Histochemie und Biochemie der Erkrankungen des zentralen und peripheren Nervensystems

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VORWORT

Es ist sowohl der Unterstützung durch die World Federation for Neuropathology als auch dem großartigen Entgegenkommen von Herrn Dr. med. h. c., Dr. med. h. c. *B. Hauff* zu verdanken, daß die Ergebnisse des IV. Internationalen Kongresses für Neuropathologie in beachtenswert kurzer Zeit nach dem Abschluß des Kongresses in München erscheinen können.

Wir sind dem Georg Thieme Verlag, Stuttgart, für die vorzügliche Ausstattung und großzügige Wiedergabe von Abbildungen zu besonderem Dank verpflichtet. Der Druck konnte auch deshalb so rasch vor sich gehen, weil die Autoren ihre Manuskripte und Korrekturen pünktlich ablieferten.

Schließlich sind wir Herrn Professor Dr. *Erbslöh* dafür dankbar, daß er als Schatzmeister die pekuniären Voraussetzungen regeln konnte, vor allem aber Herrn Dr. *Solcher* für die besonderen Mühen in Zusammenhang mit der Manuskript- und Korrekturdurchsicht.

Marburg/Lahn, Januar 1962

H. Jacob

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Ansprache
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Hochverehrte Anwesende!

Gestatten Sie mir, daß ich als Vorsitzender des lokalen Komitees, sozusagen im prologus, die Teilnehmer an diesem Kongreß in Deutschland und in München herzlich willkommen heiße. Es war für uns eine Freude und eine hohe Ehre, als vor vier Jahren in Brüssel der Entschluß gefaßt wurde, den IV. Internationalen Kongreß für Neuropathologie in München abzuhalten. Wir waren uns von vornherein bewußt, daß uns keine leichte Aufgabe bevorstehen würde, wenn wir die Tagung so gestalten wollten, daß sie den vorausgegangenen Veranstaltungen in Rom, London und Brüssel würdig an die Seite treten sollte.

Das Programm der wissenschaftlichen Sitzungen hat diesmal eine methodische Ausrichtung erfahren, über die der Herr Präsident des Kongresses noch zu Ihnen sprechen wird. Ich hoffe, daß der wissenschaftliche Ertrag Ihren Erwartungen entsprechen wird.

Zum Gelingen der wissenschaftlichen Veranstaltungen haben das Bayerische Staatsministerium für Unterricht und Kultus, das Bundesinnenministerium, die Landeshauptstadt München und nicht zuletzt die World Federation of Neurology namhafte Beiträge geleistet. Seine Magnifizenz der Herr Rektor der Universität hat uns freundlicherweise die Räume dieses Hauses zur Verfügung gestellt, in denen auch eine von Herrn Professor Kolle organisierte historische Ausstellung der deutschen Neuropathologie Platz gefunden hat.

Was uns die vorangegangenen Kongresse so unvergeßlich macht, ist aber nicht allein ihre wissenschaftliche Seite. Es ist ebensosehr der gesellschaftliche Rahmen, der uns, die wir doch aus aller Herren Ländern zusammenkommen, das Gefühl einer menschlichen Gemeinschaft gibt, sozusagen das einer großen Familie.

Wir hoffen, daß es uns gelingen wird, Ihnen auch in München einiges vom Spiritus loci zu vermitteln, das wert ist, in Erinnerung behalten zu werden. Freilich wäre uns das aus eigener Kraft nicht in dem geplanten Umfang möglich gewesen. Es haben die Bayerische Staatsregierung und die Landeshauptstadt München durch Empfänge ihr Interesse auch an der Gestaltung eines würdigen Rahmens für den Kongreß bekundet. Die Generalintendanz der Bayerischen Staatstheater hat im Rahmen der Münchener Festspiele eine Mozartvorstellung im Cuvilliéstheater für uns reserviert. Die Möglichkeit, unseren Empfangsabend in der berühmten Alten Pinakothek abzuhalten, verdanken wir der Direktion der Staatlichen Gemäldesammlungen. Darüber hinaus sind uns zahlreiche Spenden von seiten wirtschaft-

licher Unternehmen der apparativen, optischen und chemischen Industrie und von Buchverlagen zugegangen. Allen, die ihre tätige Teilnahme bekundet haben, und allen Spendern, die geholfen haben, die Sorgen des Ortskomitees zu beheben, gebührt unser aufrichtiger, tiefempfundener Dank!

Und nun lassen Sie es mich noch einmal wiederholen: Seien Sie uns in München herzlich willkommen. Wir wünschen Ihnen, daß sich die Erwartungen, die Sie in diesen Kongreß gesetzt haben, erfüllen und daß Sie ein gutes Andenken an München mitnehmen.

W. Scholz, München

Ansprache des Generalsekretärs

Sehr ve. ehrte Anwesende!

Ich darf zunächst Seine Exzellenz Herrn Staatsminister Professor Maunz begrüßen und ihm danken, daß er die große Liebenswürdigkeit hatte, das Protektorat für den IV. Internationalen Kongreß für Neuropathologie zu übernehmen. Ich begrüße weiterhin Seine Magnifizenz Herrn Professor Speer, Herrn Bürgermeister Brauchle in Vertretung des Herrn Oberbürgermeisters und Seine Spektabilität Herrn Professor Seitz. Mein besonderer Gruß gilt den Herren Ehrenpräsidenten und den offiziellen Vertretern der Nationen.

Zu Beginn des IV. Internationalen Kongresses für Neuropathologie darf ich Ihnen kurz Rechenschaft über unsere Programmgestaltung geben.

Die Thematik unseres ersten Kongresses in Rom im Jahre 1952 umfaßte die Neuropathologie bestimmter klinischer Krankheiten und Krankheitsgruppen — die Entmarkungs- und Gefäßkrankheiten und die Befunde bei Schizophrenien, geistigen Defekten im allgemeinen und senilen Störungen im besonderen.

Demgegenüber bezogen sich die Leitthemen des II. Kongresses in London im Jahre 1955 auf die neuropathologischen Grundlagen besonderer klinischer Syndrome, der extrapyramidalen Bewegungsstörungen. Schon damals aber befaßten wir uns mit der Cytochemie des Neurons. Außerdem kam die allgemeine und spezielle klinische Neuropathologie mit den entzündlichen und traumatischen Erkrankungen des Nervensystems, den Hirntumoren, Granulomatosen und Retikulosen und Problemen der Blut-Hirn-Schranke, zu Wort.

Auch unser III. Kongreß in Brüssel im Jahre 1957 hatte die Entmarkungskrankheiten und die Cytochemie des Neurons zum Hauptthema, was für die besondere Bedeutung dieser Gebiete sprechen dürfte. Zudem stand die Neuropathologie der Ionenstrahlung aus begreiflichen Gründen im Vordergrund. Aber auch dieser Kongreß wurde mit einem Großteil von Mitteilungen zur allgemeinen und klinischen Neuropathologie dem lebhaften Interesse des Klinikers und Pathologen gerecht.

Unser IV. Kongreß in München widmet sich in seinen drei Hauptthemen zum ersten Male grundsätzlich Untersuchungen mit den differenzierten Methoden der Neurohistochemie, der Neuroelektronenmikroskopie, der Neurozytobiologie und der Neurozellkulturverfahren. Diese durch besondere technische Verfahren möglich gewordenen Untersuchungen erbringen sicherlich nicht nur neue Befunde, Deutungen und Denkansätze im allgemeinen; sie werden vielmehr fruchtbare Hinweise für unsere Arbeiten mit klassischen neuropathologischen Routinetechniken geben. Gegenüber 125 Vorträgen, welche der Histochemie, der Elektronenmikroskopie und der Zellbiologie gewidmet sind, stehen 106 Vorträge, welche sich mit der allgemeinen und speziellen klinischen Neuropathologie befassen. Ich meine, daß dies sicherlich eine sehr harmonische Zusammenstellung ist.

Wir haben es aber auch sehr begrüßt, daß es möglich wurde, die Abstraktbände zwischen München und Rom auszutauschen. Wird doch hierdurch die enge Verbindung zwischen klinischer Neurologie und Neuropathologie unterstrichen. Möge es eines Tages auch gelingen, mit der klinischen Psychiatrie in ähnliche Verbindung zu kommen.

Im Namen der Vereinigung deutscher Neuropathologen und Neuroanatomen und des deutschen Komitees habe ich die Ehre, den Delegierten der nationalen Vereinigungen noch einmal dafür zu danken, daß die Wahl für den IV. Internationalen Kongreß für Neuropathologie auf Deutschland und München gefallen ist. Wir danken Ihnen allen, daß Sie gekommen sind.

Vor allem aber sind wir den Herren des örtlichen Komitees unter der Leitung von Herrn Professor Scholz, Herrn Professor Erbslöh, Herrn Professor Meyer und Herrn Privatdozenten Kersting dafur dankbar, daß sie mit großem Enthusiasmus und uneigennützig die Organisation des IV. Internationalen Kongresses übernommen haben. Als klinischer Psychiater und Neurologe hat der Münchner Ordinarius Herr Professor Kolle eine historische Ausstellung mit viel Mühe veranstaltet, die wir im Anschluß eröffnen werden.

H. Jacob, Marburg/Lahn

Presidential Address

Perspectives in Neuropathology

It is most appropriate that this Congress—our fourth—should convene in Munich, for it is here that neuropathology obtained its birthright and it is here that our charter in neuropathology took form. Upon entering this great hall you will have seen the impressive exhibit on the historical aspects of German neuropathology prepared by Professor Scholz and his Committee. Details are brought out in the brochure entitled 50 Jahre Neuropathologie in Deutschland (1885—1935), which is one of the important contributions to this Congress. I commend both to you,

for in them you will find the story of that select coterie which included von Gudden, Edinger, Weigert, Nissl, Alzheimer, Jakob, Spielmeyer, Bielschowsky, Oskar Vogt, and others. It is on the accomplishments of such pioneers that the new developments to be reported in this Congress rest.

Among that celebrated group were two in particular whom I should like to give special mention because of their close attachment to Munich in the early days of neuropathology. They were von Gudden and Nissl. It was in Munich some 90 years ago that von Gudden began challenging the minds of his pupils—among them Ganser, Nissl, Forel, von Monakow and Kraepelin—to approach anatomical problems of the nervous system through experimental methods. In so doing, the von Gudden school raised neuroanatomy in Europe to its modern level. This is all vividly brought out by Professor Spatz is his recent article on von Gudden in the Münchener Medizinische Wochenschrift (vol. 103, p. 1277, 1961).

Nissl, a man of no less stature, was a native of Old Bavaria and was possessed of a Gemütlichkeit—a zest for living life to the full—which characterizes the Bavarian populace. Nissl, who was one of von Gudden's most gifted pupils, began to make his presence felt here in Munich some 77 years ago when, as a medical student, he wrote an essay on pathological changes in the nerve cell (Die pathologischen Veränderungen der Nervenzellen der Großhirnrinde), which won him a prize. It was in this essay that Nissl introduced his method of selective staining of the basophilic structures of nerve cells. This classic writing as well as his studies on retrograde degeneration, and many others, have made him preeminent in the field of neuropathology.

While here in Munich you may wish to visit the laboratories where von Gudden and Nissl once worked. Von Gudden first taught in the Kreisirrenanstalt in the suburb known as München-Au, where he established a Hirnanatomisches Laboratorium. Were you to go out there you would find no trace of von Gudden's laboratory, for the building is now occupied by a monastic order. All of his slide collection has vanished. With Nissl you will have better luck, for he carried out his studies at the Deutsche Forschungsanstalt für Psychiatrie, Max-Planck-Institut, not far from where we are convening. There you will find what remains of the Nissl Collection, excepting that part of it which is here in the historical exhibit. The sections Nissl once scanned are, in their faded brilliance, reminders of a rich source of our great heritage.

As you can see from your programs, we have a Congress of wide dimensions ahead of us, thanks to the choice exercised by the German National Committee, headed by Professor Jacob. There are so many probings into new fields of neurological science, around which strange vocabularies have arisen, that any one of us sitting through the sessions is bound to feel from time to time as though he were in the Tower of Babel.

This is the very point to which I should like to speak. We approach neuropathology with varied types of training and through many scientific disciplines. While this diversity of approach is all to the good, there is real danger that in the

pursuit of specialities to the exclusion of neuropathology we may become fragmented like an astrocyte that has undergone clasmatodendrosis, and thus be diverted from the core of our subject. I am thinking, for example, of those preceptors who are so shortsighted as to encourage younger men to go into highly specialized fields, such as electronmicroscopy, without adequate background in the structure of the nervous system, either in its normal or in its diseased state.

The greatest obstacle to neuropathology in many parts of the world today is the lack of appreciation of the value and of the scope of neuropathology. Witness how some of our sister disciplines regard it! Psychiatrists make hardly any use of neuropathology, which may account for the state of suspended animation, or astasia-abasia, in which psychiatry finds itself nowadays. Moreover, in the long run, those neurosurgeons who, for their own purposes, support only "piecemeal"diagnosis retard neuropathology more than they advance it. And all too many internists and neurophysiologists think of neuropathology only as subsidiary to their own direct needs. These are attitudes which must be corrected. Neuropathology has too long been in the category of a second-class citizen. A good deal of the fault lies with those neuropathologists who have neglected the precepts of that tradition born here in Germany and perpetuated and enriched by Bonfiglio, Marinesco, Mingazzini, Obersteiner, Henschen, Schaffer, Globus, Hassin and Greenfield—to mention only a few. It is the tradition that recently found fruition in the majestic Henke-Lubarsch, for which we shall always feel deeply indepted to Professor Scholz. Despite all obstacles in its path, the stream of neuropathology, as it is presently expanding, is becoming irresistable, and any of our disciplines which persists in not using this essential tool—any which continues to live in lofty isolation—will find itself trailing the vanguard at such a distance that it will be lost.

The precepts of the past of which I speak and of which we should now again take stock are with respect to clinicoanatomical correlation, clinicopathological correlation, and research. The missions of neuropathology are, indeed, so broad that this branch of our science cannot be strait-jacketed into a definition or compartmentalized in terms of one group of disciplines, or another. Let me illustrate: The forces that go to mold the cerebrum into lobes during phylogenetic or ontogenetic development and the factors concerned in the migration of nerve cells to their myriad ultimate positions are as relevant to neuropathology as they are to neuroanatomy. Nor are the neural computer systems in the form of nerve-cell aggregates in certain strategic locations in the brain and brain stem of any less significance to neuropathology than to neurophysiology.

Now, as to the clinicoanatomical correlation as a mission of neuropathology, this branch of our science has had and will continue to have a major responsibility in the study of well established nervous diseases in order to provide the anatomical bases for behavior. The method of clinicoanatomical correlation, so effectively employed by Charcot and other neuropathologists of the nineteenth century and by the Vogts and their pupils, is the basic approach.

A second mission of neuropathology is clinicopathological correlation. One of the central themes of neuropathology has always been the exact description of the morphological changes in disease. The combination of neuropathology with

clinical facts gives disease a new dimension. Without neuropathology, clinical neurology and clinical psychiatry cannot be maintained at a high standard, neither in their obligation to diagnose disease nor to treat the patient nor to teach.

He who practises traditional neuropathology also has the challenge of interpreting pathological processes in their own right. His domain encompasses the greatest experiments of them all, those which nature has performed on that supremely organized and intricate structure, the human nervous system. Within the damaged nervous system the camouflage, in the form of a thousand kinds of reaction, is such as to bury clues which even the most astute can often not unscramble. Traditional neuropathology seems the most reluctant of all our neurological sciences to give up its secrets. This was true even for the late Godwin Greenfield, who, on looking through the microscope during the last month of his life, would remark: "This case has me stumped: I have never seen a lesion such as this before." Moreover, traditional neuropathology is never "routine," for nature never repeats herself. In that sense, it is perpetually fresh, and thus has a quality not subject to the law of diminishing returns. But traditional neuropathology *per se*; or that aspect of it called diagnostic neuropathology, loses its force when not combined with the clinical sciences or with research.

A third mission of neuropathology is *research*. It is the scientific investigation of the causes and mechanisms of disease of the nervous system that neuropathology has in the past, at least, always taken a leading role. In its academic aspects, neuropathology consists in the scientific study of the causes and mechanisms of all those processes in the nervous system that disturb its normal function. From the tissue changes in combination with recognized clinical aberrations, the neuropathologist is able to extract some of the most plausible hypotheses as to the causes and pathogenesis of disease. And what is highly important, actually the crux of the matter, is that the neuropathologist must be prepared to recreate these diseases in animals and to study them under the controlled conditions of the laboratory. The newer disciplines, which are to receive major emphasis in this Congress, must supplement the more conventional staining techniques. Traditional neuropathology must continue to give direction to these studies and provide the base from which the neuropathologist and other specialists begin their work, just as in the past.

However well organized the postgraduate curriculum in neuropathology may be, intending entrants will hesitate unless we have faith in our future and unless we indicate our willingness to keep abreast of the times. Neuropathology today is no longer the conventional neuropathology of yesterday. No unit can progress far that does not employ modern tools and techniques.

Among our specialized techniques of today is electronmicroscopy, which has given us an entirely new dimension. It provides all the exhilaration of a newly-won freedom. Professor Gruner describes electronmicroscopy as a field which brings sheer joy in that one can cast one's line anywhere in the unbridled sea of the nervous system knowing with certainty that a fish of surprising size will be there to swallow the hook. But there are sometimes strange fishes, whose very names find electronmicroscopists in disagreement. And some of these strange fishes may be the equivalent of the coelocanths, which will take us many years to fathom. Electrolytes

must presumably travel in some kind of intercellular space, but in what way we have yet to learn. All this is very complicated because some distinguished electron-microscopists argue against the existence of even a potential space.

We approach molecular biology of the nervous system not only through the medium of the electronmicroscope, but also through the application of enzymology. Here, again, is virgin territory awaiting the arrival of all too few explorers. At our Symposium on hypoxemia in Baden, Switzerland, last week, Dr. Everson Pearse reminded us that our enzyme techniques to date are so primitive that only one-fourteenth of those known to exist can be demonstrated in tissue.

On the credit side of our ledger is the wide panorama of metabolic biochemical processes in diseases of the nervous system which histochemistry has provided. For many years "Schilder's disease" was little more than a wastebasket of the demyelinative diseases, but now, with the aid of new techniques, we are able to define some of these diseases, and have a glimpse into their pathogenesis. I am referring, for instance, to the sudanophilic, Pelizaeus-Merzbacher, globoid-cell, and metachromatic types of demyelinative disease.

Immunopathology can now set off fluorescent antibodies into the brain which seek out their appropriate antigens as a bloodhound after its quarry. Such indicators as fluorescein-labeled protein and radioactive iodinated albumin light up pathological processes as clearly as a city at night as seen from a plane. Tissue culturists see myelin develop, and then they dissolve it at will: they may yet be able to force open the unyielding door of multiple sclerosis. Techniques for the maintenance of cultures of neurons are sufficiently developed as to open a wide arena of opportunity for nutritional, pharmacological and electrophysiological studies. With tissue cultures the neurophysiologist can be sure that he has his delicate electrode truly within a nerve cell and not in the expanded watery process of an adjacent astrocyte, a source of error against which the electronmicroscopist has warned the neurophysiologist. Here, during the scientific sessions, you will find that some who work at the cellular level will be according cell membranes unique virtues, others, devoted to the perikaryon, will be expounding on its role in memory processes, others will be arguing that the dendrites are the really significant component when it comes to the functioning of nerve cells. This will be the way that issues will be sharpened in this particular field. Silver methods, which have rescued us from the bond of the aniline stain and the paraffin and the celloidin block, have continued to be essential in the differentiation of cell types. With silver methods, adventitial pericytes, on invading damaged brain, can be seen to throw out their thorny processes as they insinuate themselves into the confines of the intercellular space and become Hortega cells. We cannot establish a stable scientific economy in neuropathology unless we make more widespread use of this silver currency.

Now, each of us, whatever the scientific endeavor he may pursue, has obligations to the whole field of science and medicine in our great enterprise of understanding, alleviating and preventing disease of the nervous system in every quarter of the globe. The neuropathologist is becoming more and more alive to these obligations. Facilities of travel and communication trust upon us diseases of great importance, new to us, in remote parts of the world.

I am thinking of the illuminating contributions to such disorders as endemic Landry-Guillain-Barré syndrome in the region surrounding the inland sea of Japan and Minamata disease in Kyushu. Studies of endemic disease in isolated communities have brought to light such conditions as familial amyotrophic lateral sclerosis and the so-called Parkinson-dementia syndrome amongst the Chamorro population in the Island of Guam, of Kuru in the Eastern Highlands of New Guinea, the funicular myelopathy in tropical Africa, and the new myelopathy observed in Jamaica. In the less Westernized and more impoverished countries we shall continue to find lathryism and be able to study it. These diseases have posed knotty problems as to the relative importance of genetic and environmental factors, including smoldering infections, deficiency states, and undeclared toxic substances in the diet. A wealth of fascinating conditions probably still awaits discovery.

Improved health has inevitably augmented the number of the aged, and thus the importance of a better understanding of the ageing process in the brain and the control of cerebrovascular disease becomes obvious. In undertaking to study this problem the neuropathologist must not confine his studies to the cranial contents; he must study the extracranial vessels in the neck and vertebral canals and the cardiovascular system as a whole. He is no neuropathologist who has no solid background of morbid anatomy.

In some countries, at least, the market for neuropathologists is now excellent. New opportunities in the form of fellowships and grants in neuropathology are constantly opening up. Conferences and symposia on neuropathological topics, too numerous to mention, are being held all over the world. New Journals are springing up—the latest, the Acta Neuropathologica. Our own Congress now has representatives from 46 nations. Those that have joined us since our previous Congress are Bulgaria, Ghana, Jamaica, Nigeria, Thailand and Venezuela, and to them I should like to extend a warm welcome. The World Federation of Neurology, which was only in the planning stage at the time of our IIId International Congress in Brussels in 1957, is now straddling the globe with the mission of instigating and coordinating research in the neurological sciences so that a closer cooperative relationship between all nations can be brought to bear. The establishment of the International Brain Research Organization, now taking on definite shape, has also responded to the mandate that basic neurological research be more effectively pursued on a world-wide basis. The presidents of these two organizations, Professor van Bogaert and Professor Jasper, have been conferring on the means of bringing about the most effective cross-fertilization of these great international movements. The importance of their endeavors cannot be overestimated. We must pledge them our full support during this trying period of the development and growth of these organizations.

With so much to offer in the way of interest and responsibility in helping in the vast socio-economic problems imposed by neurological disease, it is perhaps surprising that in some countries there is a dearth of entrants into the specialty of neuropathology. This undoubtedly has to do with the fact that little money is set aside from university, municipal and state budgets for the employment of neuropathologists. Neuropathology departments tend to originate in neurosurgical units

and as anlage of academic departments of pathology; seldom do they exist as individual units, and the academic accolade tends not to be bestowed on the neuropathologist. Municipalities do no more than pay lip service to the call for research into mental and neurological disease, and the man who is prepared to devote his life to this cause is apt to find himself underpaid and working in an environment which lacks the stimulus of fellow workers.

The poor recruitment may, however, have its origin in other factors and it behooves us as established neuropathologists to look carefully into the training of new entrants into the specialty of neuropathology. Everyone of you in this august assembly who heads an institute or a great department has responsibility for neuropathology. In the U.S.A. the setting up of a Board in Neuropathology some years ago helped to indicate to the man in training the course of studies required of him. This, coupled with the establishment by the universities of more chairs in neuropathology has improved the academic standing of the specialist and he is to be found now more often in the medical school where he has the stimulus of colleagues in the basic sciences, than in the non-teaching hospital. In some other countries, however, the would-be neuropathologist is not so well cared for and he tends to be a waif. He belongs to no school but has to find his own way and plot his own course. It can be argued, of course, that a too rapid prescription of studies may canalise the postgraduate student in a way that is undesirable in neuropathology. There is, however, a happy mean between a regular basic training in neuropathology and no training at all, and it is our duty to provide it. Only if neuropathology in its entirety is effectively prosecuted in an academic or university setting will it flourish and attract the best minds. What is needed are (1) educational programs whereby the medical profession is made aware of neuropathology as a medical science in its own right, (2) departments of neuropathology in more universities not only for the support of the clinical departments of neurology, neurosurgery and psychiatry, but also for training in the basic fundamentals of neuropathology, and (3) funds for fellowships in neuropathology and in related disciplines.

Since the second world war there has been a remarkable interest in international medicine, and in no field has this been more apparent than in neuropathology. When Armando Ferraro convened together in Paris in 1951 a small number of neuropathologists representing as many countries, he did us a great service. Here was set into being our International Committee on Neuropathology which has been responsible for the planning of the present Congress as well as those held in 1952, 1955, and 1957. We would be derelict in our duty were we to sit through this Congress discussing academic problems and fail to give consideration to the problems of those whole continents where only a handful of neuropathologists exists. I hope you will agree with me that the time is ripe for the International Committee of our Congress to pursue a more active policy. While there are many forms of activities in which I am sure you would like to see us engaged as a world team, perhaps our greatest endeavor should be to encourage neuropathology in those nations where great need exists. I can promise you that these matters will be seriously considered at our meeting on Friday.

Our tradition is something of which we may well be proud and so let us convey our enthusiasm abroad in order to recruit new explorers. There is an impelling force that motivates us all; it was expressed simply by that great Norwegian explorer and statesman. Fridtjof Nansen: "The history of the human race is a continual struggle from darkness toward light .... Man wants to know, and when he ceases to do so, he is no longer man."

W. Haymaker

Presentations to Professor Ferraro and Professor van Bogaert

I have a very special pleasure to share with you. There are two among us, who, more than any others have made our Congresses possible and have given them their quality of excellence. The suggestion that these two be singled out for some fitting recognition on this occasion was warmly endorsed by all the officials of this Congress. In the letters that flowed into me from Honorary Presidents and Vice Presidents when this matter was broached came not only tributes but also drafts and checks, for they all wanted me to express their esteem to these colleagues of ours more concretely than with words alone.

Were it not for the perspicacity of one of those to whom we pay tribute, there may never have been a Congress of Neuropathology in Rome back in 1952. That Congress was conceived in the mind of this one man. Already in 1949 he realized that something should be done to foster greater international cooperation in the field of neuropathology. An Italian by birth and upbringing, he had obtained the M.D. in Naples in 1914, had served in the Medical Corps of the Italian Army in World War I (during which he was decorated with the Military Cross) (1915—20) and, following the war, had become Assistant in Neurology and Psychiatry at Sassari under Professor Ottorino Rossi (1921—23). It was natural, therefore, that he should decide to center on Italy as the site of our first Congress of Neuropathology. While in Milan in 1950, where he had come from the United States to deliver a series of lectures on psychosomatic medicine, he received his first encouragement. Subsequently the American Association of Neuropathologists, of which he was President, provided him with a mandate on which to proceed. Singlehandedly he selected neuropathologists from around the world, and invited them to meet with him in Paris. Twenty nations were represented at the Restaurant Georges V on the Champs Elysées on that fair day back in May 1951. Professor Bertrand presided over this meeting. Out of it came the organization of the Congress. Professor Gozzano was elected its President. Many of us will recall that that Congress was a memorable occasion, difficult ever to equal.

Let me give you a little more background of this man we are honoring. In 1923 he became Assistant in Neurology under Pierre Marie at the Salpêtrière. In 1924, while Research Fellow in Neurology at Utrecht under Professor Cornelius Winkler, his

talents were recognized by a discerning visitor from Washington, D. C., Dr. *Walter Freeman*, who induced him to steer his future scientific course in the United States. In New York his command in the field of neuropathology and his many other strengths won him a professorship. Since then he has been accorded numerous other recognitions. He was Honorary President to the IIId International Congress of Neuropathology in Brussels in 1957.

The gentleman in question is as eloquent and as rugged a protagonist of neuropathology as you will find anywhere. He has a steady nerve that defies intimidation. Devotion to neuropathology reaches deep into his soul; he has personal affection for the field, an affection which wells up in his emotions. He is one of neuropathology's most effective spokesmen.

The other individual to whom we should like to express our gratitude on this occasion is also beloved by all of us. I can recall that at a meeting of the Société Neurologique in Paris the entire audience rose and applauded him as he walked quietly down the aisle while a session was in progress. His very presence forces the best in us to come out. He is an adamant and uncompromising foe to loose thinking in neuropathology. His professional reputation as well as his graciousness have made him physician to the royal family in Belgium. One of his devotees once remarked aptly that his appearance was such that he could have stepped out of a Breugel canvas. In addition to being Breugelesque, he has the advantage of having been endowed with a French spirit.

This master of neuropathology was a native of Antwerp. At the outbreak of World War I he volunteered his services, but was declared too young. He then spent two years at the University of Utrecht, from which he graduated Cum Maxima Laude. Again he volunteered for war duty, and was dispatched to England, where, at his own request, he was assigned to the Belgian forces as infantryman. He became a commando and during an offensive in 1918 was wounded twice. The war over, he resumed his studies in Medicine. With an M. D. from the University of Brussels (in 1922) again came the citation, Cum Maxima Laude.

After that he moved on to Paris. Here he took up studies with Pierre Marie. The Salpêtrière became the arena for the exercise of his endless scientific curiosity. He assisted in the preparation of the last paper published by Pierre Marie. From the Salpêtrière he moved to the Hôpital de la Charité, where he pursued studies under Professor Marcel Labbé, Guillain, Alajouanine, Bertrand, Foix, Hillemand, Masson and Nicolesco were a few with whom he became associated. One of his fellow students during the period he spent with Pierre Marie was Armando Ferraro. Von Economo and Oskar and Cécile Vogt were among his heroes at that time.

In 1923 he returned to Antwerp. Here his interests in internal medicine, clinical neurology and neuropathology were carried on with such intensity and with such effectiveness that to relate his accomplishments to you in any detail would leave me breathless. There was no more versatile contributor to neuropathology than he. In Kinnier Wilson's monumental text on Neurology his contributions are referred to more often than those of any other. In 1933, Dr. *van der Stricht*, Director of the Bunge Foundation in Antwerp, requested that he organize a neurological institute. This became the Bunge Institute, long since distinguished for its contributions to pathological anatomy.

World War II again found him in uniform. In the military hospital in Bruges to which he was assigned, the duties were too few for his probing restless mind. Consequently, he joined the Neurological Center in the Polish Army in Nantes. Later he was assigned to the French Army. After several months he was back at the Bunge Institute in Antwerp. His indomitable spirit kept that Institute alive during the war.

He is so well known that I need not indicate the many national societies that have honored him, the prizes he has won, the civil decorations he has received, the editorial boards of which he has been a member, and the international conferences and symposia he has organized and led. It was natural that he should have been selected as the President of the World Federation of Neurology (1957).

It is not so much for his distinction in the field of neurological sciences that we honor him today as for his brilliant leadership and extraordinary vigor in the planning and execution of our four Congresses. How any one mortal could have accomplished so much as he is unfathomable.

It is interesting that the two men to whom we pay tribute today first met in the laboratory of Pierre Marie. Destiny brought them together then, as it does also now.

Dr. Armando Ferraro! Dr. Ludo van Bogaert!

In behalf of all of us, I have the honor and unique pleasure of offering you these tokens of our affection and highest esteem!

W. Haymaker

Mister President, Honored Guests, Members of the Congress, Ladies and Gentlemen

First of all I want to thank Dr. *Haymaker* for his kind remarks concerning my person and my modest contributions to neuropathology.

I want then again to thank him as president of the IV International Congress of Neuropathology, and also thank all the officers of the Congress for the great honor, which they have bestowed upon me, an honor, for which I am deeply touched and deeply grateful.

When I first conceived in 1949—50 the idea to organize an International Congress of Neuropathology, I sincerely hoped that the first congress would be a successful one and that it would be followed by many more, at various intervals of time. — This hope as now become reality and to-day we are here gathered in Munich to celebrate the opening of the IV International Congress of Neuropathology.

The credit for the success of our various meetings belong to many of you. Credit for the success of the first international meeting in Rome in 1952 must be shared with Prof. *Mario Gozzano* and his staff, who organized so beautifully our activities making that first congress, the unforgettable congress of Rome.