The Importance of WFN Council of Delegates Meeting

The World Congress will also host a range of important business meetings for the WFN. Foremost among these is the Annual Council of Delegates (COD) Meeting.

London Office staff. Under the WFN rules, only member societies that are “financial” will be able to vote on resolutions and elections.

At this year’s COD, there are critical decisions to be made. Two elected trustee positions are to be decided, the 2023 WCN venue will be resolved and elections to membership of the WFN will be determined. The two trustee positions are those of treasurer, currently occupied by Richard Stark, and an elected trustee (Steven Lewis). Both are entitled to stand for re-election, and both are exercising this option. You will find their personal statements in this issue. That they are both standing unopposed may be regarded as a testament to the quality of their contribution to the WFN to date. Their personal statements provide important insights into their views of the WFN, its function and future role as the global neurological organization.

Candidate Statements for WCN 2023

Three countries vie for the opportunity to host WCN 2023: Brazil, Mexico, and Canada. See each country’s statements.

Pakistan’s NARF organized countrywide activities to mark the fifth Annual World Brain Day, with the theme Migraine: The Painful Truth.

The Turkish Neurological Society reports on its World Brain Day activities.

In organizing this congress, a great need was felt to reach out for the preparation of future neurologists in the country. This was done through a pre-congress activity that consisted of selecting the best students from some primary, secondary, and university institutions in Yaoundé, introducing them to the neurosciences, and evaluating their performances after a short educational intervention on the epilepsy.

Concerning this innovative program, Prof. Aari had this to say: “The type of outreach program presented in

WORLD BRAIN DAY 2019 IN PAKISTAN

World Brain Day in Turkey

Migraine in Cameroon: From the Painful Truth to the Powerful Tribute

BY ALFRED KONGNYU NJAMNISI, MD, MA, DMS, FMH

In 2008, when then-president of the World Federation of Neurology (WFN) Prof. Johan A. Aarli set foot in Yaoundé for the 18th Congress of the Pan African Association of Neurological Sciences, (PAANS)‚ Cameroon—fondly referred to by its citizens as “Africa in miniature” — was a peaceful, prosperous, powerful, and promising nation of the central African sub-region. At that time, there were only a handful of neurologists in Cameroon, and there was no training program for neurologists in the medical schools of the country.

In organizing this congress, a great need was felt to reach out for the preparation of future neurologists in the country. This was done through a pre-congress activity that consisted of selecting the best students from some primary, secondary, and university institutions in Yaoundé, introducing them to the neurosciences, and evaluating their performances after a short educational intervention on the epilepsy.

Concerning this innovative program, Prof. Aari had this to say: “The type of outreach program presented in

Echos of Kindness

Serendipity brought my mentors together at the EAN regional teaching course in Oogramo, and discussions ensued that culminated in the opportunity to begin my formal training in EMG/NCS in Austria.

Critical Minds on the Brain in the 17th Century

Medical students of human and animal bodies in the 17th century demonstrated a critical attitude toward the knowledge that was taught in books and by their teachers. Inspired by the new mechanistic or iatrophysical physiology of René Descartes, they not only questioned the anatomical and physiological views of previous generations of anatomists and physicians, but also Descartes’ own ideas.
Cameroon is important because it makes neurosciences not a foreign and exotic subject, but a part of their daily life and of public health. “On the congress proper, he reported, ‘I had the pleasure to attend the PAANS congress in Yaoundé, Cameroon, in November 2008 ... The PAANS Congress served as an important information and discussion forum for African neurology. The meeting also was attended by local politicians and representatives from the government, which is essential in increasing the visibility of neurology.”

The congress organizers had worked hard to convince the government of the Republic of Cameroon on the importance of neuroscience to national development. Indeed, this was the first time in the 16-year history of PAANS that the government of the host country was the unique sponsor of the entire congress. At the opening and closing ceremonies, several cabinet members accompanied the Vice Prime Minister H.E. Amadou Ali, the chair of the congress, which was held under the highly distinguished patronage of the president of the republic, head of state.

The primary theme of that congress was “The Epilepsies,” and the secondary theme was “Headaches.” It was attended by the then-president of the International League Against Epilepsy, Prof. Peter Wolf. The president of the International Headache Society could not attend due to a last-minute emergency. It was during this congress that Prof. Aatli challenged the government of Cameroon to start residency programs in the neurological sciences that could serve the country as well as the sub-region. This challenge was well received, and two years later, residency programs in neurology, neurosurgery, and psychiatry were established in the Yaoundé School of Medicine in the University of Yaoundé I. More details on the fruits of this development over the years shall be reported subsequently.

Currently, 11 neurologists (two from the Democratic Republic of Congo [DRC] and nine from Cameroon), five neurosurgeons, and six psychiatrists (one from DRC) have been trained in these programs. Also, our neurology department recently hosted a trainee neurologist from Belgium (now a practicing neurologist) for a period of six months. It is worth noting that one of our youngest trainees just received his award as fellow of the European Board of Neurology on June 28, 2019, as the sole candidate from sub-Saharan Africa, following a tight examination in Oslo with his European counterparts and neurologists of other nationalities, in the international examination organized by the European Academy of Neurology.

The Painful Truth

In recent years, however, the indescribable beauty of this young and healthy nation, like that of a young headache-stricken patient, has been significantly threatened and brusied by a series of crises that can be described by no other word than migraine, and that is the painful truth.

Indeed, the pain has been throbbing, sparing no part of the country. First is the eastern tropical forest region of the country with the influx of refugees fleeing from their own internal crises in the Central African Republic and the multiple consequences thereof.

Second, more severe attacks have ravaged the western mountainous region of the Far North, spreading terror, panic, and chronic phobia in the populations.

Third, as if this were not enough, for the past three years, the North-West and the South-West regions of the country are the theater of a hemorrhagic conflict, and the populations of these two regions have been victims of uncountable, painful, persistent, and pervasive attacks, sometimes caught as it were between the hammer and the anvil.

The full extent of the reality of this extremely painful truth has not been and may never be adequately measured, but one thing is certain: the nausea and emesis accompanying the atrocities, the photophobia and sonophobia associated with the increasingly sophisticated firearms, will have long-lasting and far-reaching consequences on brain health and on health and development in general. It is disheartening to note that two-year-old internally displaced children are familiar with and easily recognize the sound of firearms.

You may be tempted to observe that what appeared to be a simple migraine aura, rapidly and unexpectedly developed into a hemiplegic migraine with one whole side of the nation completely paralyzed intermittently through the “ghost-towns,” then to chronic migraine or better still “chronic hemiplegic migraine.” The prevailing situation could best be described as a “chronic familial hemiplegic migraine” as many family members of the people of this one-time peaceful nation are now directly or indirectly affected.

The painful truth is that every part of the whole is seriously hurting. The migraine crisis in Cameroon, which is the most common crisis in the country, has severely impacted every aspect of national life and has been underrecognized, underdiagnosed, thus underresearched, and undertreated (crisis-treatment) despite many laudable efforts.

The country has become peaceful and sleepless, running short of its prosperous and promising nature. Land of promise, where is your promise? Land of glory, where is your glory? Nevertheless, together as a TEAM (“Together Each Achieves More”), we all can use our brains to make sure that the suffering brains and bodies of the people in Cameroon affected by this migraine receive the help they need as the key messages of the World Brain Day 2019 suggest to become once again a peaceful and prosperous land of promise and glory.

May I remark in passing, but seriously so, that the migraine in Cameroon is not unique to Cameroon. Although some of the aggravating factors of these migraines generally tend to be environmental, not easily lending themselves to intrinsic control mechanisms in the context of a total absence of biofeedback mechanisms, it would appear that only a concerted, concentrated, and constant effort for lasting prophylactic solutions, coming from the ingenuity and strong will of endogenous
CAMEROON

continued from page 2

healthy brains, will be effective.

This would involve a deliberate, directed, and delicate mix of multiple neuronal networks, that work together in synchrony and symmetry, in promoting brain health and through brain health, promoting health at large as there is no health without brain health. To ensure success in this endeavor, in terms of effective and efficient neurophysiological mechanisms especially neurotransmission, neuromodulation, and neuronavigation, this approach may also involve neuroepigenetics as we are dealing here with a migraine. This process, in itself, is not pain free.

The Powerful Tribute: The novel concept of the “Brain Week in Cameroon”

In the midst of this deeply rooted pain and mounting pressure, Brain Research Africa Initiative (BRAIN) has chosen to hope for peace and to work for peace in this fatherland of Cameroon. Since inception by the WFN, we in Cameroon have always celebrated the World Brain Day (WBD) but this was generally limited to an academic or professional audience. This year, BRAIN created the concept of the “Brain Week in Cameroon” involving five main BRAIN activities beginning from a week before the WBD and climaxing with the celebration of the WBD. The goal was to have a nationwide campaign of:

- Bringing BRAIN health closer to the populations (diagnosing and treating disease in sick brains)
- Raising BRAIN awareness among the populations (sensitizing healthy brains to remain healthy)
- Activating BRAIN networks with the institutions (building partnerships for brain health)
- Increasing BRAIN capacity in the professionals (training through professional education)
- Nurturing future generations of BRAIN professionals (celebrating excellence to generate interest in neuroscience careers among the youth).

The inaugural “Brain Week in Cameroon” ran from July 15 to 22, 2019, under the distinguished patronage of the Prime Minister, Head of Government, Chief Dr. Joseph Dion Ngute and in partnership with the government of Cameroon.

First, free neurology, neurosurgery or psychiatry consultations in regional or tertiary health facilities took place in seven of the 10 administrative regions of the country (including some of the migrainous regions), thus bringing brain health care closer to the populations.

Second, multimedia sensitization talks, workshops, and symposia were carried out to raise brain awareness and the national communication media had at least a nationwide audience.

Third, the first two activities provided a forum for networking and building partnerships for the promotion of brain health. Specific public-private partnership agreements were also established between state and private institutions.

Fourth, with the participation of state universities, academic symposia were conducted in two faculties of medicine to increase the capacity of medical students, physicians, and other health personnel in the management of brain disease, particularly migraine.

Finally, a general symposium was conducted in the nation’s capital city of Yaoundé on primary headaches, with special emphasis on migraine, and the icing on the cake was the establishment of the novel concept of “The Monekosso-Muna BRAIN Lecture,” in honor of and as a tribute to the founding fathers of Cameroon and African neuroscience research.

The late Prof. Gotlieb Lobe Monekosso employed field epidemiological and clinical approaches in the 1960s in Nigeria to study what was variably called at that time, endemic neuropathies, degenerative tropical neuropathies, tropical nutritional neuropathy, or tropical ataxic neuropathy while late Prof. Walimjom FT Muna since the 1990s set the pace for clinical research on HTLV-associated myelopathy, stroke, neuroAIDS, and the epilepsies in Cameroon.

The Monekosso-Muna BRAIN Lecture celebrates excellence in neuroscience and aims to stimulate and attract the young generations to consider taking up careers in neuroscience.

The theme of Brain Week in Cameroon 2019 was, “Promoting Brain Health and Conflict Resolution,” and the core messages highlighted the fact that we all need healthy brains, free from drugs and disease, in healthy bodies, for rational use in dialogue, constructive communication, and negotiations, and to resolve interpersonal, intergroup, or even international conflicts. Thus, BRAIN has attempted to extend and contextualize the WFN concept of “World Brain Day” to the concept of “Brain Week in Cameroon.”

Most of the activities of Brain Week in Cameroon were carried out by or under the leadership of brain health specialists or experts trained in Cameroon and serving in the different regions of the country, some of them under extremely difficult conditions. BRAIN received the partnering support of public and private media agencies as well as some private health institutions in this endeavor. Brain Week in Cameroon has come to stay and to grow, and the Prime Minister of Cameroon, writing on brain health, has encouraged BRAIN to “continue to sensitize the government and other partners on this important aspect of human health.”

The Way Forward

BRAIN, in partnership with the Cameroon Government, has chosen to light a
Mexico

It is a pleasure and an honor to present Mexico’s candidacy to host the WFN World Congress in 2023.

Mexico represents the 15th largest economy in the world and the 15th largest exporting power.

One of the principal economic bases of the country is tourism. According to the World Tourism Organization, Mexico ranks sixth in terms of the number of visits by foreign tourists. Also, it promotes the diffusion of the natural, cultural, gastronomic, and historical attractions of the country.

Mexico has a well-earned reputation for being a hospitable country with people friendly to tourists. We currently have agreements with more than 97 countries whose citizens do not require a visa to visit us.

Due to its geographical location (in the center of the American continent), Mexico is the gateway to Central and South America. Its air connectivity is one of its advantages; today, there are daily direct flights to 51 destinations so it is highly likely that attendees only have to take one or two flights to attend the congress. This significantly reduces travel costs for attendees.

Although a WFN world congress has never been held in Central America, we have experience in organizing international congresses, such as the congress of the Pan American Section of the WFN (PANFS) which took place in in 2016 in Cancun, Mexico. Other examples of international events held in Mexico City are International Conference on Emergency Medicine 2018 and World Congress of Cardiology and Cardiovascular Health 2016, among many others.

It is important to mention that Mexican government provides the possibility to calculate zero percent VAT for International Conferences when these are carried out by foreign organizations.

In addition to its economic, geographic, and logistical advantages, Mexico City has much more to offer its visitors.

Once known as the “City of Palaces,” Mexico City has four areas declared World Heritage Sites by the UNESCO. The first is the “Centro Histórico” or downtown area, the Guadaloupe Basilica, the second most visited religious sanctuary in the world after Saint Peter’s Basilica in the Vatican.

We hope to count on your support to continue promoting the development of neuroscience in this region of the world.

Montreal

Montreal tops the rankings of host cities in America for most international conferences. Its attractions and qualities have made it a go-to location for business and leisure travellers. As one of the largest hubs for neuroscience in Canada—240 neuroscience professionals and over 40 companies related to neuroscience, Montreal is a first-rate destination for all with a passion for innovation, understanding the brain and treating patients with neurological disorders.

Together with the Canadian Neurological Society (CNS), generous funding for travel grants by the city’s convention community will enable a record number of scholars and fellows from emerging economies, such as Latin America and Africa, to attend this major event.

In order to foster innovative care and research on a global scale, The Neuro—McGill University’s Montreal Neurological Institute and Hospital—will make its open data platforms available to the members of the WFN and help identify potential Canadian collaborators. Founded by Dr. Wilder Penfield, The Neuro is a world leader in the field and has a rich history of welcoming the international neuroscientific community—trainees, researchers and clinicians alike. A pioneer in many beautiful religious and historical buildings can be appreciated, including the Metropolitan Cathedral, the National Palace, and the Fine Arts Palace, a beautiful art nouveau style building. The second World Heritage Site is the Xochimilco Ecological Park, considered by many as the “Venice of Mexico,” thanks to its beautiful canals that can be visited on board a trajinera (a curious wooden gondola-type vessel decorated with flowers).

The third World Heritage Site is the Autonomous National University of Mexico, and the fourth one is the Luis Barragan’ studio. Mexico City offers a large variety of museums, including The National Museum of Anthropology, the National Museum of Art, and the National Museum of History (located in Chapultepec Castle). To the north of the city, you can visit the Guadaloupe Basilica, the second most visited religious sanctuary in the world after Saint Peter’s Basilica in the Vatican.

We hope to count on your support to continue promoting the development of neuroscience in this region of the world.

Participants will be able to partake in technical tours of The Neuro and several other university and hospital sites during their stay in Montreal. Success, innovation, and expertise await you in Montreal. October is when the city really shows its true autumn colours.

1. Union of International Associations 2017/2018
2. FBI & Statistics Canada 2018
We would like to welcome all neurologists to the July-August 2019 issue of World Neurology, the official newsletter of the World Federation of Neurology (WFN). This issue includes three well illustrated articles from around the globe reporting from each country’s involvement and activities surrounding World Brain Day 2019, including reports from Turkey, Pakistan, and the report from Cameroon where the World Brain Day theme (Migraine: The Painful Truth) is also used as a thoughtful analogy to the author’s view of the current situation in the country.

In the President’s column, WFN President Prof. William Carroll updates us on important issues at hand to be decided at this year’s Council of Delegates (COD) meeting that will be held during the upcoming XXIV World Congress of Neurology (WCN) Oct. 26 in Dubai. Regarding these important issues to be decided at the COD, this issue features the statements from the three cities/countries vying for the site of WCN 2023, to be held within the Americas (in alphabetical order by city): Mexico City, Mexico; Montreal, Canada; and Rio de Janeiro, Brazil. Statements from the candidates for WFN Treasurer and Elected Trustee also appear in this issue.

In the History column, Prof. Peter Koehler discusses two important 17th century figures in the history of the science of the brain who provided critical insights beyond that had been well accepted at the time. This issue also features a thank-you note from a neurologist from Nigeria to his teachers from Austria who dedicated their time to provide him with the benefit of their experience and skills in nerve conduction studies and electromyography.

Finally, we look forward to seeing many of you at the upcoming WCN Oct. 27-31, 2019 in Dubai. Please note the reminders in this issue for WFN member societies to field teams of four—with free registration—for this year’s sure-to-be exciting Tournament of the Minds.
I strongly support these aims, and my experience over the past four years confirms that it is applied in practice.

The role of the treasurer is to advise the other trustees about the state of the finances, and thus which programs can be supported. For example, one of our current major programs involves supporting training in Africa and Latin America. The impact on the budget extends for some years into the future. We must be confident that our position is sound (and will remain so) in order to make the commitment to support training for up to four years in the future.

The income stream for WFN derives in part from member society fees and royalties from the Journal of Neurological Sciences, which are both relatively stable, and more substantially from the Congress (WCN), which is much more volatile. The 2017 meeting in Santiago significantly exceeded expectations, and the Kyoto meeting in 2017 was an outstanding financial success. As treasurer, I must thank all those involved in those meetings for working so hard to ensure success. Early projections for Dubai 2019 are positive also.

The financial success of WCN depends largely on the support from pharmaceutical companies, which depends, in turn, on the stage of commercial development of their products. These factors are outside our control. The management of the WFN’s finances, therefore, requires an astute and flexible approach, efficient administration, and conservative estimation of projected income streams.

My experience over the past four years has helped me to have a more in-depth understanding of these issues and should be helpful to the WFN over the next four years. I believe, therefore, that I have something of substance to offer if elected.

I should set out some aspects of my background that have relevance to the position of treasurer of WFN. These include:

• treasurer of the Sydney 2005 WCN, which was a huge financial success
• treasurer of the Australian Association of Neurologists (1997-2003)
• WCN 2005 took place at a time of substantial exchange rate volatility, and the strategies designed to minimize adverse impacts of this contributed to the financial success of the conference. Subsequent experience as treasurer of WFN over the past four years (with the impact of Brexit) has reinforced the necessity to have funds diversified in such a way as to minimize volatility while not excluding the possibility of organic growth.

The WFN has a strong tradition of efficient use of funds. This relies on the generous donation of time from the executive as well as the hard work of administrative staff. This efficiency must continue. If elected to a further term, I undertake to continue to work diligently with the executive to ensure that the financial management of the WFN allows it to pursue its aims and objectives.
The Turkish Neurological Society has been celebrating World Brain Day since 2014. Every year, we follow WFN guidelines and create public awareness by organizing meetings, public service announcements, and newsletters. This year, we partnered with Istanbul, Besiktas municipality, and organized a meeting about this year’s theme “Migraine: The Painful Truth.”

The meeting took place on July 22, World Brain Day, and was open to public attendance. Migraine is a common disorder in our population (reported as one of five women and one of 10 men). Banners were distributed throughout Istanbul promoting the meeting along with powerful support by social media and the national press.

We appreciate the WFN for supporting societies with toolboxes and webinars every year. We also encouraged our members to organize World Brain Day events, and this year, many meetings were held across Turkey. Furthermore, we collaborated with the International Headache Society to increase awareness for migraine.

Prof. Serefur Ozturk is president of the Turkish Neurological Society.
Echos of Kindness

By Osigwe P. Agabi, MBBS (Benin), MWACP, FMCP

Under my residency training in neurology in Nigeria had its advantages. I got to learn and practice in a culture where my expertise would be deployed, and the diversity and sheer number of neurological cases and conditions enabled me to hone my clinical skills. The training also afforded me the privilege of providing answers (and some succor, I hope) to patients whose conditions had been undiagnosed or misdiagnosed, cursorily attributed to “spiritual” forces in the absence of a logical alternative explanation. This was enabled by the increase in availability of some technologies, including brain imaging and support laboratory diagnostics for those who could afford them.

Despite these, however, one gaping void was the absence of expertise and technology for electromyography and nerve conduction study (EMG/NCS) testing. Four decades prior was the last time my training center had functioning EMG/NCS, and the combination of competing financial commitments and lack of expertise ensured this was not revived.

That was until early 2018, when a good natured alumnus donated EMG equipment and conducted a preliminary workshop that whet my appetite. About the same time, serendipity brought my mentors together at the EAN regional teaching course in Ouagadougou, and discussions ensued that culminated in the EMG/NCS in Austria.

As I sat down on the Lufthansa flight bound to Vienna from Lagos, Nigeria, my thoughts wandered. What would Austria be like? What will this experience be? Will I achieve my objectives? Will the weather be kind? Will I have problems communicating, as I speak no German?

I reached for my phone and looked down at the pictures of Prof. Walter Struhal and Wolfgang Grisold I had downloaded before the journey. It was this duo of renowned neurologists who had graciously agreed to offer themselves to train me in nerve conduction studies and electromyography at no cost that informed this journey. I thought about my family and the neurology unit back at the Lagos University Teaching Hospital in Nigeria. I thought most especially about my teacher, mentor, and boss, Prof. Njideka Okubadejo who had given her all to the actualization of this dream and how lucky I was to have her. I was still in this train of thought when I was jolted into consciousness by the air hostess who was waiting to take my order of refreshment.

I arrived in Vienna and headed straight for the University Hospital in Tullin where Prof. Struhal is head of neurology. Prof. Struhal is a kind gentleman with a calm disposition. I was taken to my apartment that contained most of what I was going to require for the period of my stay.

The next day, I was formally introduced to the neurology department and completed some administrative formalities. Every morning, there was a presentation of all patients, new and old, by the consultants with their relevant investigations and neuroimaging. I looked forward to this exercise every morning not only for its robust intellectual nature but also for the demonstration of genuine patient empathy. I was received warmly by all. I observed the team spirit, astute dedication to duties of all, both young and old.

The synergy between doctors, nurses, and other support staff was exemplary. I worked closely with Drs. Andreas Seiser and Brigit Riemer who were the neurologists in charge of neurophysiology.

They walked me through the rudiments of NCS and EMG. They loved to teach and made the process seamless. I cannot forget the patients who offered themselves freely to this exercise so I could learn. I was glad to observe sessions of transcranial magnetic stimulation, fiber-optic endoscopic evaluation of swallowing, and some autonomic nerve testing, among others.

Twice every week, I commuted by train to Vienna to catch up with Prof. Grisold in his private practice. In his office, he laid bare nerve conduction and electromyography. He taught with uncommon dedication and passion, making sure I had an untainted understanding of the concepts. He taught me many secrets that only years of practice could bring. He had sessions with me as the patient. It is a great privilege to have been tutored by him. I will forever remain grateful.

Prof. Grisold wanted me to broaden my horizons on my many spheres of neurology. He reached out to many of his colleagues, including Dr. Stefan Meng, a radiologist with expertise in nerve and muscle ultrasonography. Dr. Meng was warm and highly knowledgeable, yet humble. He had some teaching sessions with me at the KFJ Hospital in Vienna.

Before this experience, nerve and muscle ultrasonography was a distant reality for me. I also had the rare privilege of visiting Prof. Michaela Auer-Grumbach, a renowned neurogeneticist who added the icing on the cake for me. Before long, my 32-day visit had come to an end.

I am overwhelmed by the unconditional kindness, efforts, and support of Prof. Struhal and Grisold for bringing this dream to reality. This experience has awakened in me a restlessness to develop that which I have acquired and to impart to others after me. Yes, St. Augustine was right when he opined that “the world is a book, and those who do not travel read only one page.” •

Osigwe P. Agabi, MBBS (Benin), MWACP, FMCP, is a consultant physician and neurologist in the neurology unit of Lagos University Teaching Hospital in Nigeria.
Statement for Elected Trustee

It has been a tremendous privilege serving as elected trustee of the World Federation of Neurology (WFN). In my current roles as WFN trustee, chair of the WFN Education Committee, and editor of World Neurology, I am indebted to this organization and the opportunities it has provided me to help achieve its mission to foster quality neurology and brain health worldwide via the promotion of global neurologic education and training.

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 WFN and the AAN (and its publisher Wolters Kluwer) provides print and online access to Continuum to user groups from more than 40 neurological societies from low- and lower-middle income countries. I have appreciated being involved as our two organizations work closely together to provide this resource for participants who would otherwise be unable to obtain it, including recent and ongoing collaborative efforts to improve and enhance this important global educational program.

As WFN trustee and as chair of the WFN Education Committee for the last six years, I have become integrated into the critical workings of this organization in education, training, and practice of neurology around the globe. I have learned so much from our talented staff, my esteemed colleagues on the many WFN committees and related organizations, and all of the co-trustees up to the president(s) whom I have been so privileged to work with. Their knowledge and expertise have been invaluable in my continued personal development and improving my effectiveness to our organization. In my additional role as World Neurology editor, I have had the privilege to help report on news about neurology and neurologists worldwide, a role that I cherish continuing as well as honing. In my roles and experiences with the WFN, I have continued to meet so many remarkably talented neurologists worldwide. I continue to be impressed by the similarities among us all, despite differences in resources and access to care within and between regions. If re-elected as trustee, I look forward to continuing to help the WFN achieve its mission via continued partnership with national, regional, and international neurologic societies and disease-based organizations, and the WHO: optimizing our current regional teaching centers for neurologic training—now four African training centers and one in the Americas, with plans for other region(s) as well; growing our department visit programs, which have recently included wonderful partnerships with many European countries for African trainees, and one in the Americas for South American trainees; increasing awareness of travel and research grants for young neurologists from low- and lower-middle income countries; and continuing to react quickly to novel regional or global neurologic issues or threats as they arise.

I would be honored to be re-elected as WFN trustee, and if so, I pledge 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.

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References

7. Alfred Kongnyou Njamnshi, MD, MA, DMS, FMH is professor of neurology and neuroscience, faculty of medicine and biomedical sciences at the University of Yaoundé I (FMHS-UYI), Yaoundé, Cameroon. He is also the founder and executive director of the Brain Research Africa Initiative (BRAIN), Geneva, Switzerland, and Yaoundé, Cameroon. He is head of the neurology department at the Yaoundé Central Hospital, chair of neurology-neuroscience training programs and head of the neuroscience lab, FMHS-UYI, and past president of PAANS, WFN delegate for Cameroon and emeritus regional director for Africa of the World Federation of Neurology.

As long as the reasons are transparent and do not interfere with the function of other member societies, I feel confident that the COD will make a fair decision.

The 2019 World Congress of Neurology will bring together leading scientists, public health experts and policymakers to translate recent momentous scientific advances into actions.

Join us this Oct. 27-31, in Dubai and:
• Hear the latest advances in Neurology
• Enjoy a stimulating program full of cutting-edge workshops, sessions and courses
• Take part in engaging debates leading to fruitful collaborations
• Experience Dubai, where high end style and architecture meets the Old World charm.
• Our esteemed experts holding the WCN 2019 scientific program will undoubtedly offer a great educational experience.

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A number of medical students of human and animal bodies in the 17th century demonstrated a critical attitude toward the knowledge that was taught in books and by their teachers. Although inspired by the new mechanistic or iatrophysical physiology of René Descartes (1596-1650), they not only questioned the anatomical and physiological views of previous generations of anatomists and physicians (including Thomas Willis), but also Descartes’ own ideas. In this essay, I will discuss two of these critical young men.

Steno (by Justus Sustermans; public domain).

**Dutch Student Making a Nerve-Muscle Preparation**

This inspired Stensen. He decided to study the structure and physiology of the brain. He soon found that the old idea of spirits conducted by (hollow) nerves to control the muscles, an old Galenic concept, was difficult to prove. Around the same time, another Leiden medical student worked on the same problem. Son of an Amsterdam pharmacist, he started his medical studies in Leiden in 1661, doing research on respiration with Frans deleBoë. The old view was still that the brain so fast? Therefore, he devised an ingenious experiment with a muscle-nerve preparation in a glass tube, by which he was able to prove that no material was blown into the muscle upon contraction at all. His experiment stirred amazement, and several colleagues, including Stensen, visited his Leiden room, where he, Jan Swammerdam (1637-1680), as some of you may now have realized, demonstrated this and other experiments. Stensen told Bartholin about what he had seen in springtime of 1663.

Clearly, Swammerdam and Stensen had a kindred spirit, both believing in their own critical insights to come to new knowledge, not merely accepting the ideas of previous generations. In this way, Stensen, experimenting with animals, found that the heart was a muscle and not an organ that produced heat.

**Criticalizing Willis and Descartes**

Another subject Stensen wished to study was the anatomy and function of the brain. He experienced it difficult to deduce its function from the anatomy. He reacted critically, when Thomas Willis’ (1621-1675) Cerebri Anatome was published (1664). Although it contained accurate anatomical plates (by Christopher Wren), and Willis described the well-known arterial circle (now known by the name circle of Willis) at the base of the brain, suggesting its function (‘The joinings together of the Carotides, in most living people’), the student also had to study (frog) muscles and found that touching the nerve, even of a frog leg disconnected from the body, produced muscle contractions.

Like Stensen, he realized this was not in accordance with the idea of spirits being conducted by (hollow) nerves to the muscles. He observed similar phenomena while studying the diaphragm of living dogs. How could this be explained by material sent to the muscle from the brain so fast? Therefore, he devised an ingenious experiment with a muscle-nerve preparation in a glass tube, by which he was able to prove that no material was blown into the muscle upon contraction at all. His experiment stirred amazement, and several colleagues, including Stensen, visited his Leiden room, where he, Jan Swammerdam (1637-1680), as some of you may now have realized, demonstrated this and other experiments. Stensen told Bartholin about what he had seen in springtime of 1663.

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**Swammerdam’s nerve-muscle preparation from the posthumously published Bybel der naturen of historie der insecten (Bible of nature or history of insects) (1737).**

As there is no existing portrait of Swammerdam, the title page of his Historia Insectorum Generalis et Algemeene Verhandelingen van de Bloedloose Dierenk (General treatise of the bloodless animals) (1669) is shown here.

Thomas Willis’ Cerebri Anatome (1664).
Stensen as well as Swammerdam were both sponsored by Thévenot, and the three worked together in 1665. Stensen moved to Florence in 1666, where he stayed with the Grand Duke of Tuscany, Ferdinando II) and his brother (Leopoldo (Ferdinando II) and his brother (Leopoldo). The last years of his life, he studied insects often using small microscopes that he made himself. He died in 1680 (age 43). His first biographer (Leiden professor Herman Boerhaave) published his Bybel der natuur van historie der insecten (Bible of nature or history of insects) in 1737, in which we find the experiments described above.

### Literature


Kooijmans L. Gеваarlijke kennis. Inzicht en angst in de dagen van Jan Swammerdam. (Dangerous knowledge. Insight and fear in the days of Jan Swammerdam) Houten, Bohn, Stafleu Van Loghum, 2007


Swammerdam J. Bybel der natuur van historie der insecten (Bible of nature or history of insects). Leiden, Severinus et al., 1736.

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TAKE PART IN THE TOURNAMENT OF THE MINDS

The Tournament of the Minds is a unique opportunity for WCN 2019 participants to interact with colleagues, test intellectual tenacity, and demonstrate national pride, all while competing in country teams. As such, the aim of the Tournament of the Minds is to provide an experience that is both educational and entertaining for participants, integrating various aspects of neurology.

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