Paul Broca lived through the trials and tribulations of social unrest in France, in an era where as much as one third of the million inhabitants of Paris were dependent upon charity. Dr. Schiller has interleaved Broca's circumstances in which they were made, producing an immensely readable biography. Broca's contributions were enormous and, typical of the giants of his era, spanned many disciplines. Trained as a surgeon in Paris, Broca became a skilled microscopist and, in his doctoral thesis of 1849, demonstrated for the first time the spread of cancer by way of the veins. By the late 1850's he had written the definitive treatise on "aneurysms and their treatment", a monumental work of close to 1000 pages. By the age of 35 he had written over 100 papers but had only just got married. Throughout the text of this book, Schiller makes extensive reference to original letters and documents of the time, and is able to quote Broca as calling "private practice and marriage, the two extinguishers of science". It was around this time that Broca turned his attention to the study of anthropology, and formed the Société d'Anthropologie. Schiller views Broca as the father of that subject. "What do you think of Broca?", I naively asked an anthropologist at the Musée de l'Homme in Paris. "Broca? Without him we wouldn't be here." He became increasingly involved with morphometric studies of skull size and shape in relation to ethnic differences. Schiller points out that modern critics may have been less than complementary when commenting that "Broca, a French anthropologist with a broad skull, wrote five volumes to prove that the broader the head, the better the brain, and the French had particularly broad heads" (Gardner, 1957 "Fads and Fallacies in the Name of Science"). Be that as it may, it was against this background of craniometry that Broca's most famous discovery was made. Schiller describes the scene vividly. The fiery professor Jean Baptiste Bouillaud was an ardent advocate of Gall. For years he had fought to establish that lesions of the anterior lobes of the brain caused loss of speech. In 1839 Bouillaud described a patient "who had shot himself in the head with a pistol and presented a large gash over the frontal lobes"... "curious to know what effect it would have on speech, if the brain were compressed, we applied to the exposed part a large spatula pressing from above downwards and a little from front to back. With moderate pressure speech seemed to die on his lips; pressing harder and more sharply, speech not only failed but a few words were cut off suddenly". By 1848 Bouillaud still was vigorously defending his point and declared "Herewith I offer 500 francs to anyone who will provide me with an example of a deep lesion of the anterior lobes of the brain without a lesion of speech." However, for the next thirteen years the major debate in the Société d'Anthropologie concerned the importance of cerebral volume in relation to intellect. On April 18th, 1861, Broca described the first of two patients with loss of speech associated with left frontal pathology at necropsy. Schiller goes on "It is unlikely that any other single preserved human brain has aroused more attention than the one Broca was describing". Schiller himself managed to unearth the likely brain of Tan, the patient in question, from the Musée Dupuytren and provides a photograph of the specimen, and that of the second patient, Lelong. In the same year as this mementous discovery, Schiller records that Broca was engaged in experiments on another of his favourite topics, namely evolution. A contemporay of Gregor Mendel, Broca was attempting to breed white cornflowers from wild seeds collected in the fields. In his fifties Broca's fame was established. Indeed Schiller quotes him as saying "Getting on in years makes us unfit for science; the work has to be done while we are young". But then he embarked upon what others have called "perhaps Broca's greatest claim to admiration by posterity" (S Pozzi, 1888). In 1879 Broca published his paper on the olfactory centres of the brain—the great limbic lobe of Broca. This description proved to the forerunner of Papez's concept of limbic circuitry and emotion, and by then Broca was an acknowledged leader of society. In 1880, he was elected for a lifetime to the French Senate, but he died, Schiller believes from a heart attack, only a few months later. However during this short period it appears that Broca must have endeared himself to contemporary female liberationists, for he wrote a report advocating improvement in women's education, claiming that "The family is what woman makes it... Entrusted with such a mission must mothers be ignorant and futile?". Schiller's biography of this great man is a delight. It refreshes the palate jaded by the torrent of technical books on neuro-science, brings life to history, and vividly reenacts the momentous moments of Broca's life. It would make an excellent present for the neurological tyro or teacher.

Michael Trimble

Book reviews

Clinical Neurology for Psychiatrists. By David Myland Kaufman. (Pp 366; $29.50.) New York: Grune and Stratton, 1981. The title of this book suggests it will review two themes. The first, clinical neurology, and the second clinical neurology that has specific interest for and reference to psychiatrists. On the first, the author has succeeded in describing common and some uncommon neurological disorders in an uncomplicated and well-explained manner, with the aid of some useful hand-drawn figures. This is preceded by a section on examination of the nervous system in which, with the aid of fundamental neuroanatomy, some first principles of neurology are presented. However, it is on the second theme that this book fails to achieve what from the preface must be one of the author's aims, namely to make psychiatrists "aware of current neurological concepts" based on the principle that "after decades of schism, psychiatry and neurology are finding common ground". Thus this book is more a guide to first principles of clinical neurology than a book that explores inter-relationships between the two disciplines or emphasises those areas of neurology, namely subcortical neurology, that are of special interest to psychiatry. The limbic system has only one page of references, schizophrenia four, and depression three. The "neurology" of psychiatric disorders, and the more essential aspects of the neurological examination required for its assessment is not emphasised, at the expense of 30 pages on peripheral neuropathies and muscular diseases. While the differential diagnosis of neurological disease is well covered, neuroanatomical concepts not highlighted and cohere an important feature of practice, namely the differentiation between neurological illness and psychiatric illness presenting with neurological signs and symptoms. Unfortunately an air of dualism permeates this book which has not helped the author's search for "common ground".

Paul Broca. By Francis Schiller. (Pp 350; £15.00, $31.25.) London: University of California Press Ltd, 1980. As stated in the Foreword to this fascinating book, "It seems almost incredible that this is the first scientific biography of Paul Broca in any language". Dr Schiller has managed to paint a masterly picture of the man, his work and his times. Born in 1824, as a contemporary of Queen Victoria,