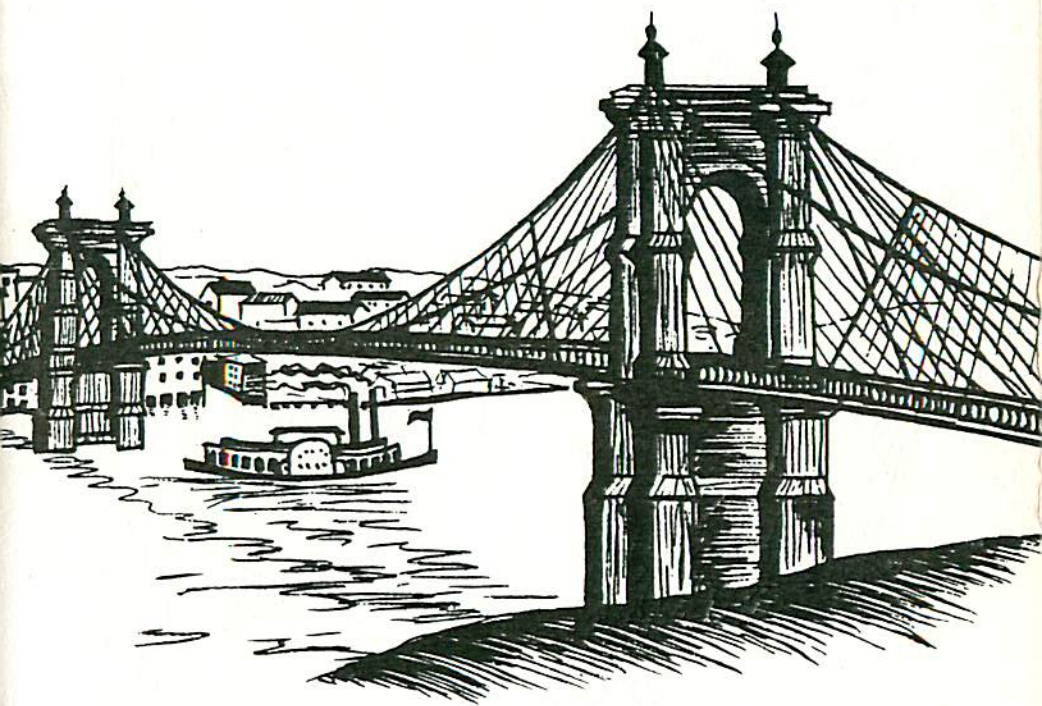


*American Academy of
Neurological Surgery*



*Annual Meeting
Cincinnati, Ohio
October 14-16, 1965*

ANNUAL MEETING – 1965

TERRACE HILTON HOTEL, CINCINNATI, OHIO

"Cincinnati, I thought, was the most beautiful of the inland cities of the Union. From the tower of its unsurpassed hotel the city spreads far and wide its pageant of crimson, purple and gold, laced by silver streams that are great rivers."

Winston Churchill, 1933

*"And this Song of the Vine,
This greeting of mine,
The winds and the birds shall deliver
To the Queen of the West,
In her garlands dressed,
On the Banks of the Beautiful River."*

Longfellow



The American Academy of Neurological Surgery

Officers 1965

President	Edmund J. Morrissey
President-Elect	George L. Maltby
Vice-President	Robert Pudenz
Secretary-Treasurer	Edward W. Davis
Historian	Howard A. Brown
President of Women's Auxiliary	Mrs. Robert L. Mc Laurin

Committees

Executive Committee

Edmund J. Morrissey, *Chairman*
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Robert L. Pudenz
Edward W. Davis
Charles G. Drake
George L. Maltby

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David L. Reeves, *Chairman*
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William F. Meacham, *Chairman*
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Academy Award Committee

Henry L. Heyl, *Chairman*
J. Lawrence Pool
Frank E. Nulsen

Local Arrangements Committee

Frank H. Mayfield, *Chairman*
Robert L. Mc Laurin

Social Calendar

Wednesday, October 13

4:00 p.m. to 7:00 p.m. . . . Registration – Skyline Ballroom foyer

6:00 p.m. to 7:00 p.m. Cocktails – Ohio Valley Room

Members will make own arrangements for dinner.

Suggestions: Gourmet Room Hotel Terrace Hilton

Captain David's Mt. Adams, with
visits to other places of interest

Thursday, October 14

8:00 a.m. Registration – Foyer
Ladies Headquarters – Parlor A

9:00 a.m. to Noon Scientific sessions – Skyline Ballroom

12:30 to 1:30 p.m. Luncheon – Ohio Valley Room

1:30 to 4:30 p.m. Scientific session – Skyline Ballroom

4:45 p.m. Executive Meeting – Skyline Ballroom

Suggestions for Ladies:

Luncheon at Art Museum with short tour of city,
including Mt. Adams

7:00 p.m. Cocktails – Ohio Valley Room
Banquet (Black tie optional) – Skyline Ballroom

Friday, October 15

8:30 a.m. to 11:30 a.m. . . . Scientific session – Skyline Ballroom
Ladies Headquarters – Parlor A

Members will make own arrangements for luncheon.

Suggestions for Ladies:

10:00 a.m. – Tour of Procter & Gamble Co.

Luncheon at Gay Peacock Room of Netherland Hilton
Hotel with fashion show by Pogues

2:00 to 4:00 p.m. Symphony concert – Music Hall

4:00 to 4:30 p.m. Meet at Johnston's Party Boat –
foot of Main Street

Pick up golfers at Coldstream Country Club

Evening to approximately 10:00 p.m. will be spent on the boat.

Saturday, October 16

9:00 a.m. to 11:30 a.m. . . . Scientific session – Skyline Ballroom

11:30 a.m. Executive Meeting

Members will make own arrangements for luncheon.

Scientific Program

SKYLINE BALLROOM

THURSDAY MORNING, OCTOBER 14, 1965

9:00 A.M.

1. An Analysis of Recurrent Lumbar Discs.

Aidan A. Raney
Los Angeles, California

The average age of patients operated for lumbar disc syndrome is 40 years. With satisfactory results, the wage earner can anticipate 25 additional years of gainful occupation until the usual age of retirement. Poor results threaten his financial security at a critical time in his productive life span. This report is concerned not with these good results, but with 102 patients whose results were such that secondary surgery was done. These cases were studied to determine the cause for failure of the previous surgery to give satisfactory and lasting relief. Faulty previous surgery was found responsible in two-thirds of the cases. In 54 patients there was recurrent herniation of an incompletely removed disc, and in ten patients a defective disc was evidently present but not recognized and removed at previous surgery. In the other third of the cases, poor results were due to a combination of these or other conditions or were not definitely established.

The average time interval between the last of one or more previous operations and secondary surgery was three years. The shortest interval was three weeks in two patients whose severe "muscle spasms" were due to an unrecognized ruptured disc. The longest interval was 16 years in a patient whose poor results were found due to recurrent herniation of an incompletely removed disc.

Among those patients initially operated by the author, the percentage requiring secondary surgery has been sharply reduced during the past twenty years by improved technique and development of a more effective curette. The Hall pneumatic drill has proven most useful in removing the margin of a lamina or in making slot through an intact fusion to permit removal of underlying disc herniation.

Secondary surgery gave good results in 57 per cent of the patients, fair results in 25 per cent, and poor results in 18 per cent. Compensation factors appeared to affect the results. Good results were obtained in only 25 per cent of compensation cases and in 66 per cent of non-compensation cases. Arachnoiditis and pseudoarthrosis seemed to be painless conditions in themselves but associated with pain only because of mobility due to an incompletely removed disc.

Myelography should be done routinely in order to identify herniations on the opposite side or at levels adjacent to the herniation

previously responsible for the symptoms. This reduces the need for surgical exploration. Inspection of a disc without removing it is not advisable, because postoperative scar tissue restricts mobility of the root and permits slight subsequent herniation to compress the root and cause severe pain.

Fusion and other features of the disc problem are discussed.

9:15 A.M.

2. Possible Relationships of Suboptimum Ascorbic Acid Levels to Intervertebral Disc Disease and Injury.

James Greenwood, Jr.
Houston, Texas

All animals except guinea pigs and primates synthesize their own vitamin C and maintain their tissues at saturation. Previous estimates of the need for vitamin C have been based on the amount needed to prevent scurvy. Ascorbic acid is depleted in infections, probably with exercise and certainly with severe fatigue, and should be increased in the presence of these factors.

Sufficient attention has not been given to benefits which might accrue from maintenance of ascorbic acid at optimum levels (presumably saturation), although it is now fairly evident that large doses (1,000 mgm. daily) will prevent colds, reduce muscle soreness after strenuous exercise, and are helpful in preserving the teeth.

An attempt is made to review the historical evidence and experimental studies which would indicate the need for larger than scurvy-preventing doses in preserving disc integrity as a specific example, while indicating advantages which may accrue in other tissues.

Response to optimum doses of oral vitamin C in early disc protrusion cases (often averting surgery), in postoperative care, and in probable prevention of additional disc protrusions is presented after the oral use of this vitamin for over six years. A clinical study includes the results in over 300 operated cases and a much greater number who were not treated surgically.

9:30 A.M.

3. Lumbar Spondylosis as a Cause of Cauda Equina Lesions Developing During Anesthesia.

George Ehni
Houston, Texas

This paper will concern itself and describe with illustrative cases the production of severe lesions of the cauda equina by anesthetizing and straightening out of the backs of people who have certain symptomatic but sometimes unrecognized back abnormalities, and who are thereby made mystifyingly worse by an operation in some other area. The suggestion will be offered that this disorder may account for some post-spinal anesthesia tragedies in which the complication

is attributed to toxicity of the injected agent and that it may possibly account for some other paralytic complications such as may follow aortography. Demonstration of another cause of intraspinal malfunction may have some effect in softening the impact of the doctrine of *res ipsa loquitur*.

9:45 A.M.

4. Intractable Pain and Incomplete Paralysis of the Lower Extremities Caused by Endometriosis of the Sciatic Nerves. Case Reports and Review of Literature.

George S. Baker
Rochester, Minnesota

A differential diagnosis for chronic backache and progressive organic neurological changes in certain female patients rarely must include that of endometriosis of the components of the sciatic nerve. The management of several such cases, including definitive program of treatment and long term follow-ups, will be presented.

10:00 A.M.

Coffee Break

10:30 A.M.

5. Electron Microscopy of the Tumor Cells in Peripheral Nerve Tumors ("Neurofibromas").

Anselmo Pineda
Los Angeles, California

In the past, the derivation of the tumor cells of the "neurofibromas" has been a subject of long standing controversy. However, the present ultrastructural description of these cells supports the initial interpretation of their Schwann cell origin.

The tumor cells are commonly elongated forms, not due to distortion of their forms due to surrounding tissue elements. They usually possess a basal lamina with some indication of diffusion. Other characteristics of the tumor cells of the "neurofibromas" supporting a similar origin as in the Schwannoma will also be described.

10:45 A.M.

6. Dissemination of Tumor Cells at Surgery.

Robert H. Wilkins and Guy L. Odom
Durham, North Carolina

The present study attempts to evaluate the dissemination of neoplastic cells into the cerebrospinal fluid during resections of intracranial neoplasms.

Samples of cerebrospinal fluid were obtained from each of 100 patients with intracranial neoplasms before, during, and at periodic

intervals after tumor resection. Similar samples were also obtained from 150 control patients with non-neoplastic conditions. Each CSF specimen was drawn through a separate Millipore filter shortly after collection, and these filters were stained, mounted, and examined microscopically.

In general, the cells deposited on the filters fell into the following categories: 1) leukocytes, 2) clusters resembling ependymal or choroidal cells, 3) networks resembling arachnoidal cells, and 4) clumps of tumor cells.

The specific results will be analyzed according to diagnosis, location of tumor, technique of collection of CSF (i.e., lumbar puncture, pneumoencephalogram, ventriculogram, etc.), and temporal relation of collection to day of operation. In addition, these data will be compared with those resulting from previously reported studies of cerebrospinal fluid that employed other cytological techniques.

11:00 A.M.

**7. Assault on the Hypophysis or
Ways and Means of Attacking the Master Gland.**

Hannibal Hamlin
Providence, Rhode Island

11:15 A.M.

**8. Metabolic and Electrolyte Changes Incidental to
Section of the Pituitary Stalk.**

H. J. Svien and Cliff Gastineau
Rochester, Minnesota

The postoperative care of patients undergoing pituitary stalk section for palliation of diabetic retinopathy poses many problems in pathologic physiology. During the first 4 to 6 days the osmotic diuresis of glycosuria may potentiate the polyuria of the initial phase of diabetes insipidus. The stress of surgery and the generous doses of cortisone given to prevent postoperative adrenal insufficiency usually cause an increase in insulin requirement. Early polyuria can entice the physician into giving large amounts of water to "keep up" and, because of the approximations involved in the measurement of large water exchanges, the amounts given may be larger than necessary, thus perpetuating the polyuria.

During the 6th to 10th postoperative days hyponatremia may be severe enough to produce symptoms of weakness, confusion and even convulsions in perhaps one-third of patients. Restriction of water intake during this time may prevent clinically significant hyponatremia. Such symptoms can be corrected promptly by the administration of hypertonic saline. After the 10th postoperative day the second phase of diabetes insipidus usually appears. The patient's thirst can be used as the guide to amounts of water needed. The use

of pitressin should be avoided until the degree and duration become annoying to the patient.

Between the 10th and 20th postoperative days insulin requirement falls, sometimes abruptly, and usually to about two-thirds of the preoperative value. Catastrophic hypoglycemic episodes may occur if this decrease in insulin need is not anticipated. Insulin requirement then falls slowly to about one-half of the preoperative need by 3 months.

11:30 A.M.

9. Cryohypophysectomy. Technique, Evaluation, and Results in Twenty Cases.

Louis W. Conway and William F. Collins, Jr.
Richmond, Virginia

Twenty patients with metastatic carcinoma of the breast have had stereotaxic transnasal cryohypophysectomy. There were no operative deaths. All patients have had complete neurological, physical, and endocrine evaluation at three month intervals from operation to the present or to death. The autopsy findings on five patients demonstrating total hypophysectomy will be shown. The clinical findings, autopsy findings, and endocrine evaluation will be discussed with particular reference to the correlation of endocrine evaluation of completeness of hypophysectomy.

12 Noon

Luncheon — Ohio Valley Room

1:30 P.M.

10. Heavy Steel Mesh Tunnel Spinoplasty for Infantile Meningomyelocele and Lipomata.

William B. Scoville
Hartfield, Connecticut

1:45 P.M.

11. CSF Shunt as Initial Treatment in Leaking Myelomeningocele.

Eldon L. Foltz and David L. Shurtleff
Seattle, Washington

2:00 P.M.

12. Cerebral Gliomas in Children with Chronic Epilepsy.

Larry Page, Cesare T. Lombroso, and Donald D. Matson
Boston, Massachusetts

The purpose of this paper is to discuss the significance of an interesting group of patients that we have accumulated, some 20 to 25 in number, who have a history of epileptic seizures varying from

3 to as long as 15 years, who have then shown changes in intellectual progress, in behavior, in electroencephalographic pattern, or in all three, and then have turned up with evidence of increased intracranial pressure coming on often quite suddenly. These patients have then turned out to have gliomas. A high percentage of these children have had calcification which in hindsight was often visible for many years. Because of their lack of neurological abnormalities on examination and their lack of evidence of increased intracranial pressure, they were carried as chronic epileptics and sufficient attention was not paid as they were being followed to these changes in intellectual and behavioral conduct. At operation in quite a number of them, it was interesting to see the apparent development of malignant gliomas in the background of a very benign glioma, gliosis, or apparently hamartomatous congenital malformations.

2:15 P.M.

13. Intracerebral Lipomata.

Homer S. Swanson
Atlanta, Georgia

The roentgenographic finding of a midline radiolucent mass surrounded by symmetrical crescentic calcifications is pathognomonic of the rarely observed lipoma of the corpus callosum. This case is reported because of the interesting clinical course, the response to surgery and the characteristic radiological findings.

2:30 P.M.

Coffee Break

3:00 P.M.

**14. Acute Hemorrhagic Leuko-encephalitis.
Review of Literature and Report of Two Cases.**

James R. St. John
Santa Barbara, California

The occurrence of two additional instances of AHL is reported. Cerebral arteriograms are demonstrated. A survey of the literature is summarized.

3:15 P.M.

15. Effects of Laser Radiation on Intracranial Structures.

Thomas Brown and Robert L. McLaurin
Cincinnati, Ohio

During the past year we have been doing some very basic work in the effects of laser radiation on the brains of animals. We have also applied the radiation to pituitary glands and to optic nerves.

3:30 P.M.

16. Surgical Considerations in Pre-senile Dementia.

Robert H. Pudenz and C. Hunter Shelden
Pasadena, California

During the past year our attention was called to the role of chronic low pressure hydrocephalus in producing the clinical picture of pre-senile dementia. Recently, R. D. Adams, et. al., have reported the successful treatment of three patients with ventriculoatrial and ventriculocisternal shunting operations.

Our report concerns our gratifying experiences in the treatment of one patient. A short motion picture will be presented.

3:45 P.M.

17. Academy Award*

The Antigenic Potential of Human Gliomas.

M. Stephen Mahaley, Jr.
Duke University School of Medicine
Durham, North Carolina

4:45 P.M.

Executive Meeting (Members only)

FRIDAY MORNING, OCTOBER 15, 1965

8:30 A.M.

18. Unilateral Anterior Thalamic Lesions in the Treatment of Epilepsy. A Report of 10 Cases.

John F. Mullan
Chicago, Illinois

The follow-up period of these cases ranges from 2-5 years. Although no patient is "cured" eight seem to be significantly improved. This may be related to reports of lesions made by some Japanese workers in the Field of Forel. Perhaps the necrotic lesions overlap. These lesions will be of interest from the point of view of thalamic physiology as well as from that of potential therapy.

8:45 A.M.

19. Cervical Spine Dislocations, Reduction, and Dorsal Fusion.

Eben Alexander, Jr., and Courtland H. Davis, Jr.
Winston-Salem, North Carolina

*** Honorable Mention Award:**

Protein Synthesis in Normal and Abnormal Neurons.

Jacques Francoeur, University of Toronto,
Toronto Western Hospital, Toronto, Canada

This is a review of over 130 cases with dislocation or fracture-dislocation of the cervical spine below the C2 level which have been treated by posterior fusion. The method of dorsal fixation and fusion used in this group of cases is described, as is the postoperative rehabilitation and a long-term evaluation of the results. This method of treatment has been quite satisfactory in our hands.

9:00 A.M.

20. The Use of Lipid Synthesizing Nucleic Acid Compounds in the Treatment of Head Injury.

Joseph P. Evans, Shozo Ishii, and Hiroshi Tsuji
Chicago, Illinois

In the studies "in vitro" it has been shown that lecithin and ganglioside decreased markedly after the brain was traumatized. The relationship of cellular metabolism and swelling of the glia was also demonstrated.

Cytidine nucleotides, especially CDP-choline (cytidine-diphosphate-choline) and CMP (cytidine-monophosphate) play important roles in the biosynthesis of lecithin. When these nucleotides were injected in animals or human patients with certain type of head injury, their beneficial effects on the clinical conditions were obvious and, on occasion, dramatic, as judged by conscious level and the EEG pattern.

Injection of uridine, an important co-factor in ganglioside biosynthesis, also proved effective in restoring cerebral activity, which in reproducible fashion tended to eliminate high voltage slow waves and to restore nearly normal alpha EEG activities.

When the mixture of nucleic acid compounds consisting of CDP-choline (or CMP), uridine, ATP and caffeine was used in combination with a hypertonic solution, the lowering effect of elevated CSF pressure was markedly prolonged.

9:15 A.M.

21. A Combined Suboccipital-Translabyrinthine Approach for Removal of Acoustic Neuromas.

Robert Ojemann, William Montgomery and Alfred Weiss
Boston, Massachusetts

The importance of total removal of an acoustic neuroma, whenever possible, has been emphasized by several surgeons. While the translabyrinthine operation gives the best chance of preserving facial nerve function, our experience as well as that of others indicates that total removal of large tumors by this method alone may not be practical. For such cases, we have combined the translabyrinthine approach with the suboccipital craniotomy in a two-stage procedure.

Six consecutive patients have been operated upon using initially the translabyrinthine approach. In four the tumor was relatively small and total removal was accomplished with preservation of the

facial nerve. In two cases presenting with large tumors, the translabyrinthine exposure was used for isolation of the facial nerve and removal of the tumor in the internal auditory meatus. At a second operation the remaining tumor was removed via a suboccipital craniotomy, the facial nerve being protected by re-exposure through the mastoid incision.

We have further modified the translabyrinthine operation to avoid the serious complication of cerebrospinal fluid leakage. An autograft of adipose tissue is obtained from the subcutaneous abdominal wall and inserted into the surgical defect. Experimental work reveals that this tissue is revascularized rapidly, and for the most part remains as a viable tissue barrier.

9:30 A.M.

Coffee Break

10:00 A.M.

22. The Role of Pyramidal D & I Waves in Mediating Motor Cortex Evoked Facilitation and Inhibition of Spinal Motoneurons.

Donald H. Stewart, Jr., and James B. Preston
Syracuse, New York

The role of cortically evoked Direct and Indirect (D & I) waves in mediating the patterns of facilitation and inhibition of flexor and extensor motoneuron populations in the "pyramidal" cat and baboon have been studied.

Following extensive midbrain lesions sparing the pyramidal tracts, single electrical conditioning stimuli were delivered to the primary motor cortex. Monosynaptic reflexes were evoked by test stimuli delivered to dorsal roots and were recorded from the ventral roots or peripheral nerves to flexor and extensor muscles of the hindlimb. The effect on spinal alpha motoneurons of cortically evoked descending pyramidal D waves was compared with the combined effect of cortically evoked pyramidal D & I waves in cats and baboons.

In baboons the effect of D or D & I waves differed only quantitatively. In cats the cortically evoked D wave alone failed to measurably alter the excitability of the motoneuron populations studies; D and I waves in combination were necessary to produce the patterns of facilitation and inhibition of spinal flexor and extensor motoneurons previously described.

These observations can be correlated with the presence and absence of direct connections between cortical cells and spinal motoneurons in primate and cat respectively.

10:15 A.M.

23. Experimental Studies on the Use of Slow Frozen Autografts of Peripheral Nerves.

Paul Lewis
Cincinnati, Ohio

This is the result of some work which we have done during the past year on preservation of autografts by a slow freezing technique. The work has been done on animals, and electrophysiologic and histologic analysis has been performed.

10:30 A.M.

**24. Presidential Address,
"Round Trip From Cincinnati."**

Edmund J. Morrissey
San Francisco, California

11:30 A.M.

Adjourn

Luncheon per individual arrangement.

SATURDAY MORNING, OCTOBER 16, 1965

9:00 A.M.

25. Bilateral Extracranial Aneurysms of the Internal Carotid Artery.

Mark Wigser
Winston-Salem, North Carolina

A 32-year-old man with bilateral extracranial aneurysms of the internal carotid artery is described. This case is unique in the literature. The neurological history revealed two episodes of left cerebral ischemia followed by improvement. He demonstrated a pulsating cervical mass on the left side but bilateral carotid arteriograms disclosed a fusiform aneurysm of both sides.

Exploration on the left side confirmed the angiographic impression of the laminated intraluminal clot in the left carotid artery, but resection was not possible because the upper limit of the aneurysm extended to the base of the skull.

A review of the literature indicates only a few instances of patients with this aneurysm and serious neurological deficits. However, ischemic episodes are found to be common in these cases on further investigation.

Differential diagnosis, etiology and treatment of the aneurysm in this location are discussed. Neurological evaluation of these patients is emphasized.

9:15 A.M.

26. The Value of Postoperative Angiography in the Treatment of Arteriovenous Malformations and Aneurysms.

Joseph Ransohoff and I. Kricheff
New York, New York

Routine postoperative angiography has been carried out three weeks after surgery on all patients treated at New York University Bellevue Medical Center for the past three years. Observations on this material including the relevance of spasm, occlusion of major vessels and adequacy of surgery have been of interest to the authors. Attempts will be made to present representative films and some tentative conclusions from this study.

9:30 A.M.

27. Pericallosal Aneurysms.

Robert G. Fisher
Hanover, New Hampshire

Four cases of pericallosal aneurysms have been encountered within the last seven years of practice. One case bled intracerebrally prior to admission and died of an intracerebral hemorrhage. Severe hypertension was present in this young patient with polycystic disease in the kidneys. The three remaining patients were all operated upon successfully. Postoperative arteriogram showed the aneurysm to be successfully clipped. There is no mortality. They have all returned to useful lives. The literature and case histories will be discussed.

9:45 A.M.

28. Experiences with Muslin Reinforcement of Intracranial Sacular Aneurysms — the Gillingham Procedure.

Edwin B. Boldrey
San Francisco, California

10:00 A.M.

Coffee Break

10:30 A.M.

29. Care of Persisting Spontaneous Carotid Cavernous Fistula by Enucleation of Ipsilateral Eye; Development of Symmetrically Placed Aneurysms with Death from Subarachnoid Hemorrhage.

Samuel R. Snodgrass
Galveston, Texas

A 57-year-old woman experienced a subarachnoid hemorrhage associated with blindness in the left eye. Evidence of carotid cavernous fistula developed shortly thereafter and after angiography was treated elsewhere by carotid ligation. Proptosis and bruit persisted

after intracranial ligation of internal carotid and on account of pain in the blind eye, enucleation of the eye was done. There was brisk bleeding from the orbital veins but this was controlled by oxycel and the extraocular muscles were sutured over a device to allow a movable prosthesis to be inserted subsequently. Bruit was not audible to examiners after operation but patient heard it for approximately 48 hours.

A second subarachnoid hemorrhage occurred in May 1964 and a large supraclinoid aneurysm was found at angiography in September 1964. Patient died in January 1965 without any further surgical therapy.

10:45 A.M.

30. Postoperative Obstruction in the Posterior Fossa.

Lowell Ford
Cincinnati, Ohio

This constitutes a review of six cases of obstructive hydrocephalus occurring after posterior fossa tumor removal. The ventriculographic picture will be presented, as well as some factors which were common to these cases and which suggest etiologic possibilities.

11:00 A.M.

31. Observations of Soviet Institutes of Neurologic Sciences.

Ernest W. Mack
Reno, Nevada

11:30 A.M.

Executive Meeting (Members only)

Guests 1965

Guest	Host
Richard B. Budde	<i>Academy</i>
William S. Coxe	<i>Henry Schwartz</i>
John Bryant Curtis	<i>Richard De Saussure</i>
John Devanney	<i>Academy</i>
Eugene B. Elam	<i>Academy</i>
Lowell Ford	<i>Academy</i>
William E. Hunt	<i>Robert Mc Laurin</i>
Curwood R. Hunter	<i>Academy</i>
Shozo Ishii	<i>Joseph Evans</i>
Martin Johnson	<i>Academy</i>
Thomas Kreuger	<i>Academy</i>
H. Paul Lewis	<i>Academy</i>
Edgar S. Lotspeich, Jr.	<i>Academy</i>
M. Stephen Mahaley	<i>Academy</i>
Bert H. McBride	<i>Academy</i>
Horace Norrell	<i>R. C. Llewellyn</i>
Mark O'Brien	<i>Academy</i>
Daniel Osher	<i>Academy</i>
Anselmo Pineda	<i>J. D. French</i>
Larry Page	<i>Donald Matson</i>
Rafael Ramirez	<i>Academy</i>
Joseph Ransohoff	<i>Frank Mayfield</i>
James R. St. John	<i>David Reeves</i>
Graham Vanderlinden	<i>Charles Drake</i>
Raul Vernal	<i>Academy</i>
Mark Wigser	<i>Eben Alexander</i>

Past Presidents

Dean H. Echols	1938-39
Spencer Braden	1940
Joseph P. Evans	1941
Francis Murphey	1942
Frank H. Mayfield	1943
A. Earl Walker	1944
Barnes Woodhall	1946
William S. Keith	1947
Howard A. Brown	1948
John Raaf	1949
E. Harry Botterell	1950
Wallace B. Hamby	1951
Henry G. Schwartz	1952
J. Lawrence Pool	1953
Rupert B. Raney	1954
David L. Reeves	1955
Stuart N. Rowe	1956
Arthur R. Elvidge	1957
Jess D. Herrmann	1958
Edwin B. Boldrey	1959
George S. Baker	1960
C. Hunter Shelden	1961-62
Samuel R. Snodgrass	1963
Theodore B. Rasmussen	1964

Past Vice-Presidents

Francis Murphey	1941
William S. Keith	1942
John Raaf	1943
Rupert B. Raney	1944
Arthur R. Elvidge	1946
John Raaf	1947
Arthur R. Elvidge	1948
F. Keith Bradford	1949
David L. Reeves	1950
Henry G. Schwartz	1951
J. Lawrence Pool	1952
Rupert B. Raney	1953
David L. Reeves	1954
Stuart N. Rowe	1955
Jess D. Herrmann	1956
George S. Baker	1957
Samuel R. Snodgrass	1958
C. Hunter Shelden	1959
Edmund J. Morrissey	1960
Donald F. Coburn	1961-62
Eben Alexander, Jr.	1963
George L. Maltby	1964

Past Secretary-Treasurers

Francis Murphey	1938-40
A. Earl Walker	1941-43
Theodore C. Erickson	1944-47
Wallace B. Hamby	1948-50
Theodore B. Rasmussen	1951-53
Eben Alexander, Jr.	1954-57
Robert L. Mc Laurin	1958-62
Edward W. Davis	1963-65

Past Meetings of the Academy

Hotel Netherlands Plaza, <i>Cincinnati, Ohio</i>	October 28-29, 1938
Roosevelt Hotel, <i>New Orleans, Louisiana</i>	October 27-29, 1939
Tudor Arms Hotel, <i>Cleveland, Ohio</i>	October 21-22, 1940
Mark Hopkins Hotel, <i>San Francisco</i> , and Ambassador Hotel, <i>Los Angeles, California</i>	November 11-15, 1961
The Palmer House, <i>Chicago, Illinois</i>	October 16-17, 1942
Hart Hotel, <i>Battle Creek, Michigan</i>	September 17-18, 1943
Ashford General Hospital, <i>White Sulphur Springs, West Virginia</i>	September 7-9, 1944
The Homestead, <i>Hot Springs, Virginia</i>	September 9-11, 1946
Broadmoor Hotel, <i>Colorado Springs, Colorado</i>	October 9-11, 1947
Windsor Hotel, <i>Montreal, Canada</i>	September 20-28, 1948
Benson Hotel, <i>Portland, Oregon</i>	October 25-27, 1949
Mayo Clinic, <i>Rochester, Minnesota</i>	September 28-30, 1950
Shamrock Hotel, <i>Houston, Texas</i>	October 4-6, 1951
Waldorf Astoria Hotel, <i>New York City</i>	Sept. 29 - October 1, 1952
Biltmore Hotel, <i>Santa Barbara, California</i>	October 12-14, 1953
Broadmoor Hotel, <i>Colorado Springs, Colorado</i>	October 21-23, 1954
The Homestead, <i>Hot Springs, Virginia</i>	October 27-29, 1955
Camelback Inn, <i>Phoenix, Arizona</i>	November 8-10, 1956
The Cloister, <i>Sea Island, Georgia</i>	November 11-13, 1957
The Royal York Hotel, <i>Toronto, Canada</i>	November 6-8, 1958
Del Monte Lodge, <i>Pebble Beach, California</i>	October 18-21, 1959
Hotel Sheraton Plaza, <i>Boston, Massachusetts</i>	October 5-8, 1960
Royal Orleans, <i>New Orleans, Louisiana</i>	November 7-10, 1962
El Mirador, <i>Palm Springs, California</i>	October 23-26, 1963
The Key Biscayne, <i>Miami, Florida</i>	November 11-14, 1964

The American Academy of Neurological Surgery
Founded October 28, 1938

Honorary Members

Elected

Dr. Percival Bailey <i>1601 West Taylor St. Chicago 12, Illinois</i>	1960
Dr. Wilder Penfield <i>Montreal Neurological Institute 3801 University St. Montreal 2, Quebec, Canada</i>	1960
Dr. R. Eustace Semmes <i>899 Madison Ave. Memphis 3, Tennessee</i>	1955
Dr. R. Glen Spurling <i>405 Heyburn Bldg. Louisville 2, Kentucky</i>	1942

Senior Members

Dr. E. Harry Botterell <i>Faculty of Medicine Queen's University Kingston, Ontario, Canada</i>	1938
Dr. Donald F. Coburn <i>221 Plaza Time Bldg. Country Club Plaza Kansas City 2, Missouri</i>	1938
Dr. Joseph P. Evans <i>University of Chicago Clinics 950 East 59th Street Chicago 37, Illinois</i>	Founder
Dr. Wallace B. Hamby <i>Cleveland Clinic 2020 East 93rd St. Cleveland 6, Ohio</i>	1941
Dr. Olan R. Hyndman <i>Veterans Administration Hospital Iowa City, Iowa</i>	1941

Corresponding Members

Dr. John Gillingham <i>Boraston House, Ravelston Edinburgh 4, Scotland</i>	1962
Dr. Kristian Kristiansen <i>Oslo Kommune Ullevål Sykehus Oslo, Norway</i>	1962

Active Members

		Elected
Dr. Eben Alexander, Jr. <i>Bowman Gray School of Medicine Winston-Salem 7, North Carolina</i>	Betty <i>521 Westover Ave. Winston-Salem, North Carolina</i>	1950
Dr. George S. Baker <i>200 First Street, SW Rochester, Minnesota</i>	Enid <i>Salem Road, Route 1 Rochester, Minnesota</i>	1940
Dr. H. Thomas Ballantine, Jr. <i>Massachusetts General Hospital Boston 14, Massachusetts</i>	Elizabeth <i>30 Embankment Rd. Boston 14, Massachusetts</i>	1951
Dr. William F. Beswick <i>685 Delaware Avenue Buffalo 9, New York</i>	Phyllis <i>59 Ashland Avenue Buffalo, New York</i>	1949
Dr. Edwin B. Boldrey <i>University of Calif. Medical School San Francisco 22, California</i>	Helen <i>924 Hayne Road Hillsborough, California</i>	1941
Dr. Spencer Braden <i>1652 Hanna Building 1422 Euclid Avenue Cleveland 15, Ohio</i>	Mary <i>2532 Arlington Road Cleveland Heights, Ohio</i>	Founder
Dr. F. Keith Bradford <i>435 Hermann Professional Bldg. 6410 Fannin Street Houston, Texas</i>	Byra <i>3826 Linklea Drive Houston, Texas</i>	1938
Dr. Howard A. Brown <i>2000 Van Ness Avenue San Francisco, California 94109</i>	Dorothy <i>2240 Hyde Street San Francisco, Calif. 94109</i>	1939
Dr. Harvey Chenault <i>2134 Nicholasville Rd. Lexington, Kentucky</i>	Margaret <i>2105 Nicholasville Rd. Lexington, Kentucky</i>	1949
Dr. William F. Collins, Jr. <i>Medical College of Virginia 1200 E. Broad St. Richmond 19, Virginia</i>	Gwen <i>5105 W. Cary St. Richmond 27, Virginia</i>	1963
Dr. Edward W. Davis <i>806 S.W. Broadway Portland, Oregon 97205</i>	Barbara <i>1714 N.W. 32nd Avenue Portland, Oregon 97210</i>	1949
Dr. Richard L. De Saussure <i>Suite 101 B 20 S. Dudley Street Memphis, Tennessee</i>	Phyllis <i>74 Pinchurst Memphis 17, Tennessee</i>	1962
Dr. Charles G. Drake <i>450 Central Avenue, Suite 301 London, Ontario, Canada</i>	Ruth <i>R.R. 3, Medway Heights London, Ontario, Canada</i>	1958
Dr. Francis A. Echlin <i>164 East 74th St. New York 21, New York</i>	Letitia <i>164 East 74th Street New York 21, New York</i>	1944

		Elected
Dr. Dean H. Echols <i>Ochsner Clinic 3503 Prylania Street New Orleans, Louisiana</i>	Fran <i>1428 First Street New Orleans 13, Louisiana</i>	Founder
Dr. George Elmt <i>1531 Hermann Professional Bldg. Houston 25, Texas</i>	Velaire <i>16 Sunset Houston, Texas</i>	1964
Dr. Arthur R. Elvidge <i>Montreal Neurological Institute 3801 University Street Montreal 2, Quebec, Canada</i>	<i>1465 Bernard Avenue, West Outremont, Quebec, Canada</i>	1939
Dr. Theodore C. Erickson <i>University Hospitals 1300 University Avenue Madison 6, Wisconsin</i>		1940
Dr. William H. Feindel <i>Montreal Neurological Institute 3801 University Street Montreal 2, Canada</i>	Faith <i>492 Argyle Avenue Westmount, Province of Quebec Canada</i>	1959
Dr. Robert G. Fisher <i>Hitchcock Clinic Hanover, New Hampshire</i>	Constance <i>11 Ledyard Lane Hanover, New Hampshire</i>	1957
Dr. Eldon L. Foltz <i>Division of Neurosurgery University Hospital Seattle 5, Washington</i>	Catherine <i>3018 E. Laurelhurst Drive Seattle 5, Washington</i>	1960
Dr. John D. French <i>The Medical Center University of California Los Angeles 24, California</i>	Dorothy <i>1809 Via Visalia Palos Verdes Estates, California</i>	1951
Dr. Lyle A. French <i>University of Minnesota Hospitals Minneapolis 14, Minnesota</i>	Gene <i>85 Otis Lane St. Paul 4, Minnesota</i>	1954
Dr. James G. Galbraith <i>909 S. 18th Street Birmingham 5, Alabama</i>	Peggy <i>4227 Altamont Road Birmingham 13, Alabama</i>	1947
Dr. Sidney Goldring <i>University of Pittsburgh School of Medicine 3550 Terrace Street Pittsburgh, Pennsylvania 15213</i>	Lois <i>2416 Marbury Road Pittsburgh, Penna. 15221</i>	1964
Dr. Everett G. Grantham <i>405 Heyburn Building Louisville 2, Kentucky</i>	Mary Carmel <i>410 Mockingbird Hill Road Louisville 7, Kentucky</i>	1942
Dr. John R. Green <i>Park Central Medical Bldg. 550 West Thomas Road Phoenix, Arizona</i>	Georgia <i>88 North Country Club Drive Phoenix, Arizona</i>	1953
Dr. James Greenwood, Jr. <i>1117 Hermann Prof. Bldg. 6410 Famin Street Houston 25, Texas</i>	Mary <i>3394 Chevy Chase Blvd. Houston 19, Texas</i>	1952

		Elected
Dr. Wesley A. Gustafson <i>First National Bank Bldg. McAllen, Texas</i>	Jennie <i>North Ware Rd., R. R. No. 1, Box 296-A, McAllen, Texas</i>	1942
Dr. Hannibal Hamlin <i>270 Benefit Street Providence 3, Rhode Island</i>	Margaret <i>270 Benefit Street Providence, Rhode Island</i>	1948
Dr. John W. Hanbery <i>Division of Neurosurgery Stanford Medical Center Palo Alto, California</i>	Shirley <i>70 Mercedes Lane Atherton, California</i>	1959
Dr. George J. Hayes <i>Box 236, Walter Reed Hospital Washington 12, D.C.</i>	Catherine <i>6932 - 15th Street, N. W. Washington 12, D.C.</i>	1962
Dr. Jess D. Herrmann <i>525 Northwest Eleventh Street Oklahoma City 3, Oklahoma</i>	Mary Jo <i>1604 Glenbrook Terrace Oklahoma City 14, Oklahoma</i>	1938
Dr. Henry L. Heyi <i>Hitchcock Foundation Hanover, New Hampshire</i>	Katharine <i>Norwich, Vermont</i>	1951
Dr. William S. Keith <i>Toronto Western Hospital 399 Bathurst Street Toronto 2B, Ontario, Canada</i>	Eleanor <i>55 St. Leonardi Crescent Toronto 12, Ontario, Canada</i>	Founder
Dr. Robert B. King <i>University Hospital Upstate Medical Center Syracuse 10, New York</i>	Molly <i>2 Clara Road Fayetteville, New York</i>	1958
Dr. Raelburn Llewellyn <i>Tulane University 1430 Tulane Avenue New Orleans, Louisiana</i>	Seleta <i>15 Colonial Club Drive New Orleans 23, Louisiana</i>	1963
Dr. William Loughheed <i>170 St. George Street Toronto 5, Ontario, Canada</i>	Grace Eleanor <i>67 Ridge Drive Toronto, Ontario, Canada</i>	1962
Dr. Ernest W. Mack <i>505 Arlington Ave., Suite 212 Reno, Nevada</i>	Roberta <i>235 Juniper Hill Road Reno, Nevada</i>	1956
Dr. George L. Maltby <i>31 Bramhall Street Portland 3, Maine</i>	Isabelle (Sim) <i>Bramhall Field Falmouth Foreside, Portland, Maine</i>	1942
Dr. Donald D. Matson <i>300 Longwood Avenue Boston 15, Massachusetts</i>	Dorothy <i>44 Circuit Road Chestnut Hill 67, Mass.</i>	1950
Dr. Frank H. Mayfield <i>506 Oak Street Cincinnati 19, Ohio</i>	Queenee <i>3519 Principio Ave. Cincinnati 26, Ohio</i>	Founder
Dr. Augustus McCravey <i>102 Interstate Bldg. 540 McCullie Avenue Chattanooga 3, Tennessee</i>	Helen <i>130 North Crest Road Chattanooga, Tennessee</i>	1944

		Elected
Dr. Robert L. McLaurin <i>Division of Neurosurgery Cincinnati General Hospital Cincinnati 29, Ohio</i>	Kathleen <i>2461 Grandin Road Cincinnati 8, Ohio</i>	1955
Dr. William F. Meacham <i>Vanderbilt Hospital Nashville 5, Tennessee</i>	Alice <i>3513 Woodmont Blvd. Nashville 12, Tennessee</i>	1952
Dr. Edmund J. Morrissey <i>450 Sutter Street, Suite 1210 San Francisco 8, California</i>	Kate <i>2700 Vallejo Street San Francisco 23, California</i>	1941
Dr. John F. Mullan <i>950 E. 59th Street Chicago 37, Illinois</i>	Vivian	1963
Dr. Francis Murphey <i>Suite 101-B, Baptist Medical Bldg. 20 South Dudley Memphis 3, Tennessee</i>	Roder <i>1856 Autumn Avenue Memphis, Tennessee</i>	Founder
Dr. Frank E. Nulsen <i>Division of Neurosurgery University Hospitals 2065 Adelbert Road Cleveland 6, Ohio</i>	Ginny <i>21301 Shaker Blvd. Shaker Heights 22, Ohio</i>	1956
Dr. Guy L. Odom <i>Duke Univ. School of Medicine Durham, North Carolina</i>	Suzanne <i>2812 Chelsea Circle Durham, North Carolina</i>	1946
Dr. B. Cone Pevehouse <i>2000 Van Ness Avenue San Francisco, California 94109</i>	Maxine <i>135 Mountain Spring San Francisco, California</i>	1964
Dr. J. Lawrence Pool <i>710 West 168th Street New York 32, New York</i>	Angeline <i>Closter Dock Road Alpine, New Jersey</i>	1940
Dr. Robert W. Porter <i>5901 E. 7th Street Long Beach 4, California</i>		1962
Dr. Robert Pudenz <i>744 Fairmount Avenue Pasadena 1, California</i>	Mary Ruth <i>3110 San Pasqual Pasadena 10, California</i>	1943
Dr. John Raaf <i>1010 Medical Dental Bldg. Portland 5, Oregon</i>	Lorene <i>390 S. W. Edgecliff Road Portland 19, Oregon</i>	Founder
Dr. Aidan A. Raney <i>2010 Wilshire Blvd. Los Angeles 57, California</i>	Mary <i>125 N. Las Palmas Los Angeles 5, California</i>	1946
Dr. Theodore B. Rasmussen <i>Montreal Neurological Institute 3801 University Street Montreal 2, Quebec, Canada</i>	Catherine <i>29 Surrey Drive Montreal 16, Quebec, Canada</i>	1947
Dr. David L. Reeves <i>316 West Junipero Street Santa Barbara, California</i>	Virginia <i>1278 Mesa Road Santa Barbara, California</i>	1939

		Elected
Dr. David H. Reynolds <i>1700 Northwest Tenth Avenue Miami 36, Florida</i>	<i>1701 Espanola Drive Miami 33, Florida</i>	1964
Dr. R.C.L. Robertson <i>437 Hermann Professional Bldg. 6410 Famin Street Houston 25, Texas</i>	Marjorie <i>5472 Lynbrook Drive Houston, Texas</i>	1946
Dr. Stuart N. Rowe <i>302 Iroquois Building 3600 Forbes Street Pittsburgh 13, Pennsylvania</i>	Elva <i>6847 Reynolds Street Pittsburgh 8, Pennsylvania</i>	1938
Dr. Henry C. Schwartz <i>600 South Kingshighway St. Louis 10, Missouri</i>	Reedie <i>2 Briar Oak, Ladue St. Louis 24, Missouri</i>	1942
Dr. William B. Scoville <i>85 Jefferson Street Hartford 14, Connecticut</i>	Helene <i>334 North Steele Road West Hartford, Connecticut</i>	1944
Dr. C. Hunter Shelden <i>744 Fairmount Avenue Pasadena 1, California</i>	Elizabeth <i>1345 Bedford Road San Marino, California</i>	1941
Dr. Samuel R. Snodgrass <i>John Sealy Hospital Univ. of Texas Medical Branch Galveston, Texas</i>	Margaret <i>1405 Harbor View Drive Galveston, Texas</i>	1939
Dr. Hendrik J. Svien <i>200 First Street, S. W. Rochester, Minnesota</i>	Nancy <i>827 Eighth Street, S. E. Rochester, Minnesota</i>	1957
Dr. Homer S. Swanson <i>384 Peachtree Street, N. E. Atlanta 3, Georgia</i>	LaMyra <i>1951 Mt. Paran Road, N. W. Atlanta, Georgia</i>	1949
Dr. William H. Sweet <i>Massachusetts General Hospital Boston 14, Massachusetts</i>	Mary <i>35 Chestnut Place Brookline 46, Mass.</i>	1950
Dr. Alfred Uihlein <i>200 First Street Rochester, Minnesota</i>	Ione <i>21 Skyline Drive Rochester, Minnesota</i>	1950
Dr. A. Earl Walker <i>Johns Hopkins Hospital Division of Neurological Surgery 601 N. Broadway Baltimore 5, Maryland</i>	Terrye <i>6007 Lakehurst Drive Baltimore 10, Maryland</i>	1938
Dr. Exum Walker <i>490 Peachtree Street, N. E. Atlanta 12, Georgia</i>	Frances <i>1819 Greystone Road, N. W. Atlanta, Georgia</i>	1938
Dr. Arthur A. Ward, Jr. <i>Univ. of Wn. School of Medicine Division of Neurosurgery Seattle 5, Washington</i>	Janet <i>3922 Belvoir Place Seattle, Washington</i>	1953

	Elected
Dr. Thomas A. Weaver <i>146 Wyoming Street Dayton, Ohio</i>	1943
Dr. W. Kearsley Welch <i>4200 E. Ninth Avenue Denver 20, Colorado</i>	1957
Dr. Benjamin B. Whitcomb <i>85 Jefferson Street Hartford 14, Connecticut</i>	1947
Dr. Barnes Woodhall <i>Duke Univ. School of Medicine Durham, North Carolina</i>	1941
Mary <i>868 W. Alexandersville-Bellbrook Rd. Dayton 59, Ohio</i>	
Elizabeth <i>744 Dexter Street Denver, Colorado</i>	
Margaret <i>38 High Farms Road West Hartford, Connecticut</i>	
Frances <i>4006 Dover Road, Hope Valley Durham, North Carolina</i>	

Deceased Members

Dr. Winchell McK. Craig <i>Rochester, Minnesota</i>	(Honorary) 2-12-60	1942
Sir Geoffrey Jefferson <i>Manchester, England</i>	(Honorary) 3-22-61	1951
Dr. Kenneth G. McKenzie <i>Toronto, Ontario, Canada</i>	(Honorary) 2-11-64	1960
Dr. John M. Meredith <i>Richmond, Virginia</i>	(Active) 12-19-62	1946
Dr. W. Jason Mixer <i>Woods Hole, Massachusetts</i>	(Honorary) 3-16-58	1951
Dr. Rupert B. Raney <i>Los Angeles, California</i>	(Active) 11-28-59	1939
Dr. O. William Stewart <i>Montreal, Quebec, Canada</i>	(Corresponding)	1948

