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► **To cite this version:**

Pierre Buser, Jean-Gaël Barbara, François Clarac, Boleslav Lichterman. The International Brain Research Organization from its conception to adulthood. Franco-Russian relations in the Neurosciences, J.G. Barbara, I. Sirotkina, J.C. Dupont, (éds.), 2011. halshs-03091172

HAL Id: halshs-03091172

<https://shs.hal.science/halshs-03091172>

Submitted on 11 Jan 2021

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The International Brain Research Organisation from its conception to adulthood¹

Version auteur de P. Buser, Barbara J.G., Lichterman, B., Clarac, F. 2011. « The International Brain Research Organization from its conception to adulthood » in Franco-Russian relations in the Neurosciences, J.G. Barbara, I. Sirotkina, J.C. Dupont, (éds.), Paris, Hermann, 2011, (ISBN : 978 2 7056 8211 8).

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Precursors

From 1901 to about the Second World War, an *International Brain Research Commission* was created, originating from the existing International Association of Academies². This Commission grouped several institutes such as the one at Leipzig (with Wilhelm His), at Amsterdam (with Äriens Kappers), at Berlin (the *Hirnforschungs Institut* with Oskar Vogt), at Munich (the *Institut für Psychiatrie*, with Emil Kraepelin), at Zurich (the Brain Anatomy Institute, with Constantin von Monakow³). It may thus be considered as a first tentative to establish an international cooperation in the field of brain research.

Following the First World War, another tendency developed with the creation of several large national institutes. The Brain Research Institute in USSR was opened in 1925, and several other research and clinical (neurosurgery) institutions – in the 1920s and the 1930s. In the 1940s-1960s, the Neurological Institute was opened in 1934 in Montreal (Canada) and followed by the Mental Health Research Institute (Ann Arbor MI), the National Institute of Health (Bethesda MD), the Brain Research Institute (Los Angeles CA) and other Institutes in Europe as well. These research institutes, however, did not certainly fulfil completely the needs for international cooperation. In the 1950s, with the accelerating interest in the field of the brain sciences, time had arrived to create an international organisation oriented exclusively towards brain research. The creation of the International Brain Research Organisation was thus not a self-combustion, but was due to a conjunction of scientific and sociological reasons. One of the major drives became, of course, the strong need to create solid links between Eastern and Western scientists interested in the central nervous system.

¹ This paper is based on novel archival material collected by B. Lichterman and J.G. Barbara. Archival sources are located either at IBRO or at the Archives of the Russian Academy of Sciences - Arkhiv Rossiskoi Akademii Nauk (ARAN). They are supplemented with personal communications by the participants of the Moscow colloquium. The paper also relies on a summarised calendar of the successive periods of the creation and development of the International Brain Research Organisation from a document edited by Dr Louise Marshall's leading initiative. This document summarises the presentations and discussions given at a Symposium of the IIIrd Congress of the World Federation of Neuroscientists, in Montreal, August 1991, to celebrate the thirtieth anniversary of the foundation of IBRO. Talks and discussions were published in the journal *Neuroscience* (1996), 72, 283-306. The successive chapters were as follows: Louise H. Marshall: The Antecedent Ground Swell; Walter A. Rosenblith: Organization and Reorganization; Pierre Gloor: Past Secretaries: Herbert Jasper and others; George Krauthammer: IBRO's Worldwide Survey of Facilities and Personnel; Colin Blakemore: IBRO: Dinosaur, Puppet, Umbrella or Union; Suzan Cossens: IBRO in National and International Perspectives.

² M. Wiesendanger. *Neuroscience, neurologie, neuropsychologie. Quelques liens entre la France et la Suisse romande*, in C.Debru, J-G. Barbara, C. Cheric, eds.: *L'essor des neurosciences: France, 1945-1975*, Paris, Hermann, 2008, p 307-315.

³ M.Wiesendanger. Constantin von Monakow (1853-1930): A pioneer in interdisciplinary brain research and a humanist, *C.R. Biologies*, 2006, 329, 406-418.

IBRO's birth

The colloquium took place at the House of Scientists in Moscow on October 6-11, 1958. There were two honorary chairmen (I.S. Beritashvili (Beritoff) and H. Jasper) and two chairmen (H. Gastaut and V.S. Rusinov). It was opened by greetings of Vice-president of Academy of Sciences of USSR, A.V. Topchiev, and chairman of organizing committee, L.G. Voronin, followed by a paper of Pyotr Stepanovich Kupalov. There were 46 neurophysiologists from 17 countries who delivered 29 talks during 10 sessions. There were 26 scientists from USSR, 8 – from Socialist countries of Central and Eastern Europe and China, 4 – from US, 3 – from France and 1 of each from Belgium, the Netherlands, Italy, England, India, Japan, Mexico and Canada⁴. Speakers were sitting at a big oval table on the scene and numerous spectators occupied chairs in the hall and on the balcony⁵. All scientific sessions were opened to the public. Most people in the audience did not speak English but simultaneous translation was provided.

Three main problems were discussed: 1) location of electrical changes in different parts of brain during formation of conditional reactions; 2) electrical discharges of single neurons and 3) evoked potentials and processes in projection area of conditional reflex and lower portions of afferent system⁶. The Colloquium proceedings were published both in English and Russian languages⁷.

At the final session it was suggested to launch an International Year for Study of Brain (similar to the declaration in 1957-1958 of the International Geophysical Year) and to ask UNESCO for international coordination of brain research. It was Gastaut and Fessard who presented the final resolutions at the Moscow colloquium, and Fessard and Herbert Jasper were to write them. They were favourably accepted by UNESCO.

Initially, Gastaut wished the foundation of a committee for the study of cerebral mechanisms in the framework of the federation of societies. He clearly formulated his idea at the first session of IBRO in Paris at the *Maison de l'UNESCO*, 4-7 October, 1960⁸.

However, Fessard insisted on the necessity to think IBRO in a broader context in affiliation with UNESCO and the CIOMS. This may be the reason why Gastaut was not a main figure of IBRO. As we have seen, Fessard had been involved with Laugier in previous non successful attempts to create an international structures devoted to Brain research. He thought the goals of IBRO should be to fund “fellowships for exchange of individual workers”, “temporary working teams”, missions, conferences, particular in the field of fundamental science, including all aspect of brain researches (anatomy, neurophysiology, ...). Several scientists regretted no clinicians were part of IBRO. However, Fessard thought it was contingent and due to the existence of clinical federations. Within ten years (1961-1971), IBRO funded international workshops in ten different countries⁹, fellowships (39) for scientists from distant countries (13 for Japan). Among host countries, France was among the first (USA 23 fellowships, France 10, Netherlands 9, Sweden 8). IBRO also funded temporary research teams and International training workshops.

The period of the creation of IBRO was pivotal for international neurophysiology, where France was at the heart of the revival of East-West scientific exchanges. However, soon after, American and Russian scientists also established close and direct relationships. Wilder Penfield was invited in 1955 by the Academy of Sciences to spend two weeks in USSR, where he met Topchiev and Smirnov¹⁰. Also, Horace Magoun was continuously interested in Soviet science since the February 1958 Macy conference on “Central Nervous System and Behavior”, where Mary Brazier analysed the history of Russian physiology. The two following years, Magoun invited E. Grastyan, V.S. Rusinov, E.N. Sokolov and A.R. Luria¹¹.

⁴ Bures J (2004): Autobiography. In: Squire L, ed., The History of Neuroscience in Autobiography. Vol.4. Academic Press, pp.74-115, p. 94.

⁵ Dumenko VN (2007): Personal communication.

⁶ Gershuni GV (1959): Mezhdunarodny kollokvium po EEG i vysshei nervnoi deyatelnosti = International colloquium on EEG and higher nervous activity. *Fiziolog, Zhurnal SSSR XLV (2)*: 208-215. – in Russian.

⁷ Jasper HH, Smirnov GD, eds. (1960): The Moscow Colloquium on Electroencephalography of Higher Nervous Activity, (Electroenceph. Clin. Neurophysiol., Suppl. 13).

⁸ IBRO first session. NS/IBRO/2, WS/0161.55.

⁹ IBRO at crossroads, retrospect and prospects, tenth anniversary report. Review of activities during 1961-1971. UNESCO/IBRO/5.

¹⁰ W. Penfield. A glimpse of neurophysiology in the soviet union. *Can Med Assoc J*, 1955, 73, 891-9.

¹¹ L.H. Marshall. Early history of IBRO: The birth of organized neuroscience. *Neuroscience*, 1996, 72, 283-306.

However, Gastaut's meeting in Moscow was by far the most outstanding, with the revival of conditioning studies in various areas¹².

The first decade, 1960 to 1971

IBRO's youth was marked by some successive interesting steps. First, it was favourably received at the November conference of UNESCO, and the UNESCO sponsored Council for International Organisation of Medical Sciences (CIOMS) under Dr Jean Delafresnaye, was charged with its implementation. The acceptance of UNESCO had already been prepared by Fessard's friend, Henri Laugier, who had been in the 50th Director of Natural Science Division of UNESCO. The first governing body of IBRO convened in Paris in 1960 under the chairmanship of Geoffrey Harris (UK). Supports were obtained to constitute the IBRO budget from UNESCO, WHO, NIMH (National Institutes of Mental Health), and generous foundations as well.

During the following two years, a small number of individuals negotiated with UNESCO and the CIOMS. Three Canadians, Herbert Jasper, Wilder Penfield and Henry MacIlwain had been very closely involved in the original discussion, so that Canada was chosen both for the Secretariat of IBRO and for its legal incorporate: an Act of Parliament, passed in Ottawa in 1961, gave IBRO a legal status, as a NGO (Non Governmental Organisation), and spelled out its objectives. The various disciplines were recognised as distinct panels (this panel structure was changed later on, perhaps to encourage interdisciplinary efforts). In 1962 a Neuroscience Research Program was launched at the Massachusetts Institute of Technology (MIT) which published four volumes of proceedings and invited international researchers to American laboratories. Prof. Evgeny Nikolayevich Sokolov (1920-2008), a psychophysicologist from Moscow State University and active participant of the Moscow Colloquium, was one of them. He recalled that there was a competition between IBRO and the above mentioned Program¹³.

A look at the successive secretaries

The secretariat of IBRO, initially in Montreal, moved to the UNESCO House in Paris. At that time, UNESCO also started to publish the "IBRO Bulletin". Herbert Jasper became the first Executive Secretary and stayed for one year in Paris. He then relinquished his post in 1963, and he was replaced by Heinrich Waelsch, a neurochemist from Prague, working at Columbia, who stayed at IBRO from 1962 to 1964. Klaus Unna, a pharmacologist from Hamburg, was appointed interim secretary general after Dr Waelsch's death, and then secretary general from 1964 to 1968. He was followed by Paul Dell, our late colleague and friend. Herbert Jasper took over again an interim secretary period (1971-1972), and then persuaded Derek Richter, a neurochemist, to take over the secretariat, at a difficult period when IBRO's financial support had considerably diminished. Richter's major contribution was to create *Neuroscience*, which became the official journal of IBRO, and a highly estimated international journal. Richter was followed by Mary Brazier, a pioneer in application of computer analysis to EEG signals. She was undoubtedly one of the most active persons to promote the idea of IBRO and to be eager to build bridges with our Soviet colleagues.

From abroad and generous views to more concrete and irritating problems

Each Secretary had his (or her) own personal specificity, each had an involvement in international relations, each had the idea that science transcends national political boundaries. But all had some problems with UNESCO, being obliged to try to arrange things with the Director General. It is true that,

¹² Instrumental conditioning (Buser, Rougeul), pharmacology and psychiatry. At the Salpêtrière, Georges Heuyer (1884-1977), holding the first chair of paediatric neuropsychiatry, created the *Laboratoire du conditionnement, chirurgie, psychiatrie infantile*, where Catherine Popov made important contributions, with Jean Scherrer and Léon Michaux.

¹³ Sokolov E.N. (2007): Personal communication.

in the early eighties, Prof. Carlos Chagas, a Brazilian biophysicist, Ambassador from his country to UNESCO, deserves mention since he played an important role in facilitating the IBRO-UNESCO relations.

In the first times, and above all during the Cold War, many people certainly hoped that the fraternity of science would help to bridge ideological gaps between nations. However, if we look at the individuals, they seemed to focus on more specific issues than on a solution of the world's political problems: numerous discussions and debates did occur in the 60s and 70s, with the problem of the stability and continuity of the secretariat, and the problem of the uncertain relations with UNESCO, and with the unavoidable limitation of funds.

The first decade: IBRO's world survey

An extremely important, but time consuming, task undertaken by IBRO was a World Survey of Resources and Needs in brain research. This survey was carried out by Vincenzo Longo from Rome, and was published in the then still existing IBRO Bulletin. The questionnaires, on which the survey was based, were very complete, with numerous pertinent questions on each laboratory, its ongoing and future research programs, etc. Not every laboratory answered, though; some in the Eastern block countries were very suspicious, fearing a "scientific espionage", despite the affiliation of IBRO to UNESCO. It is true that IBRO was obviously a Western-dominated organisation.

In spite of these difficulties, most of the world (including the Eastern countries) was covered in 1968 (41 countries, 3458 scientists, 613 laboratories), and the USA were so in 1969. The survey may not have been very useful, but it certainly served to reinforce the relationships between the socialist and the Western world. IBRO thus strengthened its value at a political level, one of the few platforms for legal contacts with international neuroscientists.

The difficult 1970s to 1980s episode

The support from UNESCO was withdrawn after the first ten years, in the early 70s. The year 1971 thus became a critical one for IBRO. Funds were raised with great difficulty. The US NIMH, which had paid for much of the survey, turned out a later request to support the US national IBRO affiliate survey. However, a certain support still came from the NIMH and NSF through the NAS. The publication of the Bulletin came to an end, and this was precisely the year of the first meeting of the American Society for Neuroscience. From 1971 to 1981, the following ten years, IBRO struggled to find a new role and to decide how and where it would stand in relation with the new regional and national Neuroscience Societies that were appearing in a variety of countries. At that period, the late IBRO Bulletin was replaced by the IBRO News. Nowadays, we are in the third stage and we have still another publication, the Current Newsletter, in newspaper format.

Preparing the future

In 1971, a working Committee of IBRO had introduced a new policy, with two types of membership, individual and corporate. The individual membership was available to a limited number of people who could prove their achievements in neuroscience, while corporate membership was available to societies or academies, and was thus the recognition of the local and regional Neuroscience Societies, and that IBRO would need their support to survive. As Jasper claimed at a meeting, held in Munich, "the various organisations now developing, stimulated in part by IBRO, may have reached a point where IBRO is no longer necessary, having partly at least fulfilled its original objectives".

Another outcome was that IBRO provided the impetus for the formation of National Neuroscience Societies. In many countries, including the socialist ones, national IBRO committees were created. Moreover, National Neuroscience Societies were created. All in all then, the number of IBRO members increased, to jump from 295, in 1963, to 8192 in 1991 (for all main countries except USA). One should

also add that, in 1976, IBRO also became an associate member of the International Council of Scientific Unions (ICSU), and was later on recognised, in 1993, as one of its a full scientific members.

Renewal in the 1980s

Discussions about the reorganisation of IBRO occupied the following 10 to 15 years, after it had, in some peoples' opinion, lost its initial "raison d'être" ("it had become an endangered dinosaur", as written by Colin Blakemore). The individual membership did not grow much, while the National Societies were in full development. IBRO itself expressed the wish for a change, coinciding with the desires of national and regional societies that IBRO could in a way act as some kind of a supra-societal structure of coordination. IBRO recognised this new mission at that time and seized the initiative by holding its first World Congress in Lausanne, in 1982. A plan for reform was finally adopted there, after discussion and approaching objectives, validated by the presidents of the major neuroscience societies (USA, Japan, Europe). The original objectives of IBRO were indeed preserved, to support scientific research in neuroscience, to promote international collaboration, to assist in education by dissemination of information. What was modified was the individual membership policy: local and regional societies should be encouraged to affiliate to IBRO.

From the 1980s to the 1990s

This new status remarkably increased the memberships to about 28000 in 1991. No member would pay individual dues, but it was recommended that corporate member organisations should pay a subscription roughly corresponding to the number of individual members. It was also suggested that organisations such as national academies should join IBRO as Academic members. Thus, all individual members of local societies might become IBRO members automatically, so to say. There are now about 77 Affiliated Organisations, with about 51 000 members in 111 countries. After a debate specifically regarding the name of the new organisation, the final compromise ended up on IBRO with an accessory name "World Federation of Neuroscientists", with, as one of its main objectives, to encourage the creation and development of local societies, not only in Eastern countries, but also elsewhere in the world.

Some flashes on IBRO's present activities

IBRO remains a highly active organisation, with an Executive Committee (President, Secretary-General and Treasurer), a Governing Council (formerly Central Committee), which is made up of over 80 neuroscience organisations (2007 numbers). IBRO represents the interests of more than 50,000 neuroscientists around the globe.

Very importantly, Regional Committees have now been created, for Africa (AFR, African Regional Committee), Asia-Pacific (APRC, Asia Pacific Regional Committee), Central and Eastern Europe (CEER, Central and Eastern Research Committee), Latin America (Latin American Regional Committee, LARC) US/Canada, Western Europe (WERC, Western European Regional Committee). IBRO also remains in connection with the ICSU Executive Board via a Liaison Officer. IBRO will hold its next World Congress in Florence on July 14-19, 2011. The American Society for Neuroscience is pleased to offer 15 special travel awards in the amount of \$1500 to support the participation of US, Canadian and Mexican graduate students at the IBRO World Congress. IBRO Neuroscience Schools are organised by the regional committees. Recently, IBRO and FENS joined forces to sponsor and coordinate all neuroscience schools in Europe in one single pan-European training program called the Programme for European Neuroscience Schools (PENS).

IBRO offers post-doctoral fellowships and travel grants to students from less-developed countries. Since 1999, IBRO has run a Neuroscience Schools Programme, organised by the committees of the six Regions, aimed at forming interactive networks among students and teachers during training courses in Africa, Asia, Central and Eastern Europe, Latin America, Western Europe and the US/Canada. With

just three schools in 1999, expansion has been rapid – in 2007 there were 22 schools around the world. As a result, IBRO has over 3000 alumni, who communicate among themselves and schools faculty via their own website.

Concerning IBRO and animal rights, animal rights groups challenge IBRO members and National Neuroscience Societies with respect to the conduct of responsible animal research? Does IBRO provide any resources for its members? As underlined by the IBRO Secretary-General: “the threat of animal-rights violent extremism reaches all corners of the world, including Latin America, Africa, Eastern Europe, and Asia. Through its “Animals in Research Committee”, IBRO provides support in terms of counselling, letters to relevant officials, and educational materials for the public. It is also actively involved in organising workshops on the ethical use of animals for regions and institutes interested in becoming active in incorporating the principles of ethical animal use in their research program. In addition, members participate in many of the IBRO schools to teach and discuss with students the ethical use of animals in research”.

IBRO played a major role in uniting efforts of scientists from different countries and different specialties around a single object named brain. According to Sokolov, the notion of “brain” has enlarged due to such interdisciplinary approach. Neurosciences and psychology merged. The so-called “Decade of Brain” in 1990s might be viewed as a secondary reaction to the results of neuroscience research of previous decades.

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Appendix:

Previous attempts to create a brain international organization before IBRO

Alfred Fessard, the leading French neurophysiologist, played a great role in the foundation of IBRO. We may trace back his conception of international cooperation in neurophysiology to understand the international context. Fessard shared the idea of the Rockefeller foundation on international cooperation, that the network of the Rockefeller fellows (including the French scientists L. Bugnard, R. Wurmser¹⁴) should play a central role. Fessard also praised the policy of the CNRS, continued by Henri Laugier, the CNRS director during 1939-1940 and 1943-1944. In 1946, when Fessard was travelling with Bugnard in the US, Laugier was in New York to revive scientific international relations. He was Assistant Secretary-General of the United Nations in charge of social affairs until 1951 in the United Nations Economic and Social Council (ECOSOC)¹⁵. Laugier wished to establish an international research system based on the French CNRS system with international laboratories.

¹⁴ L. Tournès, 2003, 2006. For Tournès, the Rockefeller fellowship program was much more than travel grants. It aimed to establish collaborations between young investigators and the best US laboratories, at a crucial period of their training, generally after Ph.D.

¹⁵ P. Petitjean, V.Zharov, G.Glaser, J. Richardson, B. de Padirac, G. Archibald (eds), 2006, pp. 52-57.

More specifically in the field of brain sciences, the neuropsychiatrist Roger Pluvinage made a report in 1948 arguing for the creation of an international brain institute¹⁶. Together with two other projects, the institute was granted priority by UNSECO. The following year, it was Fessard who took up discussions on the same matter with ECOSOC, suggesting the brain institute could be established on the model of the *Centre International de Calcul*¹⁷. However, the project did not succeed until the international colloquium on EEG in Moscow.

Since 1949, the Rockefeller foundation enabled the CNRS to hold large international colloquia in all areas of research¹⁸. Ten conferences were organised between 1949 and 1978. Some were regularly held in the field of brain sciences¹⁹. The important CNRS international colloquium entitled *Les machines à penser (machines for thinking)*, in Paris 1951, was the first international conference on cybernetics. French neurophysiologists had close contacts with Wiener and other cyberneticians from the US and Great Britain, and the Paris meeting was a convenient occasion to discuss the relations between mind, brain and machines.

Following a European meeting on EEG, Gastaut regularly held conferences in Marseilles (*Conférences de Marseille*)²⁰. The fifth was devoted to “Electric activity of the brain in relation with psychological phenomena” (1955). Naquet recalls “Western and Eastern worlds could exchange their views on conditioning and reactivity in EEG for the first time since long ago”²¹. Gastaut realised the vast majority of discussions dealt with electroencephalographic aspects of conditional activities. New parallels were drawn between Pavlovian higher nervous activities and modern neurophysiology. Gastaut wrote “such results were unpredictable in Western countries, where circumstances had depreciated Pavlovian methods with the benefit of psychological techniques, and the disappearance of electroencephalographic researches on conditional reflexes and higher nervous activities.”

The following year, the Symposium organized by the *Association de psychologie scientifique de langue française*, in Strasburg was devoted to conditioning and learning, with the invitation of a Russian developmental psychologist A.N. (Alexis Nicolaevich) Léontiev (1903-1979). Since then, a great number of Western studies addressed specific problems from the Russian literature.

Among other motivations to create IBRO, some important meetings in the field of “neurobehavioural sciences” played a significant role in the 1950s: the Macy Conferences in the US, the Ciba Conferences in Great Britain, and even more so, Gagrskie besedy (Gagry Talks) organised by Prof. Ivan Beritashvili (Beritoff) in Gagry (Georgia) in Abkhazia (USSR), and those held in France at Marseilles with clinical topics on electroencephalography (EEG). The Marseilles Colloquia quickly broadened their initial clinical trend to problems of cortical excitability or electrical brain activity in relation to psychological phenomena, thanks to the participation of neuroscientists like Alfred Fessard from Paris and Grey Walter from Bristol, UK. In 1955, Professor Vladimir Sergeevich Rusinov, a deputy director of the Institute of Higher Nervous Activity and Dr. Georgy Donatovich Smirnov, from the Severtsev Institute of Animal Morphology in Moscow, were invited by Henri Gastaut (who was a Secretary General of International Federation of EEG Societies) to present contributions of Soviet

¹⁶ R.J.L. Pluvinage, *Projet d'un institut international du cerveau* in « Le Problème de l'établissement des laboratoires de recherche des Nations Unies », 1948, 259-294.

¹⁷ M.A. Ozorio de Almeida, *Recherches sur le cerveau: rapport sur la création d'un institut international du cerveau*, 1952, 14 p.*; NS/BR/1; WS/052.101 ; F.L.Golla, *L'Institut du cerveau: les arguments qui militent pour ou contre sa création*, 1952; 9 p.; NS/BR/2; WS/062.20, A. Fessard, *Projet portant sur la création d'un institut international du cerveau*, 1952; 18 p.*; NS/BR/3; WS/062.90.

¹⁸ L. Tournès, 2003, 2006.

¹⁹ *Electrophysiology* (Louis Lapicque, Alfred Fessard and Alexandre Monnier, Paris, 1949), *Microphysiology of excitable elements* (Alfred Fessard and Alexandre Monnier, Gif-sur-Yvette, 1955), *Aging of psychological and psychophysiological functions* (Henri Laugier, Paris, 1960), *Physiology of the Hippocampus* (Pierre Passouant, Montpellier, 1961), *Psychophysiology, neuropharmacology and biochemistry of the audiogene crisis (a form of epilepsy – R.G. Busnel, Gif-sur-Yvette, 1961)*, *Anatomical and functional aspects of sleep physiology* (Michel Jouvet, Lyon, 1963), *Cytology of the anterior pituitary* (Jacques Benoit, Paris, 1963), *Photoregulation of reproduction in birds and mammals* (Jacques Benoit and Ivan Assenmacher, Montpellier, 1967), *Motor behavior and programmed nervous activities* (Jacques Paillard and Jean Masson, Aix-en-Provence, 1973), *Cell biology of hypothalamic secretory processes* (Claude Kordon and Jean-Didier Vincent, Bordeaux, 1978).

²⁰ R.J. Broughton, Henri Gastaut and the Marseilles School's Contribution to the Neurosciences. *Electroenceph. Clin. Neurophysiol.*, 1982, Suppl.35. Elsevier Biomedical Press. Amsterdam, New York, Oxford.

²¹ R. Naquet. *Hommage à Henri Gastaut (1915–1995)*, *Neurophysiologie Clinique*, 1996, 26, 170-176.

scientists to EEG studies of higher nervous activity at the *Colloque de Marseille*²². A summary of EEG research in Soviet laboratories and clinics was published later²³.

These meetings in Marseilles could for the first time obtain a participation of scientists from the USSR who could thus present, probably for the first time, some of the main contributions of the Soviet scientists to EEG studies of higher nervous activity that had been performed during the preceding years.

The role of Gastaut in international meetings before the Moscow colloquium

In 1956, Gastaut was invited by Vladimir S. Sergeevich Rusinov and Georgiy D. Smirnov (1914-1973), both present at the colloquium of Marseilles. Gastaut proposed Alexander Vassilievich Topchiev, Secretary of the USSR Academy of Science, to have the new “Marseilles’ meeting” in Moscow on EEG of higher nervous activity. Naquet called it the “*Colloque de Marseille à Moscou*”, which took place in October 1958 at the House of Scientists in Moscow, and where the idea of an international brain organisation was formulated. The Moscow colloquium was so successful that funds allowed a special survey on EEG, personality and sensorimotor functions.

In his letter dated October 22nd 1956, addressed to Chief scientific secretary of Academy of Sciences of USSR, A.V. Topchiev, Gastaut thanks for an extremely warm reception of him and his colleagues, Madame Gastaut and J. Roget. Gastaut wrote:

“I was impressed by the quantity and significance of work in the laboratories that I visited. But at the same time, I was amazed by insufficient development of EEG in USSR, since I have seen only one specialized diagnostic laboratory at the Burdenko Neurosurgery Institute. This is less than in any country that I have visited before. You may compare [your country] with France, where we have several hundreds of diagnostic EEG laboratories. I realise, that due to direction of research in your country, EEG equipment was installed in laboratories studying higher nervous activity. But, I have always seen that theoretical EEG successfully develops only in case of simultaneous development of clinical EEG. It is in the process of routine EEG investigation that a worker learns peculiarities of this method, and future best researchers are recruited from such people. For example, the most famous authorities in this field, such as H. Jasper, G. Walter and F. Gibbs, combine experiments with diagnostic EEG. Talking to some EEG people who work at the laboratories of higher nervous activity revealed the insufficiencies in their equipment. This markedly limits direct study of electrical events in cerebral cortex in reactions that were highly giftedly studied by Pavlov by indirect indexes.

Sorry for such detailed critique but let me remind you that this was a desire of many of my Russian colleagues and I feel obliged to forward it to you. My position of a Secretary General of International Federation of EEG Societies (and physiological section of Academy of Sciences of USSR is a member of this Federation) forces me to deal with development of EEG worldwide. It gives me the right to insist on necessary development of EEG in your country, where all methods of study of higher nervous activity should be implemented.

I am convinced, Gastaut continues, that the best way to promote this development is to create a well-equipped laboratory where young neurologists could learn experimental and clinical EEG prior to their work in clinics or a neurophysiology institution [...]. Another way to promote development of EEG in the Soviet Union is to hold a colloquium on EEG of higher nervous activity which you decided to call on international scale in October 1958. I am always ready to take part in preparation of this event.”²⁴

²² Marshall LH et al. (1996): Early history of IBRO: the birth of organized neuroscience. *Neuroscience*, 72 (1): 283-306, p. 294.

²³ Rusinov VS, Rabinovich MY (1958): Electroencephalographic Researches in the Laboratories and Clinics of the Soviet Union. *Electroencephalography and Clinical Neurophysiology*. Suppl. N.8.

²⁴ H. Gastaut (1956): [A letter to A.N. Topchiev dated 22.10.1956]. In: *Perepiska s Inostrannym otdelom, prezidiumom I uchrezhdeniyami AN SSSR ob uchastii sovetskikh uchenykh v mezhdunarodnykh simpoziumakh, sjezdakh I konferentsiyakh*, T.1 = Correspondence with

In November 1956, the coordination commission on problems of physiology and pathology of higher nervous activity decided to create an organizing committee for the International colloquium and Leonid Grigorievich Voronin (1908-1983) (a director of the Institute of Higher Nervous Activity in 1957-1959) became its chairman²⁵. Next year N.M.Sisakian, a corresponding member of Academy of Sciences of USSR and an acting Chief scientific secretary of presidium of Academy of Sciences of USSR, received a letter from Gastaut, dated August 2, 1957. According to Gastaut, Sisakian was appointed by Academy of Sciences of USSR as a person responsible for the colloquium on EEG of conditioned reflex (*conditionnement*) to be held in Moscow in October 1958²⁶. Gastaut mentioned that after the First International Congress of Neurological Sciences in Brussels he dictated a long letter concerning the colloquium addressed to the president of Academy of Sciences of USSR and provided a list of invited speakers (Buser, Fessard, Gastaut from France, Storm van Leeuwen from the Netherlands, Grey Walter from England, Mary Brazier, Magoun and Morrell from USA, Jasper from Canada, Mundy-Castle from South Africa, Hernandez-Peon from Latin America, Eccles from Australia and Ioshii from Japan). It was stressed that the presence of Mary Brazier was particularly desirable from the standpoint of future Soviet-American cultural relations because in the next five years she was authorized by the Josiah Macy Jr. Foundation to select works of Russian physiologists to be translated into English and published. Gastaut suggested acting as an intermediate “between Moscow organizers and different Western participants”. He approved the proposed structure of the colloquium (length of 6 days, three scientific sections, each including one or two 1-hour papers and several short 30 min communications). Gastaut wrote: “The total number of six papers and 24 short communications seem to me absolutely sufficient because the number of participants should not exceed 30; this figure is a maximal number of people in all international organizations who organize colloquiums”. He also suggested to provide an overview of two previous colloquiums. According to Gastaut, there was not much time left since papers and short communications should be sent to participants in July 1958, at the latest, and manuscripts should be received in May. As for chairing the sessions, he mentioned that there were usually 1 or 2 acting and 1 or 2 honorary chairmen from the scientists of the host country. Gastaut wrote that he was convinced of the great success of the Moscow colloquium because of the competence of its participants and because a symposium on EEG of conditioned reflex in Brussels was one of the most attended.

On March 11 1958, a Chief Scientific Secretary of Presidium of Academy of Sciences of USSR, A.V.Topchiev, informed a head of division of science and education of Central Committee of the Communist Party of Soviet Union (CPSU), V.A.Kirillin, about “major international conferences organized by the Academy of Sciences of USSR in 1958”, which includes the colloquium on EEG of higher nervous activity with 25 international participants²⁷. Twelve days prior to the colloquium, a scientific council of the Institute of Higher Nervous Activity discussed research plans for the next year. According to Anokhin, nothing new was done in the field of physiological mechanisms of higher nervous activity during last decades in the USSR. Basic concepts of irradiation and inhibition were formulated by Pavlov in the early 1900s. Neurophysiological substrate was investigated abroad. Two major papers by Gastaut were recently translated into Russian and published in *Zhurnal Vysshei Nervnoi Deyatel'nosti im. I.P.Pavlova*²⁸.

international division, presidium and institutions of Academy of Sciences of USSR on participation of Soviet scientists in international symposia, congresses and conferences. Vol. I. ARAN, F.534, op.1-1957, delo N.78., listy 118-120

²⁵ Protokoly (1956): Protokoly zasedanii Koordinatsionnoi komissii po problemam fiziologii i patologii vysshei nervnoi deyatel'nosti pri OBN AN SSSR = Protocols of Coordinating commission of Division of biological sciences of Academy of Sciences of USSR on physiology and pathology of higher nervous activity . ARAN, F.534, op.1-1957, delo N.88, listy 3-4.

²⁶ Gastaut H. (1957): [A letter to N.M.Sisakian dated August 2, 1957]. In: In: Perepiska s Inostrannym otdelom, prezidiumom i uchrezhdeniyami AN SSSR ob uchastii sovetskikh uchenykh v mezhdunarodnykh simpoziumakh, sjezdakh i konferentsiyakh, T.III = Correspondence with international division, presidium and institutions of Academy of Sciences of USSR on participation of Soviet scientists in international symposia, congresses and conferences. Vol. III ARAN, F.534, op.1-1957, delo N.80, listy 123-125.

²⁷ Topchiev AV (1958): [A letter to VA Kirillin]. In: Pereposka s Sovetom Ministrov SSSR i TsK KPSS po voprosam organizatsii sjezdov, konferentsii i soveschaniy == Correspondence with Council of Ministers of USSR and Central Committee of CPSU on organization of congresses, conferences and deliberations. ARAN, F. 2, op. 1-1958, delo N.73, list 4.

²⁸ “The IP Pavlov Journal of the Higher Nervous Activity”.

Rusinov agreed that Soviet researchers were lagging behind in the field of electrophysiology of the central nervous system. He informed the council that an international colloquium was organized under the initiative of the employees of the Institute of Higher Nervous Activity. Gastaut and Fessard were invited to join the organisers.

A chairman of the scientific council and director of the Institute, Leonid Voronin, concluded that all research institutions were studying cortical and subcortical structures, including reticular formation: “Why we are interested in this now? Because a lot has been done already abroad, but as we shall see at the colloquium, it has been done by clumsy hands. It was a good technical work performed in a wrong direction. Why they are leaning towards us? They do it because they have seen that Pavlovian physiological method allows the understanding of electrophysiology. They want to come to us in order to understand Pavlovian teaching”²⁹.

²⁹ Anonim, 1958, list 161. [Anonim] (1960): Stenogramma zasedanija uchenogo soveta ot 24.09.1958 = Stenogram of meetings of scientific council [of the Institute of the Higher Nervous activity]. ARAN, F. 1998, op.1, delo N.93, listy 118-161.