“The dispossessed”: Neurology and medical care in Spain in the late 19th century through Benito Pérez Galdós

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Benito Pérez Galdós was a Spanish realistic writer. In his books, he portrayed the sociological, historical, scientific and medical aspects of his time. He was the friend of many renowned doctors and he was acquainted with current medical knowledge. In his novels, he could incorporate painstaking descriptions of a plethora of neurological disorders, and describe the main characteristics of health services.

The “dispossessed” (“La desheredada”), a novel published in 1881, focuses on his contemporary society with a young woman (Isidora) as the main character, who is fiercely but wrongly convinced of having been dispossessed of her aristocratic condition. She is unfairly doomed to poverty and fighting. In such a background, illnesses and the scarceness of medical care are carefully described in specific manners which will be the subject of my analyses.

Isidora suffered from a shared madness (“folie à deux”) with delusions of grandeur, a consequence of her father’s paranoid schizophrenic condition. Her only brother was alcoholic and developed an encephalopathy. He had grand mal epileptic fits and he delayed secondary psychotic behavior, with tragic consequences. The son of Isidora was floppy and disabled with rickets and features of hydrocephalus. The whole picture fits the degeneracy theory: a conception of diseases against a background of unfavorable social and economic conditions, inherited and eventually responsible for the disappearance of the line. Migraine, syncope and brain infectious disorders are also displayed. A pioneer asylum in Spain (Leganés) is described as overcrowded, lacking minimum resources, with patients showing clear complex motor stereotypes, tremors and different movement disorders. Finally, medical doctors are described with love and care, as they provided the best resources for exposing and improving the health and the social condition of the patients.

Clinical features are used in order to reinforce the plot with vividness and verisimilitude. The novels bring a vivid description of the neurological paradigms and health services at that time.

Session 18. Literature
Saturday, 19 June 2010, 1:30 – 2:10 pm

15th Annual Meeting of the International Society for the History of the Neurosciences (ISHN)
Paris, France, 15-19 June 2010
The relationship between motor and cognitive symptoms in motor neuron disease and atypical parkinsonian syndromes

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The history of the exploration of Motor Neuron Disease (MND) confronts us with a puzzling discrepancy: on the one hand, a substantial literature, going back to the early 20th century, offers detailed descriptions of cognitive and psychiatric symptoms in MND patients, with an explicit link between MND and Pick’s Disease made as early as 1932. On the other hand, the disease has until recently been often regarded as affecting only motor functions while sparing mental abilities. Interestingly, most papers reporting cognitive and psychiatric symptoms in MND come from Continental Europe and non-European countries influenced by a similar tradition (Brazil, Japan). In contrast, the view of MND as a purely motor disorder is found more often in the British literature.

A similar phenomenon can be observed in other neurodegenerative diseases, such as Parkinson’s Disease and atypical Parkinsonian syndromes, including Progressive Supranuclear Palsy (PSP) and Corticobasal Degeneration (CBD). The neurologists of the continental tradition, trained and practicing in psychiatry as well as in neurology, seemed to have been more likely to notice and report cognitive and psychiatric abnormalities than their British and American counterparts. But were such symptoms not noted or rather observed but not deemed relevant enough to be reported?

The history of the description of CBD offers a fascinating insight into this question. The early papers on CBD contain two apparently contradicting strands of argument. The detailed case descriptions in the papers report a wide range of cognitive and behavioural symptoms, remarkably similar to our current understanding of the disease. In contrast, the abstracts state consistently that “mental functions were not impaired”. It seems likely that the case reports reflect the observations made by the clinicians, while the abstracts are more influenced by the authors’ interpretation of the disease, in which cognitive and behavioural changes were not considered to be relevant.

Session 13. Movement Disorders
Friday, 18 June 2010, 10:00 – 11:40 am

15th Annual Meeting of the International Society for the History of the Neurosciences (ISHN)
Paris, France, 15-19 June 2010
Italian neurologists and psychiatrists in World War I

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In Italy before the Great War, neurology and psychiatry were incompletely elucidated and quasi-inseparable medical specialties. Italian neurologists and psychiatrists such as Gaetano Perusini (1879-1915), Edoardo Weiss (1889-1970) and Marco Levi Bianchini (1879-1961) served as military physicians in World War I. For psychiatrist Edoardo Weiss of Trieste, fighting on the side of the Austro-Hungarian Empire amounted to a personal dilemma. Neurologist Gaetano Perusini of Udine, who together with Alois Alzheimer and Emil Kraepelin first described Alzheimer’s disease in Munich in 1910, and who died a volunteer on the Italian side nursing a wounded soldier, is a case study in tragic patriotism. The case of psychiatrist Levi Bianchini of Nocera Inferiore, previously a colonial physician in Congo, points by contrast to Italian nationalist aspirations. This talk uses primary sources such as Levi Bianchini’s war diary in the campaign against Austria, and the wartime manifesto “An Emperor’s Madness or National Aberration?” authored by Palermitan neurologist and psychiatrist Ernesto Lugaro (1870-1940). Lugaro, who identified a class of cerebellar interneurons currently bearing his name, pioneered the term “neural plasticity” and became the exponent of a modern psychiatry rooted in the neurochemistry of synaptic transmission, argued in his clinical-political manifesto that German and Austro-Hungarian neurosciences were being annexed for imperialistic purposes in the service of what Lugaro qualified as “collective megalomania” rather than the “individual psychoses” of the Kaiser and Emperor.

Collectively, the trajectories of Italian neuroscientists mobilized in World War I as illustrated in this talk will hopefully serve to illuminate the ways in which twentieth-century neurology and psychiatry evolved together, shaped each other, and ultimately diverged from each other in Italy.

Poster Session
Tuesday, 15 June 2010, 4:00 – 6:00 pm

15th Annual Meeting of the International Society for the History of the Neurosciences (ISHN)
Paris, France, 15-19 June 2010
Old hypothesis and new tools: Alfred Fessard’s approach to the problem of consciousness

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The seminal contribution of Alfred Fessard to the 1954 symposium on "Brain Mechanisms and consciousness" describes his views on the nervous substrate that is needed for what he calls Experienced Integration in the brain at both cellular and neural network scales. Our presentation selects some of the concepts evoked by Fessard to find out whether his intuitions and theories have been verified with the currently developed new tools of investigation. Analyzing his hypothesis on the elements of the reticular systems and the operations that take place at the neuronal scale reveals that Fessard concentrates his attention more on the somato-dendritic potentials than the axonal spike. He suggests the electric lobe of the fish Torpedo as a model for testing the properties of the local potentials in somato-dendritic structures generated by messages from the cortex to reticular systems by analogy with the so-called synaptic potentials intracellularly recorded. He stresses the role of the large somato-dendritic surfaces, predicting the modern view of active dendrites that will become a new and very active field of current research fifty years later. Discussing the integrative mechanisms in neural networks, he proposes that reticular systems including thalamo-cortical structures can be represented by three highly schematic fundamental forms of networks. He imagines that the important parameter is the number of neurons working in parallel and introduces such notions as dynamic properties and functional geometries that must characterize the operations of neural networks. Fessard predicts the role of inhibitory processes and of synchronization in the working of reticular systems. We will test Fessard's concepts in the light of recent results obtained at both cellular and neural network scales with new imaging technologies in vivo and in vitro and discuss the notion of progress in terms of new paradigms as defined by Kuhn (1970).

Session 10. Philosophical Aspects
Thursday, 17 June 2010, 2:00 – 4:20 pm

15th Annual Meeting of the International Society for the History of the Neurosciences (ISHN)
Paris, France, 15-19 June 2010
Can an endocrinologist become a “neuroscientist”? 

Étienne-Émile BAULIEU 
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[no abstract]

Session 1. Opening Session 
Tuesday, 15 June 2010, 10:00 am – 12:00 pm

15th Annual Meeting of the International Society for the History of the Neurosciences (ISHN) 
Paris, France, 15-19 June 2010
Early satires of phrenology

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Satire has a venerable history. From the *silloi* of Timon of Phlius (c. 250 BCE), to the *satura omnis nostra est* of Quintillian (c. 35-90 CE), the foibles of the individual and society have been exposed to humorous mockery. The history of satiric cartoons and caricatures has been traced by Backer (1996) to Da Vinci’s exploration of deformities and to woodcuts made during the Reformation by Luther. Satires and caricatures frequently ridicule social fads and fashions and so it is no surprise that *organology* (Gall), *phrenology* (Spurzheim et alia) or *craniology* (a term used by some followers but mostly critics) had garnered a certain amount of popular criticism (Cooter, 1984), Wyhe (2004). We focus here on three satires and one set of caricatures: Thomas Love Peacock, *Headlong Hall*, 1815; (anon.) *The Craniad: or Spurzheim Illustrated*, 1817; Thomas Hood, *Craniology*, 1827; and George Cruikshank, *Phrenological Illustrations or An Artist’s View of the Craniological System of Doctors Gall and Spurzheim*, 1826. We show first that certain of the so-called phrenological organs were more susceptible to ridicule than others. Second, although the sin of materialism shadowed Gall since the end of the 18th century, few of the scientific critics raised that objection to phrenology; the satirists, on the other hand, often used materialism as the basis for humor and ridicule. Finally, we show that several of the satirists were undoubtedly familiar with scientific (philosophical) criticism of phrenology, the exception being Peacock, the earliest of the satirists.

Poster Session
Tuesday, 15 June 2010, 4:00 – 6:00 pm

15th Annual Meeting of the International Society for the History of the Neurosciences (ISHN)
Paris, France, 15-19 June 2010
Some aspects of the neurosciences in Paris outside the Salpêtrière: Henry Hécaen and Sainte Anne

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[no abstract]

Session 15. 20th Century Paris Neuroscience
Friday, 18 June 2010, 2:00 pm

15th Annual Meeting of the International Society for the History of the Neurosciences (ISHN)
Paris, France, 15-19 June 2010
Horizontal gaze palsy and progressive scoliosis: a short history of a new disease

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Emmanuel K. Dretakis was the first to recognize in the early 1970s a clinical constellation consisting of progressive scoliosis and horizontal gaze restriction. This syndrome is now known as horizontal gaze palsy and progressive scoliosis (HGPPS; OMIM 607313), and its 35 year intellectual journey highlights the power of new genetic techniques in uncovering the pathogenesis of certain diseases.

Initial descriptions of HGPPS highlighted the severe, progressive scoliosis and commented on a horizontal gaze abnormality. In 1975, Sharpe et al described the neurologic features of the disorder, but at that time it was still unknown whether the ocular motility abnormality was congenital or progressive. The family described was non-consanguineous, adding to uncertainty about inheritance pattern that lasted 30 years. Multiple reports over the next two decades failed to definitively resolve these and other issues.

In 2002 Jen and colleagues found an autosomal recessive locus for HGPPS on chromosome11. Shortly thereafter, electro-physiological studies revealed the lack of decussation of the corticospinal tracts and medial lemniscus in affected patients. This called attention to a mRNA fragment in the HGPPS region that shared homology with the ROBO family of genes critical for decussation in other species and led to the recognition in 2004 of the human ROBO3 gene and its role (via homozygous or compound heterozygous mutations) in every affected individual with HGPPS.

The availability of a genetic definition has resulted in greater certainty that the clinical phenotype consists of congenital, complete or almost complete horizontal gaze restriction, scoliosis that is rapidly progressive during early childhood, and brainstem hypoplasia on MRI reflecting absent decussation of major motor and sensory tracts. Clinical and radiologic observations, in turn, imply that ROBO3 mutations affect decussation of additional neural tracts in the pons and medulla, emphasizing again the interaction between phenotype and genotype in modern genetic studies.

Session 11. Brain Diseases
Thursday, 17 June 2010, 4:20 –5:20 pm

15th Annual Meeting of the International Society for the History of the Neurosciences (ISHN)
Paris, France, 15-19 June 2010
Charles Bonnet’s philosophical palingenesis: a biological theory of resurrection

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Charles Bonnet (1720-1793), the naturalist of Geneva, is mainly remembered by biologists for his discovery of parthenogenesis in the aphid and by neurologists and ophthalmologists for his description of the phantom eye syndrome. His scientific production includes landmark discoveries in the fields of epimorphic regeneration, plant physiology and entomology. Due to his weakening eyesight, he had to abandon experimental research early, but continued to apply his talent to theoretical biology and psychology, as well as to a correspondence with leading naturalists including his cousin Abraham Trembley, Albrecht von Haller, and Lazzaro Spallanzani. His writings on the localization of mental functions in specific brain structures were influential in Gall’s theory of “brain organs”. In 1748 Bonnet was so impressed by Leibniz’s Theodicy that in the following years he devoted himself to natural philosophy and metaphysics. In Considérations sur les corps organisés (1762) he describes his theory of ovistic preformationist generation, according to which at the creation of the world all future generations of living creatures are encapsulated in a set of primordial germs. In La contemplation de la Nature (1764), he develops an elaborated version of the great chain of beings, ranging from crystals to angels. His most ambitious philosophical work, La Palingénésie philosophique, ou idées sur l’état passé et futur des êtres vivants (1769), features a naturalistic theory of resurrection, within his biological preformationist paradigm. According to Bonnet, it is not the original preformed germ that survives death but a second preformed structure, an immortal “germ of restitution”, a “small ethereal machine” that is the seat of memory and of the individual soul. Bonnet maintains that many “cosmic revolutions” have already taken place in the past, which have changed the environment of the earth in such a way that each revolution is a new creation. During these periodical catastrophes the bodies of all living organisms are destroyed, but restitution germs survive and resuscitate when the earth becomes inhabitable again. In Man, this immortal germ is supposed to be located in the brain, and more precisely in the corpus callosum, following the tentative localization of the soul proposed by the surgeon François Gigod de La Peyronie (1678-1747). While admitting the fixity of species and the individual identity of each living being, Bonnet’s palingenesis implies a development as the world changes radically at each catastrophe, and the resurrected animals will have to adapt to the new environment, according to a pre-established harmony that directs them towards a more perfect biological and spiritual state. The great scale of beings thus moves forward in perpetual progress. While Bonnet’s embryo-neuro-psycho-theology may now seem strange, it anticipates romantic transformist views. Similarly, his localization of individual identity and memory in the corpus callosum and his fibre theory, unjustly ridiculed by Voltaire, are not incompatible with 19th-century concepts of neuronal activities and “homunculi”.

Session 10. Philosophical Aspects
Thursday, 17 June 2010, 2:00 – 4:20 pm

15th Annual Meeting of the International Society for the History of the Neurosciences (ISHN)
Paris, France, 15-19 June 2010
A history of Von Recklinghausen's neurofibromatosis type-1

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While the study of genetic diseases is a rather recent development in science, von Recklinghausen’s neurofibromatosis (NFI) has a rich pictorial history, seemingly dating back to the thirteenth-century. In 1768, Akenside published a scientifically-based description of NFI, recognizing that the monsters of scholars, such as Paré and Aldrovandi, in fact suffered from a disorder of the nerves. The neuromas of NFI were first detailed by Smith in 1849, but Friedrich von Recklinghausen is credited with its discovery and coined the name of the disorder in 1882. NFI research widely increased between 1909 and 1990, due to the erroneous diagnosis of the Elephant Man, Joseph Merrick.

Session 11. Brain Diseases
Thursday, 17 June 2010, 4:20 –5:20 pm

15th Annual Meeting of the International Society for the History of the Neurosciences (ISHN)
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In 1761 the ‘celebrated’ English oculist, John Chevalier Taylor, published his autobiography – a three-volume affair detailing his exploits and career in the treatment of the eyes. From Scotland to St. Petersburg, Taylor applied his skills in the royal courts and all the major cities of Europe; operating, demonstrating and lecturing on the delights of the eye and nature of vision. Now accounts of Taylor’s flamboyance and effrontery, his excessive self-promotion, womanising, and exaggerated claims for his practice in the eyes have found a permanent home in the history of quackery.

In light of new approaches in the histories of medicine and science, John Taylor’s career is in drastic need of reassessment. As the model of the medical marketplace is being updated and eighteenth century ‘popular science’ is gaining increasing attention, Taylor’s autobiography provides a valuable opportunity to look at oculists, and their subject, in a new light. Taylor was no doubt an extreme case. Nevertheless, his autobiography gives insight into the obstacles and rewards for medical practitioners specialising in the eyes. Above all, it offers privileged access into the construction of vision and eyesight in eighteenth century Europe.

Throughout his career Taylor forged a vast web of patrons and correspondents, and lectured in front of court circles, medical societies and the public alike. Analysing these networks and the sites in which Taylor sought to exchange and expand knowledge of the eyes and eyesight has much to add to our understanding of vision in eighteenth century Europe. It is perhaps hardly surprising that vision, the eyes and eyesight were subject to widespread interest in the period for which they formed the dominant metaphor - the Enlightenment. More than simply an intellectually circumscribed topic, this paper seeks to demonstrate just how contemporary conceptions of vision were bound up with social and cultural change, such as the commercialization of knowledge and the ‘rise of public science’. In doing so I show how interrogating the case of the famous travelling oculist John Taylor can begin to shed light on eighteenth century arenas of knowledge production about vision and the eyes that have to date remained obscured in the dark.
French neurosciences past and present

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[no abstract]

Session 1. Opening Session
Tuesday, 15 June 2010, 10:00 am – 12:00 pm

15th Annual Meeting of the International Society for the History of the Neurosciences (ISHN)
Paris, France, 15-19 June 2010
Whither neuroscience? What the recent history of “contagious shooting” (1982-2006) says about the value of the history of the neurosciences

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The neurosciences have recently found widespread popularity among humanists and social scientists. One important feature of this new-found popularity has been a hardening of scientific concepts – hypotheses, theories, and ideas under constant negotiation among scientists and clinicians are resurrected in the form of absolute statements within the social sciences and the humanities. The effect, especially in the public sphere, is disconcerting and suggests an extremely important role for the history of the neurosciences in the twenty-first century.

Using as its source base newspaper articles, court testimony, legal briefs, and published scientific works, this paper uses the recent history of “contagious shooting” – a supposedly reflexive behavior where armed police officers involuntarily unleash a hail of bullets in the direction of an innocent victim – to illustrate the value and importance of historiographically informed approaches to the neurosciences. It argues more generally from this case that the assumptions and excessive enthusiasms that have mediated the expansion of neuroscientific concepts into spheres like feminist thought, economics, history, and philosophy are already beginning to show pernicious effects in public discourse, especially within common law practices. Perhaps an historiographically informed history of the neurosciences can be an important palliative?

Session 2. Historiography
Tuesday, 15 June 2010, 2:00 – 4:00 pm

15th Annual Meeting of the International Society for the History of the Neurosciences (ISHN)
Paris, France, 15-19 June 2010
Alexander Crichton’s (1798) Inquiry into the Nature and Origin of Mental Derangement provided much inspiration for Philippe Pinel and Jean-Etienne Esquirol as they endeavored to formulate their views on the psychopathology of affectivity. Crichton was indeed a pioneer in this area, although his seminal contributions are seldom sufficiently acknowledged or appreciated. His major contributions to the psychopathology of affectivity include: (1) the demarcation of affectivity as an autonomous locus of mental derangement, separate from the intellect; (2) an innovative effort to distinguish passions from emotions among the posits of the affective realm; (3) an account of the psychopathology of the passions that anticipates Karl Jasper’s application of the distinction between ‘form’ and ‘content’ to the psychopathology of mental phenomena; and (4), a rudimentary derivation of the modern neuroscientific notion of ‘valence’ from physiological irritability and sensibility. Unlike Pinel and Esquirol, who emphasize both the ‘moral’ and physiological aspects of affectivity, Crichton opts for an unabashedly reductionist neurophysiological account of the psychopathology of affectivity that is meant to eschew ‘moral’ matters altogether. This makes Crichton one of the first pioneers of modern biological psychiatry.
The pioneering concepts of motor synergy developed by Duchenne, charcot and Babinski, three neurologists at the Salpêtrière Hospital

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We will retrace some concepts of motor control from three French neurologists of the 19th and early 20th century associated with the famous Hospital of the Salpêtrière in Paris: G. Duchenne de Boulogne (1806-1875), J.M. Charcot (1825-1893), and J. Babinski (1857-1932).

Although the three were not of the same generation, they represent a continuity of thought related to the neural control of movement over three generations at an important time in the history of neurology. Charcot invited Duchenne to work in his hospital; whereas Babinski was later to become his last favourite student. Babinski was influenced by Duchenne’s ideas as interpreted by Charcot. Between 1850 and 1930, all three men played a major role in developing and shaping the entire field of normal and pathological motor control in addition to making important contributions to three major neurological issues; the coordination of locomotion, the impact of efferent activity on the afferent processes of perception and the emerging notion of muscle synergy.

Duchenne deduced that locomotor coordination must be centrally controlled. This precise function was for him the best example of a central organisation which put into play “the association of agonist and antagonist muscles”. For Charcot, this rhythmic behaviour was due to the coordination of two different central levels, one in the cortex and the other in the spinal cord. Finally, Babinski showed that the anticipatory postural adjustments associated with movements were absent in cerebellar patients. Several influential notions from these three neurologists have been neglected for nearly a century and have only recently been rediscovered.

Session 3. French Neuroscientists and Their Reception
Wednesday, 16 June 2010, 9:30 – 10:50 am

15th Annual Meeting of the International Society for the History of the Neurosciences (ISHN)
Paris, France, 15-19 June 2010
The late engagement of British physiology with the brain has been the object of much speculation by the pioneers of the field, as well as by some historians. The standard account of the origin of British brain research explains away this “delay” in terms of methodological cautiousness and of the lack of connections between psychology and physiology. In parallel, its post war thriving is accounted for in terms of technological advances and the “molecularization” of the field. I will argue that early British brain science was instead born at the crossroads of different and at times conflicting disciplinary agendas (such as those of ethology, experimental and comparative psychology, physiology, anatomy and engineering). The interplay and tension among the theoretical outlooks, practices and aims of different disciplinary communities led to a renegotiation and redefinition of phenomena, structures and physical entities, causal explanations. The search for workable and reproducible models blurred the borders among disciplines and implied a refinement of the basic concepts (e.g. “memory”, “plasticity”, “adaptation”), paralleled by the quest for simpler experimental systems, permitting a more thorough approach to the structure and functioning of the nervous system. I will concentrate on one early instance of this interplay of approaches, models and objects: the research on learning and memory in *Octopus vulgaris*, conducted by the zoologist JZ Young from the late 1940s. By focusing on the development of the Octopus model and its relations with the development of behavioral, anatomical and physiological studies in Britain, I wish to highlight the role of simple systems, and of the gospel of simplification more generally, in shaping the identity and ideology of contemporary neurosciences.
Devising experiments that will yield definitive answers is a requisite for scientific progress. This achievement was peculiarly delayed in the case of whether and how memories are shared by the two halves of the brain since, lacking the appropriate questions, erroneous answers were commonly obtained. The clue as to how to formulate the question was first offered by Köhler (1918). As an aside to his famous work with chimpanzees he mentioned interocular transfer of learned habits in chickens. Because of the total decussation of the optic tracts, this entails interhemispheric transfer. Ivan Solomonovich Beritashvili, in three papers (1936-1940) co-authored with his colleague Nina Chichinadze, provided fully effective testing, showing how in pigeons the supraoptic decussation is the exclusive pathway for such mnemonic interchange. At least the first of these papers reached Karl Lashley at Harvard. His student, Levine, confirmed the findings (1945-1952), also on pigeons; and another student, Roger Sperry (with Clark, 1949), extended the procedure to fish. The ultimate perfection, of course, came with Myers and Sperry (1953), with the “split-brain” cat, proving that the corpus callosum transferred memory from one hemisphere to the other. Intense discussions then followed between Sperry’s medically trained students, Myers and Bogen, ultimately leading to the commissurotomy by Bogen and Vogel (1962) for relief of epilepsy. Knowing how to ask the questions then provided a dramatic proof that the fleeting electrical signals across the forebrain commissures are essential for unifying mentation between the two cerebral hemispheres, contrary to previous reports (Tsagareli, Doty, 2009).
Epilepsy research after World War II

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In 1946, for the third time in its history, the Annual Meeting of the Association for Research in Nervous and Mental Disease focused on the subject of convulsive disorders. Much had changed since the earlier meetings, the first in 1922 and the second in 1929. Many neurological pioneers, such as Ramsey Hunt and Lewis Pollock, were no longer alive. Typical of the 1922 meeting had been Foster Kennedy’s “The Nature of Fits.” By 1946, highly-technical presentations of experimental studies had replaced such overviews. There was an entirely new section on electroencephalography. Much attention was given to the new anticonvulsants. Yet, despite such obvious progress, the 1946 meeting had a somewhat glum tone. As William Lennox, Association President, observed, the path ahead for students of the brain looked ever “stonier and steeper,” as well as substantially more costly to traverse.

This presentation uses the more than 600-page Proceedings of the Association to explore the post-war world of neurological research. Perhaps most interesting are the discussions that followed paper presentations. These often revealed tensions between an older generation still interested in questions of etiology, like Walter Timme, and younger pragmatists, like Houston Merritt. (Of endocrine studies and drug testing, Merritt said: they “may not be fundamental to research, but they have resulted in a great deal of benefit to mankind.”) Perhaps because the Association met jointly in 1946 with the International League against Epilepsy, there was a new attention to those who suffered from epilepsy in even highly-technical papers. Wilder Penfield’s announcement of the creation of a William G. Lennox Fund by the American Epilepsy League further emphasized the heightened importance of advocacy groups to the world of neuro-medicine. Although epilepsy research remained firmly embedded in elite medical schools, those conducting it found themselves increasingly reliant for funding on organizations and government agencies outside the university and the lab.

Session 11. Brain Diseases
Thursday, 17 June 2010, 4:20 –5:20 pm

15th Annual Meeting of the International Society for the History of the Neurosciences (ISHN)
Paris, France, 15-19 June 2010
Lichtheim’s golden shot

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Ludwig Lichtheim (1845-1928) belongs to the ranks of most famous aphasiologists, in particular because of a diagram often referred to as ‘Lichtheim’s House’, but apart from that, little is known about him. In my presentation, I will discuss a part of Lichtheim’s memoirs (Wegelin, 1956), dealing with his work on aphasia. His single aphasia paper On Aphasia, published in 1885, drew the attention of the aphasiological community, but it became, to Lichtheim’s own disappointment, famous for its diagram rather than for the theoretical proposals formulated in that paper regarding various aphasia syndromes. I will present the circumstances that led Lichtheim to write the paper and adapt Wernicke’s theory of aphasia and some aspects of his model.
Anorexia nervosa: its history and recent paradigm shift towards neurobiology

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The first description of anorexia nervosa (AN) is generally attributed to Gull and Lasègue in 1873. For several decades the etiology of the disorder was thought to be solely or at least predominantly psychogenic. Even the “pituitary era” of AN (ca. 1900 to 1950) resulted from confounding this eating disorder with Simmonds’ syndrome (hypopituitarism). After World War II psychoanalytic assumptions played a key role in explaining and treating the disorder. Later on, as the incidence of anorexia nervosa rose, sociological models gained wider attention.

During the last decade, however, a paradigm shift towards a (neuro-)biological explanation of AN was repeatedly set out by researchers and clinicians. The new etiological concept is largely based on genetic, neuroendocrinological and neuroradiological findings.

In order to examine this paradigm shift we take a closer look at ca. 200 psychiatric papers published between 1998 and 2009, including a quantitative as well as qualitative analysis. The objective of our poster is 1) to present the results of this research, 2) to evaluate the scientific fundamentals, 3) to identify historical and cultural factors of this change, and 4) to integrate this recent evolution into the 125-years history of AN.

Poster Session
Tuesday, 15 June 2010, 4:00 – 6:00 pm

15th Annual Meeting of the International Society for the History of the Neurosciences (ISHN)
Paris, France, 15-19 June 2010
Jules Dejerine

Michele FARDEAU
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[no abstract]

Session 15. 20th Century Paris Neuroscience
Friday, 18 June 2010, 2:00 pm

15th Annual Meeting of the International Society for the History of the Neurosciences (ISHN)
Paris, France, 15-19 June 2010
The history of diagnosis and treatment of trigeminal neuralgia: from John Locke to W.W. Keene, Jr., M.D.

Edward J. FINE, Raya WEHBEH and Durala HUSSAIN
University of Buffalo, New York

[no abstract]

Poster Session
Tuesday, 15 June 2010, 4:00 – 6:00 pm

15th Annual Meeting of the International Society for the History of the Neurosciences (ISHN)
Paris, France, 15-19 June 2010
Neuroscience in the flying ambulance: the neurological heritage of Dominique-Jean Larrey

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The innovating concept of evacuation by "flying ambulances", his outstanding surgical skills, and his inexhaustible dedication to the wounded and exemplary ethical conduct made Dominique-Jean Larrey (1768-1842) a leading role model in the history of military surgery. His surgical memoirs won immediate international recognition. He is the protagonist of a large number of books and articles (more than twenty in the last decade). Very little is known, however, about his interest in what would later be called the neurosciences.

Larrey was endowed with scientific curiosity, and despite being present in nearly every Napoleonic battlefield, he followed the most recent discoveries and theories concerning the nervous system. His close association with S.T. Sömmerring and F.J. Gall, together with his immense clinical experience, contributed to the development of his own concepts of the workings of the brain.

Larrey experimented and established the existence of galvanic phenomena in humans. He was the first to describe traumatic aphasia due to injury of the left frontotemporal region, and thirteen similar patients that he collected were referred to Gall, although the prevailing atmosphere in Paris barred the recognition of that region as the seat of the faculty of speech. He is probably the first to diagnose and explain ante mortem partial injury of the optic chiasm producing quadrantanopia. The early telegraph of Sömmerring initiated a concept, much ahead of its time, that conduction within the brain is transmitted by insulated fibers acting as voltaic piles, enabling point-to-point correspondences from parts of sense organs to specific brain areas. His studies of epilepsy due to cranial lesions are quite ahead of his time. His ideas and findings concerning cerebellar functions were influenced by phrenological concepts. Larrey's contemporaries did not, however, recognize his neurological ideas and attention remained directed to his surgical and personal excellence.

Session 4. Biographical Studies
Wednesday, 16 June 2010, 10:50 am – 12:00 pm

15th Annual Meeting of the International Society for the History of the Neurosciences (ISHN)
Paris, France, 15-19 June 2010
The enlightened men of the American Philosophical Society and the first experiments on “eel” electricity from a center of learning (1773)

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The earliest experimental evidence that some fishes might be electrical came from research conducted during the 1750s-60s in South America on the "electric eel." There, under sweltering conditions, natural philosophers noted that their painful shocks felt like those from newly invented Leyden jars, and that conduction could take place through known conductors of electricity, such as metals, but not through non-conductors, such as wax.

There were many drawbacks to doing this sort of research in the jungle, and investigators desperately wanted to study these creatures under better conditions in major centers of learning. This goal was first achieved not in Leiden or London, but in Philadelphia. In 1773, members of Benjamin Franklin's American Philosophical Society (APS) conducted a series of experiments, including one in which an eel's discharge even jumped a gap in a wire (albeit without a visible spark and sadly without Franklin being present), providing more evidence for animal electricity.

Europeans learned about some of the Philadelphia experiments from Hugh Williamson, a member of the APS who visited London and published his findings in the *Philosophical Transactions of the Royal Society* in 1775. Nevertheless, the original notes compiled by Rittenhouse, Kinnersley, and unnamed other APS members --- which differ in important ways from Rittenhouse's own notes --- remained unpublished until 1805, well after fish electricity was widely accepted. The reasons for this publication delay are hard to understand, but the records show that the Americans were just as interested in these specialized fish as their European cousins, and that their experiments were quite sophisticated.

Session 2. Historiography
Tuesday, 15 June 2010, 2:00 – 4:00 pm

15th Annual Meeting of the International Society for the History of the Neurosciences (ISHN)
Paris, France, 15-19 June 2010
Where the wild things are: the brainstem in inter-war models of human consciousness

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By the early-20th century the “psyche” had effectively supplanted the “soul” in the handbooks of mainstream neurology and psychiatry. The burgeoning literature on the macro- and micro-architecture of the brain had ostensibly rendered the search for the seat of the soul obsolete, but in reality the psyche was implicitly localized to the cerebral cortex, where it commanded all the functions previously ascribed to the soul, including consciousness, will and memory. A clear demarcation between the roles in this penthouse of the mind and the vegetative basement of the brain was accepted without demur by most authorities. At the same time, the failure of neuropathology to account for disorders of the mind had exacerbated the growing gap between neurology and psychiatry, and the popularization of psychological approaches to these disorders, including postulates of sub- and unconscious components of the psyche by Freud and others, deepened the rift. Prior to the First World War, however, the role of the mesencephalon (midbrain) in the internal life of humans was accorded detailed attention by a number of investigators, including the Austrian psychiatrist Josef Berze (1866-1957) and the Würzburg psychiatrist Martin Reichardt (1874-1966). Each invested the brainstem with much greater significance for psychic activities than previously recognized, although they differed on one crucial point: while Reichardt viewed the brainstem as the de facto seat of the soul upon which the cortex is superimposed, Berze subscribed to the Economo thesis of progressive cerebration, whereby higher functions had gradually moved higher in the brain throughout evolution. Their ideas were widely discussed in the 1920s and 1930s, particularly as their models anticipated curious neuropsychiatric phenomena first described in encephalitis lethargica, but both have since been largely forgotten, as the significance for English language psychiatry (in particular) of both German neuropsychiatry and the concept of “self” declined after 1945.

Session 10. Philosophical Aspects
Thursday, 17 June 2010, 2:00 – 4:20 pm

15th Annual Meeting of the International Society for the History of the Neurosciences (ISHN)
Paris, France, 15-19 June 2010
The international collaboration in the field of motor control studies in Bulgaria during the divided world

Gantcho GANCHEV
Sofia, Bulgaria

[no abstract]

Session 19. Eastern Neuroscience
Saturday, 19 June 2010, 2:20 – 3:40 pm

15th Annual Meeting of the International Society for the History of the Neurosciences (ISHN)
Paris, France, 15-19 June 2010
The life and works of Korbinian Brodmann

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2009 marked the centenary of Brodmann's *Localisation*, which still forms a basis for functional localisation in the cerebral cortex. It is an account of neuroanatomy, neurophysiology and neuropathology, as well as an insight into complex relationships between European neurologists, during the momentous times when the neuron theory was new.

Korbinian Brodmann was born in 1868 in Hohenzollern, a farmer’s son. He received his medical *Approbation* in 1895, but contracted diphtheria and convalesced in 1896 in the Neurological Clinic in Alexanderbad, directed by Oskar Vogt. Under his influence he turned to neurology. He met Alzheimer who inspired his interest in neuroanatomy. From 1901 to 1910 he worked with Vogt in Berlin, studying the cells of the cortex using the new method of Nissl. His results were published between 1903 and 1908 and served as a basis for his 1909 monograph.

Brodmann’s career was marred by the rejection of his *Habilitation* thesis, and in 1910 he left Berlin for Tübingen where he founded his own Brain Research Institute. He turned to anthropological aspects, such as differences in brains of human races. In 1913 he presented these findings, and also those on such pathology as microcephaly, epilepsy and blindness, and a wealth of data on the prefrontal cortex from a huge range of primates and non-primates.

In 1918 Brodmann received a prestigious appointment to Kraepelin's Psychiatric Research Institute in Munich where Nissl had moved. Thus began a collaboration between two great neuroanatomists, although Brodmann was only to live for less than a year, dying in August 1918 of septicaemia, perhaps from a wound during his work as a pathologist.

One is struck by Brodmann’s many forward-looking references to much later concepts, such as multiple representations of functional areas, chemical neuroanatomy, and ultrastructure. What might Brodmann have discovered if he had lived beyond the age of 49?

Session 7.  Anatomical Studies
Wednesday, 16 June 2010, 3:00 – 4:20 pm

*15th Annual Meeting* of the *International Society for the History of the Neurosciences*  (ISHN)
Paris, France, 15-19 June 2010
It is brain surgery: neurosurgeons in popular imagination, 1900-1950

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The categories of analysis developed by cultural historians of medicine can inform scholarship on the history of neuroscience in a number of interesting ways. My paper seeks to make a larger historiographical point about the application of cultural history to the history of neuroscience by presenting as a case study the cultural representations of North American neurosurgery during the first half of the 20th century. I trace the ways in which neurosurgeons’ collective identity was constructed and reflected in cultural discourse by examining a large array of newspaper and magazine articles in the popular press, Hollywood films, several memoirs, and a number of novels. These documents construct neurosurgery as an elite medical specialty and testify to society’s increasing fascination with brain surgery. At the same time, however, these narratives reveal a tension and ambivalence about the neurosurgeons’ prominent status. By examining the particular linguistic and visual technologies that inform the creation and reflection of identity, cultural historians can shed light on the historical origins of the considerable symbolic capital held by the contemporary neurosurgeon. I will demonstrate that these origins are quite complex – a function of the often competing popular narratives about medicine and surgery, and about the brain and personhood.

Session 2. Historiography
Tuesday, 15 June 2010, 2:00 – 4:00 pm

15th Annual Meeting of the International Society for the History of the Neurosciences (ISHN)
Paris, France, 15-19 June 2010
Conceived by a 21-year-old woman, the story of Victor Frankenstein’s quest to conquer death produced a legacy that has endured for almost 200 years. Powerful in its condemnation of the scientist’s quest to achieve knowledge at any cost, the novel also illustrates the moral complexities of the science of Mary Shelley’s day, which was decidedly anti-female and anti-family. Mary Shelley was the self-educated daughter of two of the most radical writers of the time: Mary Wollstonecraft and William Godwin. She eloped with the already married Percy Shelley when she was only 17 years old and bore him several children, only one of whom survived until adulthood. Despite receiving no formal educational training, Shelley’s diaries reveal her as one of the best read women of her time: it has been suggested that her reading list for the years 1818-1819 alone would today suffice for a Master’s degree in comparative literature.

The fact is that Mary Shelley’s *Frankenstein* is one of the most enduring novels of all time. It has never been out of print and is still taught in numerous colleges in the USA and other countries. The novel has been translated to both stage and screen many times since its “birth.” Numerous novels, short stories, and scripts have drawn upon Shelley’s primary theme: the creation of a living organism from the dead, dying, and decaying body parts of human beings. From the original Creature as conceived by Shelley to the Creature as thrust into 21st century America by Dean Koontz, numerous authors have attempted to examine the issues related to the use and misuse of the power available to scientists in their attempts to conquer nature and create life.

Mary Shelley was unable to provide detailed information about the way in which the Creature was animated, although in the 1831 edition she made use of Galvani’s experiments with electricity to update the novel in accordance with more contemporary scientific research. As the basic tale of the scientist creating life continued throughout the 19th and into the 21st centuries, authors since Shelley’s time have been able to provide more information of how such creations could be animated. These illustrations have become more detailed and more sophisticated as knowledge of neuroscience has increased. The present paper explores the portrayal of these life-infusing processes as they have evolved over time. Given the sheer number of works using Shelley’s theme, a selection of treatments from the 20th and 21st centuries will be examined and correlated with the neuroscientific research being pursued at the same time.
Elie Metchnikoff’s recognition of the role of macrophages in Alzheimer’s Disease

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Elie Metchnikoff (1845-1916) began his career as an embryologist. While investigating the development of mesoderm he became interested in the digestive properties of mesodermally-derived amoeboid motile cells. In 1882, at the Straits of Messina in Italy, he introduced a thorn into star-fish larvae, producing what he later termed a “phagocytic” response. This led him to postulate a conceptually radical idea (contradicting the current belief that immunity was passive in nature) that immunity was both cellular in origin and an active and protective inflammatory response. For three decades he formulated and vigorously defended the central tenets of his phagocytic theory and its evolutionary and ontogenic underpinnings – becoming the founder of cellular immunology (leading to the award of the Nobel Prize in 1908). He postulated that immunity was an active process resulting from mesodermally-derived amoeboid cells (named phagocytes or macrophages) which were present in blood and migrated to tissues; and which directly engulfed and digested atrophic (e.g. muscle cells or neurons) or unnecessary tissue (e.g. in metamorphosis) as well as invading micro-organisms. This process was essential to host defense serving to contain and eliminate pathogens and to establish the immune response. Following his interest in maintenance of integrity of the organism, he extended his studies to the role of phagocytosis in “senility” in 1901, demonstrating the presence of macrophage phagocytosis of neurons in the brains of senile humans and animals. Without knowing the mechanisms involved, he postulated that phagocytes were the chief agents of the aging process and that phagocytosis of neurons contributed to the development of senility. These findings were not included in the seminal description of dementia by Alois Alzheimer (1906) or of microglia by Pio Del Rio-Hortega (1932) and anticipated recognition of the role of macrophages in the pathogenesis of Alzheimer’s disease by almost 90 years.
Fundamental discoveries of brainstem research in the early 20th century in Vienna

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The systematic attempt to correlate symptoms to anatomical abnormalities was typical of the Vienna medical school. It prompted a broad interdisciplinary approach particularly in the field of the nervous system and brain researches.

This is reflected by many examples, as in the fields of psychiatry and neurology, where anatomo-pathological methods are used to correlate lesions to the symptoms caused by brain tumors or encephalitis. Fundamental insights into the function of the brainstem were achieved. Physiology is another example. In neurophysiology, one of the major fields of interest, animal experiments led to pioneering discoveries. Surgical techniques were developed for the study of the brainstem. A systematic approach was undertaken in experiments using transections and stimulations.

Together with the Institute of Neurology – the first international research institution for theoretical brain research – the Laboratory of Brain Anatomy at the Mental Asylum and the Institute of Anatomy in Vienna developed interdisciplinary efforts in brain research as well as co-operations and joint research publications in the early 20th century.

In the field of brainstem researches, Johann Paul Karplus (1866-1936) and Alois Kreidl (1864-1928) contributed to the description of sympathetic nerve centers at the base of the diencephalon. Constantin von Economo (1876-1931) – who first described lethargic encephalitis – discovered the sleep-regulating center at the mesencephalic-diencephalic junction. Moritz Probst (1867-1923) identified unknown fibers and pathways of the brainstem.

Session 7. Anatomical Studies
Wednesday, 16 June 2010, 3:00 – 4:20 pm

15th Annual Meeting of the International Society for the History of the Neurosciences (ISHN)
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In 1891, Walter Hadden published a paper on defects of articulation in children noted to be late talkers, who had presented with speech difficulties and no other significant defects. Hale White and Golding-Bird published details of two boys similarly language impaired later that year. They labelled the condition, as seen in their own and Hadden’s subjects, “idioglossia” because it appeared that the children were using a language of their own invention. Taylor (1891), presenting a case of his own, and challenged the term. He thought the condition was rather a defect of articulation.

These three papers are important because they concern children admitted to hospital for no reason other than developmental language impairment. The treatment these physicians adopted and described are among the first examples of the early modern assessment and therapy accorded those who, prior to that date, would more likely be seen by a teacher of the deaf and dumb than be admitted to hospital. From the early 1890s onwards children with difficulties beginning to speak began to be viewed from a medical perspective rather than considered a matter for educators only. By the turn of the century, childhood difficulties with the acquisition of speech and language had become the concern of numerous professionals. Within the field of medicine, interest in acquired language disorders in childhood fell somewhat into neglect in comparison.

This paper, using Hadden’s patients from the Great Ormond Street Hospital and his published work as the starting point, considers the early history of “idioglossia”, the debate that surrounded the proposed name, and the prognosis and treatment suggested. It looks at how children presenting with severe speech difficulties were assessed prior to and after the 1890s and how idioglossia was later to be linked to word deafness and verbal aphasia.
Max Nonne and “war neurosis”

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Film demonstration of functional movement disorders in WWI before and after hypnosis by the Hamburg neurologist Max Nonne.

The depiction of war tremblers in film before and after hypnosis by Max Nonne, Hamburg. Max Nonne (1861-1959) very early on contributed to the therapeutic use of hypnosis (1888). He had gathered insights from Charcot in Paris, from Bernheim in Nancy and Forel in Zürich as well as experiences in traumatic neuroses in hysteria before nerve doctors and psychiatrists were confronted with a wave of war neuroses in WWI. The war meeting of German nerve doctors and psychiatrists in 1916 in Munich is known as the climax of discussions, and Nonne was the most important opponent of Hermann Oppenheim. His therapeutic concept consisted in applying the persuasion method with a mild form of Kaufmann’s electrotherapy and hypnosis. A separate symptomatological group is the object of the eight-minute film: movement disorders with hypercinesia and tremor (war tremblers), muteness, astasia-abasia and other disturbances and their disappearance after hypnosis by Max Nonne as the examiner and demonstrator in the film. It is one of the first medical educational films, supposedly first shown by Nonne at a meeting of military doctors in Berlin in March of 1918, and for the last time by Nonne in his last lecture in 1956 at the age of 95, three years before his death. Nonne concluded that the war neurosis in its various appearances could mainly be ascribed to hysteria and that Oppenheim’s “traumatic neurosis” was a doctrine, more and more rejected by the German neuropsychiatrists. It definitely had lost its civil right (Nonne) with the event of WWI. The efficacy of hypnosis obviously was based on typical contemporary trust in authority. The ethics of most of the doctors were inclined towards the re-installation of war service (back to the front).

Session 12. Neuroscience and Film
Thursday, 17 June 2010, 9:00 pm

15th Annual Meeting of the International Society for the History of the Neurosciences (ISHN)
Paris, France, 15-19 June 2010
Treating refractory Tourette Syndrome with deep brain stimulation

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Tourette Syndrome (TS) is characterized by involuntary motor and vocal tics. Originally understood as hereditary, progressive, and “psychical,” it was mainly treated psychologically, and with the spread of psychoanalysis, psychoanalytically. Organic understanding of the disorder grew in the late 1960s due to a few successful treatments of TS with dopamine antagonists. Other medication treatments followed with various degrees of success, and more and more the disorder was treated pharmacologically. In return the response of patients to their treatments further informed the understanding of TS. The natural next step was to treat refractory patients with a more extreme biological intervention -- deep brain stimulation (DBS). We discuss this surgical procedure from the perspectives of the historical evolution of the construct of TS, and of the increasing application of neurosurgical procedures -- especially in movement disorders (e.g., Parkinson’s disease) and psychiatric disorders (e.g., obsessive compulsive disorder, and depression). Different clinics in Europe and the US target different brain regions, often with similar results. The brain circuits that contain these structures seem to be more important than the individual brain region targeted. As with medications, the outcomes of DBS surgeries extend our understanding of the neurobiology of TS, but the reasons the procedure is effective are still elusive. We review the application of DBS in TS – the where and why of target selection, and its efficacy so far. We discuss two patients of ours who underwent DBS – their surgical experience, sign and symptom reduction, and subjective evaluation.

Poster Session
Tuesday, 15 June 2010, 4:00 – 6:00 pm

15th Annual Meeting of the International Society for the History of the Neurosciences (ISHN)
Paris, France, 15-19 June 2010
Stroke at the Paris hospitals: the emergence of anatomico-clinical concepts after 1810

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Around 1800 correlative pathology of nervous disorders and attempts to classify neurological diseases successfully had reached a dead-end. Only a decade later, however, hospital-based physicians in France and Great Britain worked out new definitions of brain diseases. Using a case study approach, this paper describes the transformation of the concept of apoplexy at the Paris hospitals during the years 1810 to 1820.

After 1810, three new conceptualizations of stroke emerged. First, Jean-André Rochoux in what may be called the most important dissertation in the history of neurology defined apoplexy restrictively as cerebral hemorrhage (1812). Second, softening of the brain earned its place in neurological nosology with the work of Leon Rostan (1820). A third theory, apoplexy as an inflammatory process, was put forward by François Lallemand (1820). Key elements and the historical context of these controversial concepts will be presented in detail.

It will be argued that the anatomico-clinical model of stroke introduced by the Paris school brought about a new concept of brain disease – a concept upon which clinical neurology is still largely based.

Session 14. Neuropathology
Friday, 18 June 2010, 11:40 am – 12:40 pm

15th Annual Meeting of the International Society for the History of the Neurosciences (ISHN)
Paris, France, 15-19 June 2010
Psychogenic and organic attributions in the history of dystonia

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In the last few centuries there has been a continuous sway between organic and psychogenic explanations for dystonia. We studied this history assuming the perspective of a spectrum from organic to psychogenic between which ideas were moving. We focused on primary generalized dystonia, cervical dystonia, writer’s cramp, and complex regional pain syndrome (CRPS) related fixed dystonia. We studied medical texts published from the 19th century and their references.

Charcot advocated the concept of hysteria: disorders in which besides predisposition, environmental factors were involved in its pathogenesis. Freud introduced psychoanalysis as an explanatory theory for psychic disorders. These theories and the lack of an organic substrate for dystonia made a strong case for psychogenic explanations. As a consequence, many dystonia patients were said to suffer from psychological conflicts and treated alike. Following the description of new hereditary cases in the 1950s, the limited efficacy of psychotherapy in torsion dystonia, the effects of surgical treatments, and experimental lesion studies in the 1960s, more physicians became convinced of the organic nature. The culminating point was the discovery of the DYT1 gene in 1997. In the meantime, experts convinced the neurological community that focal dystonias, including cervical dystonia and writer’s cramp should be considered forms of generalized dystonia, and therefore organic disorders. The pathophysiology of CRPS related fixed dystonia remained controversial and psychogenic dystonia was observed and defined.

Recent functional imaging and neurophysiological studies in dystonia show abnormalities of sensorimotor integration and cortical excitability that refer to Sherringtonian physiology. These studies blur the border between neurology and psychiatry. Knowledge of the history of dystonia is instructive and reflects a well-known phenomenon in the history of medicine, i.e. that the solution of a scientific problem often has to wait for a new sophisticated method.
An historical survey of the impact of compartment anatomy, Darwinian evolution, racism, genetics and eugenics in the analysis of the human brain

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Accurate and detailed depiction of the human brain in the seventeenth century was achieved at a level enabling Willis to consider individual variation by illustrating the less convoluted “changling” (retarded) brain. This led others (cf. Edward Tyson) to pursue comparison with brains of a “blackamore”, apes, other primates and the more convoluted “porpess” brain. Brain size and convolutions proved complex variables for allocating phyletic status, and religious influence extending into the 21st century blocked coherent evolutionary constructs. This report deals with the subsequent impact of genetics, insect taxonomy, racism and eugenics in contributing to evolutionary modernity and a modern technology for enabling comparison of brain structure in relation to complex behavioral capacity.

Session 7. Anatomical Studies
Wednesday, 16 June 2010, 3:00 – 4:20 pm

15th Annual Meeting of the International Society for the History of the Neurosciences (ISHN)
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Patients with uncontrolled tics and eruptive vocalizations have long brought Tourette syndrome (TS) to public notice. Lately, patients with the most persistent florid signs, particularly eruptive cursing, have once more become a source of embarrassment. As a result the florid, cursing TS patient, who once served as an emblem of the disorder, has become resegregated. This paper argues that the re-stigmatization of the florid TS patient is informed by cultural and medical values similar to those which led to the stigmatization of the afflicted over the past two centuries. These include: (1) The continued failure to identify a robust etiological explanation; (2) The limited efficacy and debilitating side effects of interventions for florid patients; (3) The tendency of health professionals to blame florid patients themselves for therapeutic failures; and (4) The recent extension of the diagnosis to a larger population of children with milder presentations, reflecting a general tendency in contemporary psychiatry to colonize a larger patient population who inhabit phenotypical borders. This paper examines these four elements in the context of the construction and treatment of the florid TS patient from the early nineteenth century to today.
Acceptance of the neuron theory by clinical neurologists of the late 19th century

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This presentation explores reactions of clinical neurologists of the late-nineteenth century to the concept of a unified nerve-cell, the “neuron.” This concept developed over several decades from the research on fine anatomy of the nervous system. This research made relatively swift advances during the 1880s leading to the formalization of the concept, as well as the name “neuron,” by Wilhelm von Waldeyer (1836-1921) in 1890 based on a review of the research. Contemporaries as well as historians acknowledge Waldeyer’s influence in the acceptance of the neuron theory. His influence may be over estimated, however, because contemporaries were free to read the same literature and some drew similar conclusions before he did, for example, William Richard Gowers (1845-1915) of England. American medical literature shows rapid acceptance of the new theory, eager applications, and high expectations. Nonetheless, some clinicians were disappointed in its immediate relevance. The reason proposed in this paper for the disappointment implicates the diagnostic orientation of clinical neurology at that time. The additional understanding permitted by the neuron concept added little of diagnostic value.

Session 7. Anatomical Studies
Wednesday, 16 June 2010, 3:00 – 4:20 pm

15th Annual Meeting of the International Society for the History of the Neurosciences (ISHN)
Paris, France, 15-19 June 2010
A chapter in the history of vertebrate embryology: the role of the neural crest in chordate evolution

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[no abstract]

Session 1. Opening Session
Tuesday, 15 June 2010, 10:00 am – 12:00 pm

15th Annual Meeting of the International Society for the History of the Neurosciences (ISHN)
Paris, France, 15-19 June 2010
Roger Sperry and the concept of emergence in neuroscience

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I shall present the evolution of Roger Sperry's ideas about the mind-brain relationship in the course of his life as a neurologist, leading him to adopt and defend an emergentist view of the psychic experiences.

Strongly influenced by the behaviorist philosophy as a student at the Oberlin College, at the beginning of his professional life Sperry looks for a solution of the mind-body problem in terms of motor output. However, from 1953, he begins to turn his interest to experimenting on commissurotomized animals and from 1962 he gets access to the `split brain' patients of Bogen and Vogel. From 1965 he becomes a proponent of a subtle but strong, ontological notion of emergence, and of a downward causation of the mental on the neurophysiological mechanisms, whereby the mental indeed controls and changes the course of neurological processes in the brain.

This standpoint was based on his observations of split-brain patient's abilities, as well as on some other neurophysiological observations. In the following years he defended his views against strong opponents, such as Puccetti, MacKay and Eccles, in particular in a long commentary entitled "Mind-brain interactions: mentalism yes, dualism, no" and in his Nobel laureate lecture (1981).

Finally, I shall show that one of his most favoured arguments, based on the consideration of pain experience in missing members in amputees, was perhaps not as convincing an argument as others, such as the consideration of the fusion of percepts from the left and right perceptual spaces, which he himself briefly considered in 1976.

Session 10. Philosophical Aspects
Thursday, 17 June 2010, 2:00 – 4:20 pm

15th Annual Meeting of the International Society for the History of the Neurosciences (ISHN)
Paris, France, 15-19 June 2010
Soviet neuro(patho)logy, 1917-1991

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There were 309 neuro(patho)logists in the Russian Empire in 1916. Statistics from 1940 show there were 3,213 neurologists in USSR at that time, along with 8,549 neurological beds. Several neuropsychiatry research institutes were organized in the 1920s and 1930s. During the interwar period, neurology itself was fragmented into “daughter specialties” such as neurosurgery, pediatric neurology, occupational neurology, neuromorphology, vegetoneurology, etc.

Neurological activity during the Great Patriotic War (1941-1945) was almost totally dedicated to neurotrauma. It included the timing of surgeries for peripheral nerve injuries, managing open head injuries, intracarotid injections of penicillin in posttraumatic cerebral infections, indications for closure of traumatic skull defects, and surgical treatment of causalgia, etc.

There were more than 100 neurological clinics and hospital departments in 1947. By 1957, there were 87 chairs of neurology – 76 at medical institutes (medical faculties of universities became independent medical institutes around 1930), and 11 chairs at postgraduate medical institutes. By 1959, the number of neurologists had risen to 9,850 (2.6% of the total number of Soviet physicians).

The All-Union Society of Neuro(patho)logists and Psychiatrists was established in 1936. In the early 1990s, it was split into two separate societies, one for neurologists and the other for psychiatrists. The former launched the Vserossiiskoe obshestvo nevrologov (VON) (All-Russian Society of Neurologists), which today has 74 branches and about 7,000 members. The total number of neurologists in Russia is about 20,000. In 2001, the number of inpatient neurological beds was 80,394.

Poster Session
Tuesday, 15 June 2010, 4:00 – 6:00 pm

15th Annual Meeting of the International Society for the History of the Neurosciences (ISHN)
Paris, France, 15-19 June 2010
The Circle of Willis: a historical account of the intracranial anastomosis

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The “Circle of Willis” is one of the most famous eponymous structures in human anatomy. There is no doubt Thomas Willis at Oxford accurately demonstrated the anastomotic arterial supply at the base of the brain, however, this eponymous name does not reveal the history of the discovery of the ramification, nor does it give credit to the anatomists and artists, including Berengario, Vesalius, Fallopius, Casserio, Vesling and Wepfer, who have contributed to the understanding of this clinically important structure.

This paper first traces the story of the discovery of the Circle of Willis. Willis’s contribution and innovative approaches are then discussed. Finally, despite Willis not being the first to describe the “Circle”, we explain why he still deserves to retain the eponymous title.

Poster Session
Tuesday, 15 June 2010, 4:00 – 6:00 pm

15th Annual Meeting of the International Society for the History of the Neurosciences (ISHN)
Paris, France, 15-19 June 2010
Caricatures on French neurologists in the 19th and 20th centuries

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The development of caricature in the 19th century was a consequence of two practical circumstances. One was the spreading of the press: satirical images ceased to appear on separate sheet, and became illustrations in newspapers and periodicals. The other important innovation was lithography to use form and color which could be accurately and rapidly mass-produced in print.

It was France that gave the lead in caricature during the 19th and 20th centuries. Under a political tolerance caricaturists enjoyed a certain degree of liberty. There was a complete freedom of the press, several French periodicals appeared in that time: Chanteclair, La Caricature, Le Charivari, Les Corbeaux, L’Assiette au Beurre, Le Journal pour Rire (later called Le Journal Amusant). Famous were artist caricaturists: Louis Léopold Boilly (1761-1845), Charles Philipon (1806-1862), Jean Ignace Isidore Gérard Grandville (1803-1847), Paul Gavarni (1804-1866), Honoré Daumier (1808-1879), Henri de Toulouse-Lautrec (1864-1901).

The great improvement of the press furthered the popularity of caricature to a new level of acceptance in the 19th and 20th centuries. Caricature became hugely popular because it bridged both the language and the illiteracy better than the written word. The subjects of caricaturists were published on a regular basis and they illustrated the opera of man more so than social aspects.

Attention was also given to the influence of medical cartoons particularly with respect to the emerging neurology and clinicians who were protagonists of the development of Neurology: Jean-Martin Charcot (1825-1893) and his pupils: Joseph Julie Dejerine (1849-1917), Joseph Babinski (1857-1932), Pierre Marie (1853-1940) and others.

Their caricatural portraits were used to illustrate and educate about knowledge and to disseminate to public eager to learn how neurology would benefit their life.

Poster Session
Tuesday, 15 June 2010, 4:00 – 6:00 pm

15th Annual Meeting of the International Society for the History of the Neurosciences (ISHN)
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Several international neurologists were part of the larger Babinski circle: Nöica from Romania, Grégorie Maranon from Uruguay, Robert Wartenberg born in Germany and then living in the United States of America, Samuel Kinnier-Wilson from the United Kingdom, Ludo Van Bogaert from Belgium, Charles Gilbert Chaddock from United States of America and the Italian Vincenzo Neri.

In 1907, Vincenzo Neri (1880-1961), after graduating in Bologna, moved to Paris at the Pitié hospital. In Paris he began to apply the cinematography for patients admitted in different neurological departments directed by Dejerine, Pierre-Marie and Babinski. He became the most important Babinski’s Italian pupil and their friendship is documented by different clinical collaboration and photographs. Neri became a clever clinician applying Babinski’s semeiotic method and the Italian neurologist described two important clinical signs.

In 1910, Neri returned to Bologna where he was a consultant Neurologist of Rizzoli Orthopedic Institute for forty years. Then he founded a private neuropsychiatric clinic. In these places he took care of neurological patients who were filmed during his fifty years of career in his neurological clinical practice.

Neri’s original clips and pictures about his activity in Paris with Babinski we found and restored. These materials are new information and documentation about the use of the cinematography as method of research and clinical study in patients: they were followed up and repeatedly filmed. Babinski himself used the cinema for his studies.

Vincenzo Neri with other Italian neuroscientists: Camillo Negro (1861-1927) and Osvaldo Polimanti (1869-1947) are considered pioneers of the application of the cinematography in neuroscience as an important method for the development of neurological knowledge.
Gaetano Donizetti’s neurobiological illness

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The composer Gaetano Donizetti (1797-1848) created 65 operas, some with scene of neuropsychosis: L’esule di Roma (1828), Anna Bolena (1830), Il furioso all’isola di San Domingo (1833), Lucrezia Borgia (1833), Lucia di Lammermoor (1835), Roberto Devereux (1837), Maria Padilla (1841), Linda di Chamounix (1842). The Italian composer was affected by neurosyphilis and he died in a state of psychosis. Donizetti contracted syphilis before his marriage with Virginia Vasselli (1808-1837) on July 1, 1828. Donizetti in his letters described to suffer from fever, headache, convulsion, neck pain, mental disorientation, and personality change. In 1846, Donizetti had a great deterioration and his nephew Andrea Donizetti went to Paris to examine Donizetti by three specialists. Physicians declared that Donizetti should be treated for mental alienations. He was incarcerated in the mental asylum in Ivry, his mental and physical condition deteriorated (February 1846 to June 1847). He was taken to Paris and, finally, to Bergamo, Italy, where he was cared for, at the Countess Rosa Basoni’s villa, until his death (October 1847 to April 1848).

The composer’s neurological disease, which led to his neuropsychosis and death, had an influence on his ability to create powerful and outstanding scenes of psychosis in his operas. Donizetti captured in music mental disorder in memorable operas such as: Anna Bolena and Lucrezia Borgia. In Lucia di Lammermoor, Donizetti portrayed a girl with hallucinations in an unforgettable “mad” scene. “Mad representations” flourished in nineteenth-century romantic opera but were a characteristic of Donizetti’s music.

Examining Donizetti’s neurosyphilis and “mental scenes” in his operas we can enter into the tormented body and mind of a human being devastated by psychosis. In these masterworks, Donizetti portrays person whose brain is malfunctioning and translate into melody the disorganization, delirium, and torment of severe mental illness.

Session 12. Neuroscience and Film
Thursday, 17 June 2010, 9:00 pm

15th Annual Meeting of the International Society for the History of the Neurosciences (ISHN)
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Korbinian Brodmann's eclipse of Alfred Walter Campbell

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The first studies of the cytoarchitectonic structure of the human cerebral cortex began to appear in the late 1800s and early 1900s and the first complete one was that made by Alfred Walter Campbell. Related studies were carried out by others, notably by Korb inian Brodmann. Although the work of Campbell and Brodmann was not without precursors, each conducted their research independently and provided starting points for much later cytoarchitectonic work. The initial reaction to Campbell's work was positive and enthusiastic; that to Brodmann's equally positive but perhaps not quite as enthusiastic. Campbell's star outshone Brodmann's for some twenty years but around 1930 it began to wane so much that by about 1940 Campbell's name had almost completely been replaced by Brodmann's.

In this paper I explore three possible reasons for this change in status. The first is that Campbell's work was marginalized by major figures in British physiological and medical circles after he returned to Australia and substantially gave up active research. The second is that Campbell never forged close ties with the practitioners in the emerging specialty of neurosurgery. In contrast, Brodmann continued his cytoarchitectonic research for nearly 13 years after Campbell had completed his major work. During those years Brodmann had reasonably close links to Feodor Krause and Otfrid Foerster, then probably the two most prominent German neurological surgeons. The peculiarity that Brodmann's cortical maps seemed to give more precise knowledge of cortical structure than Campbell's may also have played a part.

Session 9. Neurosciences in Australia
Thursday, 17 June 2010, 11:20 am – 12:20 pm

15th Annual Meeting of the International Society for the History of the Neurosciences (ISHN)
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How electro-neurophysiology came to the University of Melbourne

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The establishment of electrophysiology at the University of Melbourne was influenced by two major scientists, David Dewhurst and Ross Adey.

Tentative exploration of electrophysiology had begun in the Physiology Department near the end of World War II. David J. Dewhurst, a demobilized Army Signals officer, graduated in physiology and electronics in 1948 and, from 1949, combined part-time demonstrating with post-graduate study. He was made Lecturer in 1952, Senior Lecturer in 1959 and Reader in 1964.

Dewhurst’s army training in advanced wireless and electrical techniques helped him to put the Department’s electrophysiology on a sound practical and theoretical basis. He used army-disposals equipment to construct electronic equipment for practical classes, set up research apparatus for staff members, and built a post-graduate research unit investigating motor unit reflex responses to stepwise muscle stretch in various defined conditions. He ran an undergraduate theoretical and practical course in fundamental membrane physiology. Widely consulted on electrophysiology, he instituted a lecture and practical course in biological electronics for clinicians and medical biologists.

He installed the first minicomputer in Melbourne for online control and analysis of experiments and was central to developing safety standards for electromedical equipment. In 1965, Dewhurst became Vice-President of the International Federation for Medical and Biological Engineering, and was President from 1968 to 1971.

In addition to these activities, the University’s Anatomy Department was joined in 1952 by W.Ross Adey, a war-time Surgeon Lieutenant in the Australian navy who had studied brain limbic system anatomy in Oxford, and cerebral neurophysiology with Magoun at UCLA. Adey installed the methodologies in Melbourne, interacted with the Dewhurst laboratory, and inspired a few beginners in the new field (one of whom was later recruited to the Physiology teaching staff on Dewhurst’s recommendation) before departing in 1957 for a career as Professor in the UCLA Brain Research Institute.

Session 9. Neurosciences in Australia
Thursday, 17 June 2010, 11:20 am – 12:20 pm

15th Annual Meeting of the International Society for the History of the Neurosciences (ISHN)
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A neuroscientific tool to join the interests: a short history of deep brain stimulation

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Deep Brain Stimulation (DBS) is a therapeutic tool created in 1986 by Professor Alim Louis Bénabid, a French neurosurgeon. Two small electrodes are surgically implanted into the brain and linked to a pulse generator placed in the chest. Brain structure activity can then be modulated by chronic high frequency stimulation.

Today, DBS is used experimentally worldwide for the treatment of several neurological disorders (Parkinson’s disease, epilepsy, dystonia) or psychiatric and neuropsychiatric disorders (depression, obsessive compulsive disorder, addiction, Tourette Syndrome). It is a symptomatic treatment that improves the patient’s clinical state but without curing the disorder. Since 2000, publications on its applications have grown exponentially.

In this paper, we will trace the history of this device and describe how DBS has become a major stake in the neuroscientific field, pushing less invasive devices into the background. We will explain that DBS lies at the crossroads of neurosurgery and experimental neurophysiology. Its origins can be found in both brain lesioning techniques and clinical use of experimental electrical brain stimulations. During its short history, DBS has been used simultaneously as an experimental treatment and as a powerful tool for in vivo investigations of human brain functioning. It has radically changed the temporality of clinical observations and allowed the creation of reproducible human clinical experimental models. For these reasons, DBS has proven its efficacy at joining the interests of both clinicians and researchers.

Session 15. 20th Century Paris Neuroscience
Friday, 18 June 2010, 2:00 pm

15th Annual Meeting of the International Society for the History of the Neurosciences (ISHN)
Paris, France, 15-19 June 2010
Electroretinography, and early and enduring electrophysiological application

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The ophthalmological diagnostic instrument, electroretinography (ERG) was for a long time an elusive tool for frontline research in visual neurophysiology applied by numerous researchers, including no less than five Nobel laureates; Willem Einthoven, Lord Adrian, Ragnar Granit, Keffer Hartline, and Torsten Wiesel. ERGs are records of the peripheral, electrical, potential changes caused by visual activation. It was discovered first time in 1866 by the medical physiologist Frithiof Holmgren (1831-1897) as a dynamic function independent from the ocular resting potential (cf. Holmgren, 1871). The latter is nowadays used for electro-oculography, and was first observed in 1849 by Emil du Bois-Reymond (1818-1896). Holmgren worked with ERG on and off between 1865 and 1882. He observed retinal potential variations in relation to the intensity of a light stimulus’ increase and/or decrease, for all vertebral classes except fish. In some instances he could record the potentials from isolated retina, later verified by Kühne and Steiner (1880). Holmgren’s findings were confirmed independently, and extended in a series of experiments published between 1873 and 1877 by the chemist, and physicist, vacuum flask inventor James Dewar (1842-1923), together with his brother-in-law, the physiologist John Gray McKendrick (1849-1926). Recordings were made initially from enucleated eyes, but Dewar and McKendrick found that they could be made on intact animals, and consequently also on man (cf. Dewar, 1877). The early observations were held back by lack of sufficiently sensitive and fast recording equipment. Assessments improved during the first half of the 19th century with the advent of better recording tools and tube amplifiers. The positive and negative variations of the ERG potential were attributed to different retinal structures in publications by, among others, the above Nobel laureates. Nevertheless, the verifications of ERG interpretations, and their addition to medical practice awaited the advance of computer technique, and electrode design, in the century’s second half.

Session 16.  Vision Studies  
Saturday, 19 June 2010, 10:00 – 11:40 am

15th Annual Meeting of the International Society for the History of the Neurosciences (ISHN)  
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After all the traditional misinterpretations of the works by René Descartes since then, I think that it is time to re-read and to re-investigate them in a way that is appropriate. Therefore, I try to draw the picture of the basic elements of the Cartesian theory of the human being, his methods of scientific medicine and neuroscience. These basic elements are:

1. Sounds, which are always around us and have the capacity to move our soul, as formulated by Descartes in his first work *Compendium Musicae*.
2. The human body and the perceivable changes of the body, as formulated by Descartes in his last work *Les passions de l’âme*.
3. The human mind, the self or the I; expressed by the sentence: *Je pense, donc je suis*.
4. Truth and the methods to achieve it; the basic demand for doing genuine scientific work.

Based on that picture I investigate Descartes’ theory of the human body, the regulative systems within the human body and the perceivable changes of the body, and its relevance for acting ethically. Descartes’ theory was influential on the French moralists’ theory of the passions, but was totally misunderstood by the opposite philosophical schools, namely the Anglo-Saxon and the German ones, and became nearly forgotten.

The aim of my contribution is to show that René Descartes’ theory of the human being, the body and mind, as he worked it out, is of high importance for contemporary neurosciences, theory of education, theory of acting, and social and political theory.
Substantia nigra and Parkinson’s Disease: a brief history of their long and intimate relationship

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The French anatomist Félix Vicq d’Azyr (1748-1794), who greatly contributed to our knowledge of human brain organization, discovered the substantia nigra as early as 1786. However, it took more than a century before the French pathologist Paul Oscar Blocq (1860-1896) and the Romanian neurologist Georges Marinesco (1863-1938) allude to a possible link between this structure and Parkinson’s disease. The insight came from the study of a tuberculosis patient who was admitted to Jean Martin Charcot (1825-1893)’s neurology ward at la Salpêtrière because he was displaying unilateral parkinsonian tremor. At autopsy, Blocq and Marinesco discovered an encapsulated tumor confined to the substantia nigra, contralateral to the affected side, and concluded that tremor in that particular case resulted from a midbrain lesion. This pioneering work, published in 1893, led Edouard Brissaud (1852-1919) – a former student of Charcot – to formulate, in 1895, the hypothesis that the substantia nigra is the major pathological locus in Parkinson’s disease. Brissaud’s hypothesis was validated in 1919 by the Russian neuropathologist Constantin Trétiakoff (1892-1956) in a remarkable thesis summarizing a post-mortem study of the substantia nigra conducted in Marinesco’s laboratory, under the supervision of Pierre Marie (1853-1940), another former student of Charcot. Despite highly convincing evidence of nigral cell losses in idiopathic and post-encephalitic Parkinsonism, Trétiakoff’s work raised considerable doubts among his colleagues, who believed that the striatum and pallidum were the preferential targets of parkinsonian degeneration. Trétiakoff’s results were nevertheless confirmed by detailed neuropathological studies undertaken in the 1930s and by the discovery, in the 1960s, of the dopaminergic feature of the nigrostriatal neurons that degenerate in Parkinson’s disease. These findings have strengthened the link between substantia nigra and Parkinson’s disease, but modern research has unveiled other brain structures and chemospecific systems involved in the pathogenesis of shaking palsy, revealing the multifaceted nature of this neurodegenerative disorder.

Session 13. Movement Disorders
Friday, 18 June 2010, 10:00 – 11:40 am

15th Annual Meeting of the International Society for the History of the Neurosciences (ISHN)
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Neurotoxicity of organophosphorus compounds

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The synthesis of the first ester of phosphoric acid is widely attributed to the Frenchman de Clermont (1831-1921) and the Muscovite Wladimir Moschnin, both élèves of Adolphe Wurtz (1817-1884) in his Paris school of chemistry. Each of them independently synthesized tetraethyl pyrophosphate (TEPP) by reaction of the silver salt of pyrophosphoric acid with ethyl iodide (Williamson method).

TEPP’s prominence is related to the extreme toxicity of most organophosphates, the substance class to which TEPP belongs. TEPP is considered nowadays to be the first organophosphate inhibitor of cholinesterases. Of course neither the toxicity nor the mode of action of the new compound was known at the time, as evidenced by de Clermont’s willingness to taste his product, which he describes as a sticky liquid with a burning taste and a peculiar odor [Petroianu, 2008, 2009, 2010].

It would be almost a century later, in 1932, that Willy Lange and his graduate student Gerda v. Krueger, working on the synthesis of ester of monofluor phosphoric acid would recognize the toxicity of this class of compounds: "the fumes of these compounds have a pleasant, slightly aromatic odor. But a few minutes after inhalation there is a feeling of pressure to the larynx and difficulty in breathing. Then a disturbance of consciousness develops, as well as blurred vision and a painful oversensitivity of the eyes to light. Only after several hours do the problems wear off."

While the paper the two published “Über Ester der Monofluorphosphorsäure.” is cited by almost everybody working in the field, little is known about the authors [Lange & v. Krueger, 1932]. This brief communication attempts to shed some light on the life of the two, following the Krueger family back to the time of the Napoleonic wars.

Poster Session
Tuesday, 15 June 2010, 4:00 – 6:00 pm

15th Annual Meeting of the International Society for the History of the Neurosciences (ISHN)
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History of neurosciences in ancient India: from concepts of states of consciousness to neuroanatomy and therapeutics

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Neuroscience history is almost as old as the history of human civilization. A quest for understanding the inner functioning of mind led to early foundation of thoughts on the subject. Indian civilization also reflects this thought process. The Vedas, one of the oldest texts known to mankind, refer to different states of consciousness and an intuitive description of the nature of neural signals (Kak, 2008). This is remarkable considering that the texts date back to at least 1500 BC.

The description of various anatomical CNS structures, detailed descriptions of CNS disorders and surgical instruments in ancient medical texts like Sushruta Sanmhita (1000 B.C.) point out to a well organized system of health care in ancient India (Kaviraj K.L., 1910, Joshi BC 1984). This system called Ayurveda did not restrict itself to the description of various symptoms of CNS diseases but even classified disorders like epilepsy into different types (Jain, 2004). The therapeutics was also not primitive. Natural remedies to control tremor predominant Parkinson’s disease were described in the Ayurvedic texts. An example is the use of “cowage” (cowitch) plant (Mucuna pruriens) for this disorder. The active alkaloids of plant extract were found to contain Levodopa-like substances in 1970s and their activity was compared with modern drugs recently (Katzenschlager R., 2004, Manyam, 2004).

The precise documentation of history of neurosciences in ancient India was a hazy picture until recently due to the oral tradition of imparting knowledge in the ancient times and difficulty in understanding the context of references in texts in Sanskrit language.

This paper describes the references from Indian texts, and establishes their congruity with modern concepts of neurosciences.

Session 19. Eastern Neuroscience
Saturday, 19 June 2010, 2:20 – 3:40 pm

15th Annual Meeting of the International Society for the History of the Neurosciences (ISHN)
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A film of patients with movement disorders made in Queen Square, London, in the mid-1920s by Samuel Alexander Kinnier Wilson

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Through Edward Reynolds’ collaboration with Samuel Alexander Kinnier Wilson’s (SAKW) son, James, on Babylonian neurology and psychiatry, and his contact with James’ nephew, Jim, grandson of SAKW, a remarkable film of patients with movement disorders, made by SAKW in the mid-1920’s, has come to light.

The 20 minute silent film with captions by SAKW includes patients with senile tremor, Parkinson’s disease and post-encephalitic parkinsonism, hemiballismus, Huntington’s chorea, Sydenham’s chorea, hysterical palsy and tremor, multiple sclerosis and progressive lenticular degeneration. Most of the patients are filmed in the square outside the National Hospital. The British Film Institute dates the film to 1924 and the captions to 1925. The case records of 6 of the 14 patients, who were admitted to the National Hospital, Queen Square, under the care of Dr SAKW have been identified.

SAKW may have been stimulated and facilitated to make this film through his personal contact with Charlie Chaplin with whom he stayed at his Californian estate, probably in the summer of 1924. The first films of neurological patients were made in Europe and the USA at the beginning of the 20th century, although most have perished. This may be one of the oldest examples from the UK. It is also notable for the inclusion of Wilson’s disease and a brief shot of SAKW himself.

Session 12. Neuroscience and Film
Thursday, 17 June 2010, 9:00 pm

15th Annual Meeting of the International Society for the History of the Neurosciences (ISHN)
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Rethinking coprolalia

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Tourette Syndrome (TS) is a neuropsychiatric disorder characterized by motor and vocal tics. Its socially most penalizing manifestation is coprolalia – involuntary and, according to Gilles de la Tourette, foul utterances. Even though involuntary, coprolalia demonstrates the sensitivity of the afflicted to culture by violating the culture’s norms, often in a way that is meaningful to the specific situation. The construct of the disorder has evolved historically. For Gilles de la Tourette, coprolalia was a diagnostic criterion, but this is no longer the case for the DSM-IV. The meaning of coprolalia has undergone historical changes too. This study proposes a more nuanced understanding of coprolalia and revisions in the meaning of the term. The study is based on video-taped interviews with adult TS patients and their relatives, and on historical cases. Applying current theories in cognitive psychology and cognitive linguistics, the study leads to an understanding of coprolalia unlike that of Gilles de la Tourette: Coprolalia is not necessarily obscene. It is rather an involuntary breaking of cultural taboos and social rules. A discussion follows of how this improved understanding of coprolalia can lead to improved interventions.

Session 15. 20th Century Paris Neuroscience
Friday, 18 June 2010, 2:00 pm

15th Annual Meeting of the International Society for the History of the Neurosciences (ISHN)
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What is the thinking process involved as physicians strive to resolve the enigma: “What is my patient suffering from?” Such is the question behind this presentation. Our analysis is based on real-life situations in which medical residents discuss specific cases in neurology with the aim of reaching a joint diagnosis. Our theoretical hypothesis holds that although the diagnostic process has a rational component that lends itself to logical reconstruction, it still requires the personal presence of doctors. By examining a particular case in neurology we reconstruct a cognitive process that employs the three approaches to diagnostics that are pertinent to this area of medical specialization – syndromatic, topographic, and etiologic – and are used to arrive at a conclusion via a combination of abductive and deductive reasoning used to discard diagnostic hypotheses. This analysis supports the idea that clinical judgment, which dates from the 19th century and rests upon a rational medicine centered on diagnostics, is still very much in use.
Study pf the physiology of endogenous opioids and endocannabinoids by inhibition of their enzymatic inactivation: new clinical perspectives

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[no abstract]

Session 5. Invited Lecture
Wednesday, 16 June 2010, 1:30 – 2:00 pm

15th Annual Meeting of the International Society for the History of the Neurosciences (ISHN)
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In his *Optics* (*Kitāb al-Manāzir*, 1040), Ibn al-Haytham (L. Alhazen) provides the earliest experimental definition of the formation of an image in the eye based on a point to point correspondence with light reflected from the surface of the visible object. In Books I-III of the *Optics*, he gives a detailed description of the stages of visual sensation of ‘light and color’ through the parts of the eye, optic nerve and chiasma as distinct from its perception in terms of ‘inference’ based on learning, recognition, and memory. The paradigm changing importance of the *Optics* in the history of visual science and the subsequent impact of its Latin translation on major figures [acknowledged and unacknowledged] is becoming recognised. However, the exhaustive experimental investigation of vision (related – in modern terms – to pattern vision, visual acuity, central versus peripheral vision, binocular integration, color) in an effort to establish valid ‘unchanging, invariant’ principles still remains to be studied. In this presentation, I will explore some of the key areas and experiments in the *Optics*, place them in their historical context, and evaluate their significance against the Graeco-Arabic tradition.
British contributions to the understanding of stroke in the first half of the 19th century

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“ … I found that the information relative of these diseases, contained in the writings of English physicians was scanty…” (Cheyne, 1812).

Nevertheless advances in the understanding of cerebrovascular disease and the “comatose states” by British scholars can be found in the first half of the 19th century. Most notable are contributions of John Cheyne (1812), John Abercrombie (1828) and Richard Bright (1831).

These authors added to the steady accumulation of autopsy reports on patients who succumbed to “apoplexy”. Cheyne believed that “the more a clinical treatise is descriptive the better” (Cheyne). Each author apparently agreed with this notion and described in more detail the clinical aspects of patients than was customary at the time. As a result of these efforts it became apparent that not all comatose states were due to intracranial hemorrhage and that not all comatose states were “apoplectic”. It was shown that intracranial hemorrhage resulted not only from arteriosclerotic changes of blood vessels, but also occasionally from other vascular abnormalities such as aneurysms. Focal cerebral softening (ramollissement of French authors) was also shown to be due to diseased blood vessels. Intracerebral, subarachnoid and subdural bleedings were clearly demarcated.

These efforts represent an advance in the prelude to the ultimate understanding of cerebrovascular disease, which had to await the discovery of thrombosis and the establishment of cerebral localization.
Asynergy, a movement coordination deficit of cerebellar origin: was Babinski more perceptive than his contemporaries?

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Joseph Babinski (1857-1932) was a student of Charcot (1825-1893), the founder of the chair of Neurology at the Salpêtrière. Babinski was renowned as a highly astute clinical observer. Today, he is best remembered for the ‘Babinski reflex’, characteristic of pyramidal tract damage. However, another major contribution to neurology was Babinski’s description of the cerebellar syndrome including such clinical deficits as dysmetria, adiadochokinesis and asynergia. Asynergia was the pathological opposite of synergy, which he defined as “the capacity to accomplish simultaneously the various movements that constitute a single act” (see Babinski, 1934). The absence of forward movements of the hip and knee as the patient tilts the head and trunk backward, the failure to lean forward at the onset of gait, and the lack of leg extension when sitting from a supine position are clinical examples.

Several of Babinski’s contemporaries dismissed the term asynergia as superfluous to the cerebellar syndrome (Déjerine, 1914, André Thomas, see Déjerine, Holmes, 1939, Lhermitte, 1958, p. 447) until a reassessment evoked the particular role of cerebellum in motor learning (Ito, 1984) and the idea that many movements require postural changes that ‘anticipate’ the potential loss of equilibrium to synchronize movements with their compensatory postural support. Learned anticipatory postural adjustments associated with various movements were described by many authors as well as their impairment in cerebellar patients (see Clarac et al, 2009). The cerebellar role in forming and storing learned muscle activation patterns for the time dependent control of limb mechanics was emphasized by Smith (1996), Thach (1993), and Wolpert et al (1998). Consequently, the concept of asynergia as a symptom of cerebellar pathology has gained new credibility, and demonstrates that Babinski’s discerning clinical observations, were really ahead of their time in describing what could only be explained after the application of electromyography and biomechanics to the study of cerebellar function.

Session 13. Movement Disorders
Friday, 18 June 2010, 10:00 – 11:40 am

15th Annual Meeting of the International Society for the History of the Neurosciences (ISHN)
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Henri Bergson and the neuroscience of memory

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According to Bertrand Russell, Henri Bergson (1859-1941) was the ‘leading French philosopher of the present century’ (1). This is a mid-century view and Russell was far from being an admirer of Bergson’s work. Nevertheless, few would dispute the fact that Bergson was hugely influential in the first part of the twentieth century. In this paper I want to look again at Bergson’s major work on memory as expressed in his 1896 work *Matière et Mémoire*. This work made his name and was largely instrumental in his election to the position of Maître de conférences at the École normale supérieure in 1898 and to a Chair in philosophy at the Collège de France in 1900. *Matter and Memory* represents the fundamentals of Bergson’s early thought. In it he develops from a deeply meditated philosophical background an original and unorthodox theory of memory. This theory is not only profoundly intertwined with his metaphysics but is also supported by numerous references to the neuroscience and neurology of the time. Many of these supporting references concern the brain pathologies known at the end of the nineteenth century. In this paper, therefore, I want, after a brief introduction to Bergson, to examine his neurophilosophy of memory in the light of a further century of neuroscience.

Session 10. Philosophical Aspects
Thursday, 17 June 2010, 2:00 – 4:20 pm

15th Annual Meeting of the International Society for the History of the Neurosciences (ISHN)
Paris, France, 15-19 June 2010
George de Morsier (1894-1982) and neurological research on hallucinations in the 1930s

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Paris can be considered the most prominent place for research on hallucinations up to the Second World War. While hallucinations had already been a popular topic in clinical research and studies on cerebral localization throughout the 19th century, once again they happened to become of exceptional interest in the Paris of the 1930s. Although efforts in the neurological foundation of hallucinations were widespread, definitions of hallucinations were heavily influenced by psychoanalytic and phenomenological accounts. Evidently, Gaëtan Gatian de Clérambault’s “automatisme mental” didn’t follow this trend. Hence, it is not at all surprising that Clérambault’s disciple Georges de Morsier explicitly criticized his Parisian contemporaries when teaching neurology back in Geneva. Apart from some insightful polemics against attempts of definition and theorization, de Morsier mostly stuck with his case studies but informed them with up-to-date reading of English, German and French neurological literature. In my paper, I will focus on his 1938 extensive summary on neurological findings on hallucinations, exploiting de Morsier’s professional archive including his patients’ records, reading notes and drafts.

Session 17. Psychopathology
Saturday, 19 June 2010, 11:40 am – 12:20 pm

15th Annual Meeting of the International Society for the History of the Neurosciences (ISHN)
Paris, France, 15–19 June 2010
Metaphysics/biophysics: framing “neuroscience” ca. 1950

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For good reasons, in what has emerged over the last few decades as the cultural history of the neurosciences, the way to proceed has been to write histories of the brain (and its sciences) in the idiom of culture. It was to highlight representational practices, the social malleability of concepts, and the historicity and historical specificity of brain-centric discourses and practices; noteworthy too, it has been to study not the recent genesis of neuroscience, but periods prior to WWII.

If there exists a grand narrative of post-war developments, it crucially involves the story of cybernetics, and hence, as this paper argues, a particularly cerebral, and insufficiently problematized, vision of the neuroscientific past. More generally this paper argues that the centrality accorded to cybernetics in historical accounts of mid-twentieth century neuroscientific developments is, more than anything else, a function of the public visibility of cybernetics; and thus, symptomatic of the broader historiographical tendency above: a tendency to conflate cultural histories of the brain, of the mind-body problem and of discourses of human nature with the (mundane) traditions, specialities, initiatives, institutions-in-the-making and events that presaged the quite recent coalescence of neuroscience. It is this cerebro-centrism of the historiography I wish to complicate here. In my paper, I draw on a range of archival material to show how, first, as historians, we may have by and large failed to interrogate the historical realities of the cybernetic brain discourse; and second, how in doing so we have obscured crucial spaces of inquiry that are all-too-easily glossed over in the necessarily manifold origins of neuroscience: devoid as they were, as I shall suggest as well, of the brain, of ‘culture’ (certainly in the emphatic sense), and of the intellectual excitement surrounding cybernetics and the philosophical puzzles it generated.

Session 2. Historiography
Tuesday, 15 June 2010, 2:00 – 4:00 pm

15th Annual Meeting of the International Society for the History of the Neurosciences (ISHN)
Paris, France, 15-19 June 2010
One of the co-founders of the Paralympic Games was Sir Ludwig Guttmann, who after 1933 fled the Nazi regime and emigrated to London, England where he basically continued to practice as a conservative neurologist. However, the impact of refuge and exile on his clinical research program strongly reflects an emigration-dependent process of professional change from being a trained neurosurgeon to becoming a fervent neurological clinician. As is well known, Sir Ludwig developed into a widely renowned rehabilitation specialist for the paraplegic and became a “father” of the Paralympic sports movement in his later career –starting with the “hospital games” at Stoke Mandeville. In fact, the fascinating work biography of Ludwig Guttmann embodies many traits and essential assumptions regarding the increasingly interdisciplinary organized field of neuroscience. His own research program later reintegrated aspects from early rehabilitation and sports as a reflection of the underlying assumption of neuronal adaptation and brain plasticity. But this was far from obvious in the beginning:

Guttmann is rather an adequate example for an analysis of the cultural impact of work norms on scientific development –here in an outstanding physician and rehabilitation specialist. Conventional research trends have by far neglected the complex cultural modes, scientific interactions, and evolutionary patterns associated with the historical process of forced migration. The aims of this paper therefore are: first, to introduce the general research topic of forced-migration in the neurosciences; second, to map the non-linear biographical development in Sir Ludwig’s amazing career and third, to flesh out a perspective that challenges the well-held belief of many science managers, politicians and even some historians of science who champion a linear “brain gain” theory of emigration-induced change in the post-war (neuro-) sciences in the United Kingdom, the United States or Canada. This paper draws on archival work in the archives of the Wellcome Institute for the History of Medicine in London as well as on interviews and talks with Canadian and Israeli colleagues and friends of the late Sir Ludwig.

Session 4. Biographical Studies
Wednesday, 16 June 2010, 10:50 am – 12:00 pm

15th Annual Meeting of the International Society for the History of the Neurosciences (ISHN)
Paris, France, 15-19 June 2010
Sigmund Exner and the origins of experimental research on the role of the corpus callosum in interhemispheric integration

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The anatomy of the Corpus Callosum has long suggested that it could play a significant role in interhemispheric communication and the unity of consciousness (Wigan, 1844). Nonetheless the work of the Sperry group in the period from 1950 to 1970 is frequently regarded as the original formulation of this conjecture. This view persisted despite the widely known early publication of Bykov and Speransky (1924) of the effects of section of the corpus callosum on tactile conditioned behaviour in dogs (Myers, 1953). Surgical transections of the corpus callosum in human patients were undertaken by Dandy (1930) who performed it to access third ventricular tumours. A second group of patients, following callosum section, were intensively tested by Akelaitis (1940, 1941). As is well-known neither of these groups failed to find any cognitive deficits following cerebral disconnection. The great contribution of Myers and Sperry was to recognise that sensory information was shared by peripheral information transfer (optic chiasma) to both hemispheres as well as by central transfer via the corpus callosum. Myers developed a dorsal method of midline sectioning of the optic chiasma to ensure there was no peripheral visual transfer pathways available to the callosum sectioned animal.

The purpose of the present paper is to present evidence that animal research on the corpus callosum began significantly before the studies of either Pavlov or Sperry. Sigmund Exner in his 1894 book Entwurf zu einer physiologischen Erklärung der psychischen Erscheinungen (Plan towards a physiological explanation of psychological phenomena), clearly theoretically anticipated the problem presented by dual information pathways (peripheral and central) between the hemispheres. His student Imamura (1903) provided an elegant experimental separation of these two systems in the dog.

Poster Session
Tuesday, 15 June 2010, 4:00 – 6:00 pm

15th Annual Meeting of the International Society for the History of the Neurosciences (ISHN)
Paris, France, 15-19 June 2010
An editorial, with the somewhat alarming title of “Slight Case of Murder in Macquarie Street”, appeared in the 28th April, 1985 edition of the Medical Journal of Australia. The victim was the Kanematsu Memorial Institute at Sydney Hospital and the accused, the NSW State Government.

The original donation to Sydney Hospital from the Kanematsu Company ensured a “state-of-the-art” building when completed in 1932. In 1935 a world-wide search was commenced for a suitable Director of Research for the Institute. The successful applicant was an Australian, a Melbourne University graduate, Dr John Carew Eccles. Eccles, aged 34 when he arrived to take up the position, was already well credentialed and a leader in his chosen field of neurophysiology. Eccles was joined shortly after by Dr Bernard Katz, a graduate of Leipzig, and Dr Stephen Kuffler, a graduate from Vienna. Together they formed a formidable research team: 2 future Nobel Laureates (Eccles and Katz), and a future leader in American neuroscience (Kuffler).

Eccles left the Kanematsu in 1944 to take up a position in Dunedin, New Zealand where he would continue his research on synaptic transmission. This glorious period of neuroscience research in Sydney came to an end.

Future directors took the Kanematsu into other fields of research, and many separate interests were followed.

In the 1980s the Government, with a policy to decentralize medical services, took the decision to demolish the building and re-locate the various research groups in other institutions. The building vanished without trace. Very few of the current neurologists are aware of this period of local neuroscience history. However, the part that Eccles played in the development of an independent Australian research community cannot be underestimated.
The curious case of Private Schneider: a classic in neurophenomenology

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On 4 June 1915, Johann Schneider (Schn), was heavily wounded by a mine-explosion while serving in the German army. The blow left him comatose for several days. After he regained consciousness a bizarre neurological syndrome emerged, characterized by a variety of cognitive impairments, including alexia, acalculia, akinetopsia and visual agnosia. His case was extensively documented by Goldstein and Gelb in 1918. Despite the various, severe deficits he suffered, Schneider had surprisingly little problems performing actions of daily life, for example blowing his nose or lighting a match. He also continued his work in a wallet factory just as he had been doing previously to his accident. According to the French phenomenologist-philosopher Maurice Merleau-Ponty (1908-1961), the latter actions are all proof that knowing starts with the body rather than the mind: the case of Schneider is at the basis of his theory of the ‘body-subject’ that he unfolded in his book ‘Phenomenology of perception’ (1945). In this paper we review the case of Schneider and his influence on the development of Merleau-Ponty’s philosophy. The fact that Schneider might have been feigning a large deal of his symptoms, as turned out several years after the ‘Phenomenology of perception’ appeared, is also taken into consideration.

Session 4. Biographical Studies
Wednesday, 16 June 2010, 10:50 am – 12:00 pm

15th Annual Meeting of the International Society for the History of the Neurosciences (ISHN)
Paris, France, 15-19 June 2010
Early views of Christfried Jakob on the cerebral cortex: challenging the supremacy of the frontal lobe

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This presentation focuses on six sequel articles (Jakob 1906a,b,c; 1907a,b; 1909), published in Argentina by the neuropathologist-neurophilosopher Christfried Jakob (1866-1956) (Triarhou & del Cerro, 2007) between 1906 and 1909 and addressing functional localization in the frontal lobe. At the time, the localization-holism controversy was at a peak, triggered by the historic Marie-Déjerine aphasiology debate. Jakob held that the constitutive physiological elements of cognition are localized but he cast doubt on phrenological approaches that considered the frontal lobe as ‘superior’ to the remaining cortical regions. Jakob studied the human frontal lobe from fetal life through senility, in normalcy and in pathology, including tumors, injuries, softening, general paralysis and dementia. Based on his findings, he viewed strict localization theories as a dead-end. Jakob criticized Flechsig’s claim on the parallel ontogenies of frontal association centers and intellect. Instead, Jakob maintained that the frontal lobe does not carry any selective advantage over the remaining human cerebral lobes or even over the frontal lobe in non-human species. Regarding lesion experiments in laboratory animals, he pointed to methodological caveats, such as insufficient recovery time, which may lead to disorientating conclusions, and he rejected élite brain research – the anatomical study of the brains of eminent persons in the quest for revealing the structural differences that accompany intellectual superiority or talents – calling it superficial and inexact. Jakob thought that the verification of the anatomical connections of the frontal lobe would elucidate its functions. Thus, he viewed the frontal lobe as a central station receiving input via olfactory pathways and thalamic radiations, pertinent to muscular and cutaneous senses, and attributed a perceptive character to a brain region traditionally associated with productive functions. Modern neuroscience seems to support Jakob’s rejection of distinguishable motor and sensory regions and to adopt a critical stance against oversimplified localization views.

Poster Session
Tuesday, 15 June 2010, 4:00 – 6:00 pm

15th Annual Meeting of the International Society for the History of the Neurosciences (ISHN)
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Ivane Beritashvili, versatile neuroscience despite the adversities of the 20th century

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Born on 31 December 1884 and speaking the Kakhetian dialect of Georgia, the first problem for Ivane Beritashvili was to master Russian to attain an education. He earned a place in the laboratory of Wedensky, who had bested Pavlov for the Professorship at St Petersburg University (Doty, 1975; Tsagareli 2007). In careful experiments, Beritashvili disproved his mentor’s theory of neural inhibition, and was consequently denied his doctoral degree! Becoming an early expert in use of the string galvanometer, he established the field of electrophysiological investigation of spinal cord reflexes (Beritov, 1916). His fellowship was interrupted by the onset of World War I but he still managed to contribute significant data to Magnus’ classical Körperstellung. Luckily he then obtained a position at Odessa (to which Sechenov had once been “exiled”), and began unique studies of conditional reflex behavior. Georgia had a moment of independence after the war, and Beritashvili was awarded the chair in physiology at the new university. Independence was soon eliminated by the Bolsheviks, but Beritashvili at least escaped Beria’s massacre, that took 10,000 lives. Up to that time, he had published 42 papers in German and English, but thereafter it was exclusively in Russian. While he served with Pavlov in officiating at the 1935 International Physiological Congress in Moscow, in 1950 the physiologist Bykov, and his political clique, caused a 5-year hiatus in Beritashvili’s professorship, for being “antiPavlovian” (Langue, 1997). Subsequently, he joined Jasper as Honorary President of the Moscow Colloquium that became the founding event of the International Brain Research Organization (IBRO) (Marshall, 1996). His versatile work includes extensive, comparative studies of vertebrate memory (Beritasvili, 1971). Although criticized for his concept of “image-driven” behavior (Beritashvili, 1965), that seemingly outstripped then known facts, recent experiments have verified such phenomena in rats. Ivane Beritashvili died on 29 December 1974 two weeks before his 90-year jubilee. He was buried in the square of Tbilisi State University, in the pantheon of founders of the University.

Session 19. Eastern Neuroscience
Saturday, 19 June 2010, 2:20 – 3:40 pm

15th Annual Meeting of the International Society for the History of the Neurosciences (ISHN)
Paris, France, 15-19 June 2010
History of treatment of bacterial meningitis

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Although meningitis was not yet known as such, its symptoms, especially headache, fever and decreased consciousness, have been described for centuries. In the course of time, these symptoms have been conceptualized in different ways and many theories about its causes have been formulated. Initially, diagnostic means were limited and therapeutic methods were different from today. The development of bacteriology has been of great influence on the perspective of diagnostic and therapeutic methods. In this presentation, we will discuss, based on a literature study, several therapeutic methods that were used in the course of time.

Until the end of the 19th century, therapeutic methods included bloodletting, blistering and emetics. In patients suffering from epidemic meningitis, mercury and drinking as much alcohol as the stomach could bear, were considered as indispensable in the treatment. However, these methods appeared not very effective.

The development of bacteriology and the introduction of the lumbar puncture put treatment of what then became known with the term meningitis in a different light. At the beginning of the 20th century, the meningococcus, considered the most common pathogen, was identified. This enabled the production of an antiserum which could protect against meningitis, and sometimes even could cure it. The real breakthrough in the treatment of meningitis, however, came with the discovery of sulphonamide in the 1930s. The use of this chemotherapeutic resulted in a sharp decrease of mortality. At that time, penicillin, the first antibiotic, had also been discovered. However, it was only after the development of sulphonamide resistance, that penicillin and other antibiotics have been used on a large scale for the treatment of meningitis. Nowadays, with the use of antibiotics bacterial meningitis can often be cured.
The French impact on Russian neurosciences

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In the 19th century Russian medical sciences went through an important phase, as they moved from being actually almost non-existent to becoming a legitimate and productive part of the European medical community. France was among the influential allies of Russia not only politically and economically, but also scientifically. Medico-scientific exchanges between France and Russia had started in the Age of Enlightenment but would come to flourish starting from the middle of the 19th century. There was a significant French impact on the development of the medical sciences in Russia, particularly in the field of neurosciences, such as neurophysiology, neurology and psychiatry. This was associated with the names of such great French scientists as Claude Bernard, Jean-Martin Charcot and Louis Pasteur, all of whom were strongly pro-Russian. Here is just a short list of Russian scientists who benefited from the collaboration with France and made a valuable contribution to society: Ivan Sechenov, a pioneer of Russian neurophysiology; Alexey Kozhevennikov, the founder of the Moscow school of neurology; Sergey Korsakov, the first Russian professor of psychiatry; Vladimir Bekhterev, an outstanding neurologist, psychiatrist and psychologist, and many others. However, Franco-Russian relations in the field of medicine were never part of an official program; they were mainly the result of private initiative.

Session 3. French Neuroscientists and Their Reception
Wednesday, 16 June 2010, 9:30 – 10:50 am

15th Annual Meeting of the International Society for the History of the Neurosciences (ISHN)
Paris, France, 15-19 June 2010
The 19th century concept of “brain fever: its appearance, its disappearance, its remainders

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In the first half of the nineteenth century, various conditions then or now associated with cerebral inflammation existed in parallel, notably phrenitis, acute hydrocephalus, meningitis or encephalitis. The emergence of the concept of brain fever, a disease rooted in the older maladies of phrenitis and nervous fever, hardly contributed to a better understanding of the inflammations of the nervous system. The use of the term was inconsistent, ranging from its being used as a simple synonym for phrenitis, meningitis or encephalitis, to its being an independent medical entity only accepted by parts of the scientific community, to its literary employment by Victorian writers as well as in fiction from the continent. However, a simple translation of brain fever into the French ‘fièvre cérébrale’ or the German ‘Hirnfieber’ would not be correct. Whereas in literature its combination of psychological trigger and severe, sometimes fatal clinical course was the source of considerable attraction for authors of fiction right into the second half of the 19th century; in clinical medicine the term was soon substituted by more precise concepts corresponding to pathological, microbiological or psychosomatic aspects.

Poster Session
Tuesday, 15 June 2010, 4:00 – 6:00 pm

15th Annual Meeting of the International Society for the History of the Neurosciences (ISHN)
Paris, France, 15-19 June 2010
Javal and the recording of eye movements during reading

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Louis-Émile Javal (1839-1909) founded and directed the ophthalmology laboratory at the Sorbonne and was a member of the Académie de Médecine. His main research focus was upon visual deficits – an interest that probably arose because his sister was strabismic and Javal himself was astigmatic. However, he is widely regarded in visual science as the first writer to use the term ‘saccade’ to refer to rapid eye movements during reading. In 1878 and 1879 he wrote eight papers on the visual processes involved in reading; they were concerned mainly with font size and accommodation. However, it now seems likely that Javal’s contribution to the early understanding of saccadic eye movements may be somewhat less than previously thought. He tried to record eye movements using several techniques but none were successful. On the basis of his subjective impressions, he believed that the eyes glide smoothly along text during reading. It is argued that his work has been inappropriately interpreted as a consequence of passing through the filter of Edmund Huey’s eyes in its summary into English, published in 1908. Subsequent students relied on Huey’s account rather than returning to Javal’s original articles. In 1879 Javal did mention saccades in a footnote on the penultimate page of the final article of his series. However, this was a reference to work by his colleague Lamare, rather than by Javal himself. Moreover, the technique used by Lamare was similar to one described earlier in 1879 by Ewald Hering. The term ‘saccade’ was adopted by writers in English as a consequence of a suggestion by Raymond Dodge in 1916. The sequence of studies by Hering, Lamare, Huey and Dodge provided the basis for modern investigations of eye movements during reading.

Session 16. Vision Studies
Saturday, 19 June 2010, 10:00 – 11:40 am

15th Annual Meeting of the International Society for the History of the Neurosciences (ISHN)
Paris, France, 15-19 June 2010
Hughlings Jackson’s unfinished masterpiece

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This paper examines the circumstances surrounding John Hughlings Jackson's abortive attempt to compile his neurological ideas in a single volume, and his subsequent participation in selecting the contents of the two-volume Selected Writings of John Hughlings Jackson.

In 1901 William Osler of Baltimore, Silas Weir Mitchell of Philadelphia and James Jackson Putnam of Boston wrote to Hughlings Jackson, encouraging him to prepare a volume on his neurological ideas for publication. In reply, Hughlings Jackson promised one volume on his major contributions and another on his more minor works. In the event, no such volume ever materialized, though the two volumes of the Selected Writings were published in London in 1931 and 1932. A new archive throws further light on these events.

Hughlings Jackson had his private papers destroyed at the time of his death, but unknown colleagues saved at least two collections of them. One of them subsequently gave a small collection of them to Macdonald Critchley, whose widow donated them to the Royal College of Physicians in London. The Rockefeller Library of the UCL Institute of Neurology, Queen Square, contains a second collection. Examination of these archives reveals the story of Hughlings Jackson's unfinished masterpiece.

The Critchley collection contains four bound note books into which Hughlings Jackson pasted printed copies of his published papers on aphasia, epilepsy and evolutionary neurophysiology. These articles are heavily annotated with handwritten revisions and editing marks in ink and pencil. In addition, the collection contains loose typescript pages with page numbers up to page 56. These are also revised in Hughlings Jackson's hand, and concern various comments on psychology. These pages are divided into numbered sections, and internal evidence shows that they were written after 1901. The Queen Square collection includes typescripts of Hughlings Jackson's published papers which appear in Selected Writings, and which contain editing marks and comments in both Hughlings Jackson's and James Taylor's handwriting.

In a biographical introduction to Neurological Fragments, James Taylor say that Hughlings Jackson was ill and intimidated by the laboriousness of the project, and never completed it. The material in the Critchley Collection supports this conclusion. The topics would certainly have formed the basis of any monograph of Hughlings Jackson's ideas, and his revisions to the articles on aphasia, epilepsy and neurophysiology are comprehensive. Hughlings Jackson appears to have focused on precision rather than organization, however, so the chapters are not publishable in their extant form. The loose pages on psychology, divided into sections, are similarly chaotic. After abandoning the monograph, Hughlings Jackson himself appears to have selected the works included in the Selected Writings. These findings show that, much like other scientists, Hughlings Jackson was concerned that posterity remember his seminal work, but the magnitude of the task proved too much for him.

Session 4. Biographical Studies
Wednesday, 16 June 2010, 10:50 am – 12:00 pm

15th Annual Meeting of the International Society for the History of the Neurosciences (ISHN)
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American contribution to the discovery of tuberculosis meningitis at the Parisian Hospital for Sick Children: William Wood Gerhard demands justice from Louis Benoit Guersant

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In the first half of the 19th century L.B. Guersant (1777-1848), a celebrated Parisian physician, and his numerous disciples at the Children’s Hospital, advanced understanding of meningitis and its forms. Among the Americans who worked in this hospital was W.W. Gerhard (1809-1872). Following his return in 1833, Gerhard published one of the earliest American communications on child neurology “On the Cerebral Affections of Children”, based on observations collected in Paris by him and his friend E. Rufz. This article played a crucial role in recognizing tuberculous meningitis as a form of phthisical disease. Gerhard wrote, “The obscurity […] in the application of the terms acute hydrocephalus, or according to M. Guersent, meningitis, has led to the extreme diversity of opinion amongst physicians…M. Guersent was of opinion that it consisted in an inflammation of the meninges […] The cases which I have detailed, induce me to regard this form of cerebral affections as closely analogous to the deposition of tuberculous matter in other organs.”

In 1839, Guersant implied in his remarks in the Dictionaire de Medicine that two doctors, Constant and Fabre, preceded Gerhard in discovering tuberculous meningitis. The next year, Gerhard responded, “We have been accustomed to respect the character of M. Guersant, and we are not disposed to censure him for an error which we presume is involuntary; nevertheless, it is a matter of duty on our part to place the subject in true light…” Supported by a Parisian physician Valleix, Gerhard insisted in two papers that he and Rufz were the first to establish the nature of the disease. In 1843, however, Rilliet and Barthez, in their outstanding textbook on diseases of children, reclaimed the priority for L.N. Papavoine, who recognized tuberculization of meninges in 1830. Rilliet and Barthez, nevertheless, agreed that Gerhard’s essay was “the most remarkable treatise that had been published on the subject.”

Session 6. Brain Inflammation Studies
Wednesday, 16 June 2010, 2:20 – 3:00 pm

15th Annual Meeting of the International Society for the History of the Neurosciences (ISHN)
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