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WORLD NEUROLOGY

THE OFFICIAL NEWSLETTER OF THE WORLD FEDERATION OF NEUROLOGY

WFN President Raad Shakir, MD, (seventh from left), WFN Regional Director for Latin America Marco T. Medina, MD, MPhil, FAAN, (eighth from left), and Latin American WFN representatives gather during the Pan-American Federation of the Neurological Societies (PAFNS) meeting at the World Congress of Neurology Nov. 5, 2015, in Santiago, Chile, where the PAFNS legal status as a nonprofit organization under Chilean Law received approval.

A New Regional Organization: PAFNS

BY MARCO T. MEDINA, MD, MPHIL, FAAN, AND GUSTAVO C. ROMÁN, MD, DRHC, FAAN

A new regional organization, the Pan-American Federation of Neurological Societies (PAFNS), has been founded with the support of 20 Latin American countries, the World Federation of Neurology (WFN), and the American Academy of Neurology (AAN).[1] Fifty-three years ago, the first Pan-American Congress of Neurology organized by the WFN, under the leadership of Professor Julio Oscar Trelles, met in Lima, Peru.[2] Since then, neurologists from Latin America have attended the regional Pan-American Congresses organized by the WFN every four years. During that time, most of the regional educational and research activities for the region were promoted by the WFN.[1-4] However, the need for an official regional organization became clear, mainly due to the growth of clinical neurology outside the United States and Canada on the American continent, as well as the need for up-to-date neurological information provided in Spanish and Portuguese.

Representatives from several Latin American countries recognized the particular educational needs of the region. This led to the Declaration of Morocco, which was signed by WFN Latin American delegates on Nov. 15, 2011, during the 20th World Congress of Neurology in Marrakech. The declaration stated that a regional continental organization was needed: "to coordinate and support the efforts of the

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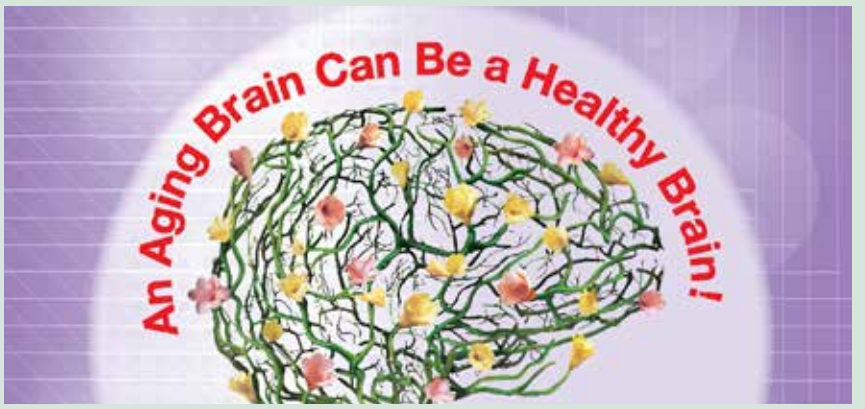
Day of the Brain: July 22, 2016

BY WOLFGANG GRISOLD, MD, AND MOHAMMED WASAY, MD

On July 22, 2016, the World Federation of Neurology (WFN) will celebrate its 3rd Annual Day of the Brain. The topic will be "The Aging Brain" and should alert all member countries on the emerging problems of the aging population and also the increase in dementia.

Press material and information has been sent to WFN delegates. Please plan to participate and improve the fate of aging persons with neurological disease. •



"The Aging Brain" and changes in neurological function in age is the topic of this year's Day of the Brain.

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WORLD NEUROLOGY

WORLD NEUROLOGY, an official publication of the World Federation of Neurology, provides reports from the leadership of the WFN, its member societies, neurologists around the globe and news from the cutting-edge of clinical neurology. Content for *World Neurology* is provided by the World Federation of Neurology and Ascend Integrated Media.

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FROM THE EDITORS

BY STEVEN L. LEWIS, MD, EDITOR, AND WALTER STRUHAL, MD, CO-EDITOR

We are pleased to introduce this issue of *World Neurology*. In this issue, Raad Shakir, MD, president of the World Federation of Neurology (WFN), provides us with a historical view of the long-standing and important collaborative relationship between the World Health Organization and the WFN, working together for the overall goal of improving brain health.

Marco T. Medina, MD, and Gustavo C. Román, MD, update us on the Pan-American Federation of the Neurological Societies, an organization with the vision to reach the highest level of neurological health in all the countries of the American continent.

Prisca-Rolande Bassolé, MD, and Yannick Fogang Fogoum, MD, provide their insights and opinions (from their standpoint as young African neurologists) about their hopes for the African Academy of Neurology, an organization whose inaugural meeting was less than one year ago.

Mohammad Wasay, MD, and Professor Wolfgang Grisold, MD, secretary-general of the WFN, remind us about the upcoming World Brain Day 2016: "Brain Health in an Aging Population."

Dr. Román and Rodrigo Pardo-Turriago, MD, report on the XII Annual Colombian Congress of Neurology and the development of the guidelines for the diagnosis and treatment of Zika virus-associated Guillain-Barré syndrome in Colombia that was prepared for the Ministry of Health of Colombia. This issue also features a report on the breaking news session on Zika virus held at the recent European Academy of Neurology meeting in Copenhagen, Denmark.

STEVEN L. LEWIS, MD

WALTER STRUHAL, MD

Jacques Reis, MD, Serefnur Öztürk, MD, Dr. Román, and Peter Spencer, PhD, provide a detailed overview of the history and ongoing activities of the Environmental Neurology Applied Research Group of the WFN.

In our regular columns, Katharina M. Busl, MD, MS, reviews the recent book by Eelco F. M. Wijdicks, MD, on emergency and critical care neurology, and in our history of neurology column, Peter Koehler, MD, PhD, discusses the pioneering medical and biological insights of an 18th century European physician from his travels to Surinam.

Also in this issue, Sarosh M. Katrak, MD, and Steven L. Lewis, MD, provide their nominating statements for the position of elected WFN trustee, to be voted on by the WFN delegates in Prague, Czech Republic, in September 2016.

Finally, two neurological giants are celebrated and memorialized in this issue. Johan A. Aarli, MD, (eighth WFN president) and professor Shakir report on the life and legacy of Lord John Walton, MD, who served as the fifth WFN president, while Dr. Katrak and Bhim Sen Singhal, MD, report on the life and accomplishments of Professor Noshir H. Wadia, MD.

We hope you enjoy reading this issue of *World Neurology*. We look forward to continuing to receive your outstanding submissions and helpful suggestions for the benefit of all of the readers of *World Neurology*. •

BOOK REVIEW

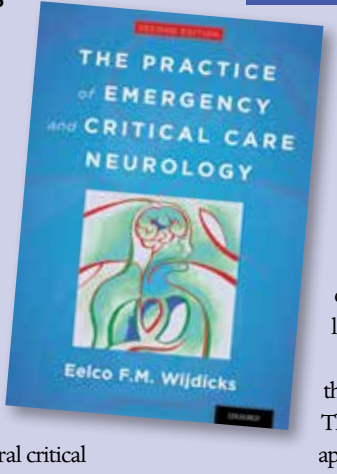
Emergency and Critical Care Neurology

BY KATHARINA M. BUSL, MD, MS

This is a comprehensive, extremely well-written, single-author textbook on emergency and critical care neurology by one of the most renowned, experienced, published, and respected neurointensivists. In his preface to this second edition, the author outlines his intention for this book to serve as a practical and data-driven guide to management of the critically ill neurological patient, rather than a textbook detailing theory. This is exactly how I perceived this book. It is organized into 12 chapters that include a symptoms-based approach, organizational aspects, general critical care aspects, and management of specific disorders, complications, or consultation situations. Some of the chapters are geared more toward the neurologist assessing emergent consultation, some to the neurologist or neurointensivist managing the specific neurocritical disorders, and some to the neurointensivist or critical care physician staffing an intensive care unit. Complex topics and concepts are presented in a clear and concise manner, and enhanced by plenty of original illustrations and imaging examples. The text is supported by available, up-to-date data, as well as the vast clinical experience of the author himself.

Katharina M. Busl, MD, MS

The Practice of Emergency and Critical Care Neurology, Second Edition
Eelco F. M., Wijdicks
Oxford University Press, 915 pages



Sensitive topics, such as end-of-life discussions or ethical dilemmas, are addressed with vision and care. The statements are clear with virtually no redundancy or ambiguity. Flow is excellent, and style and organization allow for both rapid, continuous reading, as well as rapid look-up.

There are very few minor aspects that could be mentioned critically. The chapter on critical care support appears rather truncated, which is understandable given the breadth of these topics. However, a more specific link to the neurological patient could possibly have been made. Similarly, the chapter addressing systemic complications touches only little on dilemmas in the neurological critically ill patient, such as gastrointestinal bleeding in patients who require antiplatelet medications, or pulmonary embolism in patients with intracerebral hemorrhage. However, the author acknowledges the biggest problem — absence of data for the neurocritical care population. Furthermore, a chapter on critical illness myopathy or neuropathy, a problem often addressed in the general critical care literature, but paid less attention to in the neurocritical care population, could have completed the chapter on complications.

The textbook comes with a handy pocket book (in print or mobile device version) that contains a selection of the most relevant tables and figures and a compilation of practical notes.

In summary, this book is very impressive in its composition, scope, and style. I wholeheartedly recommend this wonderful book for any clinician primarily caring for critically ill neurological patients, specifically for practicing neurointensivists and neurocritical care fellows. In the larger scheme, it is also of interest to any neurologist or physician of other specialty consulting on critically ill neurological patients. •

Katharina M. Busl, MD, MS, is chief of the Division of Neurocritical Care and co-director of the neuroscience intensive care unit at the University of Florida Health Shands Hospital and associate professor of neurology, neurosurgery, anesthesiology, and bioengineering at the UF College of Medicine, Gainesville.

FROM THE PRESIDENT

Long Established WHO, WFN Relationship Continues to Prosper

The WFN is a non-governmental organization (NGO) in official relationship with the WHO. The relationship is symbiotic and solid. It started back in the 1960s during the first term of the presidency of MacDonald Critchley from 1965 to 1969. Initially, it was small and dealt with special problems related to tropical neurology. The association continued following the establishment of the mental health section during Sigvald Refsum's presidency from 1973 to 1981. Diana Bolis was a major contributor at the time. The relationship continued when the WHO contacted the WFN regarding the revision of the neurological section of the International Classification of Diseases (ICD)-10. At the time, the WHO included stroke in the section of cardiovascular disease, in spite of WFN objections. Walter Bradley and Jean-Marc Orgogozo gave expert advice.

RAAD SHAKIR, MD

The relationship between the WFN and the WHO has not always been smooth and straightforward. When Richard Masland took over as president in 1981, one of his challenges was to define mental health. Later, during John Walton's presidency from 1989 to 1997, Norman Sartorius, who was the director of the WHO Division of Mental Health, invited the leaders of the NGOs in neurosciences to an annual meeting at the end of the year. Walton, James Toole, and Andre Lowenthal met with Sartorius. The relationship continued during subsequent years. During Jun Kimura's presidency, Johan Aarli chaired the Public Relations Committee and subsequently became first vice president and was appointed as the liaison officer between the WFN and the WHO. The relationship flourished during Aalri's presidency from 2005 to 2009. Under the WHO leadership of Assistant Director General Ala Alwan, succeeded by Oleg Chestnov, head of section Benedetto Saraceno, and his successor Shekhar Saxena, the relationship moved full steam ahead. This was strongly cemented by the appointment of Tarun Dua, coordinator of the WHO's Evidence, Research and Action on Mental and Brain Disorders Unit, and a pediatric neurologist who took the role as the officer responsible for neurology in the mental health section. The WFN provided several grants to joint activities, which were most rewarding. The publications of the first *Neurology Atlas* in 2004 and *Neurological Disorders: Public Health Challenges* are excellent examples.

The WHO activities in our field are crucial for the specialty. If neurology and brain health is to find its rightful place in the agenda of governments across the world, the only way is to go through the WHO. There were, over the last 40 years, several collaborative efforts and, in all, the relationship proved enduring and productive. If we look at the present time and evolving issues, neurologists are at the heart of the WHO activities.

Raad Shakir (left) and Walter Bradley chair the topic advisory groups for ICD-11 and ICD-10.

ICD-11

There are four areas which I would like to highlight. The first is the ICD-11 project, which has now matured and is coming to publication. We have to remember that the ICD is a WHO and not a WFN process, as neurological diagnoses only form a small part of the whole ICD revision program. The ICD-11 will have short definitions for all entities, and it is crucial that the WHO secretariat, represented in our case by Dua, has the support to discuss the issues with the central classification team at the WHO. The common version to be presented in October 2016 is the Joint Linearization for Mortality and Morbidity Statistics (JLMMS) and not the neurology specialty version, which will come later. This is a crucial step to the WHO, as member states will follow this classification. It is most important to point out that, with the help of the WHO team, stroke is now part of the neurology section, which is most important for brain health future statistics. We still have some fine-tuning to do until the end of June 2016. It is inevitable that some neurology specialists, patient organizations, and others may find some of the ICD layout and content not to their liking. All of us have made efforts to reconcile the opinions and needs of neurological and neurosurgical associations and interest groups, at the same time satisfying public health needs and clinical utility, as well as other medical and surgical specialties.

Raad Shakir (left) and Tarun Dua, coordinator of the WHO's Evidence, Research and Action on Mental and Brain Disorders Unit.

I would like to use this opportunity to thank all my fellow neurologists and neurosurgeons who contributed their time and expertise over the past seven years in making the neurology ICD-11 a viable and meaningful project. The support of the WHO is vital to us in our work and continues to be so. The comments made by the central classification team were taken and acted upon. My fellow members of the Topic Advisory Group (TAG) have been wonderful in their advice and work over the years, and I had the honor to chair the neurology TAG.

Left to right: Oleg Chestnov, WHO assistant director general; Bente Mikkelsen, GCM NCDs chair; and Raad Shakir, WFN president.

WHO Non-Communicable Diseases

The second issue is that of the WHO non-communicable diseases (NCD) project. The NCDs launch did not initially include neurological diseases. However, since 2013, it has become clear that the neurological, mental, developmental, and substance use (NMDS) group surpasses, in numbers and in Disability Adjusted Life Years (DALYs), the cancer and cardiac disease group. Moreover, prevention is now clearly possible in many such conditions. This has led to the involvement of the WFN in the global coordinating mechanism for NCDs (GCM/NCD), headed by Dr. Bente Mikkelsen. The WFN is an official member and attended meetings for the NCD project. This is very important as the G8 London declaration on dementia

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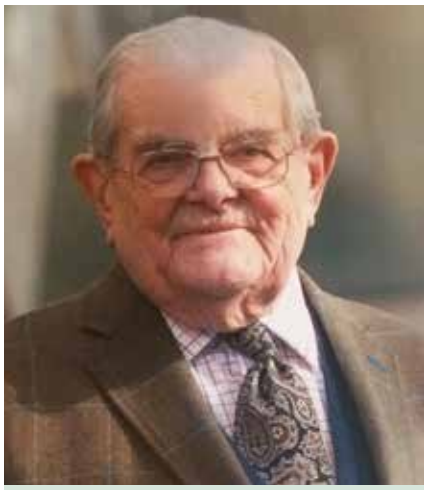

IN MEMORIAM

John Nicholas Walton, MD

BY JOHAN A. AARLI, MD, AND RAAD SHAKIR, MD

The World Federation of Neurology is remembering John Nicholas Walton, MD, who passed away in April at the age of 93. Walton, who served two terms as president of the WFN following his election in 1989, knew the organization better than anyone. His work in the WFN started from its inception in 1957. He succeeded Macdonald Critchley as editor of the *Journal of Neurological Sciences* when Critchley later became WFN president in 1965. He worked with Henry Miller as secretary general to shape the organization. Walton saved the WFN from bankruptcy with his compromise during the creation and later dissolution of the World Association of Neurological Commissions (WANC), which resolved the financial crisis of the WFN in 1966. He started the research group on neuromuscular disorders. He was elected first vice president during Richard Masland´s presidency. During this busy time at the WFN, he wrote *Essentials of Neurology*, which became a standard textbook for medical students. In 1968, he was promoted to a personal chair in neurology at England's Newcastle University, and in 1971 he was appointed dean of the Newcastle Medical School. He was knighted in 1979, was appointed life peer in 1989 as Baron Walton of Detchant, and he sat in the House of Lords as a crossbencher.

Walton´s presidency became the most constructive modernization phase in the history of the WFN, and he took personal care that the changes were constitutional. A central step of the reorganization was to establish a corporate status for the WFN. The chairs of the publications and the finance committees were now better integrated in the WFN structure. The responsibilities of the committees were now defined, and the committee structure was overhauled into a solid structure.

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Medical Observations by European Physicians in the Colonies

Philippe Fermin's Observations in 18th-Century Surinam

BY PETER J. KOEHLER, MD, PHD

The stay of Europeans in tropical countries offered opportunities for the observation not only of unknown (manifestations of) diseases, but also of the flora and fauna of these areas. Extensive descriptions were published in books, and specimens were brought to Europe, where cabinets of curiosities were filled with objects from natural history, archeology, geology, and ethnology.

Fermin

One of the adventurers who visited a Dutch colony was Philippe Fermin (1729-1813). The son of French Huguenots was born in Berlin and went to the local French gymnasium. Then he moved to London, where he apprenticed with an elderly physician. Not wishing to have to train for several years, he obtained a certificate for the practice of surgery in Rotterdam and, at the age of 25, he moved to Surinam (a former Dutch colony, now the Republic of Suriname) in 1754 to serve for the government. He was offered 20 florins a month for providing medication. Although he realized that his training had been insufficient, he started to practice. Much of the information that is known about him was provided by his correspondence (116 letters between 1753 and 1789) with the Berlin theologist, philosopher, and historian Jean H.S. Formey (1711-1797), contributor to *Encyclopédie* (Diderot, d'Alembert) and member of the Berliner Akademie der Wissenschaften. Fermin dedicated his first book to him, adding, "Depuis ma plus tendre jeunesse vous m'avez honoré d'une protection aussi constante qu'efficace; je n'ai cessé d'en ressentir les salutaires effets ...," which translates to, "Since my tender loving youth, you have honored me with a continuous, as well as efficacious protection; I have experienced the salutary effects continuously" (*Traité*, 1764; fig. 1). He often asked him for letters of recommendation or merchandise that was lacking in Surinam. He married the widow of a well-to-do apothecary, Maria Magdalena Morin, and became a person of good report. Although it is unknown how he managed to do so, he obtained a degree, probably a doctorate *honoris causae*, from the University of Aberdeen in 1758. Meanwhile, he observed and described flora and fauna and sent specimens of the local flora and rare insects to the Akademie in Berlin. After an eight-year stay in Paramaribo, he had made a good deal of money, more than 20,000 florins, which is more than his fellows would have at the end of their lives. He estimated the sum to carry interest rates to live decently. He and his wife departed for the Netherlands on May 5, 1762. Upon arrival in the Netherlands, he settled in Maastricht and published a number of books. He was considered a specialist in natural history of equatorial America.

Treatise on the Most Frequent Diseases in Surinam

His first book, *Traité des Maladies les Plus Fréquentes à Surinam et des Remèdes les Propres à les Guérir,* which translates to *The Most Frequent Diseases in Surinam and the Appropriate Remedies to Treat Them*, was published two years after returning from Surinam (1764). In the introduction, he wrote: "Un Médecin nouvellement débarqué dans ce Païs, a deux choses principales à faire. La première, c'est d'observer avec la dernière exactitude la Nature du Climat & les variations qui influent si considérablement sur l'état des corps & sur l'effet des remèdes ..." or "A physician recently arrived in that country, has two principle things to do. The first is to observe the nature of the climate with the greatest accuracy and the changes that influence the state of the body in a considerable way and the effects of the remedies ..." He opined that many diseases of the people living in Suriname, Creols, as well as Europeans, resulted from excesses of debauchery.

Neurological Disorders

Several neurological disorders were described in his *Traité*, although the author sometimes had problems making a diagnosis. In a chapter named "De la Fièvre Ardente" ("Burning Fever," possibly American typhus or yellow fever), he described an often mortal disease accompanied by heat, thirst, nausea, anxiety, insomnia, vomiting, delirium, coma, and convulsions. Pain was felt in the region of the stomach. Fermin prescribed bloodletting, as well as all kinds of drugs, including cort. Peruvian (Peruvian bark, cinchona) and Sem. Papaver (semillas de papaver, or seed of papaver for insomnia). Another disease, known as "klem" (grip), Fermin believed, resembled apoplexy, as well as catalepsy, but more probably he thought it was "tetanos."


TRAITÉ DES MALADIES LES PLUS FRÉQUENTES à SURINAM, ET DES REMEDES Les plus propres à les guérir. SUIVI D'une Dissertation sur le Fameux Crapaud de SURINAM, nommé PIPA, & sur sa Génération en particulier, Avec Figures en Taille-douce. Par PHILIPPE FERMIN, Docteur en Médecine. A MAESTRICHT, Chez JACQUES LEKENS Libraire. M. DCC. LXIV.

Fig. 1. Title page of Fermin's *Traité des Maladies* (1764)

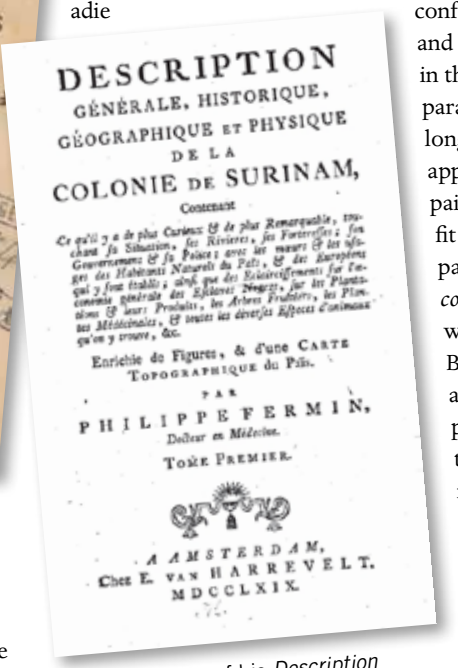

DESCRIPTION GÉNÉRALE, HISTORIQUE, GÉOGRAPHIQUE ET PHYSIQUE DE LA COLONIE DE SURINAM, Contenant Ce qu'il y a de plus Curieux & de plus Remarquable, touchant la Situation, les Rivieres, les Forteresses; les Gouvernemens & la Police; avec les mœurs & les usages des Habitants Naturels du Païs, & des Européens qui y sont établis; ainsi que des Etablissemens sur l'économie générale des Esclaves; sur les Plantations & leurs Produits; les Arbres Fruitiers, les Plantes Médicinales, & toutes les diverses Espèces d'animaux qu'on y trouve, &c. Enrichie de Figures, & d'une CARTE TOPOGRAPHIQUE du Païs. PAR PHILIPPE FERMIN, Docteur en Médecine. TOME PREMIER. A AMSTERDAM, Chez E. VAN HARREVELT. MDCCLXIX.

Fig. 2. Title page of his *Description Générale* (1769)

Fermin believed, resembled apoplexy, as well as catalepsy, but more probably he thought it was "tetanos."

In a chapter named "Du Boisi," he described leprosy as, "Quand cette Maladie qui peut durer dix, vint, jusqu'à trente ans, est une fois parvenue à son plus haut degré, les doigts et les orteils se détachent insensiblement d'eux-mêmes, sans que le Malade en soie douloureusement affecté," meaning "When that malady that may last 10, 20, up to 30 years, has reached its highest degree, the fingers and toes come off insensibly, without the patient being painfully affected. It has a poor prognosis, he writes. "Cette horrible Maladie est absolument incurable. Elle n'est pas fréquente parmi les blancs, mais elle attaque souvent les Esclaves." It translates to "That horrible disease is absolutely incurable. It is not frequent among the whites, but it often attacks the slaves." The disease was considered contagious and could become epidemic. A patient would be indicated a place in the woods, where he had to end his days without any communication with the others. Fermin himself had learned to distinguish the spots of leprosy from those of other skin diseases, like "ringworm" (tinea), through a lesson from "une vieille Négresse" — stick a needle into the spot while pinching it; if it is insensible, then it's leprosy.

Another chapter (no. 9 "Du beillac") is of neurological interest. The name derives from the Creol or original inhabitants, Fermin believed. It was associated with the work of the devil because of the severe colic pain. He believed it was nothing else than the well-known "colica pictonum" (an affliction known since the Roman Empire, of which it was assumed later that it was due to chronic lead intoxication; the lead was used to sweeten the wine). However, the Surinam beillac was more severe, Fermin opined, and was caused by immoderateness (drink, lack of sleep). He thought it should not be confused with other types of colic and believed it was often treated in the wrong way, leading to paralysis or death. He presented a long list of drugs and regimens to apply. The combination of colic pain and paralysis could indeed fit a chronic lead intoxication, particularly when the term *colica pictonum* was used. Today we could also think of Guillain-Barré syndrome preceded by an infectious bowel disease and porphyria, although intermittent disease would be expected in the latter. However, we have to be careful with making retrospective diagnoses. Furthermore, it is important to realize that, at the time, differences in diseases across the world were believed to be of degree, not of kind.

Humidity, fluctuating and high temperatures, and the sun were considered the most important factors to weaken the Europeans, increasing their vulnerability to disease. The pathophysiology was still humoral and mentioned conditions were thought to cause unbalance of the humors.

One year after his *Traité*, Fermin published *Histoire Naturelle de la Hollande Equinoxale ou Description des Animaux, Plantes, Fruits et Autres Curiosités Naturelles, que se Trouvent Dans la Colonie de Surinam Avec Leurs Noms Différents Tant François que Latins, Hollandois, Indien et Nègre-Anglois*, which translates to *Natural History of Equatorial Holland or Description of Animals, Plants, Fruits and Other Natural Curiosities, that are Present in the Colony of Surinam With Their Different Names be it French, or Latin, Dutch, Indian and Negro-Anglian* (Amsterdam, Magérus, 1765).

In 1768, he published "Instructions Importantes au Peuple sur les Maladies Chroniques. Pour Servir de Suite à l'Avis au Peuple de M. Tissot, sur les Maladies Aiguës." That translates to, "Important Instructions for the People on Chronic Diseases. To Serve as a Continuation of

see **OBSERVATIONS**, *page 5*

Several neurological disorders were described in his *Traité*, although the author sometimes had problems making a diagnosis. In a chapter named "De la Fièvre Ardente" ("Burning Fever," possibly American typhus or yellow fever), he described an often mortal disease accompanied by heat, thirst, nausea, anxiety, insomnia, vomiting, delirium, coma, and convulsions. Pain was felt in the region of the stomach.

OBSERVATIONS

continued from page 4

Advice to the People by Mr. Tissot, on the Acute Diseases." Indeed, the well-known Swiss physician Samuel Auguste Tissot (1728-1797), author of *Traité des Nerfs*, had published his "Avis au Peuple sur sa Santé, ou Traité des Maladies les Plus Fréquentes," which translates to "Advice to the People on its Health, or Treatise on the Most Frequent Maladies" in 1761, with several new editions to follow. Tissot's original purpose had been to publish it as an "ouvrage composé en faveur des Habitans de la Campagne, du Peuple des Villes, et tous ceux que ne peuvent avoir facilement les conseils des Médecins" — "text put together in favor of the inhabitants of the countryside, the people of the cities and those who are not able easily to consult physicians." Fermin's first volume contains 20 chapters on anatomical subjects; the second volume contains 58 chapters on diseases and surgical subjects. About 14 of these deal with neuropsychiatric subjects, including tremor, spasm, catalepsy, melancholia, mania, headache, speechlessness, and memory loss.

In 1770, Fermin pleaded for better treatment of the slaves in his "Dissertation sur la Question: S'il est Permis d'Avoir en sa Possession des Esclaves et de s'en Servir Comme tels dans les Colonies de l' Amérique," which translates to "Dissertation on the Question: Is it Allowed to Keep Slaves in One's Possession and Make Use of Them in the Colonies of America."

Trembling Eel

Fermin's "Histoire Naturelle" of 1765, mentioned earlier, was later augmented and published in two volumes *Description Générale* (Amsterdam, Van Harrevelt, 1769; fig. 2), which were translated into German and Dutch. At least one part of this book is of neurological interest, notably where he described the trembling eel (fig.3). This animal had been of interest, in particular during the 18th and 19th centuries, and was studied by colonists as well as scientists in Europe. "If one touches it with the hand or a stick, it causes an involuntary or forced trembling, resembling the vibration." Fermin was able to keep the fish alive in a tub for six weeks and showed a keen interest on electric transmission of potentials from one person to another.

He described the numbness being felt in the arms up to the shoulders and in the legs when the fish touched his hand or foot. He intended to further investigate the fish, but the heat of the country prevented him to completely dissect the animal. However, he observed two muscles that were distinct from the other muscles. He supposed that these were the principal instruments of the trembling. Indeed, it was in 1776 that the electric nature of the fish was proved at the Royal Society (London) by drawing sparks. At the time, the ability to produce a spark was considered a fundamental criterion for something to be electrical in 18th century science. These and other observations influenced Luigi Galvani, when he described animal electricity (finding Alessandro Volta as his opponent). About half a century later, the Berlin physiologist Emile du Bois-Reymond proved the electric nature of nerves by discovering the action potential (figures 4a and b).

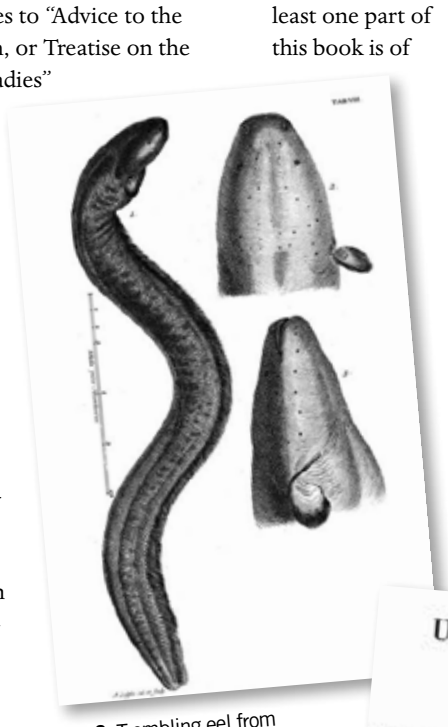
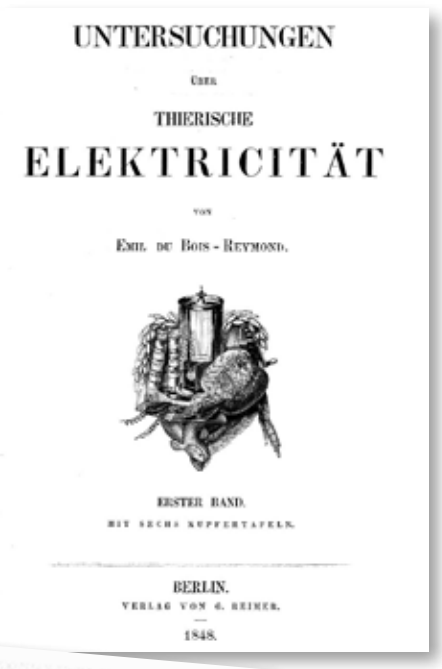


Fig. 3. Trembling eel from Gronov's *Zoophylacium* (1758)

Fig. 4a: Frontispices from Du Bois-Reymond's volumes depicting a torpedo



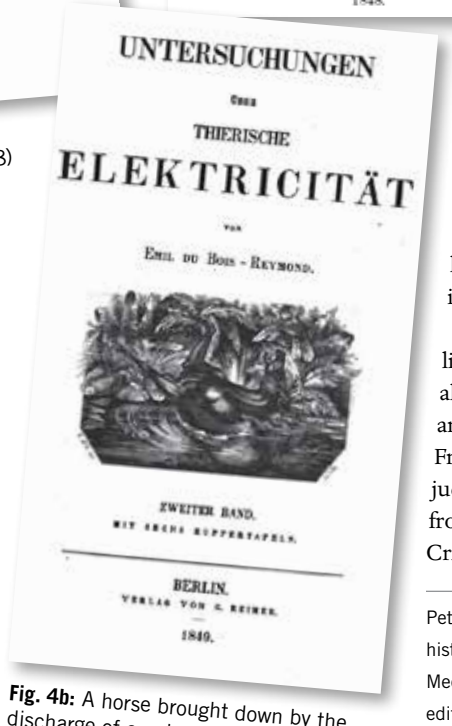
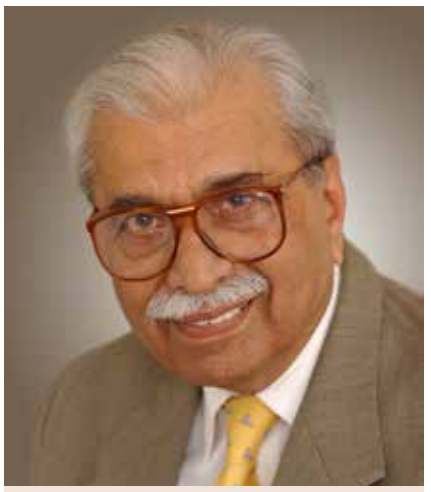


Fig. 4b: A horse brought down by the discharge of an electric eel

Fermin kept on writing about his observations and published another extension of his 1769 *Description Générale* in 1776, "Tableau Historique et Politique de l'état Ancien et Actuel de la Colonie de Surinam et des Causes de sa Décadence," (Maastricht, Dufour and Roux), which translates to, "Historical and Political Depiction of the Ancient and Actual State of the Colony of Surinam and the Causes of its Decline." It was translated into German in 1778 and English in 1788.

During the last decades of his life, Fermin served as juror and alderman in the city of Maastricht, and, when the Netherlands were under French rule (1795-1813), he became judge of the civil court of justice, and from 1803 a substitute judge at the Cour Criminelle. •

Peter J. Koehler, MD, PhD, is the editor of this history column. He is a neurologist at Zuyderland Medical Centre, Heerlen, the Netherlands, and co-editor of the *Journal of the History of the Neurosciences*. Visit his website at www.neurohistory.nl.



IN MEMORIAM

Noshir H. Wadia, MD

BY SAROSH M. KATRAK, MD AND BHIM SEN SINGHAL, MD

The World Federation of Neurology (WFN) lost an illustrious neurologist on April 10, 2016, with the death of Professor Noshir H. Wadia, MD, in Mumbai, India. He was 91. Wadia was universally regarded as the "founder of contemporary Indian neurology."

Wadia was emeritus director of the department of neurology, Jaslok Hospital & Research Centre and consultant for life at Grant Medical College and Sir JJ Group of Hospitals — a unique honor bestowed on him upon his retirement. He became deeply involved with the WFN from its inception in 1957. He was invited to be a founding member of the first Commission of Tropical Neurology in 1961 at Buenos Aires, Argentina. His interest in tropical neurology continued, and he became secretary and later chairman of the tropical neurology research group. He also took an active interest in the ataxia research group, which he chaired for more than a decade until 2001. Wadia's involvement with WFN committees has also been extensive. He has served as either chair or member of the education, steering, long range planning, membership, and nomination committees. He served as vice president between 1989 and 1993. In recognition of his outstanding contributions to the WFN, he was awarded the first WFN Gold Medal for services to international neurology in 2009 during the World Congress of Neurology in Bangkok.

Wadia was born in Surat, India, on January 20, 1925, to Hormusji and Dinamai Wadia and was the fourth of five siblings. His early and pre-medical education was at St. Xavier's School and College in Bombay (as Mumbai was known then). He always wanted to be a doctor and joined Grant Medical College and Sir JJ Group of

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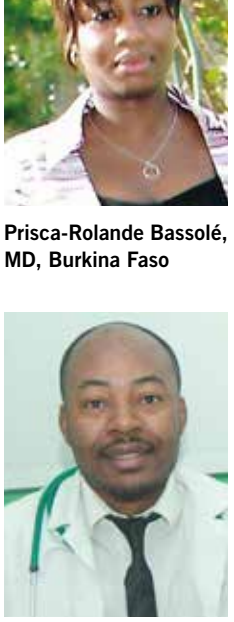
THE AFRICAN ACADEMY OF NEUROLOGY

Young African Neurologists' Message and Point of View

BY PRISCA-ROLANDE BASSOLÉ, MD, AND YANNICK FOGANG FOGOUM, MD

Africa is, in terms of population, the second most populous continent in the world, and one on which high population and economic growth forecasts are announced. For a long time, health resources in general and neurological care remained very limited. Fortunately, in the last 50 years, the number of neurologists has increased by more than 30, while the population has increased three times in sub-Saharan Africa. This has occurred simultaneously with economic growth in most countries in the region.[1] This improvement in the socioeconomic situation has been accompanied by increased investment in the health sector. It was marked by the opening of specialized medical training in neurology in several countries, as well as the establishment of hospitals and addition of equipment, including EEG, EMG, and neuroimaging.[1] These advances are beneficial and require one organization and coordination at the regional level in order to achieve an integration of African neurology. These needs have coincided with those of the World Federation of Neurology (WFN) to assist in the establishment of Neurology Academies in different regions of the world, and, in this context, the African Academy of Neurology (AFAN) was born.

Prisca-Rolande Bassolé, MD, Burkina Faso



Yannick Fogang Fogoum, MD, Cameroon

So, on August 29 and 30, 2015, the inauguration meeting for the creation of AFAN took place in Dakar, Senegal. Several organizations and African countries were represented: South Africa, Benin, Burkina Faso, Cameroon, Congo Brazzaville, Ivory Coast, Congo RDC, Egypt, Ethiopia, Gabon, Ghana, Guinea, Kenya, Madagascar, Mali, Morocco, Mauritania, Niger, Nigeria, Rwanda, Senegal, Sudan, Tanzania, Togo, Tunisia, Uganda, Zambia, France/PAANS, Ivory Coast/PAANS, and Burkina Faso/PAANS.

AFAN's mission is to represent and unite African neurologists and provide optimal education, taking into account the advances in neuroscience.[2] To meet his challenge, various opinions were sought, including those of young African neurologists.

We want to thank all our professors especially Task and Advisory Force for Africa (TAFNA) Trustee, Professor Amadou Gallo, DIOP, MD, and AFAN President Mouhamadou Mansour Ndiaye, who allowed two young African neurologists, one from Burkina Faso and the other one from Cameroon, the opportunity to identify and summarize, through a brief oral communication, the expectations of the young African neurologists' generation to which they belong.

To start our presentation, it seemed important to us to specify major challenges, which AFAN will have to raise. It will be:

- Improve neurology training standards.
- Develop a core curriculum for neurology training in African countries.
- Enhance regional and international cooperation.
- Establish an AFAN certification Board.
- Enhance professional development of young neurologists.
- Encourage research and establish guidelines for a better neurological practice in our setting.

To achieve these objectives, AFAN has to place trust in the distal educational level of learning centers. Advantages of those centers, among others, are the existence of human resources that offer quality training and the ability to get external visiting professors during the neurology training. AFAN can also rely on facilities, although deficient in number, namely training centers (teaching hospitals) and equipment (MRI, CT, EEG, EMG, and evoked potentials). Finally, AFAN will be able to make easier the access to various training opportunities (including traineeship, congresses, and regional courses) in collaboration with other societies and organizations (WFN, the International Brain Research Organization, the Pan African Association of Neurological Sciences, the European Academy of Neurology, and the American Academy of Neurology. This will be of great help for the education of young neurologists.

While welcoming the efforts already

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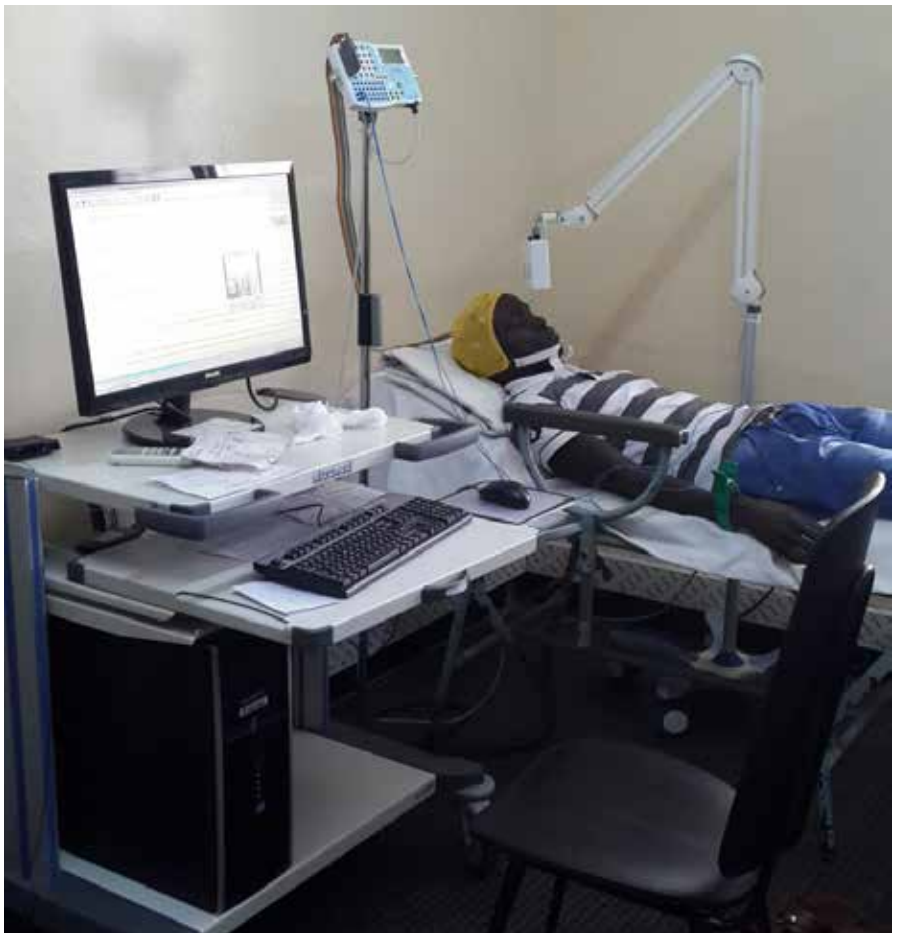

EEG room of the neurology department at Fann Teaching Hospital, Dakar, Senegal.

Neurologist Yannick Fogang Fogoum, MD, Cameroon (left), and Prisca-Rolande Bassolé, MD, Burkina Faso (right), meet with WFN President Raad Shakir, MD, to discuss the African Academy of Neurology.

CT scan room of the neurology department at Fann Teaching Hospital, Dakar, Senegal.

Fann Teaching Hospital, Dakar, Senegal.

AFRICA

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made to the efficiency of training, young African neurologists have high expectations about the creation of this AFAN.

These concern several points:

- Specialized training in neurology with a unique core curriculum for all training centers in Africa (consider regional mobility of neurology trainees), the development of telemedicine and e-learning, and assistance to establish an association of trainees and young African neurologists. AFAN will also have to participate in training by allocation of scholarships, help to create a neurology textbook for Africa, as well as support the creation of sub-specialty training centers.
- Continuing medical education with the creation of AFAN journals, help to obtain an accreditation and certification system for African specialists, help toward short-stay fellowships or neurology department visits, facilitate attendance to international conferences by spreading information (website, social media) and travel grant allocation, organize regular AFAN meetings, and help provide African neurology residents with subscriptions to international journals.
- After training, the AFAN must facilitate young specialists' insertion at national and international levels by creating a mentor in the various AFAN regions for young neurologists and a platform for job opportunities.
- Concerning research, the AFAN must offer research funding, support basic research in neurosciences, and help to create regional reference centers.
- For neurological health promotion, AFAN must help to develop standards and guidelines for:
  - Stroke units
  - Neurology emergency centers
  - Clinical neurophysiology labs
- At last, the AFAN must encourage excellence by identifying and supporting young promising neurologists, offer clinical research fellowships, and create awards for galvanizing young researchers.

In sum, all this will be achievable only through the massive support of African neurologists in this initiative by networking. The initiation and the development of this project is vital for an integrated African neurology at the service of people and beaming worldwide. •

Prisca-Rolande Bassolé, MD, and Yannick Fogang Fogoum, MD, are young African neurologists in the neurology department at FAAN Teaching Hospital, Dakar, Senegal.

References

1. Diop AG, Gouider R. Neurology in Sub-Saharan Africa. World Neurology. 2014 Oct;29(5): 9
2. Ndiaye MM, Charway-Felli A. The Establishment of the African Academy of Neurology. eNeurologicalSci 3 (2016) 15-16

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Hospitals in 1943. In his own words, he was not brilliant, but what he lacked in brilliance he made up for by sheer dint of hard work, and cleared his undergraduate and postgraduate courses with flying colors. He subsequently went to England and successfully obtained MRCP (London) at the first attempt in March 1952. Between 1952 and 1956, Wadia pursued his neurology training initially with G.F. Rowbotham in the neurosurgery department, Newcastle General Hospital, and subsequently under legendary neurologist Sir Russell Brain (later Lord Brain) at London's Maida Vale Hospital. In 1954, Brain appointed him a registrar at the London Hospital — the first Asian to be appointed as registrar.

Wadia returned to Bombay in 1957 and joined his alma mater as an honorary consultant neurologist. Between 1957 and 1961, he established the department of neurology there, in spite of being inundated with work, with a paucity of funds and equipment, and in the days when a license was required to obtain any medical equipment. This department grew and had a formidable reputation by the time he retired in 1982. In 1973, while still at the Sir JJ Group of Hospitals, he established another neurology department at the Jaslok Hospital and Research Centre, a private trust hospital, and helped the department gain recognition for postgraduate training.

During his tenure at Sir J.J. Group of Hospitals, Wadia noticed that the prevalence of neurological diseases was different from what he had seen during his training in England. An astute clinician, he diagnosed entities such as manganese poisoning in miners, myelopathy associated with congenital atlantoaxial dislocation, tuberculous spinal meningitis, and Wilson's disease. His seminal contribution was in identifying an autosomal dominant cerebellar ataxia with slow eye movements[1] and documented the degeneration of neurons in the parapontine reticular formation (PPRF) in collaboration with colleagues from Germany [2]. This exemplary work was spread over several decades through sheer dint of hard work and perseverance. His other seminal contribution was the identification of a new polio-like illness following acute hemorrhagic conjunctivitis in 1971, later designated as EV70 disease [3,4,5]. His work was published in high-impact international journals, and in his book *Neurological Practice — An Indian Perspective*, first released in 2005 and a second edition released by current WFN president, Professor Raad Shakir in 2014.

He has been the recipient of many awards, which he accepted humbly. Among these, he was particularly proud of the fellowship of the Indian National Science Academy (INSA), which is rarely awarded to a clinician, and the SS Bhatnagar INSA Medal for Excellence in General Science. He was also committed to the functioning of Sree Chitra Tirunal Institute of Medical Sciences and Technology, Trivandrum, Kerala, and was appointed as president and chancellor of the Institute from 1995-2002 by the government of India. He also believed in neurological social responsibility, and he was a trustee or founding member of several societies for the welfare of patients with neurological disorders. On January 26, 2012, the government of India conferred the Padma Bhushan Award to him in recognition of his services to neurology.

All who knew him feel privileged to have trained and worked with Wadia. He was a kind and gentle mentor who gave a lot of himself and not only helped to establish his students in neurology but also in life. He inspired several generations of neurologists now practicing in India and abroad. He will remain in our hearts always loved, immensely missed, but never forgotten.

Wadia is survived by his wife Piroja, two stepsons Ruiynton and Kaikushroo, their wives Khorshed and Kate, and four grandchildren. •

Sarosh M. Katrak is director of the department of neurology, Jaslok Hospital and Research Centre, and professor emeritus, Grant Medical College and Sir JJ Group of Hospitals, Mumbai.

Bhim Sen Singhal is director of the department of neurology, Bombay Hospital Institute of Medical Sciences, and former professor and head of the department at Grant Medical College and Sir J.J. Group of Hospitals.

References :

1. A new form of Heredo-Familial Spinocerebellar Degeneration with Slow Eye Movements (Nine Families). Wadia NH and Swamy RK (1971), Brain : 94; 359-374
2. Geiner S, Horn AK, Wadia NH, Sakai H, Buttner-Ennever JA. The neuroanatomical basis of slow saccades in spinocerebellar ataxia type 2 (Wadia-subtype). Prog. Brain Res. 2008 ;171:575-581.
3. Neurological Complications of a New Conjunctivitis. Wadia NH, Irani PF and Katrak SM. Lancet 1972;7784:970-971.
4. Lumbosacral Radiculomyelopathy Associated with Pandemic Acute Haemorrhagic Conjunctivitis. Wadia NH, Irani PF and Katrak SM. Lancet 1973;301(7799):350-352
5. Polio like Motor Paralysis associated with Acute haemorrhagic conjunctivitis,in the1981outbreak of Bombay - Clinical and Neurological Studies. Wadia NH , Katrak SM, Misra VP, Wadia PN, Miyamura Ogino KT, Hikiji T and Kono R. J Infect Dis. 1983;147(4):660-668.

Record Attendance at the XII Annual Colombian Congress of Neurology

Guidelines for the Diagnosis and Treatment of Zika Virus-Associated Guillain-Barré Syndrome in Colombia

BY GUSTAVO ROMÁN, MD, AND RODRIGO PARDO-TURRIAGO, MD

Gustavo Román, MD

Organized under the direction of Yuri Takeuchi, MD, president of the Columbian Congress of Neurology and dean of the School of Health Sciences at Icesi University, Cali, Colombia, and Dr. Ignacio E. Abello, president of the Colombian Neurology Association (ACN), the XII Annual Colombian Congress of Neurology in Cali attracted more than 700 participants, a record number for the annual neurology congress. The steady increase in the number of neurologists in this South American country, and the quality of the program addressing the educational needs of Colombian neurologists, explain the success of the congress.

Rodrigo Pardo-Turriago, MD

The scientific sessions were preceded by well-attended workshops on "Intensive Care in Neurology," conducted by guest speakers Dr. José I. Suárez, Baylor College of Medicine, Houston, Texas, and Dr. Jorge Mejía, Fundación Valle del Lili, Cali, Colombia; "Multiple Sclerosis," presented by Jairo Quiñones, Colombia, Daniel Becker, Johns Hopkins, Baltimore, and Patricia Coyle, New York; "Epilepsy & EEG," presented by Louis Wagner, The Hague, Holland, Andrew J. Cole, University of California, Los Angeles, and Ruben Kuzniecky, New York University; "Pediatric Neurology," presented by J.F. Gómez, Colombia, and D. Lachhwani, Cleveland Clinic Abu Dhabi; "EMG & Neurophysiology," presented by Mark Bromberg, Utah, Antonino Uncini, Italy, and Mamede de Carvalho, University of Lisbon, Portugal; "Neuroimaging," presented by Ana Maria Granados and Sonia Bermudez, Colombia, and J. Romero, Harvard; "Abnormal Movements," presented by Jens Volkman, Germany, Eduardo Tolosa, Spain, and Andrew Lees, London; and "Neurooncology," presented by Camilo Fadul, Darmouth College, Hanover, New Hampshire. There were also sessions on controversies in epilepsy, headache, neuromuscular disease, Parkinson's disease, dementia, stroke, and multiple sclerosis. Posters and platform presentations also added to the quality of the congress.

Yuri Takeuchi, MD, president of the XII Colombian Congress of Neurology, wearing the official scarf of the WFN.

Colombia, like many other countries in South and Central America, has been recently affected by the Zika virus epidemic with unprecedented viral neurotropic effects manifested by Guillain-Barré syndrome (GBS) in adults and microcephaly as a result of prenatal infection of pregnant women. At the time of the Colombian Congress, a total of 31,555 cases of Zika infection had been reported in Colombia, including 25,950 confirmed clinically, 1,504 with laboratory confirmation, and 4,101 classified as suspected cases. The same vectors of dengue and chikungunya, particularly *Aedes aegypti* and *Aedes albopictus*, transmit Zika virus. Large areas of the Colombian territory are endemic or hyperendemic for dengue, suggesting that Zika infection may become widespread.

The guidelines for the diagnosis and comprehensive treatment of patients with GBS during the Zika epidemic were prepared for the Ministry of Health of Colombia by a panel of national and international specialists in neurology and pediatric neurology under the leadership of Dr. Rodrigo Pardo-Turriago, professor of neurology at the National University of Colombia. The group met on February 29, 2016, during the Colombian Congress of Neurology in Cali, and the resulting guidelines were presented for the first time to the Colombian neurologists attending the congress. These guidelines will be adapted and used as a model for intervention in other Latin American countries affected by the Zika virus epidemic.

Information on the clinical manifestations and epidemiological management of suspected Zika cases was prepared for the Ministry of Health of Colombia by experts in virology, public health, epidemiology, neurology, neuroimaging, pediatric neurology, genetics, maternal and fetal health, and obstetrics and gynecology.

The Colombian Ministry of Health and the Pan-American Health Organization in Washington sponsored the preparation of these guidelines. •

Official inauguration of the XII Colombian Congress of Neurology by Yuri Takeuchi, MD, Congress president.

Gustavo c. Román, MD, is the Jack S. Blanton Distinguished Endowed Chair and professor of neurology, Methodist Hospital, Houston, Texas, and Weill Cornell Medical College, New York.

Rodrigo Pardo-Turriago, MD, MSc, is an associate professor in clinical neurology and epidemiology, National University of Colombia, Bogota.

MARK YOUR CALENDAR

XXVII Brazilian Congress of Neurology
August 27-31, 2016
Belo Horizonte, Brazil
www.neuro2016.com.br

6th International Conference on Transcranial Brain Stimulation 2016
September 7-10, 2016
Göttingen, Germany
www.tbs-conference.de

12th European Congress on Epileptology (ECE)
September 11-15, 2016
Prague, Czech Republic
www.epilepsyprague2016.org

5th European Headache and Migraine Trust International Congress (EHMTIC 2016)
September 15-18, 2016
Glasgow, UK
www.ehmtic2016.com

SPECIAL REPORT

History of the WFN Environmental Neurology Applied Research Group

BY JACQUES REIS, MD, SEREFNUR ÖZTÜRK, MD, GUSTAVO C. ROMÁN, MD, AND PETER SPENCER, PhD

We present here a brief overview of the history of the creation of the Environmental Neurology Applied Research Group (ENRG) of the World Federation of Neurology (WFN).

Serefnur Öztürk

Jacques Reis, MD, AEA

Gustavo C. Román, MD

Peter Spencer, PhD, FANA, FRCP

Sydney, 2007 World Congress of Neurology

After the session of the Neurotoxicology Research Group, Leon Prockop, Tampa, Florida, acting as chair of this group, gathered people interested in the field of neurotoxicology. We were few. Our goals were to better fit with the new challenges in our field. Peter S. Spencer, Oregon Health and Science University, Portland, proposed expanding the goals of the group and pointed to the interaction between genes and environment. Jacques Reis, a clinical neurologist at the University of Strasbourg, France, presented the experience and success of a new and small French group, Le Club de Neurologie de l'Environnement, created in 2003. Prockop liked the idea of gathering energies around the charismatic word, "environment." We hoped to bring a new and powerful concept to neurology, which would be able to amalgamate researchers in fields related to the environment (e.g., neuroepidemiology, tropical neurology, nutrition, and neurotoxicology). The decision to modify the name of the Neurotoxicology Research Group to the ENRG was taken. Prockop's proposal was accepted by the WFN. Donna Bergen of the WFN Research Committee actively supported the newly born group.

For the first time, a neurologic academic international federation had put the environment on its agenda. Prockop was the chair, and Reis served as co-chair and link with Le Club de Neurologie de l'Environnement. Each year, the club offers two sessions of review topics on environmental neurology to general neurologists during the Journées de Neurologie de Langue Française, the worldwide meeting of French-speaking neurologists. The club is connected with neurologists and neuroscientists from Quebec, Oran, Algeria, Tunisia, and Luxemburg.

Thus, 2007 was a wonderful year that saw the founding of the ENGR. This was crowned with the publication of a successful special issue of the *Journal of the Neurological Sciences*, the official publication of the WFN, on "Environmental Neurology: A Promising New Field of Practice and Research," edited by Gustavo C. Román, Reis, Gilles Defer, and Prockop (*J Neurol Sci* Nov. 15, 2007; 262 (1-2):1-174). This issue contained the proceedings of the meetings of Le Club de Neurologie de l'Environnement held in Paris, France, December 2-3, 2005, and in Metz, France, February 7, 2007, under the aegis of the French Society of Neurology, the University of Metz, and the ENRG.

This publication greatly contributed to better define this new research field, but the challenges for the ENRG are huge. As for clinical neurotoxicology, there is still no teaching on this topic available anywhere in the world. We have to explain, to persuade and to raise interest in other fields of neurology, of course without any support from the regular neurological partners. Furthermore, experts in these fields are rarely neurologists. Prockop, Román, Spencer, and Reis have become advocates for the ENRG when invited to talk by the Société Française de Neurology (Paris, France), by the Association des Journées de Neurologie de Langue Française, or by the International Neurotoxicological Association, Porvoo, Finland.

Lorraine, France, June 2009

The first meeting organized by the ENRG took place in Sarreguemines, a small city of east France, near the German border. We gathered, with the collaboration of Le Club de Neurologie et Environnement, well known scientists under the presidency of Prockop and Bertrand Rihn, Nancy, France. The ENRG session was dedicated to genetics, neurodevelopmental, and neurotoxicological topics. The titles of the talks were: "Genes and Environment in the Pathogenesis of Parkinson's Disease," presented by Rejko Krüger, University of Tübingen and now at the University of Luxembourg; "Epigenetics," presented by Massimo Pandolfo, Brussels Free University, Belgium; "Developmental Aspects of Environmental Neurotoxicology," presented by Gerhard Winneke, Heinrich-Heine-Universität, Düsseldorf; "Multiple Sclerosis Oligoclonal IgG and the Environment, the Vital Clue," presented by Frederick Gay, Oxford, United Kingdom; and "Carbon Monoxide: The Under Noticed Poison of the 21st Century," presented by Prockop.

> We hoped to bring a new and powerful concept to neurology, which would be able to amalgamate researchers in fields related to the environment (e.g., neuroepidemiology, tropical neurology, nutrition, and neurotoxicology).

Marrakech, 2011 World Congress of Neurology

Prockop and Reis were on the program with topics related to CO intoxication and neurological consequences of climate change in two sessions dedicated to the environment, culture, and neurosciences. Román addressed neuroepidemiological issues, and other talks explored different issues of interest to ENRG. Our business meeting gathered people from Africa and Asia interested in environmental neurology. Building a new research group is a real challenge, especially when the field is completely new and has neither academic nor financial support.

Nice, November 2012 International Congress on Neurology and Epidemiology (ICNE 2)

Professor Valery Feigin, Auckland, New Zealand, chair of the ICNE, invited the ENRG to run a symposium during the congress. For the first time, our group organized a joint meeting, sharing common themes with neurologists and epidemiologists. Our satellite symposium answered a common question: What is an environmental factor? An introduction to the topic was provided by Reis. Spencer lectured on "When the Environmental Factor Appears Multifactorial: Nodding Syndrome," and Walter Rocca, Mayo Clinic, discussed the role of pesticides and risk of Parkinson's disease.

Vienna, 2013 World Congress of Neurology

For the first time, our group was on the official program and managed two sessions. Roman and Reis invited an international panel of speakers who tackled some aspects of environmental neurology, including "Space Medicine," presented by F. Gerstenbrand, Austria; "Environmental Intolerance and Multiple Chemical Sensitivity," presented by Reis; "Neurotoxic Effects of Solvents and Nanoparticles," presented by G. van der Laan, the Netherlands; "Stroke and Weather Association," presented by Feigin; "The Fukushima Earthquake," presented by Y. Ugawa, Japan; and "The Spread of the West Nile Virus," presented by Román. The success of this meeting was crowned by an article that appeared in the special issue of *Neurologisch*, the official journal of the Austrian Society of Neurology; Román and Reis summarized the different talks (Kongress-Highlights, *Neurologisch* 2013). Our business meeting followed, and we gained support from leading members of the WFN board.

Abu Dhabi, Nov. 21-23, 2013, ICNE 3

The ENRG contributed to this meeting with a satellite symposium. We kept expanding on the notion of environmental factors. With three talks, we focused on time-related issues of some environmental factors: "When and How Do Environmental Factors Act on Living Organisms?" presented by Reis, "Epigenetic and Environmental Determinants of Tauopathies," presented by N. Zawia, University of Rhode Island, Providence, and "Early Life Risk Factors in Parkinson's Disease," presented by G. Logroscino, Bari, Italy.

2014 Collaboration With the Applied Research Group on Nutrition and the Central Nervous System and the World Health Organization (WHO)

In March 2014, Professor Marco T. Medina, Tegucigalpa, Honduras, invited our group to participate to the working group on nutritional and toxic disorders of the nervous system to improve the *International Classification of Diseases-11*, edited by the WHO.

Kuala Lumpur, November 2014 ICNE 4

Our third symposium was dedicated to global environmental factors. We tackled

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"The Boomerang Effect: Health Risks (for the brain) from Global Change," with two speakers, Reis and Spencer.

Santiago de Chile, November 2015 World Congress of Neurology

The ENRG managed one session. We addressed three important topics, which are beginning to gain widespread attention: "Air Pollution and the Neurological Impact," presented by L. Calderon-Garciaduena, Missoula, Montana, "New Promising Hypotheses for the Nodding Syndrome," presented by Spencer, and "Multiple Sclerosis," presented by Reis.

Antalya, Turkey, December 2015

Reis has been invited by Professor Serefnur Öztürk on behalf of the Turkish Neurological Society (TNS) to give two talks related to environmental neurology, one about global warming and neurological consequences and the second about the bacterial hypothesis of multiple sclerosis. For the first time, the Turkish Neurological Society, under the presidency of Öztürk, had proposed a workshop on "Occupational Diseases, Neurology, and Environmental Health." Two other topics were dedicated to "Coal, Clean Air Rights, and the TNS," presented by Semih Ayta, Istanbul, and "Occupational Diseases," presented by Ibrahim Akkurt, Ankara.

2015 was also an important year. The TNS had begun a partnership with a Non-Governmental Organization in a platform dedicated to global challenges, notably coal energy, air pollution, and global warming. This very important issue is challenging the WFN and all medical associations. What should we do? What is possible? How do we do it? Should we be acting as experts? Is a greater commitment acceptable and necessary?

Overview of Facts in Environmental Neurology: The Goals of the ENRG

The importance of environmental risk factors is nowadays well accepted in all health and medical fields. Risk factors may include all external factors that adversely impact normal neurological function, whether acting in isolation or in concert with an intrinsic factor, such as malnourishment. External (extrinsic) factors include a wealth of physical, chemical, and other stressors that may act alone or in concert with an internal factor, such as a covert genetic susceptibility. This subject is of particular relevance in the search for the majority of neurodegenerative disorders in which gene-environment causation is widely acknowledged, but the latter is rarely subjected to intensive research. Indeed, a 2015 WHO research prioritization exercise focused on dementia stated the need to "Understand the contribution of environmental factors to neurodegenerative diseases causing dementia and their interaction with other pathophysiological processes at the epigenetic, molecular, and systems levels."

Recognition that environmental science is involved in understanding mainstream neurological diseases, in addition to the plethora of regional disorders relating to physical extremes (heat, cold, height, depth), nutritional challenges, and diverse exposures to chemical and biological agents, indicates the importance for neurology to nourish the nascent and multidisciplinary science of environmental neurology.

At the present time, neurologists face the foregoing medical challenges with virtually no relevant training. There are no special education courses available for neurologists. While the adverse effects on the nervous system of alcohol and other drugs are known, as are the relevant side effects of medications with neurotoxic potential, there is no formal study of neurotoxicology, despite the availability of several compendia on the topic. Additionally, neurologists may not be skilled in understanding and deciphering the interactive effects on the brain of multiple extrinsic factors, let alone the knowledge to launch an in-depth investigation of environmental contributions to the genesis of neurodevelopmental disorders, neurodegenerative disease, vascular dementia, epilepsy, or central nervous system malignancies.

While we recognize these training deficiencies, many neurologists pay only lip service to the role of environmental factors in neurological disease. Most significantly, the poverty of research funds provided by granting agencies toward increasing knowledge on environmental factors and research on a wide range of neurological disorders is a major concern. From the WFN, the ENRG will continue to face these challenges and to increase the overall support among neurologists.

We intend to begin to address these education and training deficiencies through an expansion of ENRG and by interacting with diverse neurology groups interested in this topic, as well as with other biomedical disciplines. There is a real need to satisfy these demands at the international level. Expanding our base is needed to advance the discipline of environmental neurology. This is our goal. To achieve this goal, it will be necessary to interact with other research groups because none has either the human weight or the financial strength to act in isolation. WFN could put on its agenda the environment. Our proposal is, for example, to organize during the next congress, a Day of the Environment. All research groups interested in and dealing with environmental neurology could interact easily, and the visibility among congress attendees would increase.

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To face these challenges and the exciting potential to broaden and deepen the education, understanding, and research impact of neurology, the ENRG needs and requests the help of the WFN, which for neurology is the only institution that can promote these views.

If anyone is interested in joining our group, participants, and countries, please contact the authors. We are also pleased to invite you to the first ENRG meeting in Strasbourg (November 30-December 1, 2016). •

The authors have no conflicts of interest related to this work. Jacques Reis, MD, AEA, is a clinical neurologist at the University of Strasbourg, France, Jacques.reis@wanadoo.fr; Serefnur Öztürk is on the faculty of department of neurology at Selcuk University, Konya, Turkey, and on staff at the Turkish Neurological Society, serefnur.ozturk@noroloji.org.tr; Gustavo C. Román, MD, DrHC, is the Jack S. Blanton Distinguished Endowed Chair and professor of neurology, Methodist Hospital, Houston, Texas, and Weill Cornell Medical College, New York, gcroman@houstonmethodist.org; and Peter Spencer, PhD, FANA, FRCP, is a professor of neurology at the School of Medicine and a senior scientist at the Oregon Institute of Occupational Health Sciences, Oregon Health & Science University, Portland, spencer@ohsu.edu.

PAFNS

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member societies towards improvement of neurological services for the peoples of the American continent, as well as to optimize neurological care, education and research, and to promote public health initiatives to increase awareness of the importance of brain health."

A commission formed by representatives from Chile, Brazil, and the Dominican Republic implemented the bylaws required for the creation of the PAFNS. On March 5, 2012, delegates attending the 13th Pan-American Congress of Neurology in La Paz, Bolivia, endorsed the declaration.[4] On March 20, 2013, all Latin American delegates attending the 65th Annual Meeting of the AAN in San Diego, California, formally approved the PAFNS constitution.

The following countries approved and signed the constitution as founding and active ordinary members: Argentina, Brazil, Bolivia, Chile, Colombia, Costa Rica, Cuba, Dominican Republic, Ecuador, El Salvador, Guatemala, Honduras, Mexico, Nicaragua, Panama, Paraguay, Peru, Puerto Rico, Uruguay, and Venezuela. The Ibero-American Stroke Society, Commission on Latin American Affairs of the International League Against Epilepsy, and the World Sleep Society have requested to be associate members.

The enthusiastic regional support from all the Latin American member societies of the WFN; steady leadership of Gustavo C. Román, chairman of the WFN Latin America initiative, and Marco T. Medina, WFN regional director for Latin America[1,4]; and the support of Dr. Briseida Feliciano, Dr. Ana Robles, Professor Renato Verdugo, and others were critical for the foundation of the PAFNS. Two presidents of the WFN provided strong patronage to the project, Professor Vladimir Hachinski and Professor Raad Shakir. Enthusiastic support for this initiative was received from Professor Timothy Pedley, then president of the AAN, and Professor Morris Freedman, Canadian representative to the WFN.

On Nov. 5, 2015, during the XII World Congress of Neurology in Santiago, Chile, the legal status of the PAFNS as a nonprofit organization under Chilean law was signed, having as witnesses Professors Shakir, Medina, Román, Verdugo, and Sergio Castillo, as well as numerous Chilean and Latin American neurologists.

Legal counsel for elaboration of the PAFNS bylaws and establishment of the non-for-profit tax status was made possible thanks to grants provided by the WFN and the AAN.

During the upcoming Pan-American Congress of Neurology in Cancun, Mexico, at the end of 2016, the Council of Delegates will elect the new PAFNS Board of Directors. The PAFNS will be the preeminent neurological association of the Americas, working toward maximizing the neurological health of the people in all countries in the American continent through education and awareness of the importance of early care of brain diseases and dissemination of advances in neuroscience and the goal of optimizing neurological patient care. The PAFNS' vision is to reach the highest level of neurological health in all the countries of the American continent. The creation of the PAFNS represents a major step for the improvement of regional neurological care, education, and research. •

Marco T. Medina, MD, MPhil, FAAN, is WFN Latin American regional director and dean of the faculty of medical sciences, National Autonomous University of Honduras, Tegucigalpa. Gustavo C. Román, MD, DrHC, FAAN, is WFN chairman, Latin America Initiative, and the Jack S. Blanton Distinguished Endowed Chair and a professor of neurology, Weill Cornell Medical College, Methodist Neurological Institute, Houston, Texas.

References

1. M.T. Medina, G.C. Román. The Pan-American Federation of Neurological Societies (PAFNS): A New Regional Organization, J. Neurol. Sci. 366 (2016) 195-196.
2. Johan A. Aarli (Ed.), The History of the World Federation of Neurology: The First 50 Years of the WFN, first ed. Oxford University Press, Oxford, 2014.
3. M.T. Medina, T. Munsat, Neurology Education in Latin America and the World Federation of Neurology, J. Neurol. Sci. 298 (2010) 17-20.
4. T. Munsat, J. Aarli, M. Medina, G. Birbeck, A. Weiss, International issues: Educational Programs of the World Federation of Neurology, Neurology 72 (2009) e46-e49.
5. V. Hachinski, President's Column: The Formation of the Latin America Federation of Neurological Societies, World Neurol. 27 (3) (2012)

PRESIDENT

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states, "the G8 has an ambition to identify a cure or a disease-modifying therapy for dementia by 2025 and to increase collectively and significantly the amount of funding for dementia research to reach that goal." The WFN has declared that there is "No health without brain health." This has been met with approval by those involved in health provision from various parts of the world.

In the WHO structure, neurology falls under the administrative charge of the assistant director general for non-communicable diseases and mental health. The WFN has long argued to replace mental health with brain health. This, in our opinion, is more descriptive and inclusive. However, we all appreciate that there are many administrative issues and channels to convince at the WHO, as well as those involved in all aspects of brain health.

Neurology Atlas 2015

The third project nearing finalization is that of the second edition of the *Neurology Atlas 2015*. The first atlas was published in 2004 and was a WHO best seller. The second edition is coming this year, and we await the final publication. The countries' resources will be detailed, and again the policies on neurological care and provisions for management will be presented. One can say, even with the preliminary data, that the provisions in low- and low, middle-income countries remain abysmal compared to high-income economies. It is also possibly true to say that the situation regarding the number of health care professionals has improved over the past 10 years. This will have to await final statistical analysis. As for WHO regions, the deficiencies remain in Africa, South Asia, Latin America, and parts of the Eastern Mediterranean region. The atlas, when published, will be of a huge benefit and impact on neurological care provision and training across the world. The WFN would like to thank the WHO secretariat, in particular Tarun Dua and her team, for all their hard work in this endeavor. The WFN is also proud to have contributed to the project financially, as well as with experts helping in the process.

World Health Assembly

The fourth issue is representing the interests of neurology during the World Health Assembly (WHA). The WHA is the decision-making body of the WHO. It is attended by delegations from all WHO member states and focuses on a specific health agenda prepared by the Executive Board. The WHA meets annually at the end of May. NGOs, like us, can apply to make a statement through a request, and we need to influence the secretariat well in advance to have resolutions adopted by some member states to be presented. The best example of this is the resolution on epilepsy during the 68th WHA meeting in 2015. The delegates endorsed a resolution urging member states to strengthen their ongoing efforts in providing care for people with epilepsy. Although affordable treatment for epilepsy exists, up to 90 percent of people with the condition may not be properly diagnosed or treated in resource-poor settings. The resolution highlights the need for governments to formulate, strengthen, and implement national policies and legislation to promote and protect the rights of people with epilepsy. It also stresses the need to reinforce health information and surveillance systems to get a clearer picture of the burden of disease and to measure progress in improving access to care.

Such declarations need years to achieve and the WFN congratulates the International League Against Epilepsy for its diligent work in bringing this to a conclusion. This can only help the 50 million epilepsy sufferers across the world.

For all these and many other issues, the collaboration between the WHO and the WFN will continue to flourish. •

WALTON

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The secretariat became better integrated with the general structure of the WFN, resulting in the Research Committee having three directors at large and four-year terms. The Management Committee was renamed into a standing committee, and there was full agreement that the research groups should continue to play a central role in the federation's activities. From then on, the WFN was to be governed by a board of directors to include the president, vice president, secretary-treasurer general, and Research Committee chair.

Walton was the fifth WFN president, and he kept in contact with the development of the organization. His last attendance at the World Congress was in Vienna 2013.

Walton's achievements outside the WFN were immense. It has been said, "He did not join an organization unless he became president." This includes his own medical school, where he was dean, warden of Green College Oxford, and president of the Association of British Neurologists, the Royal Society of Medicine, the General Medical Council, and the British Medical Association. His proudest position was as president of his beloved Bamburgh Golf Club in Northumberland.

It is said, that as a very keen golfer, he never won a trophy. To rectify that, at the age of 90, he managed to convince the golf club to buy a large cup for the oldest golfer to finish a round, and then he presented it to himself. Such was his wit and wonderful sense of humour.

All who knew him were very much aware of his sharp mind and his vast attention to detail. His advice on all matters related to the WFN and world neurology were most valuable to us all. The late Frank Clifford-Rose, who was WFN secretary-treasurer general, wrote about Walton in his biography in 1992, that there were few doctors who were legends, and very few were legends in their lifetime. His work throughout his career focused on muscular dystrophy, and he co-founded Muscular Dystrophy UK. It must have been very rewarding that the first drug for muscular dystrophy, ataluren, was licensed in 2016 during his lifetime.

Walton died of a glioblastoma multiforme, a diagnosis he announced in his bulletin to all United Kingdom neurologists, just before he passed away. Walton is survived by three children, five grandchildren, and 10 great-grandchildren. •

Johan A. Aarli, MD, is WFN's eighth president. Raad Shakir, MD, is WFN's 10th and current president.

Candidate Statements for Elected WFN Trustee

The following are statements from the two candidates for the position of elected trustee of the World Federation of Neurology, to be voted on at the upcoming Council of Delegates meeting September 12, 2016, in Prague, Czech Republic.

Sarosh M. Katrak, MD, DM, FRCPE

Services to the WFN

The Indian Academy of Neurology nominated me as an elected (World Federation of Neurology (WFN) trustee, and I am honored to be considered as one of the candidates for this post. My association with the WFN dates back to July 2005 when I became the convener of the continuing medical education (CME) Continuum Education Program for India and brought my country to the forefront of this program. It is because of my involvement and success with this education program that I was made a member of the Education Committee in 2006 and remain a member to this date. As co-chair of the Standards and Evaluation Committee from 2009 to 2013, in association with Professor Aksel Siva (chair), I helped formulate the criteria for evaluation of symposia and CMEs. Once individuals meet stringent criteria, they are accredited and can bear the WFN logo. Currently, I am the chair of the Teaching Course Committee, and I am organizing the teaching courses for the XXIII World Congress of Neurology in Kyoto, Japan, in 2017. I am also an ex-officio member of the Standing Committee.


Sarosh M. Katrak, MD, DM, FRCPE

Background and Achievements

I joined the staff of department of neurology, Grant Medical College and Sir J.J. Group of Hospitals, Mumbai, India, in May 1973, which is affiliated with Bombay University. Sir J.J. Group of Hospitals, a state government-run hospital, caters to the indigent population and brings patients from all over India. This was also the beginning of my teaching experience in neurology, which has continued to this day even after 43 years. I became the head of the department in February 1992 and retired in July 2002. In recognition of my services, the Government of Maharashtra appointed me as professor emeritus in September 2005. Currently, I am director of the department of neurology at the Jaslok Hospital & Research Centre, a private trust hospital which is actively involved with the National Board of Examination in education at the general and super specialty levels.

I was appointed a member of the World Health Organization-WFN International Advisory Group for the Revision of ICD 10, Diseases of the Nervous System in the area of Infections of the Nervous System in January 2010 and was honored by the WFN by being selected to deliver the Masland lecture at the XXI World Congress of Neurology, in Vienna, Austria in 2013.

Goals

My goal as a WFN trustee is in tandem with the mission of the WFN — "to foster quality neurology and brain health worldwide." In order to achieve this goal, one has to emphasize on quality neurology education, particularly in underdeveloped nations. Being from a developing country, I have first hand experience in this field. I hope to achieve this goal with teaching programs, which require minimum resources but will help further neurological education worldwide. I am aware of the financial challenges facing the WFN and underdeveloped countries, and also the hurdles that these pose to achieve these aims. This only can be achieved by being a part of a team, and I firmly believe in the TEAM spirit - "Together Everyone Achieves More."

Steven L. Lewis, MD

It would be a tremendous privilege to be elected as trustee by the delegates of the World Federation of Neurology (WFN). As current co-opted WFN trustee, chair of the WFN Education Committee, and editor of World Neurology, I am indebted to this organization, and I would be thrilled to continue to serve the WFN and its many constituents as an elected trustee.


Steven L. Lewis, MD

My initial involvement with the WFN occurred coincident with my appointment by the American Academy of Neurology (AAN) as editor-in-chief of *Continuum*. This joint program of the AAN and the WFN provides print and online access to *Continuum* to 46 neurological societies whose user groups include participants who would otherwise be unable to access this resource. Supported by a donation from the AAN and its publisher, Wolters Kluwer, *Continuum* has served as an important educational tool for neurologists in training and in practice worldwide.

Three years ago, I was appointed chair of the WFN Education Committee, allowing me to delve further into the many global educational efforts of the WFN, including continued growth of the teaching centers and department visit programs, and the awarding of annual traveling fellowships. With the close collaboration of Dr. Wolfgang Grisold, we have begun steps toward the development of a global neurological training curriculum, along with input from the members of the Education Committee.

As WFN co-opted trustee for two years, I have had the opportunity to be even more highly integrated into this organization, working closely with esteemed mentors, including Dr. Raad Shakir, president; Dr. William Carroll, first vice-president; Dr. Grisold, secretary general; Dr. Richard Stark, treasurer, and elected trustees Drs. Riadh Gouider, Amadou Gallo Diop, and Morris Freedman. Their knowledge, expertise, and collegiality have been invaluable in my personal development and improving my effectiveness to this organization. More recently, as editor of World Neurology, I have had the unique opportunity to help report on news about neurology and neurologists worldwide.

In my roles and experiences with the WFN, I have met many smart and talented neurologists worldwide. I've been impressed by the similarities among all neurologists, while also keenly aware of the differences in available resources and access to care. To achieve its mission, the WFN should continue to partner with the World Health Organization and national and international neurologic organizations; develop more regional teaching centers for neurologic training (now including Rabat, Cairo, Mexico, and Dakar) and department visit programs (currently in place in Austria, Germany, Turkey, and Norway for African trainees, and Canada for Central and South American trainees); increase awareness of travel stipends and research grants; and, among other initiatives, continue to react quickly to novel global neurological issues, exemplified by the swift involvement by the WFN as a clearinghouse for global expertise on the Zika epidemic.

I would be honored to become an elected trustee of the WFN and to continue to faithfully serve our delegates and member neurologists for the mutual goal of improved neurological access and the highest quality of neurology and neurological health worldwide. •

EAN Breaking News Session Tackles Zika Virus

BY STEVEN L. LEWIS, MD

On May 29, 2016, Zika virus infections of the nervous system were the topic of a very well-attended breaking news session co-moderated by Drs. Eric Schmutzhardt and Raad Shakir (1) at the 2nd Annual European Academy of Neurology (EAN) Congress in Copenhagen, Denmark. The session included talks by Dr. Shakir (2), president of the World Federation of Neurology (WFN), who spoke on behalf of Dr. John England, chair of the WFN Zika Committee, about Zika virus and its implications for world neurology. Dr. John Hiscott (3), of the Istituto Pasteur-Fondazione Cenci Bolognetti in Rome, Italy, spoke about what is now known about the immunological and virological aspects of Zika virus infection. Dr. Hugh Willison (4), from the University of Glasgow, Scotland, presented the newest information about the association of Zika virus and Guillain-Barré syndrome. The final speaker, Dr. André Luiz Santos Pessoa (5), from the Hospital Infantil Albert Sabin in Brazil, brought the audience up to date with regard to the most critical information pertaining to Zika virus infections in newborns and children. •

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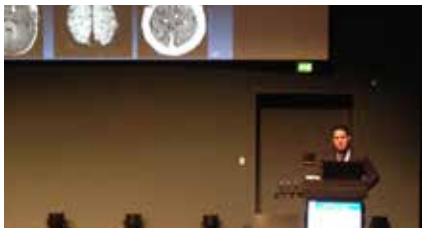
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