

Minutes of the Scientific Sessions

The

Third Annual

Congress of Neurological Surgeons

The Roosevelt Hotel

New Orleans, Louisiana

November 12, 13, 14, 1953



The meeting opened at 10:00 A.M. with a business meeting. It was conducted in an efficient manner, and during which time the officers for 1954 were elected. (I did not attend this initial meeting, and any elaborations upon the meeting would have to be done by someone else.)

At 11:00 A.M. Sir Geoffrey Jefferson of Manchester, England opened the professional portion of the meeting with an address entitled "Changing Ideas on the Integration of the Brain". This very enlightening talk was devoted chiefly to a historical review of the changing concepts of the functional areas of the brain, especially the motor area and the "seat of consciousness". Sir Geoffrey emphasized the fact that early investigators considered the medulla as the center from which originates the motor impulses. There was then a gradual shifting of this center by investigators from the medulla to the midbrain, internal capsule, and finally into the cortex. He stated that in the past two decades attention had been largely directed to the investigation of the exposed cortical areas. More recent investigators have concentrated their efforts again to the brain stem, and Sir Geoffrey stated that perhaps we have been too intent on looking at the brain from above, rather than from underneath. We have been looking at the brain wrong way around.

The meeting reconvened after lunch, and a panel discussion on the anatomy and physiology of the frontal lobes was held. The members of the panel were Robert Heath, Moderator, Harold Hemwich, Gerhardt Von Bonin, and A. Earl Walker. Doctor Stanley Cobb was unable to attend, and Sir Geoffrey Jefferson gracefully stood at the wicket for him. After a few introductory remarks by Robert Heath, Gerhardt Von Bonin presented a discussion on the developmental anatomy of the frontal lobes. He pointed out with the aid of comparative anatomy the gradual increasing of complexity of the frontal lobes through the animal kingdom. The first area to appear was that corresponding to the motor-premotor area in man. The second area to appear phylogenetically was the frontal eye area. The third area to appear was that which corresponds to the "vagus" area, which centers chiefly in the anterior cingulate gyrus. Doctor Von Bonin emphasized the continued functional differentiation which these three areas have in man.

Harold Hemwich of Galesburg, Illinois, then proceeded to discuss some of the aspects of brain metabolism. He reviewed the facts that the respiratory quotient of brain tissue was unity, and also that approximately 1/5 of the oxygen consumption of the body occurred in the brain. He briefly described the method of Kety and Schmidt in using nitrous oxide to determine the cerebral blood flow. He cited evidence that cerebral blood flow was unchanged in hypertension, and also following the administration of Nicotinic Acid. On the other hand, intravenous papaverine resulted in an increased blood flow through the brain. He also discussed some of the data concerning cerebral oxygen consumption in various neurologic and psychiatric disorders. It was noted that in cerebral arterio-sclerosis the oxygen consumption averaged 85% of normal. On the other hand, in studying a group of asymptomatic aged patients, the oxygen consumption was 83% of normal. He speculated that perhaps there is a gradual decrease in activity or dying out of brain cells during the process of aging, and that, depending upon which areas of the brain are involved, will govern whether any symptoms occur. He also mentioned the interesting fact that following pre-frontal lobotomy, the total cerebral oxygen consumption is reduced by approximately 5/6, which is more than would be expected merely on the basis of amount of brain tissue destroyed.