HISTORY

continued from page 7

Morel," referring to his 1857 *Traité des dégénérescences physiques, intellectuelles et morales de l'espèce humaine et des causes qui produisent ces variétés maladives* [A treatise on the physical, intellectual and moral degenerations of the human species and the causes that produce these morbid varieties]. Indeed, Morel published on the relationship between epilepsy and his degeneration concept, but it was in a number of articles in the *Gazette hebdomadaire* that he described his concept of *épilepsie larvée* (masked epilepsy).[1] The degeneration concept started in psychiatry with proponents such as Morel and Valentin Magnan (1835-1916).

"Insanity gradually came to be considered a brain condition and a product of degeneration rather than a psychological disorder. … A 'taint' or sickly deviation from the norm initially caused by a pathogenic environment, poor nutrition, or alcoholic abuse, and subsequently transmitted in the Lamarckian manner through heredity, becoming progressively more severe with each generation until the family line became sterile and, finally, extinct".[2]

Later in his career (1880s), Jean-Martin Charcot (1825-1893) believed that heredity also played an important role in neurological conditions and thought these afflictions could be interrelated by means of inheritance.[3] It is of interest to mention that the degeneration concept had a tremendous impact on the fin de siècle society, including its literature. In one of his lectures, he said, "Gentlemen, I will now present for clinical examination, two unfortunate creatures who deserve compassion. One may say that one as well as the other have been touched by the antique fatality that nowadays has been substituted by hereditary fatality."

Among other fictional characters, Shorvon provides the example of Emile Zola's (1840-1902) *La Bête Humaine*, in which a character carried "the physical stigmata of epilepsy." In fact, the concept of degeneration can be found in the whole 20-volumes Rougon-Macquart series. It should be realized that the *fin de siècle* was characterized by cultural malaise partly caused by these ideas of degeneration, but also by the uncertainty and anxiety of approaching the end of a century. Fear for decay and disaster reigned. The notion of degeneration was perceived by the lay public as well as by artists.[3,4]

An interesting section is dedicated to "psychoanalytic theory and epilepsy." The author tells us that psychoanalysis provided a novel explanation of epilepsy. "As its theories matured, the view grew that essential epilepsy was the result of inhibited psychological development caused by inherited traits which prevented normal psychic development and were manifest both by epileptic seizure and abnormalities of personality" (p. 166). Indeed, it is a general phenomenon that new ideas and therapies in medicine initially have a much broader area of indications, to become much narrower or disappearing after some time. As for neurology, another affliction in which this happened, i.e. psychotherapy, was dystonia.[5] A few other issues of interest discussed here are the idea of the epileptic personality and the psychiatric effects of temporal lobe epilepsy.

Stigma

Shorvon dedicates a paragraph on "eugenics and epilepsy." Indeed, it did not escape involuntary sterilization in some countries, not just in Nazi Germany in the 1930s and 1940s. Furthermore, it is fascinating to read about the early pathophysiological ideas, including the reflex theory, the idea of autointoxication, and the *Bacillus epilepticus* (1916). And, of course, he mentions the asylums and colonies established for epileptic patients, in a period when drugs where less successful than today. The stigma of having epilepsy and the patient's experience are discussed in detail. Several celebrities are mentioned in the context, like Queen Victoria's epileptic son Prince Leopold of Albany and the Russian writer Fjodor Dostoievsky (1821-1881). He not only suffered from epilepsy himself, but also wrote about it in several of his novels. Although it is not certain, he may have been treated by the optimistic Herpin. He was one of the doctors Dostoevsky listed on his visa application of 1863, the year in which he traveled abroad for the official purpose of consulting the greatest European authorities on epilepsy, including Moritz Romberg (1795-1873), Armand Trousseau (1801-1867), and Herpin. It is likely Dostoevsky had Herpin in mind when writing *The Idiot*.[6,7]

The importance of the introduction of the EEG (1929) and the early twentieth-century drugs are all mentioned in the book, including those that have disappeared later. A paragraph is dedicated to the role of the pharmaceutical industries through history. A table on the chemical and physiological basis of neurotransmission between 1900 and 1970 is also provided. Several "new" pictures can be seen in the book, like the one of Horsley in the operating theatre with Samuel A. Kinnier Wilson (1878-1937) and Emil T. Kocher (1841-1917), c. 1906.

Why not Brown-Séquard?

Although it is impractical to include all historical texts dealing with epilepsy, I would have expected a more extensive discussion of Charles-Edouard Brown-Séquard (1817-1894) and his views on epilepsy. Having written my dissertation on Brown-Séquard's localization concept, I am of course biased, but in the present book only a sentence and two footnotes are dedicated to him. I was surprised all the more so, since he was in fact the predecessor of Shorvon himself. After all, considered an expert in epilepsy, Brown-Séquard was the one of the founder-physicians to be appointed at the National Hospital for the Paralyzed and Epileptic (1859), where he became a teacher of Hughlings Jackson. Jackson's colleague and life-long friend Jonathan Hutchinson (1828-1913) wrote: "My friend fell, soon after he joined me in London life, under the influence of Dr. Brown-Sequard, who told him strongly that it was foolish to waste his efforts in wide observation of disease in general, and that if he wished to attain anything he must keep to the nervous system."

Furthermore, it was Brown-Sequard who told Hughlings Jackson that a vacancy for the post of assistant physician would be advertised. He indeed applied and was appointed on in May 1862.[8] Brown-Séquard was among the first to prescribe bromide for epilepsy[9, pp. 102-14] and between 1850 and 1872 published many articles as well as a book on epilepsy.[10] Furthermore, he had found an experimental model for what he called spinal epilepsy, which became also known as Brown-Séquard's epilepsy.[11,12]

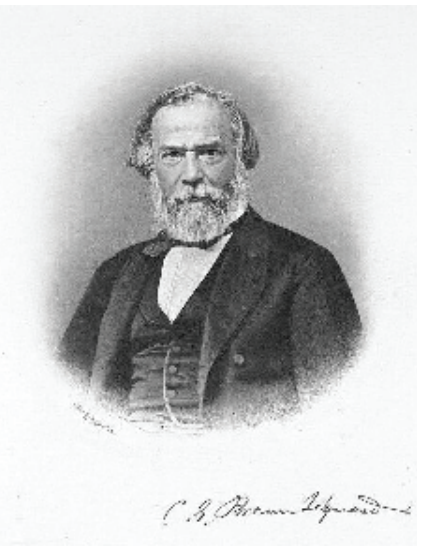
Finally, from today's perspective, it is doubtful whether it was truly an epileptic phenomenon, as it was related to the ankle clonus by Wilhelm Heinrich Erb (1840-1921) and Charcot. However, it aroused interest for several decades.[9, pp.183-93] Perhaps Shorvon did not discuss him, because it was partly before 1860, although the same is true for Herpin and his book *Du pronostic et du traitement curatif de l'épilepsie* [Prognosis and treatment of epilepsy] that was published in 1852. Or perhaps it is due to the fact the Brown-Séquard's concept was finally rejected as epilepsy in the sense of having its origin in cortical cells.

Neurosis

I may be in error, but sometimes I wondered whether the author sufficiently distinguished between the old neurosis concept and the modern post-Freudian term (psycho)neurosis. On page 58, we find that "epilepsy was still viewed generally as a mental disorder in the period under consideration, and treated largely in the arena of psychiatry." It is of importance to understand the history of the term neurosis, as its meaning underwent an important evolution, which is related to neurology as well as psychiatry.[13] William Cullen (1710 - 1790) of Edinburgh coined the term neurosis, applying it to what his Edinburgh colleague and predecessor Robert Whytt (1714-1766) called nervous diseases. This functional orientation of neurosis remained during almost the whole nineteenth century,[14] though the category of neuroses became smaller as more diseases were found to have a neuropathologic substrate, beginning with general paralysis of the insane in the 1820s. In the 1880s, for example, William Gowers (1845-1915) mentioned the following functional disorders: chorea, paralysis agitans, tremor, tetanus, tetany, occupation neurosis, etc.[15]

During the twentieth century, even more of these neuroses were found to have an organic basis. The present sense of the term neurosis dates from the period of dynamic psychiatry in the beginning of the twentieth century and may be called psychoneurosis, e.g. anxiety neurosis, obsessional neurosis, etc. Interestingly, neurologists have treated these patients with "nervous disorders" or "nerves" for a long period.[16,17] Therefore, I am not sure whether the old concept of neurosis can be equated with mental disorder, as it was associated rather with the fact that no pathological substrate was found. As for the "arena of psychiatry," we have to realize that in many countries, particularly the German-speaking and those adopting the German system, neurology was included in psychiatry for several decades.

Fjodor Dostoievsky (public domain)



Charles-Edouard Brown-Séquard (public domain)

Criticism

The author is to be lauded that he tried to write not only for physicians, neurologists in particular, but wished to write also for the "informed public." Therefore, he included a glossary of technical terms. Furthermore, he tried to avoid making it a book on "Great Men" and find a balanced choice with respect to the level of details. Indeed, the book is not based on important physicians in the field of epilepsy.

One shortcoming, which the author mentions himself in the introduction, is

see **HISTORY** *page 9*

WORLD BRAIN DAY 2023

Brain Health and Disability: Leave No One Behind

The WFN, global regions, and the World Federation of Neurorehabilitation

BY TISSA WIJERATNE, DAVID W. DODICK, STEVEN L. LEWIS, AND WOLFGANG GRISOLD

World Brain Day 2023 annually commemorates the foundation of the World Federation of Neurology (WFN) on July 22. The previous World Brain Day themes focused on specific neurological diseases such as Parkinson's disease, migraine, epilepsy, multiple sclerosis, and many others. We are again partnering with all six regions of the WFN as well as the World Federation for NeuroRehabilitation (WFNR) to unite the world on the disability that results when brain health compromised.

Brain disorders, affecting more than one billion people, are the leading cause of disability-adjusted life years (DALYs). Optimizing brain health, care, and rehabilitation for those with disability from neurological disease is a global priority, requires involvement of policy makers, health care providers, foundations, public health authorities, professional societies, patient advocacy organizations, and the private sector.

The World Health Organization (WHO) identified the following determinants for brain health:

- Physical health
- Healthy environments
- Safety and security
- Learning and social connections
- Access to quality services

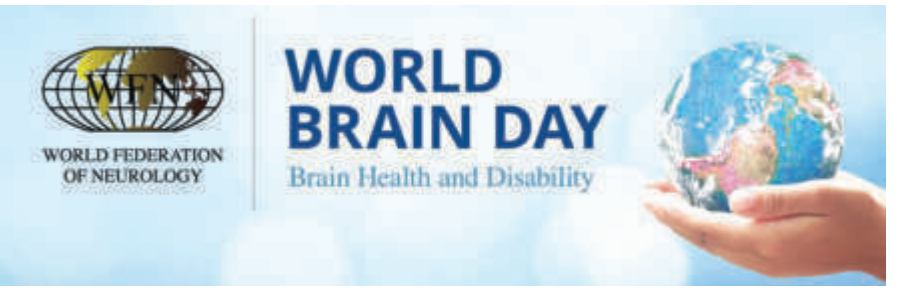
By addressing these determinants, we can optimize brain health, prevent neurological disease, facilitate early and rapid diagnosis, ensure universal access to care, and thus lower the prevalence and disability associated with most neurological diseases. For those with progressive, late-stage, and incurable disease, access to palliative care to ensure human dignity at the end of life is an imperative.

The Intersectoral Global Action Plan on Epilepsy and Other Neurological Disorders 2022–2031 (IGAP) was initiated by WHO and unanimously adopted at the World Health Assembly on May 27, 2022. **https://apps.who.int/gb/ebwha/pdf_files/WHA75/A75_10Add4-en.pdf**.

The IGAP provides a comprehensive response to the burden of neurological disorders; the global action plan suggests actions to Member States and national and international partners to close the treatment gap for people with neurological disorders and support quality management of these conditions.

Since the IGAP is also directed to organizations such as the WFN, this is an excellent opportunity to strengthen the collaboration between the WFN and WHO by linking our actions with the principles of the IGAP.

In this year's World Brain Day | Brain Health and Disability: Leave No One Behind, we intend to highlight five key messages.



Prevention: Brain disabilities can be prevented, treated, and rehabilitated.
Awareness: Global brain health awareness can reduce the burden of brain disorders.
Access: Universal access to care, treatment, rehabilitation, and assistive technology is essential.
Education: Education increases equity for those living with brain disabilities.
Advocacy: Brain health is a human right that applies to everyone, everywhere.

As in the previous World Brain Days, a special logo and material have been produced and will be made widely available for local/regional use by health care professionals, regional and national societies, and all other stakeholders involved in neurological disease advocacy. Before World Brain Day, a template for press mailings will be distributed to help the local organizations. On World Brain Day, a webinar will be launched and, with invited participants from the press, key messaging on brain health and disability will be disseminated.

The ultimate success of World Brain Day depends on your local activities. Please make World Brain Day your own, use all the material we provide, and ask for more if needed. Experience has shown that this international day has created considerable press attention, but local activities and information make the difference.

Please involve patients, caregivers, the public, local, regional, and national policy makers, and patient groups that might be interested in this topic. Please be sure to post your activities on social media to help raise awareness. Join us on World Brain Day as we ensure no one is left behind.

Brain health care faces many global inequalities. Let's change this together. Let's leave no one behind.

We eagerly await your reports of your local plans on World Brain Day events so that we can publish them in World Neurology.

Learn more at **www.wfneurology.org**. •

HISTORY

continued from page 8

that there is a bias of language. He examined texts mainly in English. That does not mean, by the way, that he does not mention French and German researchers, but I suppose he often will have used existing translations for that purpose. And indeed, he does describe important players in the field of epilepsy from other countries than England and the United States.

Perhaps among the minor criticisms the fact could be mentioned that the author often refers to the Pitié-Salpêtrière hospital. The "new" Pitié hospital (where Joseph Babinski [1857-1932] worked since 1895), however, was built near the Salpêtrière only in 1911 and the merging of the two took place in 1964. And Paul Broca of course did not show that "the expression of speech was localized in the left frontal gyrus in 1871" (p. 74). He localized it in the frontal convolution in 1861 and only in the 1863-5 period, he realized that most cases were in the left hemisphere. Furthermore, we read "The first systematic studies of anatomical-topographical analysis using electrical stimulation were by Fritsch and Hitzig." Indeed, they found positive results of their cortical stimulation experiments in 1870, however, in the early nineteenth century, many other experimenters preceded them, without seeing any limb movements. As medical historian Michael Hagner wrote: "These results were repeatedly reproduced by distinguished physiologists like François Magendie, François-Achille Longet, Carlo Matteucci, Julius Budge, and Moriz Schiff, and, moreover, these physiologists failed in attempts to evoke muscle twitching through cortical stimulation, whether with electrical stimulation, cauterization, or compression." And I am not sure whether the experiments by Fritsch and Hitzig were really more systematic than the previous. Continuing in Hagner's article "Several divergent paths led to the emergence of this stimulus experiment. They led through realms of clinical medicine that had nothing to do with localized diseases of the brain, through therapeutic practices, and not least through alternate experiments and theories that arose from entirely other lines of questioning."[19]

The end of epilepsy?

Perhaps, in a book on the history of a certain subject, one would not expect to continue the story up to the present. On the other hand, in this book on epilepsy, the story is told by an experienced epileptologist, who was part of that story for 40 years. Therefore, it is obvious that he provides his own opinion in the Epilogue, where he writes: "Even if fascinating in its own right, any history of epilepsy can be useful only if it helps make sense of the reality of epilepsy today" (p. 585), although he realizes and explains, in the accompanying footnote, that history can only stimulate new thinking about the present.

It would be a mistake to think that events in history and today are homologous, referring to philosopher Hannah Arendt (1906-1975). Using the appropriate metaphor of epilepsy as ideas, "like leaves, seeming strong and vigorous at one time, wither and fall with a transience and an insignificance unthinkable at the time," the author states that the tree also has permanent structures like branches and a trunk that grow. Indeed, he also attempted to make up an "epilepsy balance sheet" with theories and practices that have improved or harmed epilepsy through the long twentieth century. In the accompanying text, he contemplates about what happened and what deserves criticism in the various fields, including the political and economic context, legislation and social attitude, delivery of epilepsy healthcare, pharmaceutical attitude, etc. An interesting paragraph in the Epilogue is "The harm caused by medicine."

In the introduction and Epilogue again, Shorvon tries to answer the question, whether "Epilepsy really exists" today, or stated differently "The end of epilepsy?" Hereby he follows up on Temkin, who titled the final section of his book "The end of the falling sickness." May it still be considered a disease, as in the past, or did the progress in knowledge result in

see **HISTORY** *page 10*

II Latin American Course of Neuroepidemiology

Punta del Este, Maldonado, Uruguay | March 6-10, 2023

BY DR. CARLOS N. KETZOIAN

Last March, the II Latin American Course of Neuroepidemiology took place in Punta del Este, Maldonado, Uruguay. This course was organized by the neuroepidemiology section of the Institute of Neurology at the University of the Republic in Uruguay, and the Université de Limoges in France, with the endorsement of the World Federation of Neurology (WFN). The course was held at the Eastern Regional University Center (C.U.R.E.) of the University of the Republic, Uruguay.

The I Latin American Course of Neuroepidemiology took place in Panama City, Panama, in April 2018. This II course was initially planned to take place in March 2020. Unfortunately, the COVID pandemic forced the organizers to postpone it until 2023. The structure and the content of these Latin American courses are based on the experience of the Erice's International Course of Neuroepidemiology. (See World Neurology, posted Feb. 24, 2023. Report on the Ninth International Course of Neuroepidemiology: Methods and Clinical Applications worldneurologyonline.com).

Twenty-one students, five teachers, three coordinators, and two invited speakers participated in five intense and enriching days of learning. Apart from local participants from Uruguay, the remaining students came from different Latin American countries: Argentina, Brazil, Chile, Colombia, Costa Rica, Dominican Republic, and Peru. Two participants came from outside of the region (Republic of Armenia).

Profs. Walter Rocca (U.S.), Giancarlo Logroscino (Italy), Pierre-Marie Preux (France), Ruth Ottman (U.S.), Brandon Coombes (U.S.), and Carlos Ketzoian (Uruguay) were part of the teaching team. The course was coordinated by Prof. Carlos Ketzoian (Uruguay), Prof. Regina Alvarenga (Brazil), and Drs. Fabián Gómez Elso and Lucía Castro (Uruguay).

Dr. Sebastián Ameriso from Argentina gave a lecture on the epidemiology of stroke in Argentina and Prof. Abayubá Perna from Uruguay gave a lecture on the genetic epidemiology of limb-girdle muscular dystrophy (LGMD) in Uruguay.

Study design aspects, genetic epidemiology, and statistical methods applied to neuroepidemiology were discussed in the morning. After lunch, the participants analyzed published clinical-epidemiological studies in which the different methodologies presented in the mornings were addressed. Each day, the activities ended with lectures on different topics.

The course activities also included the IV Journée d'Amitié Neurologique Franco-Panamericaine with lectures by Profs. Abayubá Perna (Uruguay), Regina Alvarenga (Brazil), and Pierre Marie Preux (France). The program was endorsed by the French Embassy in Uruguay. A cocktail reception took place after the lectures. The Minister of Public Health of Uruguay, Dr. Daniel Salinas, who is a neurologist, participated in this opening academic and social event. On Friday, March 10, the course closed with a social dinner of traditional "Asado Criollo" (Uruguayan barbecue).

Participants in the II Latin American Course of Neuroepidemiology, Punta del Este, Maldonado, Uruguay, March 6th to 10th, 2023. In the center, Dr. Daniel Salinas, Minister of Public Health of Uruguay.

Participants, professors, and coordinators had the opportunity to discuss in-depth different aspects of the clinical-epidemiological methodology for the study of neurological diseases. This full-immersion course format allowed total focus on the subjects, and the participants were not distracted by other activities during the day. The participants worked together for eight hours a day for five days.

We would like to emphasize that this kind of course corresponds to the objectives defined by the WFN Specialty Group on Neuroepidemiology during the meeting which took place Oct. 30, 2019, at the World Congress of Neurology in Dubai. •

Dr. Carlos N. Ketzoian is Chair of the WFN Specialty Group on Neuroepidemiology.

HISTORY

continued from page 9

disappearance of the disease, now only being a symptom (pp. 7 and 623)?

From the medical and scientific perspective there are, Shorvon believes, numerous arguments to drop the term epilepsy as a disease and continue to use *epileptic seizure* as a clinical manifestation or symptom. Referring to the German neurologist/medical historian and émigré Walther Riese (1890-1976), he realized that epilepsy is not just a medical and scientific concept, but also an idea laden with social and personal signification. Thinking of the disadvantages of the stigma, the author concludes: "Given that it does not exist as a disease, that it carries with it dark and deeply engrained archetypal memories of heredity, mental disease and impairment, and that it confers prejudice and social exclusion, I think the removal of the term 'epilepsy' from public discourse is at least worthy of debate. My personal opinion is that the gain might well outweigh the drawbacks. Much as Temkin had hoped, perhaps at this juncture, the end of epilepsy is possible to envisage. This would indeed be a goal worth achieving" (p. 629).

In conclusion, this book is a rich source of interesting aspects of the history of epilepsy in the past 160 years. It is recommended for physicians, in particular neurologists, and those non-medically trained persons interested in epilepsy and its history. •

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PRESIDENT'S COLUMN

continued from page 1

definitions, interests, and a number of stakeholders, the concept of brain health is important, and also closely connected with the IGAP. I want to remind readers that the next WFN World Brain Day (WBD) bears the title "Brain Health and Disability," and thus indicates that the WFN is following the route to support the brain health concept, which was initiated in 2020. Although brain health is a universal concept, it needs to be targeted from many perspectives. The function of a healthy brain in all developmental stages from the prenatal period into old age, as well as the close connection of brain function with mental disorders, are pragmatic directions for neurologists. These need to be supported by many initiatives as delineated in the IGAP and by the WHO paper on brain health.

The 2023 topic of "Brain Health and Disability" also aligns with initiatives of the WHO. We are developing the WBD program jointly with the six WFN regions and have also invited the World Federation of Neurorehabilitation as a partner. This worldwide society has its focus on neurorehabilitation and promotes development and research.

The progress of the WBD toolkits and activities can be found on the WFN website, and here for updates. The WBD is chaired by Tissa Wijnerate, and David Dodick. We are again supported by Yakkety Yak as a professional public relations agency.

Education: From our numerous educational activities, we are glad to report that another four-year neurology trainee has started training in Dakar. The department visits will be extended to Asia for Asians. This year's African educational day's topic will be "neuropathies." There will also be a joint educational day on headache jointly with IHS GPAC, and we are on the way to establish an Asian educational day jointly with AOAN, which will have stroke in Asia as a topic.

The concept of the World Federation of Neurology Teaching Centers (WFN TCs) was first introduced in 2013, and it is an excellent occasion to celebrate 10 years at the World Congress of Neurology (WCN) in Montreal.

The first TC in Africa was established in Rabat, Morocco, with significant support from the Moroccan society, followed by TCs in Cairo, and Dakar. Another TC was opened in Mexico City for Latin America, and followed by Cape Town. The intention now is the establishment of a WFN TC in the Asian region.

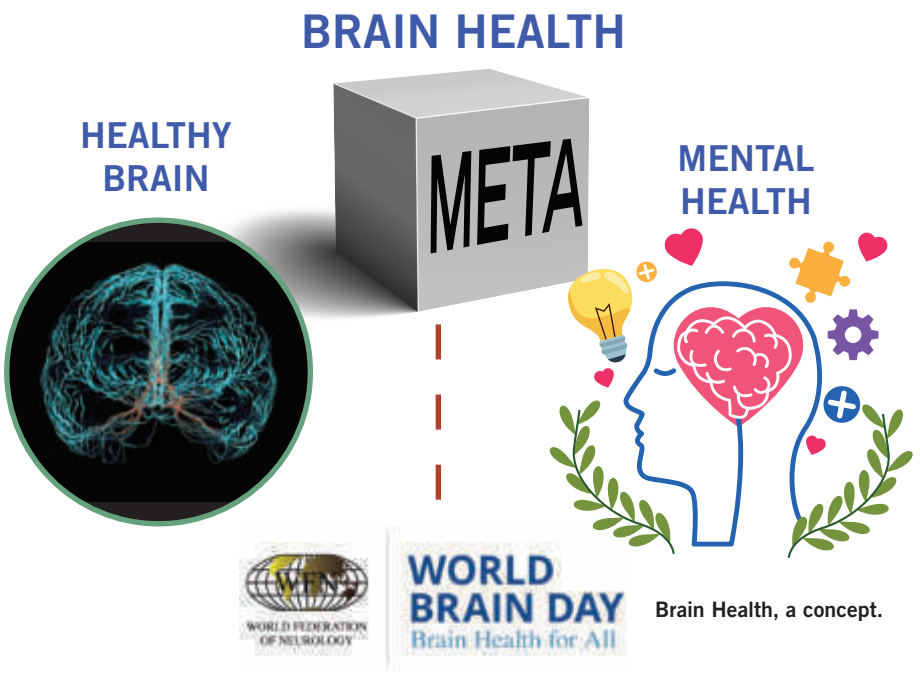
The concept of the teaching centers is to create centers of excellence and also to empower local teaching. Starting with one-year general training, the concept has dynamically grown and has a diversification in fellowships and full four-year training.

We are all excited and looking forward to the WCN in Montreal, organized jointly with the Canadian Neurological Society (CNS). The congress will take place Oct. 15-19 in Montreal, Canada. The WCN will feature plenary lectures, topics, free presentations, debates, poster sessions, and an attractive teaching course program. The WFN has increased the outreach to other societies and global institutions, and we expect several joint sessions. As new items, we will have a patient platform, a patient day, debates, and several smaller events allowing for more direct contact to our speakers.

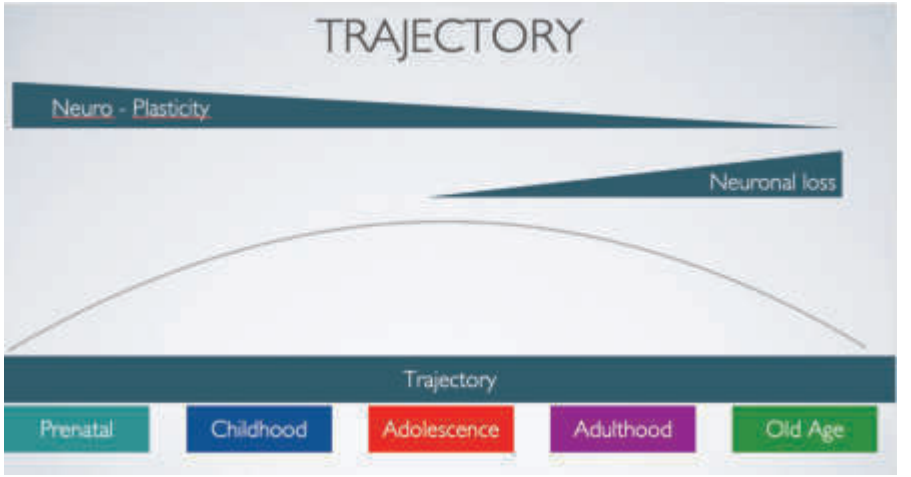
The WFN sent out three surveys to member societies and delegates: one on rare diseases, one on education for young neurologists, and one on the awareness of IGAP. Unfortunately, the questionnaire on IGAP received least attention by our membership, and we would like to remind the members on the importance of IGAP as a true joint global project with the WHO.

The Council of Delegates (COD) meeting this year will be at the Montreal Congress, and we hope that many of the delegates will be able to come in person. The COD will also be hybrid due to travel issues, finances, or other reasons some delegates may not be able to attend in person. There will be two elections, one for the Treasurer (to follow Richard Stark), and one for the position of an elected trustee (to follow Morris Freedman). Also, this year's election will be electronic, and details and instructions will be sent out in the near future.

All in all, we have an exciting year ahead of us, and we hope to be able to continue with this pace. We look forward to the WCN in Montreal. •



Brain Health, a concept.



The trajectory from the prenatal period toward senescence.

MEMORIAM

continued from page 1

history and co-authored the book on the history of Norwegian neurology. He was a member of the steering committee of the successful Norwegian Year of the Brain 1995. Johan's work in Norway was so distinguished that in 1996, he was made a Knight, First Class of the order of Saint Olav by King Harald V.

When the European Federation of Neurological Societies (EFNS) was founded, he was the first Norwegian delegate (1991-1998) and was quickly appointed Chair of the Teaching Committee of the EFNS (1997- 2002) and then appointed EFNS Secretary-General (2003-05). Internationally, Prof. Aarli was the Norwegian delegate to the WFN 1998-2001, elected as WFN vice president, and was thereafter elected WFN president during the Sydney World Congress of Neurology in 2005.

Having had the honor of working with him, Johan had the extraordinary ability to calmly drive the WFN to many new areas and initiatives. He developed the collaboration between the WFN and WHO, which started with the publication of the Neurology Atlas in 2004 followed by "Neurological Disorders: Public Health Challenges" in 2006. In June 2019, he represented the WFN in the 10-year project to produce the ICD11. The collaboration continues today.

In 2007, his calm diplomacy and negotiation skills enormously helped in bringing the Chinese Neurological Society to become a full member of the WFN.

Johan saw the need to develop improved delivery and increased rural distribution of neurological care, and is considered by our African colleagues as the father of the WFN Africa Initiative. He started the Africa Task force in 2005, which eventually evolved into the African Academy of Neurology. Site visits to establish training centres in Africa and Latin America started during his presidency.

As if all this was not enough, Prof. Aarli wrote the "History of the WFN, the First 50 Years" published by Oxford University Press in 2014. Another eminent previous WFN president Lord Walton described the book, "without question a major scholarly work based upon careful historical research and an encyclopedic knowledge." It is the principal source on the history of neurology in the second half of the twentieth and the early twenty-first centuries.

Prof. Aarli's enormous achievements for international neurology were deservedly recognized by the WFN when he was awarded the medal for services to international neurology during the 2013 Vienna World Congress.

Johan was a soft-spoken, gentle, charming, pleasant man, with a disarming demeanor. His requests for neurologists from all parts of the world to serve the WFN in various capacities were asked simply in a calming manner "would you have a little time to give to the WFN." I do not think anyone ever refused. He was generous, a wonderful host and a real friend. You could go to him with any problem or issue and come out fully satisfied by his wise and sound opinion. He was known to take time to think and ask for advice prior to making major decisions. He always made all those around him feel comfortable with his decisions as they would have been thoroughly thought through. A leader, who shall certainly be sorely missed.

He is survived by a loving family, Gullborg his wife of 62 years, five children, Anen, Ragna, Gunn, Bernt and Maria, 15 grandchildren, and one great grandchild.

Johan Aarli´s last years were overshadowed by chronic ill heath that finally ended the life of this remarkable neurologist. •

Prof. Raad Shakir is a past-president of the World Federation of Neurology.

Report of the World Stroke Congress 2022 in Singapore

BY STEFAN KIECHL AND DEIDRE DE SILVA

The World Stroke Congress (WSC) is the flagship meeting of the World Stroke Organization (WSO). After the exclusively virtual events in 2021 and in 2020 (joint conference with the European Stroke Organization), the WSC 2022 in Singapore was the first international large-scale in-person meeting. With more than 4,400 attendees (approximately half in person and half online) this was the largest WSC ever. It served as an excellent opportunity to discuss latest clinical and research results with colleagues from all over the world. The participants were from 106 countries with highest attendance from colleagues from Australia, China, India, Indonesia, Malaysia, Philippines, Singapore, United Kingdom and the United States. The faculty of 204 invited speakers were well balanced across continents (Asia 34%, South and North America 24%, Europe 25%, Australia and Africa 18 %).

The opening ceremony included a video message from Tedros Adhanom Ghebreyesus, WHO director-general. In the three-and-a-half day program Oct. 26-29, the scientific program committee organized 97 sessions, teaching courses, joint symposia, and plenaries. These covered a broad range of topics, emphasizing the latest research and breakthrough discoveries across the globe, with priorities in acute stroke therapy, primary and secondary prevention, rehabilitation and recovery, cardiac aspects, and intracerebral haemorrhage.

One priority of WSC was the cross-link with partner organizations. The WSO and World Federation of Neurology (WFN) organized a joint symposium on education in stroke. With the conference being held in Asia, this granted the opportunity to collaborate with stroke societies from Asia, such as the Chinese Stroke Association, Asia Pacific Stroke Organization, Association of Southeast Asian Nations Neurological Association, and WHO South-East Asia Regional Office. Stroke support organizations substantially contributed to the WSC 2022, integrated into the main program and also in parallel independent sessions. During the coffee breaks, there was dialogues on non-communicable diseases (NCD).

The WSC 2022 had more than 20 late-breaking trials that were published in top journals like The New England Journal of Medicine and JAMA. One highlight was the first presentation of results of MR CLEAN-LATE. Patients admitted between 6 and 24 hours after stroke (NIH Stroke Scale ≥ 2, occlusion of the internal carotid artery or M1/2 segments of the middle cerebral artery), had a substantial benefit of endovascular stroke therapy. The only patients not considered in these trials were patients with large demarcated infarction (more than third of the territory of the middle cerebral artery) and patients with a collateral score of zero. Patients with indications of endovascular stroke therapy according to DAWN or DEFUSE-3 criteria were also not considered. Other highlights were the meta-analysis of six trials comparing endovascular stroke therapy alone against bridging (combined with intravenous thrombolysis). In this meta-analysis including 2314 patients, endovascular stroke therapy could not prove to be non-inferior to bridging therapy and this is also valid for multiple subgroups. The first phase 3 trial on stem cells in stroke recovery (TREASURE) was negative, a lowering of systolic blood pressure under 120 in successful endovascular stroke therapy has negative impact on the patients' outcome (ENCHANTED2), and treatment by tenecteplase was non-inferior to alteplase treatment (AcT Study).

The WSC 2022 in Singapore contributed to a better clinical stroke management in the future and facilitated discussion about stroke care in various geographical regions. Hundreds of delegates, local organizers, and stroke advocates joined the annual Walkathon and with "One Voice" raised stroke awareness. The WSC 2023 will be organized in Toronto (Canada) between Oct. 10-12, a few days before the congress of the WFN in Montreal from Oct. 15-18. •

Stefan Kiechl and Deidre De Silva chaired the Scientific Committee of WSC 2022.

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