



Editorial

An electromyographer recalls the history of the Federation on the 70th anniversary of its journal, *Clinical Neurophysiology*



To celebrate this historical occasion, Dr. Ulf Ziemann, the Editor-in-Chief, asked me if I would contribute an editorial as an old timer who has witnessed some of the early days of our Federation. He instructed me to describe the historical events related to the development of electromyography (EMG) for study of the peripheral nerve and muscle in the scope of scientific activities of the Federation, which initially exclusively dealt with the study of electroencephalography (EEG) to assess cerebral function. I understand Dr. Tassinari will review the more traditional accounts for the progress of the Federation primarily as an EEG organization (see his article in the same issue of *Clinical Neurophysiology*). As I accepted the kind offer, thousands of thoughts crossed my mind, some of which I will list below. I know one should avoid starting a paper with an apology, which instantaneously weakens the position. This notwithstanding, I admit that the article, by necessity, describes a very private recollection only in the context of the Federation activities and may have overlooked some personalities and historical events crucial to the development of EMG. For such unintentional omissions, I can only claim my ignorance and hope others more knowledgeable would be willing to fill in the void created in this review.

The first volume of our journal, *EEG and Clinical Neurophysiology* (EEG Journal), was published in 1949, two years after the founding meeting in London of the International Congress of EEG (EEG Congress) in 1947, when Professor Edgar D. Adrian, the President of the UK EEG Society, suggested the formation of a World EEG Organization and the founding of an International Journal. Herbert H. Jasper of Montreal, the first President of the *International Federation of Societies for Electroencephalography and Clinical Neurophysiology* (IFSECN), was appointed as the founding Editor (1949–1961) for the forthcoming journal. Dr. W.T. Liberson of Hartford, CT, USA, already voiced a more liberal view. He argued that the Federation and the journal should deal with all the fields of clinical neurophysiology, including EMG, rather than exclusively devoted to EEG. This advice, falling on deaf ears, gained no support during the early days. He told me all about the ordeal much later in the late 1980s, when we worked together in selecting the *Muscle & Nerve* as the official journal of the American Association of Electromyography and Electrodiagnosis (AAEE).

I came to the US as a Fulbright scholar in 1962 for residency training at the University of Iowa, a distinguished neurology program, which celebrates its 100th anniversary under the chairmanship of Dr. George Richerson this year as the third oldest Neurology Department in the US. I then had my first contact with electrophysiology as an EEG fellow in the Psychopathic Hospital with Dr. John

Knott, who had already established one of the first EEG laboratories in the country. Herbert Jasper, who studied psychology in Iowa before his medical education, worked with John Knott, who also earned PhD in the same field. The 1983 *Wave Length* book, authored by W. A. Cobb of London, the second Editor-in Chief (1962–1973), mentions that John Knott prepared the Society Proceedings to help Herbert Jasper launch the EEG journal in February 1949.

In 1969, I moved to the University of Manitoba, Canada to work with Dr. Michael Saunders, who served as a member of the Rules Committee for Mary A. Brazier of Los Angeles (1961–1965), the 4th President of the IFSECN. She was preceded in this capacity by Herbert H. Jasper (1949–1953), W. Grey Walter of Bristol (1953–1957) and Henry Gastaut of Marseilles (1957–1961). Her administration proposed three distinguished electromyographers to form the EMG Commission to look after EMG interests in this primarily EEG oriented organization: Fritz Buchthal of Copenhagen, Denmark as the founding Chairman, Irena Hausmanova of Warsaw, Poland, and Ed Lambert of Rochester, MN, USA, as the members. Under the 5th President, Antoine Remond of Paris (1965–1969), Dr. Saunders served as the first Member-at-Large and first Chairman of the Rules Committee. He also worked for the Journal as a member of the Editorial Board, helping W.A. Cobb; Ed Lambert looked after EMG matters as the second Chairman of the EMG Commission after Fritz Buchthal.

The 3rd International Congress of EMG (EMG Congress) took place in Glasgow, Scotland, UK (1967) following the 1st and 2nd Congresses in Pavia, Italy (1961) and Copenhagen, Denmark (1963). When the American EEG Society hosted the 7th EEG Congress in San Diego in 1969 under the presidency of Herbert Jasper, Ed Lambert attended to EMG interests, representing AAEE. A change in the By-Laws allowed admission of two societies from the same country. Taking advantage of this new rule, AAEE, an EMG organization, joined the IFSECN as the second member society from the US. This event reflected a new thought in the minds of Executive Committee (ExCo) members realizing that the Federation should have more than EEG alone.

As for the journal, H.H. Jasper concluded a contract with Elsevier in September 1960. The IFSECN apparently had serious differences with Elsevier around 1970, when the publisher wished to draw up a new contract. Feeling uneasy, Peter Kellaway resigned at the end of 1971 and Mary Brazier took on the task of American Editor. Despite the initial concern over the new contract, the income from the Journal rose to a new high during the next Fiscal Period and Elsevier offered to include in each number a two-page insert as

“News and Notes” to improve communication with member societies. Dr. Cosimo Ajmone Marsan of Bethesda (1969–1973) was elected as President. Fritz Buchthal, founding Chairman of the EMG Commission in the previous decade, returned for an encore service in that same role.

Following the AAEE lead, the Belgian Society of EMG and Clinical Neurophysiology applied successfully for a membership as the second society of the country in 1971, the year the 4th EMG Congress took place in Brussels. The IFSECN, for the first time, played an active role in its organization. This stood in sharp contrast to the three prior EMG Congresses which received very limited input from the strongly EEG oriented Federation. The three volume treatise that John Desmedt edited as the Convener, assembling most of the topics discussed in the Congress, appeared in 1973 under the name of “New Developments in Electromyography and Clinical Neurophysiology”. I believe, and many of my neurophysiology colleagues agree, that this masterpiece propelled the field of EMG to a much higher level, defining the role of clinical neurophysiology as a practical tool. Inspired by this development, I asked Dr. Thoru Yamada to join us as Director of EEG laboratories, which allowed me to concentrate in my chosen field.

The 8th EEG Congress was held in 1973 under the Presidency of Henri Gastaut. William A Cobb (1973–1977) was elected as president. Marry A.B. Brazier (1973–1984) took over the job of Editor-in-Chief and Pierre Buser of Paris became the European Editor. Professor A. Struppler from Munich became Chairman of the EMG Commission.

The 5th EMG Congress, organized by AAEE, took place in Rochester, MN, USA in 1975. Despite considerable anxiety expressed by the members of the Organizing Committee for the usual lack of communication from Ed Lambert, serving as the President, the meeting was well attended. They provided very personal hospitality, each Mayo Clinic EMG staff member inviting a group of attendees to their homes for meals. I had the good fortune of having Jasper and Cindy Daube as my host. We discussed, among other things, how we should tie the AAEE to the IFSECN to further develop EMG in the US and globally. Jasper promoted EMG vigorously, working as the Secretary-Treasurer of AAEE, the post I inherited shortly thereafter.

The EEG journal was receiving a progressively increasing number of submissions, which made publication delay inevitable with an unacceptable backlog of papers despite a high rejection rate. The problem was resolved near the end of the Fiscal Period by a return to small print and the use of extra pages. The 9th EEG Congress, held in Amsterdam in conjunction with the 11th World Congress of Neurology (WCN), elected Robert Naquet of Marseilles (1977–1981) as President. John Desmedt became the Chairman of the EMG Commission.

In June 1979, the Swedish Society held the 6th EMG Congress in Stockholm. Erik Stalberg, a close friend of mine, was helping K.E. Hagbarth, the Convener. J. E. Desmedt represented the Federation as Chairman of the Organizing Committee. Despite the initial concern about the opposing personalities of the Convener and Chairman, the congress went well, drawing over 600 attendees. On a personal note, Junko, my wife, and I, exhausted after a long flight, took a nap on arrival. Seeing bright daylight on awakening, we thought we had overslept. Fearing that I was about to miss my presentation scheduled for 5:00 PM, we rushed to the hotel lobby asking for a taxi and the clerk told us it was 3:00 AM, not 3:00 PM. I visited Uppsala a number of times since, always remembering this embarrassing experience very fondly.

With the news that the World Federation of Neurology would hold the 12th WCN in Japan, the IFSECN immediately accepted the bit to hold the 10th EEG Congress in Kyoto in 1981. Professor Naquet and the members of ExCo wondered in amazement why

Japanese appointed such a huge local organizing committee of some 150 members. They had no knowledge of the traditional practice in Japan to round up as many names as possible in the honor role, the trend I inherited when we later organized the EMG Congress in the same venue in 1995. The ExCo members praised not only the scientific presentations but also the ladies' programs as one of the best, contributing to the value of the meeting. Since then, Japanese organizers consider an international meeting a big success if the accompanying persons' programs go well. In passing, I should mention that the success of this joint venture prompted another similar arrangement later in Vancouver between the 15th WCN and 13th EEG Congress, which Andy Eisen of Vancouver and I had the honor to help organize in 1993.

To celebrate the 30th anniversary of the journal in 1979, the February number came out in a pale green cover, containing a brief history by Brazier and Cobb entitled “Thirty years.” Hans van Duijn, working in Amsterdam close to the Elsevier office, replaced Peirre Buser, who, after 6 years of distinction, resigned as European Editor. R. J. Ellingson (1981–1985) was elected as President and Mary Brazier was reappointed as Editor-in-Chief. The 7th EMG Congress took place in Munich in 1983 with A. Struppler as the Convener. J.E. Desmedt, as the Chairman of EMG Commission, represented the Federation in the Organizing Committee. In 1984, Marry Brazier, after 11 years of yeoman work, relinquished the post of Editor-in-Chief to Hans van Duijn (1984–1987) conveniently placed in Amsterdam for daily contact with the desk Editor at Elsevier.

W.A. Cobb, serving the IFSECN as the Publication Editor, edited “Recommendations for Practice of Clinical Neurophysiology”, and authored, “Wave Length” in 1983. With about 3000 subscriptions, the journal had consolidated its position in the competitive field of neuroscience publications. The 11th EEG Congress was held in London in August 1985 with A.M. Halliday as the Convener. Although the meeting offered a very good scientific and educational program, financial issues developed because of the unexpectedly high cost for the use of Barbican as a venue, the problem unresolved until the next Fiscal Period, when John E. Desmedt (1985–1989) served as President and Stephane Metral from Paris, as Chairman of the EMG commission.

The 8th EMG Congress was held in Sorrento, Italy in May, 1987 at the invitation of the Italian Society of EEG and EMG, celebrating the 40th anniversary of the founding Federation meeting in 1947. Giuseppe “Peppino” Caruso served as Convener and John E. Desmedt represented the Federation as President. Coinciding with the start of the conference, Italian railroad workers went on strike, which shut down all transportation serving Rome and Sorrento. As a result, a group of us were stranded in Milan and, to my great regret, I could not deliver a scheduled talk. When I finally arrived at the Congress hall, I was warmly greeted at the entrance by Convener Caruso himself who stated “we were all worried about you” in his concerned and personal way, saying nothing about the missed session. I still remember my ordeal and the lesson I learned from Peppino on how to handle invited speakers who have failed to show up for their assigned role.

The 12th EEG Congress was held in Rio de Janeiro, Brazil in January 1990, summertime in the southern hemisphere. The Brazilian Society of Clinical Neurophysiology served as the host society with Gilson E. Goncalves e Sila as Convener and Joao Nobrega as Treasurer. John E. Desmedt represented the IFSECN as the President. The Council, in a historical move, voted to disband the EMG Commission, which, formed at the first EMG Congress in 1961, continued its work to promote EMG in the EEG oriented Federation for three decades under the chairmanships of Fritz Buchthal (1961 and 1969), Edward H. Lambert (1965), Albrecht Struppler (1973), John E. Desmedt (1977 and 1981) and Stephane Metral (1985). This decision clearly signaled the recognition of EMG as a core discipline equal to EEG. Reflecting this sentiment, the Nominations

Rules were also altered to guarantee fair representation of the EEG and EMG disciplines in the ExCo composition.

With the realization that the IFSECN's focus had now expanded well beyond EEG itself, the 1990 General Assembly in Rio de Janeiro voted in favor of changing the name of the Federation to *International Federation of Clinical Neurophysiology* (IFCN), a forward step to indicate that we should encompass all disciplines of clinical neurophysiology. The name change signaled the new era of the organization which now recognized equal importance of EEG and EMG, reflecting the unity of clinical electrophysiology. For the first time, the Federation, under the new name IFCN, represented all disciplines of our fields. The Council also approved ExCo proposal to amend the by-law on Other International Meetings to state: "In addition to the International Congress of EEG and Clinical Neurophysiology, the IFCN organizes an International Congress of EMG and Clinical Neurophysiology and may organize or sponsor other interim meetings on any topic related to clinical neurophysiology". The main quadrennial convention called EEG Congress now dealt with a broader representation of techniques, including EMG materials. Similarly, the midterm convention, known as the EMG Congress, encompassed a wider scope of clinical neurophysiology, a trend already noticeable at the 1987 EMG Congress in Sorrento.

The name of the journal, *Electroencephalography and Clinical Neurophysiology*, remained unchanged until the end of that decade to preserve the high impact factor linked to the well-established name. Hans van Duijn, Editor-in-Chief, and Mary A.B Brazier, Western Hemisphere Editor, both expressed their wish to step down from their duties for personal reasons. Timothy Pedley (1987) from New York, appointed as Western Hemisphere Editor, resigned after several months and was succeeded by Gastone Celesia from Chicago (1988–1999). Francois Mauguière from Lyon (1987–1995) was appointed as Editor for the European Office. For the first time, both Editors served with the title, Editors-in-Chief, and a full vote each in the ExCo. The journal expanded to include a six-issue volume each year dedicated to *EMG and Motor Control* following the procedure four years earlier of adding a six-issue volume named *Evoked Potentials*. Both separate volumes were published in parallel with the main journal, which had two six-issue volumes. Therefore, the journal reached four volumes and 24 issues each year. The journal achieved the highest impact factor in the categories of clinical neurophysiology.

A group of EMGers, trying to further consolidate the trend to establish EMG as an equally important discipline as EEG in clinical practice, suggested that I run for the Office of the next President. Needless to say, I had no guarantee to win against internationally prominent opponents, who mostly represented EEG. At the end it became a contest between the two disciplines involving traditionally strong EEG and newly emerging EMG. I felt all along that I had a slight edge as a candidate nominated from Japan, which had never had a post in the ExCo despite early participation and contribution to the affairs of the Federation. Thus, I found myself in the right place at the right moment to win the race despite my inexperience. It was a triumphant moment, for sure, although I had considerable anxiety on how to handle this added responsibility as I had just accepted the offer to return to my alma mater as Chair of Neurology and relocated the Editorial Office of the *Muscle & Nerve* from Iowa to Kyoto.

Political tensions in the near East worsened and war broke out in Kuwait and Iraq in February and March, 1991 threatening the 9th EMG Congress in Jerusalem originally scheduled for June 1991. Israel found itself under air attack. When the hostility ceased and an uneasy truce declared, the political outlook continued to raise concern for further provocative actions against Israel. The Organizing Committee of International Congress (OCIC) and Israel Society of Clinical Neurophysiology represented by Dr. A. Gilai as

the Convener considered and reconsidered various options on many occasions. The discussions remained congenial although we found it difficult to secure a mutually agreeable plan. In the end, I recommended to postpone the meeting to 1992 as a compromise, a plan eventually supported by both sides. When the Congress finally took place in the following year, more than 500 physicians and scientists participated in the meeting from all corners of the world. This attendance clearly exceeded the originally anticipated size, although smaller than the typical EMG Congress. The meeting had strong scientific and social programs, which included the Kugelberg Lecture delivered by Arthur K. Asbury on "Polyneuropathies of the Millennium" and the Adrian Lecture, by John Newson-Davis on "New Concepts in Neuromuscular Disorders".

We had the OCIC meeting in Kyoto, July 1993 when John Desmedt, Immediate Past President, and Carl Lüking, President Elect, found something resembling a gavel in a small antique shop near Kiyomizu Temple. Dr. Hiroshi Shibasaki, who later served as the Federation Secretary and President, told us that this wooden piece called "Nyoibo", described in a Japanese folk story, belonged to an ape warrior who helped a Chinese priest seeking the Buddhist Bible. The Saiyuhki, "a tale of a venture to the West", written in ancient China, proposes the belief that, Nyoibo, a magic bar, helps one accomplish the esteemed goal for the benefit of all mankind. The Nyoibo was handed over to me as the 11th President (1990–1993) during the OCIC session in Kyoto with the intention that this instrument would serve from that point forward as the ceremonial gavel for the president to use during the delegate meeting. Given its tradition, it also symbolizes, as a sign of hope, that the president and the Federation will achieve the objective during each term.

Andrew and Kathy Eisen, residents in Vancouver, handled much of the difficult and often controversial issues with finesse for the 13th EEG Congress in September, 1993. Because of a major delay of their flight from Tokyo, the Japanese contingent barely made the Opening Ceremony which took place at the historic beautifully restored Orpheum Theatre. My wife and I were amongst them. Andy sent a limousine to pick us up and we came straight to the "Opening" in a T-shirt and jeans. I wanted to "show up" rather than "dress up" to pay our respect and gratitude to the local organizers who spent countless hours preparing for the occasion. From my vantage point, the meeting offered one of the best scientific and social events we have ever experienced.

At the Vancouver General Assembly in 1993, I presented the Nyoibo for the first time as a ceremonial gavel to Carl Lüking of Freiburg (1993–1997), the incoming President, wishing him and the new ExCo success in the coming four years in what they hoped to accomplish for the course of IFCN. Since then, each succeeding President has received the Nyoibo from the outgoing President at the end of the quadrennial General Assembly as a ceremonial token of their authority in the office and wish for good fortune throughout their term of office. Thus, Nyoibo has found its way to Presidents Marc Nuwer from Los Angeles (1997–2001), Francois Mauguière from Lyon (2001–2006), Hiroshi Shibasaki from Kyoto (2006–2010), Paolo Rossini from Rome (2010–2014), Mark Hallett from Bethesda (2014–2018), and Walter Paulus from Göttingen (2018–2022).

I had the privilege of serving on the Organizing Committee for the 10th EMG Congress in Kyoto, Japan as the Convener and Immediate Past President of IFCN in 1995. Carl Lüking represented the Federation as the new President. Nobuo Yanagisawa served as Secretary, Koki Shimoji, as Treasurer and Hiroshi Shibasaki, as Chair of the Program Committee. Ichiro Akiguchi, Ryuji Kaji and Nobuo Kohara ran as the Secretariat instead of a professional congress organizer to reduce the cost as we anticipated difficulty in fund raising for three adverse factors we experienced: strong Japanese currency, reaching 80 yen per 1 US dollar, an incident of under-

ground sarin poisoning and a major quake with epicenter in Kobe located only 60 km from the conference venue. Despite such concern, the congress went well drawing over 1500 participants, considered a record high at that time. The scientific program covered not only EMG but also EEG and other disciplines of clinical neurophysiology. Stephen Waxman presented the Adrian lecture on “Ion Channels and Nerve Conduction”. K.E. Hagbarth discussed “Muscle Spindle and Fusimotor System” for the Kugelberg lecture.

The 14th EEG Congress held in Florence, Italy in 1997 with Roberto Zappoli as the Convener celebrated the 50th anniversary since the 1947 founding meeting in London. The ExCo referred to the 1999 Conference that Zdenek Ambler organized in Prague, Czech Republic as the 11th EMG Congress for the last time. Since then, EEG and EMG Congresses were combined into a unified International Congress of Clinical Neurophysiology (ICCN). For the record, I wish to enumerate the subsequent conventions held under this new designation, listing the name of the convener, venue and year for each: Carlos Medina, Buenos Aires, Argentina, 2001; Mark Hallett, San Francisco, CA USA, 2003; Jonathan Cole, Edinburgh, Scotland UK, 2006; Hiroshi Shibasaki, Kobe, Japan, 2010; Otto Witte, Berlin, Germany, 2014 and Marc R. Nuwer, Washington, DC, 2018.

The field of clinical neurophysiology has undergone marked changes backed by many technical advances in the past several decades. It is now obsolete to separate neurophysiology, the IFCN Congresses or ExCo officers on the basis of EEG and EMG as clinical neurophysiology has expanded to include several other sub-specialties such as transcranial magnetic stimulation and intraoperative monitoring. The time has come to integrate all these techniques under a large umbrella of clinical neurophysiology so that we can take advantage of various subdisciplines, as needed, in conducting clinical evaluations. We have also experienced a major gain in molecular biology and imaging techniques applicable to the disorders commonly seen in electrophysiologic laboratories. I believe that all these methods compliment rather than compete in the evaluation of our patients

In retrospect, it was my good fortune to have had a very early contact with EEG as the only electrophysiologic technique useful in clinical evaluation in the early 1960s and have witnessed first-hand how EMG has developed slowly but steadily to match the EEG in its scope towards the end of 20th century. This was followed in the 21st century by somewhat explosive advance of various other electrophysiology techniques, which are closely interrelated, making divisions into subdisciplines difficult and irrelevant. I wish to conclude my treatise with the observation that a wider scope of clinical neurophysiology, reflecting technical advance, now encompasses much more than traditional EEG and EMG with no clear division among different fields. Clinical neurophysiology remains an important tool to understand and diagnose common disorders of the nerve and muscle as the only discipline to evaluate their function and dysfunction. To keep pace with the rapid advances of the related fields, we should always disseminate the latest advances in clinical neurophysiology as they apply to

clinical assessment of neurological patients.

Our journal has played a crucial role in keeping clinical neurophysiologists up to date as the emphasis changes from time to time to satisfy the needs of the readership. An electronic version of the EEG Journal became available in 1996. The journal marked its 50th Anniversary in 1999 and changed its name to *Clinical Neurophysiology*. A new cover went into effect at the same time. When Francois Mauguière resigned in 1995, Paolo Rossini (1995–2003) took over the position of European Editor-in-Chief. Gastone Celesia retired at the end of 1999 and Mark Hallett (2000–2008) replaced him as American Editor-in-Chief. The ExCo, after lengthy discussion of pros and cons, decided to return to the previous policy of a single Editor-in-Chief. When Paolo Rossini stepped down in 2003, Mark Hallett continued as the sole Editor-in-Chief until 2008, when David Burke (2008–2015) replaced him. Ulf Ziemann of Tübingen serves as the current Editor-in-Chief since 2016. The IFCN launched, on line, a new Open Access journal, *Clinical Neurophysiology Practice*, in 2016 with David Burke as the founding Editor-in-Chief.

I credit the exceptional growth of the Federation in great part to the scores of member leaders who have served as Editors-in-Chief of the journal. They have given us enormous amount of volunteer time to disseminate information vital to the progress of our disciplines. As we celebrate the 70th anniversary, I wish to congratulate the past and current Editors-in-Chief and their Editorial teams for a job well done and wish them the best for continued success for the benefit of us all. I also want to thank Marc R. Nuwer and Carl Lücking for their time and effort for contributing “Wave Length and Action Potential: History of the International Federation of Clinical Neurophysiology” (Supplements to *Clinical Neurophysiology*, Volume 61, 2010). I recommend this volume highly to readers with an interest in historical accounts of IFCN or *Clinical Neurophysiology*.

Respectfully submitted,
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