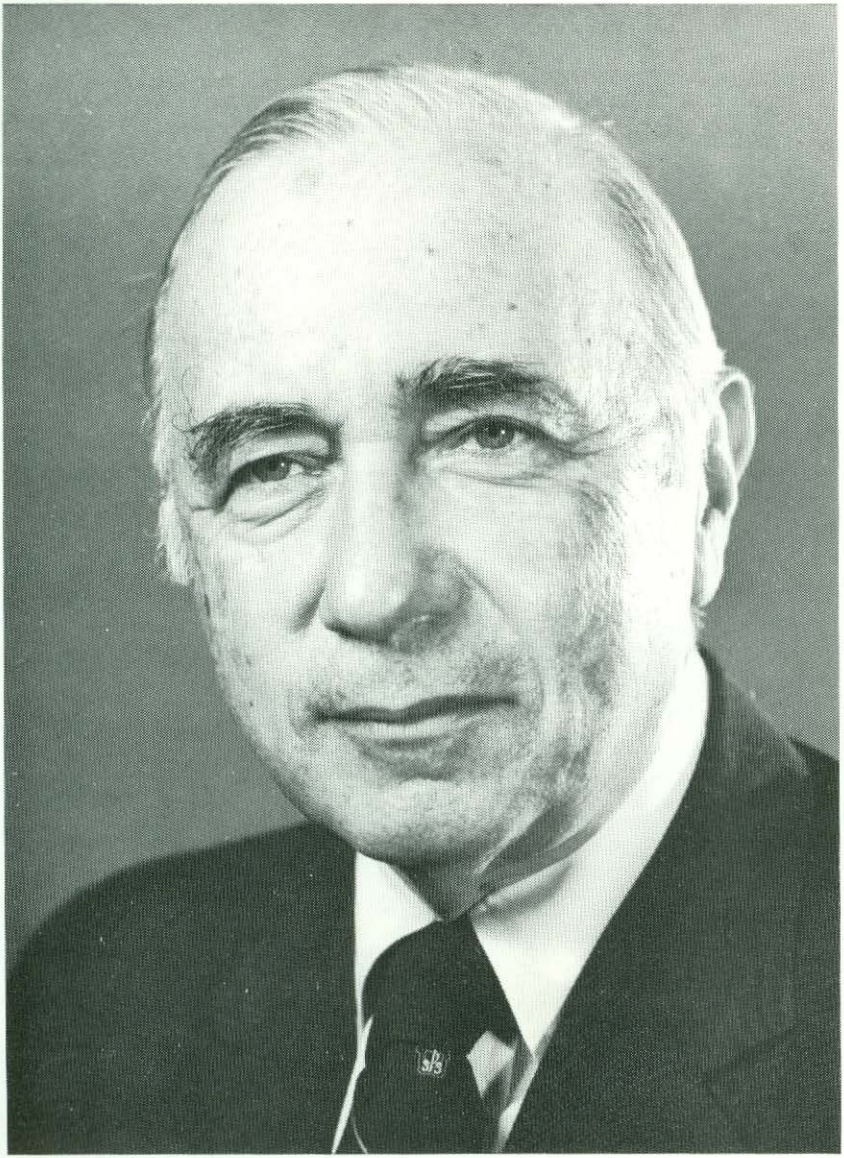
UNIVERSITAT AUTÒNOMA DE BARCELONA

DOCTOR
HONORIS CAUSA

SAUL BERNARD GUSBERG

DISCURS LLEGIT A LA CERIMÒNIA
D'INVESTIDURA CELEBRADA
A LA SALA D'ACTES D'AQUEST RECTORAT
EL DIA 14 DE GENER DE L'ANY 1985

BELLATERRA, 1985



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Il·lustració de la coberta
Microfotografia de càncer d'endometri

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PRESENTACIÓ

PER

JOAN ESTEBAN-ALTIRRIBA

Excel·lentíssim i Magnífic Senyor Rector,
Excel·lentíssims i Il·lustríssims Senyors,
Il·lustres Col·legues,
Senyores i Senyors,

És amb una gran satisfacció que avui acompleixo l'honrós encàrrec de dirigir-me a tots vostès en aquest rellevant acte, satisfacció que neix tant de l'extraordinària tasca científica del professor Saul B. Gusberg, en l'àmbit de la Ginecologia, com pel que, a títol personal, significa sentir-me directament vinculat a un acte tan transcendent com just.

De l'acurada lectura i de l'anàlisi del dens *curriculum vitae* de Saul B. Gusberg, així com del coneixement directe de la seva personalitat, se'n dedueix, sense cap mena de dubte, la justícia de l'acte que avui estem celebrant, motiu pel qual no vaig dubtar ni un instant a l'hora d'unir-me a la inciativa de l'Institut Dexeus, de sol·licitar per al professor S.B. Gusberg el grau de Doctor *Honoris Causa* per la nostra Universitat, convençut que així s'honraria un gran científic i, ensems, s'enriquiria amb la seva presència el nostre àmbit universitari.

Abans de passar a comentar la trajectòria científica i docent d'aquest mestre de la Ginecologia em vull permetre citar aquí les paraules que pronunciava Norbert Gleicher, Director de la Divisió d'Immunologia Reproductiva del Departament d'Obstetrícia i Ginecologia de la Mount Sinaí School of Medicine, en el primer

S.B. Gusberg Seminar on Reproductive Immunology, amb motiu de la jubilació del professor Gusberg. Deia: «Saul B. Gusberg ha estat sempre el meu mestre, el meu ídol, el meu "pare", el meu amic i, només en últim terme, el meu cap».

Aquestes emotives paraules pronunciades per un avantatjat deixeble, resumeixen, segons el meu parer, les envejables qualitats personals i el caràcter d'aquest extraordinari mestre, que ha sabut deixar rera seu un rastre inesborrable de progrés, de docència, de noves orientacions clíniques i d'amistat.

Aquest gran home i il·lustre científic, que avui es troba entre nosaltres, nasqué a Newark, Nova Jersey, el 1913 i rebé el grau de MD a Harvard el 1937 i el grau de DS en Medicina a la Columbia University el 1949.

Una breu repassada a la seva llarga trajectòria professional pot donar noció exacta de les importants posicions ocupades pel doctor Gusberg tot al llarg de la seva fructífera carrera.

Associat en Obstetrícia i Ginecologia a la Columbia University (1949-1951), Assistant Professor de Clínica Obstètrica i Ginecològica de l'esmentada Universitat (1951-1953), Associate Professor de Clínica Obstètrica i Ginecològica del Columbia Presbyterian Medical Center (1953-1962), l'any 1962 fou nomenat Director d'Obstetrícia i Ginecologia del Mount Sinaí Hospital i, el 1966, en crear-se l'Escola de Medicina a l'esmentat Hospital, passà a ocupar el lloc de Professor i Chairman del seu Departament d'Obstetrícia i Ginecologia. Convé assenyalar que aconseguí aquest important lloc després d'una tasca professional plena d'inquietud científica i de rellevants realitats, i que gaudeix d'un ben guanyat prestigi nacional i internacional.

Però fou, probablement, a partir de les seves noves responsabilitats a Mount Sinaí quan el Doctor Saul Gusberg sabé demostrar les seves especialíssimes qualitats de clínic, investigador i mestre.

En efecte, el doctor Gusberg introduí a Mount Sinaí la noció que si bé la investigació clínica era important, la conversió del Departament d'Obstetrícia i Ginecologia en un centre mèdic de primera línia requeria contribucions dirigides a la comprensió bàsica dels processos patològics. Amb aquesta intenció —i tot mostrant-se ell mateix com a model a seguir— introduí noves idees en la investigació, en camps tan nous aleshores, i tan trascendents més tard, com són l'oncologia ginecològica, l'endocrinologia ginecològica, la infertilitat i d'altres.

D'entre les seves nombroses contribucions al progrés de la nostra especialitat desitjo remarcar, per damunt de totes, la que ha constituït el fil conductor bàsic de l'activitat científica de Saul Gusberg: la comprensió del paper de les hormones en el desenvolupament del càncer d'endometri o, per dir-ho amb una expressió ja consagrada en la literatura ginecològica, «l'hormono-dependència del càncer d'endometri».

Juntament amb els seus transcendents descobriments en el camp de l'epidemiologia, la prevenció, el diagnòstic i el tractament del càncer genital femení, cal remarcar aquí la tasca pionera del doctor Gusberg en conjuminar els esforços comuns dels investigadors de laboratori amb els d'aquells que es dediquen fonamentalment a la recerca clínica, així com la formació d'una fornada de científics bàsics treballant en estreta col·laboració amb els clínics.

Les investigacions de laboratori dirigides pel professor Gusberg s'han estès a tots els camps de la nostra especialitat, i han culmi-

nat —amb encertada visió de futur— en la identificació, dins el seu Departament, d'una Divisió d'Immunologia Reproductiva.

L'evident afany innovador de Gusberg —assentat en un profund coneixement de l'especialitat i de les ciències mèdiques, en general— el mostra com un exemple a seguir per les nostres pròpies estructures, a fi que els actuals Departaments de la nostra especialitat en aquesta Universitat no romanguin anquilosats en l'estreta divisió en Obstetrícia i Ginecologia.

Tant les més de cent cinquanta publicacions del Doctor Saul Gusberg com les innombrables conferències que ha pronunciat arreu del món (entre les quals hi ha la de Barcelona, el 1973), la multitud d'honors que ha rebut durant la seva carrera professional, els seus múltiples nomenaments com a membre de les més importants societats de l'especialitat, i la seva activa tasca al front de moltes d'elles (l'última com a President de l'American Cancer Society), acrediten ben bé l'extraordinària vàlua del professor Gusberg.

Així, pertany a les següents associacions: l'American Association for the Advancement of Sciences; l'American Association of Obstetricians and Gynecologists (del Consell de la qual en fou President el 1979); la ja esmentada American Cancer Society; l'American College of Obstetricians and Gynecologists; l'American College of Surgeons; l'American Federation of Clinical Oncologic Societies (de la qual en fou President el 1976); l'American Medical Association; l'American Radium Society; l'American Society for Cancer Research; l'American Society for Cytology; la New York Academy of Science; el Royal Collegé of Obstetricians and Gynaecologists (del qual en fou nomenat Honory Fellow, el 1977); la Society of Pelvic Surgeons (de la qual en fou President el 1976); la Royal Belgian Society of Gynaecology and Obstetrics; la Sociedad de la Lucha contra el Cáncer de Ecuador, etc.

A més a més, els honors rebuts per Saul B. Gusberg són també nombrosos, destacant-ne el Premi Phi Beta Kappa, la Medalla d'Argent del bicentenari de la Universitat Columbia, el Benjamí Franklin de la Royal Society of Arts, i el Fellowship ad Eudem del Royal College of Obstetricians and Gynecologists, de Londres.

Ha format part dels Consells Editorials de les més importants revistes americanes de l'especialitat, entre les quals hi ha: *Obstetrics and Gynaecology, Obstetrical and Gynaecological Survey, Cancer* i *Gynaecologic Oncology*.

Per tot això, Rector Magnífic de la Universitat Autònoma de Barcelona, em permeto sol·licitar per a Saul B. Gusberg, el grau de Doctor *Honoris Causa* per la nostra Universitat, en justa correspondència a tot el que li devem els qui, tant estudiants com professors, d'una o altra manera ens trobem involucrats en l'àmbit de la fisiologia i la patologia de la dona.

He dit.

CANCER CONTROL: ELUSIVE OR ILLUSION

PER

SAUL BERNARD GUSBERG

It is great privilege you have extended to me to participate in this convocation called by your University. The call for a cancer subject of human interest to be presented to this distinguished intellectual audience has indeed challenged me. I hope you will find that I have responded appropriately.

I came to the study of cancer by accident. I did not plan it or yearn for it, or have a noble aspiration to rid the world of this great plague at that time. I simply received my M.D. degree and, having failed to be accepted in the surgical training hospital of my choice, rather than enter a seminary or monastery, I accepted a position as a research fellow in a cancer research institute at Harvard University. There, after I recovered from the youthful cataclysm of being denied my choice, I entered the exhilerating company of an intellectual fraternity of great biomedical scientists who initiated me into a way of thinking of medicine in scientific terms; a concept of searching for new knowledge; into the thought that biomedical research was a means of looking for new ways to help sick people. They had a virginal field in which to operate, for my mind was a clean slate in this regard. And so, though thei failed to fashion me into a biochemist, they succeeded in lighting the spark that has pervaded my professional life and, I hope, has benefited others who have come under my influence or care at a later time.

I did begin there to think about hormonal substances, growth promoters in the body, in relation to the abnormal growth characteristic of tumors: especially the so-called female hormone, estrogen, that has such a powerful proliferative effect on the uterus. This relationship suggested to me that this was best body site to study normal and abnormal growth, and my inclination for surgery led me to gynecologic surgery and oncology. In my «remembrance of times past», I believe these considerations led me to define the relationship between estrogen and uterine cancer and to discover its precancerius stage: adenomatous hyperplasia.

My teaching life is really familiar to you for academics of all persuasions have a commonality of goals, if not of style, and the University is really universal. I did go on to codify the treatment of this cancer after studying the virulence factors, the parameters of aggression of tumors of the female reproductive tract and, possibly, have convinced some others that a major key to the conquest of many diseases lies in understanding their biologic base. This will seem a cliché to any biologists present, but it required persuasion to convince those clinicians accustomed to utilize the art of medicine more than its science.

As my professional life matured I was drawn to other goals than my own personal scientific and medical interests. I became convinced that the support of biomedical innovation could only accelerate by public education, by translation of modern medical knowledge for an eager public, increasingly willing to take some responsibility for its own health. In addition, the accelerated pace of the acquisition of new knowledge in molecular biology in the past decade, sometimes referred to as the «biologic revolution», suggested to me that we had now a greater need for scientifically prepared clinicians; by this I mean doctors of medicine who can understand this basic science and, where appropriate, grasp the

opportunity to convert it to the care of people. For these functions I found hospitality in The American Cancer Society, a great non-profit, voluntary health agency whose goal, as you may know, is cancer control, and I became increasingly active in its work.

To some, cancer control is an illusion, for the complexities of cell growth and function represent the riddle of life, unexplained and unexplainable. In addition, the advances in cancer cure are ill understood by a lay public influenced by an increasing incidence of cancer with an aging population, the resistence of certain common tumors, such as lung cancer, a self-imposed disease, to curative treatment, and the frequant tragic presence of a dear one succumbing to this disease. Yet our improvement in cancer therapy has been constant, with and over-all cure rate rising from approximately 18 % when I was a student, to a current 50 % in my own country. This panoramic view is one of the advantages given to an aging surgeon. Furthermore, as a witness to the current increasing control of childhood leukemias, bone cancer, lymphatic cancer, cancer of the placenta or afterbirth, certain kidney tumors, and testicular cancer, rising to a greater than 50 %-70 % level from a former almost universally fatal outlook, one must be encouraged to some optimism. As a surgeon I am free to admit that surgery and radiotherapy, though effective regionally in the body, must defer, sometimes adjunctively, to chemotherapy, the use of cytotoxic chemical agents capable of seeking out the cancer cell and destroying it, no matter how remote from the primary site. Chemotherapy, though harsh in most patients, has moved from a palliative to a curative modality.

Furthermore, the concept of screening healthy individuals, and early diagnosis in high risk groups, though frought with cultural and behavioral problems, has enabled us to detect some tumors, incipient or recently established at a stage where cure is not only

almost assured, but is accomplished by relatively simple, non-mutilating treatment. There is no better example of this than that devised by Papanicolau, the cytologic test of secretions of the uterine cervix. Easily and painlessly obtained, interpreted with great accuracy, having the capability of detecting precancerous lesions which can then be easily eradicated, it has enabled us to reduce the morality from cervix cancer in our country by more than 50 % between 1950 and 1980. We must extend the exploitation of this technique to other regions of the world where this disease is still a great scourge.

Mammography, X-ray of the breast, now at an insignificant radiation rate for mature women, will hold the same promise for breast cancer, that has such a high incidence in much of the western world. It can detect very early lesions not evident on examination. Ultrasound and computerized scans and endoscopic views of internal organs are also part of the modern technology that has given us the ability to diagnose these disorders at an early and, therefore, cureable stage. Unfortunately, some parts of the world, for economic and other reasons, are struggling still to have 1940 medicine rather than 1980 health care. We must help them in their effort to catch up. The export of health care must be more critical than the export of military hardware. Population stability by health measures, even the cynic will admit, is more rational that that by destructive instruments. At this stage of our world it can not only preserve civility, but even civilization.

Perhaps the most important concepts that have been advanced recently for the control of cancer relate to prevention. Environmental, nutritional and toxicologic studies have stirred the imagination of cancer scientists, though many of these investigations are in their infancy. However, they have matured sufficiently in the past two decades to convince most that the primary stimulus

for unrestrained cell growth which is the nature of cancer, arises not in some spontaneous inner conflict of metabolism, but in what we eat, drink or smoke, how and where we live or work, in short, in our life style and behavior.

It may seem ironic that we can cause our own health destruction, but current political tensions and the forces they engender, confronting us with the possibility of casual mass destruction once again, make it easier conceptually to envision the role of personal environmental damage. There is no longer doubt that cigarette smoking is responsible for 85 % of lung cancer together with other pulmonary and cardiovascular disorders to name a few. Such a self-inflicted tumor contrasts with occupational exposure to carcinogenic substances such as asbestos, vinyl chloride and thirty-three others, and the list grows longer at the same time that it offers us opportunities for protection.

The rôle of ultraviolet in sunlight or excess of other irradiation as carcinogens offers us the protection of knowledge, so that it becomes more difficult to choose ignorance. In addition, viruses have now been implicated in some human cancers with regional frequency: Burkitt's lymphoma in East Africa, cancer of the cervix in Latin America, nasopharyngeal cancer and liver cancer in Asia, T cell lymphoma and leukemias in Southern Japan and Haiti, and Kaposi's sarcoma in male homosexuals in western countries. The epidemiology of these tumours has been studied with increasing intensity and frequently tumors that have appeared to be genetically or racially conditioned turn out to be environmental, i.e. extrinsically induced by defineable agents. Migrant studies have revealed, for example, that Japanese immigrants to the United States diminish the frequency of cancers common in Japan and acquire in exchange an increased frequency of cancers common in my country.

As I have stated, the study of nutrition is in its infancy. The role of a high animal fat diet in cancers of the breast, uterus (endometrium) and colon is suspected, as is nitrosamine in the gastrointestinal tract and aflotoxin, red dye #2, mould in vegetable produce, smoked food, alcohol, hormones, and other unkind chemical substances in other tumors. I have not presented these data as a litany of doom, but, in fact, as a promise of protective action which may be one of our most important weapons in this struggle.

Obvious preventive measures immediately come to mind including a prudent diet low in fat and calories, and high in vegetable fiber; the development of vaccines against the cancer viruses; warning against cigarette smoking; limitation of sunlight exposure and alcohol intake; occupational and environmental safety and the screening of asymptomatic high risk groups. I have recited these important prophylactic measures glibly at a time when some are already applicable while others require behavioral modification, psychosocial adjustment, and economic support, none of these commodities easy to establish and maintain. We have made progress, nevertheless.

Nutritional research, embryonic though it may be, has already pointed to the cancer protective effect of cruciferous vegetables such as sprouts, cabbage, cauliflower and others. In the name of chemoprevention, Vitamin A analogues (chemical cousins), Vitamin C and some newer chemical agents have been shown to have the capacity to re-mature cells that have strayed toward the unrestrained growth of precancerous lesions.

A class of so-called natural biologic modifiers has been disclosed and now intensively investigated; normally present in the body, now readily manufactured in quantity by recombinant

DNA technology, so-called genetic engineering, they can increase the body's immunologic defenses and also oppose excessive cell proliferation. Interferon is one such substance.

You have no doubt noted that I have alluded to the importance of biomedical research throughout this discourse. I don't think this is only a surgeon's admiration for the creativity of basic scientists. I do think that physicians and surgeons owe the same debt to biomedical scientists that engineers owe to physicists. The prepared, scientifically oriented clinician must constantly scan the scientific horizon to select and investigate and exploit those basic research findings that can be introduced to the therapeutic world of patient care.

My own perception of the evolution of cancer control might be characterized by a loose definition of certain biomedical eras:

1) The decade of the forties saw the sharpening of therapeutic technology both in surgery and radiotherapy. Radical surgery advanced due to the support systems afforded by the emergence of scientific anesthesiology, antibiotics, blood banks and the ability of surgeons to maintain or restore their patients' physiologic identity. Radiotherapy acquired new machinery devised by the ingenious strategies of physicists and engineers.

2) The decade of the fifties could be called the decade of early diagnosis wherein the concept of precancerous, preclinical lesions and pre-invasive cancer or carcinoma-in-situ was clearly defined and widely accepted.

3) The decades of the sixties and seventies were marked by the socalled «biologic revolution», for there was an explosion of scientific information concerning cell growth, cell metabolism, cell life and cell death and the emergence of some chemical means of controlling them.

4) My view of the decade of the eighties could be called the era of «therapeutic translation», for basic information about the cancer cell and its host environment is ready in many cases to be utilized by the scientific clinician for the improvement of diagnosis and treatment of clinical cancer.

I can offer a few examples of «translation» already started:

a) The insights of cell biologists have freed us from the empiric, pharmaceutical era of chemotherapy to more rational, targeted, discriminatory chemical agents of healing.

b) Radiobiology has given us radiosensitizers and hyperthermia to enhance the healing effect of therapeutic irradiation and high energy beams to make it more efficient.

c) Immunology offers the prospect of bolstering host resistence by immunotherapy and we now see the development of specific (monoclonal) antibodies that can increase the specificity of diagnosis and act as guided missles, so to speak, for treatment.

d) Virology has opened the real prospect of vaccines for some virally induced tumors.

e) Epidemiology has enabled us to define high risk groups for certain tumors whether the risk be genetically, environmentally or metabolically induced.

f) Endocrinology by defining hormone sensitive tumors has made hormonal antagonists formidable in the treatment spectrum.

Some of these options have been satisfactorily fulfilled, others are important already but require further significant development. To think that I can give you a completed picture of advances in cancer research would stretch my humility and knowledge and go beyond the scope of this presentation. Nor has biomedical science fulfilled its mission in this area. I have only tried to offer some exciting views of the background for my optimism concerning the future control of these diseases.

I have not mentioned the most current cancer esearch promise: Oncogenes, cancer transforming genes, have now been found in some human cancers. These are probably normal genes that we all have for induction of growth of the fetus in the womb. They become repressed in adult life until they are de-repressed, turned on, at which time they can express the capacity to form a protein product that can induce unrestrained cell growth. A most exciting strategy has now been suggested to frustrate such expression of the oncogene; the oncogene can only act by the production of a messenger signal that can induce the function of the transforming protein. A chemical means to scramble the signal has been devised, denying this evil action to the oncogene. It brings to mind the injunction from the classical age of mythology, «If the messenger brings a wicked message, kill the messenger».

Yes, the goal of total cancer control is elusive, but I do hope that my presentation of these advances will persuade you that it is not an illusion, that we have a right to be optimistic about such cancer control before the onset of the next century.

I am deeply aware of the great honor you have bestowed upon me. I thank you for it, not only for my self, but for the many scientists and physicians who have contributed to this major field of biomedical research that will surely have a profound effect upon the public health, with universal benefit.

CURRICULUM VITAE

DE

SAUL BERNARD GUSBERG

Name	Saul Bernard Gusberg
Date of birth	August 3, 1913
Place of birth	Newark, New Jersey
Citizenship	United States
	Social Security §095-26-0276
Address	Home: 257 Palisade Avenue
	Dobbs Ferry, New York 10522
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	Office: 1176 Fifth Avenue, Suite I
	New York, New York 10029
	Telephone §(212) 650-6555
Marital status	Married (Dorothy Cushner Gusberg); one son (Richard J. Gusberg, M.D.)

Medical Licenses

New York State §039334

Academic Background

University of Michigan	1933	Degree not taken
Harvard Medical School	1937	Doctor of Medicine
Board Certification	1941	New York State
Columbia University	1949	Doctor of Science

Professional Background

1937-1938	Research Fellow, Collis B. Huntington Hospital of Harvard University.
1938-1941	Internship, Bellevue Hospital, New York, New York.
1941-1946	Assistant Resident and Resident, Sloane Hospital for Women, Columbia-Presbyterian Hospital.
1944-1946	Assistant, Obstetrics and Gynecology, Columbia University.
1946-1953	Assistant Attending Obstetrician and Gynecologist, Sloane Hospital for Women, Presbyterian Hospital, Vanderbilt Clinic.
1946-1949	Instructor, Obstetrics and Gynecology, Columbia University.
1947-1948	Jules S. Bache Fellow in Obstetrics and Gynecology, Columbia University.
1949-1951	Associate in Obstetrics and Gynecology, Columbia University.
1951-1953	Assistant Professor of Clinical Obstetrics and Gynecology, Columbia University.
1953-1962	Associate Professor of Clinical Obstetrics and Gynecology, Associate Attending Obstetrician and Gynecologist, Sloane Hospital for Women, Vanderbilt Clinic and Delafield Hospital of Columbia Presbyterian Medical Center.
1962	Director of Obstetrics and Gynecology, The Mount Sinai Hospital.
1962-1966	Clinical Professor of Obstetrics and Gynecology, College of Physicians and Surgeons, Columbia University.
1962	Obstetrician and Gynecologist in Chief, The Mount Sinai Hospital.
1966-1980	Professor and Chairman, Department of Obstetrics and Gynecology, The Mount Sinai School of Medicine of the City University of New York.
1980	Distinguished Service Professor, The Mount Sinai School of Medicine of the City University of New York.

Lectureships

Curie Institut, Paris. July 14, 1953.
International Congress in Geneva. July, 1954.
American Gynecologic Society, Washington, D.C. 1956.
American Radium Society, Quebec. 1957.
George Birney Broad Lecture, University of Syracuse. 1958.
International Conference on Corpus Cancer, Brussels Gynecologic Society and French Speaking Gynecologic Society, Stockholm. July, 1958.
Lecture Film for the American Cancer Society, New York. March, 1959.
Cancer Corpus Lecture and Conference on Cancer of the Cervix, Yale University. January 14, 1960.
M.D. Anderson Hospital and Tumor Institute Gynecologic Cancer Conference, Houston, Texas. October, 1960.
Howard University Conference on Cancer of the Cervix. January, 1961.
International Cancer Congress, Vienna, Austria. September, 1961.
George Kamperman Memorial Lecture, Detroit, Michigan. October, 1961.
Texas Internal Medicine Assembly, San Antonio, Texas. January, 1962.
Indiana University. March, 1962.
Nashville Academy of Medicine and Vanderbilt University. September, 1962.
American College of Gynecologists and Obstetricians, New York and Centennial of the New York Obstetrical Society (as President), New York. April, 1963.
New York University Medical School Post Graduate Course: Etiology of Corpus Cancer, New York. November, 1963.
Boston Obstetrical Society, Boston, Massachusetts. January, 1964.
State University of New York, Downstate Medical School, New York. March, 1964.
J. Mason Hundley Lecture, Medical and Surgical Faculty of Maryland, Baltimore, Maryland. May, 1964.
University of Michigan, Visiting Professor, Michigan. January, 1965.
Aaron Brown Lecture, University of Colorado, Visiting Professor. Colorado Obstetrical and Gynecological Society, Denver, Colorado. April, 1965.

Cervix and Corpus Cancer Discussion, Athens, Greece. May, 1965.
Treatment of Corpus Cancer Lecture, Istanbul. May, 1965.
Hebrew University, Jerusalem. June, 1965.
Queen Charlottes and Chelsea, Visiting Professor, London, England. June, 1965.
Albany Medical School Gynecologic Cancer Symposium, Albany, New York. October, 1965.
Isthunian Medical Society and Gorgas Hospital, Panama Cancer Society, Panama. December, 1965.
Lecture and Interview: *Today how,* NBC-TV, New York. February, 1966.
Staging Commission of the International Union Against Cancer, International Representative, Houston, Texas. June, 1966.
Cuernavaca, Lecture on Corpus Cancer and Mexico City, Lecture on Cervix Cancer, Mexico. September, 1966.
Nu Sigma Nu, Visiting Professor, Northwestern University School of Medicine. Chicago, 1967.
Puerto Rico Medical Association, Ponce and San Juan, Puerto Rico. July, 1967.
American College of Surgeons-German Surgical Society, Munich, Germany. June, 1968.
National Cancer Conference, Denver, Colorado. September, 1968.
College of Physicians and Surgeons Post Graduate Course, Columbia University, New York. October, 1968.
Interview: *For Women Only,* NBC-TV, New York. November, 1968.
Cornell University Medical School, New York. November, 1968.
Los Angeles Forum and Assembly, Obstetrical and Gynecological Assembly of Southern California, Los Angeles, California. February, 1969.
Alexander Brunschwig Lecture, Lenox Hill Hospital, Cornell University. May, 1969.
Pan Pacific Surgical Association, Honolulu, Hawaii. October, 1969.
International Cancer Congress, Houston, Texas. May, 1970.
Kings College Medical School, London, England. August, 1970.
College of Physicians and Surgeons, Columbia University. October, 1970.

National Institutes of Health Conference on Menopause, Hot Springs, Arkansas. May, 1971.

Society of Pelvic Surgeons, Oxford and Newcastle, England. July, 1971.

St. Thomas Hospital Medical School, London, England. September, 1971.

American Cancer Society, SOLCA, and University of Guayaquil, Guayaquil, Ecuador. November, 1971.

David and Lenore Brundige Katz Lectureship, University of Pittsburgh. 1971.

St. Louis University and Central States Regional Association of Obstetricians and Gynecologists, St. Louis, Missouri. September, 1972.

National Cancer Conference, Los Angeles, California. September, 1972.

Clare Zellerbach Saroni Lecture, University of California at San Francisco, California. February, 1973.

University of Barcelona and University of Madrid, Spain. April, 1973.

Visiting Professor, Kings College Hospital Medical School and University of London, London, England. April-May-June, 1973.

St. Thomas and St. Mary's Hospital, London, England; Royal College of Surgeons and British Association of Surgical Oncologists, Oxford, England; Rotunda and St. Luke's Hospital, Dublin, Ireland; Norwegian Radium Hospital, Oslo, Norway; Radiumhemmet and Soblatsberg Institute, Stockholm, Sweden; Gustave Roussy and Academy of Medicine, Paris, France. April-May-June, 1973.

Walter L. Thomas Lecture, Duke University and Bayard Carter Society, Durham, North Carolina. September, 1973.

University of Hawaii School of Public Health, East-West Center Population Institute, and Kapiolani Hospital, Hawaii; University of Hong Kong and Queen Elizabeth Hospital, Hong Kong; University of Bangkok and Chulalongkorn Hospital, Bangkok, Thailand; Kyushu University, Kyoto University, and Cancer Institute Hospital of Tokyo, Japan; Taiwan National University, Taiwan, Republic of China; and Singapore University. January through April, 1974.

John McKelvey Lecture, University of Minnesota. September, 1974.

Lederman Lecture, Royal Society of Medicine, Oncology Section, London, England. October, 1974.

McGuire Lecture, Medical College of Virginia, Richmond, Virginia. December, 1974.

Leon Foster Visiting Professor, St. Louis University, The Jewish Hospital of St. Louis, Deaconess Hospital, and St. Louis Gynecologic Society, St. Louis, Missouri. April, 1975.

New York Academy of Medicine, Presidential Lecture, New York. April, 1975.

Visiting Professor, University of Hawaii Post Graduate Course on Gynecologic Oncology and Hawaiian Obstetrical and Gynecological Association, Honolulu, Hawaii. March, 1975.

Yale University, New Haven, Connecticut. April, 1976.

Visiting Professor, University of Munich, Munich, Germany. July, 1976.

Presidential Address, Society of Pelvic Surgeons, Basel, Switzerland. July, 1976.

Visiting Professor, Universities of Cape Town, Stellenbosch, Pretoria and Witwatersrand, South African Congress, South Africa. August and September, 1976.

Visiting Professor, University of Southern Florida, Tampa, Florida. February, 1977.

Visiting Professor, University of New Mexico, Albuquerque, New Mexico. November, 1977.

Visiting Professor, Columbia University College of Physicians and Surgeons, Sloan Hospital, Roosevelt Hospital St. Luke's Hospital and Harlem Hospital, New York. March, 1978.

Brazilian Cancer Institutes in Rio de Janeiro, Curitcha and Puerto Alegre. September, 1978.

International Cancer Congress, Buenos Aires and Visiting Professor, University of Buenos Aires, Argentina. October, 1978.

Guest Speaker/Guest Faculty, University of Delaware, Jefferson Medical College Post Graduate Course, Wilmington, Delaware. November, 1978.

U.I.C.C. (International Union Against Cancer) Roosevelt Fellowship Council, American Cancer Society Representative (President), Geneva, Switzerland. March, 1979.

Visiting Lecturer, University of Connecticut. May, 1979.

Guest Speaker, University of Pennsylvania. June, 1979.

American Association of Obstetricians and Gynecologists, Presidential Address, Hot Springs, Virginia. September, 1979.

Presidential Address, American Cancer Society, New York. November, 1979.

Guest Speaker, Ralph DiLeone Memorial Lecture, Brown University, Providence, Rhode Island. March, 1980.

Guest Speaker, Ruth Gray Lecture, Northwestern University, Chicago, Illinois. May, 1980.

Guest Speaker, Verstandig Lecture, University of Tennessee, Memphis, Tennessee. October, 1980.

Visiting Professor, University of Tennessee, Memphis, Tennessee. October, 1980.

Stewart Taylor Lecturer and Visiting Professor, University of Colorado, Denver, Colorado. April, 1981.

E. Stewart Taylor Visiting Professor, University of Colorado and The Colorado Obstetrics and Gynecological Society, Denver, Colorado. April, 1981.

External Examiner and Visiting Professor, University of Hong Kong, Hong Kong. May, 1981.

Visiting Scholar, Peking Cancer Institute and Hospital, and The Shangai Tumor Institute, Shangai, China. May, 1981.

Honors

Phi Beta Kappa.

Sigma Xi.

Silver Medal of Columbia University Bicentennary.

American Cancer Society, National Divisional Award for Cancer Control.

Benjamin Franklin Fellow, Royal Society of Arts, 1971.

Fellowship ad Eundem, Royal College of Obstetricians and Gynecologists, London, June 1977.

S.B. Gusberg Seminar on Reproductive Immunology, First held on June and 27, 1980.

Society Memberships

American Association for the Advancement of Science.
American Association of Obstetricians and Gynecologists Council President, 1979.
American Board of Obstetrics and Gynecology, Board of Examiners.
American Cancer Society, Inc.
Chairman, Advisory Committee on Therapy of Cancer, 1961-1962.
Delegate Member, 1971-1975
Medical Director-at-Large, 1975-1979
Chairman, Medical and Scientific Executive Committee, President Elect, 1979
President, 1979-1980.
American Cancer Society, New York City Division
Vice President, 1965
President Elect, 1966
President, 1967-1970
Board of Directors
Executive Committee
Advisory Committee, Professional Education and Grants Public Information.
American College of Obstetricians and Gynecologists
Chairman, Committee on Malignant Diseases, 1966-1970
Committee on Special Interest on Oncology, 1973.
American College of Surgeons
Governor, 1974 to present
Cancer Commission, 1967-1973.
American Federation of Clinical Oncologic Societies
President Elect, 1975
President, 1976.
American Gynecologic Society, Fellow.
American Medical Association.
American Radium Society
First Vice President, 1967
Nominating Committee, 1975.
American Society for Cancer Research.

American Society for Cytology.
Executive Committee
Vice President, 1959-1962.
Cancer Control Program, United States Public Health Service National Cancer Institute, Consultant, Advisory Committee, 1976-1979.
Journal of GYNECOLOGIC ONCOLOGY, Editor-in-Chief.
National Committee on Guidelines for Expert Care Regional Medical Program, 1967.
New York Academy of Medicine
President, 1975.
New York Academy of Science, Fellow.
New York Advisory Committee, Regional Medical Program.
New York Obstetrical Society
President, 1962-1963
Member of Council.
New York State and New York County Medical Society.
Obstetrical Advisory Committee, New York City Department of Health
Chairman, 1968-1970.
OBSTETRICS AND GYNECOLOGY
Editorial Board, 1963-1967.
Pelvic Task Force, Joint Committee on Staging and End Result of Treatment of Cancer.
Royal College of Obstetricians and Gynaecologists, London, England
Honorary Fellow, 1977.
Society for Gynecologic Investigation.
Society of Gynecologic Oncologists
President, 1974-1975.
Society of Pelvic Surgeons
President, 1976.
U.S. Shew, National Institutes of Health, Division of Cancer Control and Rehabilitation
Member, Advisory Committee.
OBSTETRICAL AND GYNECOLOGICAL SURVEY, Associate Editor.
CANCER, Editorial Board.

Honorary Memberships

Central Association of Obstetricians and Gynecologists.
Honorary Consultant in Obstetrics and Gynecology to King's College Hospital, London, England.
Pacific Northwest Obstetrical and Gynecological Association.
Royal Belgian Society of Gynecology and Obstetrics.
Societa de Lucha Contra Cancer, Equador.
Southwest Obstetrical and Gynecological Society.
St. Louis Gynecological Society.
South Atlantic Gynecological and Obstetrical Society.

Notable Activities

President, New York Obstetrical Society.
President, New York Academy of Medicine.
President, Society of Pelvic Surgeons.
President, American Federation of Clinical Oncologic Societies.
President, Society of Gynecologic Oncologists.
President, American Association of Obstetricians and Gynecologists.
Governor, American College of Surgeons.
Member, Advisory Committee, National Cancer Institute, Division of Cancer Control and Rehabilitation.
Editor-in-Chief, GYNECOLOGIC ONCOLOGY.
Fellow, Royal College of Obstetricians and Gynaecologists (Honorary).
Benjamin Franklin Fellow, Royal Society of Arts.
President, American Cancer Society.

Publications

1. Gusberg, Zemecnik and Aub: The distribution of injected organic diselenides in tissues of tumor bearing animals. *J. Pharm. Exp Therapeut,* 1941; Vol 71, 3:239.
2. Watson amd Gusberg: The treatment of placenta praevia:

Bagging versus caesarean section. *Am. J. Obstet. Gynecol.*, 1943; Vol 46, 4:524-529.

3. Gusberg and Danforth: Clinical significance of struma ovarii. *Am. J. Obstet. Gynecol.*, 1944; Vol 48, 4:537-542.
4. Gusberg: Androgen therapy of menopausal symptoms in cancer patients. *Am. J. Obstet. Gynecol.*, 1945, Col 50, 5:502-509.
5. Corscaden, Fertig and Gusberg: Carcinoma subsequent to the radiotherapeutic monopause. *Am. J. Obstet. Gynecol.*, 1946; Vol 51, 1:1-12.
6. Watson and Gusberg: Prevention and treatment of carcinoma of the vulva. *Am. J. Obstet. Gynecol.*, 1946; Vol 52, 2:179-187.
7. Gusberg: Prolapse of the umbilical cord. *Am. J. Obstet. Gynecol.*, 1946; Vol 52, 5:826-829.
8. Corscaden and Gusberg: The background of cancer of the corpus. *Am. J. Obstet. Gynecol.*, 1947; Vol 53, 3:419-431.
9. Gusberg: Precursors of corpus carcinoma, estrogens and adenomatous hyperplasia. *Am. J. Obstet. Gynecol.*, 1947; Vol 54, 6:905-927.
10. Atkinson and Gusberg: Histochemical studies on abnormal growth of human endometrium: I) Alkaline phosphatase in hyperplasia and adenocarcinoma. *Cancer*, 1948; Vol 1, 2:248.
11. Corscaden Gusberg and Donlan: Precision dosage in interstitial irradiation of cancer of the cervix uteri. *Am. J. Roentgen Radium Therapy*, 1948; Vol IX, 4.
12. Atkinson, Engle, Gusberg and Buxton: Histochemical studies on abnormal growth of human endometrium: II) Cytoplasmic ribonucleic acids in normal and pathological glandular epithelium. *Cancer*, 1949; Vol 2, 1:132.
13. Gusberg: Detection of early carcinoma of the cervix: The coning biopsy. *Am. J. Obstet. Gynecol.*, 1949; Vol 57, 4:752-756.
14. Gusberg and Graham: The development of a vaginal cytology laboratory. *Am. J. Obstet. Gynecol.*, 1950; Vol 59, 5:1053-1061.
15. Gusberg: Newer concepts of the early stages of carcinoma of the cervix and their clinical recognition. *Med. Clin. North Amer.* 1951; Vol 35, 3.

16. Gusberg: Coning biopsy in detection of early cancer of the cervix. *Am. J. Obstet. Gynecol.*, 1951; Vol 61, 2:276-289.
17. Gusberg and Corscaden: The pathology and treatment of adenocarcinoma of the cervix. *Cancer*, 1951; Vol 4, 5.
18. Atkinson, Gall and Gusberg: Histochemical studies on abnormal growth in human endometrium. III) Deposition of glycogen in hyperplasia and adenocarcinoma. *Cancer*, 1952; Vol 5, 1.
19. Gusberg: The relative efficiency of diagnostic techniques in the detection of early cervical cancer. *Am. J. Obstet. Gynecol.*, 1953; Vol 65, 5:1073-1080.
20. Gusberg and Moore: The clinical pattern of intrapithelial carcinoma of the cervix and its pathological background. *Obstet. Gynecol.*, 1953; Vol 2, 1.
21. Gusberg, Fish and Wong: The growth pattern of cervical cancer. *Obstet. Gynecol.*, 1953; Vol 2, 6.
22. Gusberg, Tovell, Emerson and Allina: Radiosensitivity of cervical cancer; A preliminary report. *Am. J. Obstet. Gynecol.*, 1954; Vol 68, 6:1464-1471.
23. Gusberg, Moore and Martin: Precursors of corpus cancer. II) A clinical and pathological study of adenomatous hyperplasia. *Am. J. Obstet. Gynecol.*, 1954; Vol 68, 6:1472-1481.
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26. Gray, Gusberg and Gutman: Pelvic lymph node dissection following radiotherapy. *Am. J. Obstet. Gynecol.*, 1958; Vol 76, 3:629-633.
27. Gusberg and Taylor: Problems of corpus cancer (Traitment du cancer du corps de l'uterus). *Bulletin Roy Belge Soc. Obstet. Gynecol.*, 1958; July.
28. Gusberg: Development stages of uterine cancer and their diagnostic appraisal. *Clin. Obstet. Gynecol.*, 1958; Vol 1, 3.

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32. Gusberg and Hall: Precursors of corpus cancer III; The appearance of carcinoma of the endometrium in estrogenically conditioned patients. *Obstet. Gynecol.*, 1959; 17:397.
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41. Gusberg and Marshall: Intraepithelial carcinoma of the cervix: A clinical re-appraisal. *Obstet. Gynecol.*, 1962; Vol 19, 6:713.
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and host response in cervix cancer. *Am. J. Obstet. Gynecol.*, 1962; 84:1487.

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55. Seftel and Gusberg: Hyperparathyroid states in gynecological malignancy. *Obstet. Gynecol.*, 1965; Vol 25, No. 5.
56. Rubin, Glucksman, Gusberg and Graham: Cancer of the cervix, stage II. *JAMA*, 1965; 193:822-827.
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88. Gusberg: Surgical treatment for uterine cancer. *Oncology*, 1970; 4:250, Proceedings of the Intnl Ca Congress, Year Book Medical Publishers, Chicago.
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96. Gusberg: Hormonal relations to endometrial cancer. Proceedings of the Seventh National Cancer Conference, 1973.
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106. Gusberg: Uterine aspiration: A new screening test for endometrial cancer. *The Female Patient,* Vol. 1, No. 3, April, 1976.
107. Gusberg: The evolution of modern treatment of corpus cancer. *Cancer,* 1976; 38:603-609.
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