the uneasy marriage of neurology with psychiatry offered a concrete concept for research enquiry instead of an abstract one. But the offspring of neuropsychiatry proved sterile for research, for it produced nothing more than the neuropathology of the past had revealed for mental illness. Today, however, a *decree nisi* has dissolved this union and the present object of nascent enquiry for psychiatry is behaviour.

Evidently, the choice of behaviour has not simplified the matter; actually it complicates it a thousandfold. But it complicates it in a fashion amenable to scientific investigation. Norms have to be established and variables controlled not only for the individual but also for the socio-cultural-economic groups in which he lives. His genetic endowment and its biochemical correlates, his fetal physiology and environment, his pattern of growth and development and the emergence of a characteristic behavioural pattern—not only in terms of its biotypic autonomic-endocrine balances but also of its psychological attributes—all will determine both his relative resistance to various orders of stress experience and, if this cannot be withstood or incorporated into his personality, the timing and manner of his breakdown.

Psychiatry today presents the greatest challenge from the field of medicine to scientific research and its patients stand in the greatest need of scientific endeavour on their behalf. Long neglected by medical science, psychiatry is beginning to assume the face of Janus, pointing still to the medicine of the past but also simultaneously to the new discoveries of the bio- and behavioural sciences of the future, and in any event to the promise of its golden age.

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COMPLETE DISLOCATION OF THE KNEE JOINT

COMPLETE dislocation of the knee joint is sufficiently rare that no surgeon sees enough cases to compile a large personal series. A review of 22 cases of this particular injury contributed by various orthopedic surgeons throughout Ontario to a study conducted by Kennedy[1] is therefore of interest. Kennedy also carried out investigations on cadavers with the object of clarifying the mechanism of this potentially serious injury. In this latter regard, a stress machine was used to produce fractures of the tibial plateau. Forces were generated with the apparatus by a dial torque handwrench and measured by converting the torque readings on the wrench into pounds or inch-pounds of force by means of conversion tables.

By describing dislocation of the knee with reference to tibial displacement, five main types may be distinguished clinically: anterior, posterior, lateral, medial, and rotatory. Anterior dislocation was the commonest in this collected series and occurred in 14 instances. In 12 cadaver specimens, four of which were fresh and eight embalmed, anterior displacement with tearing of the posterior capsule and cruciate ligaments was produced in 10 by hyperextension. In two the applied stress resulted in fractures of the upper end of the tibia.

The need for immediate accurate closed reduction of this injury if disastrous sequelae are to be avoided, cannot be emphasized too forcibly. Even with prompt treatment, the surgeon must remain alert to the possible occurrence of popliteal injury, post-traumatic arterial spasm and extending thrombosis. The physician who first sees the patient should be cognizant of the trauma which may be inflicted to the popliteal artery and of the resultant edema which may critically compromise an already very restricted non-expansile area. He should realize that while the victim of this type of injury may be young and healthy with normally good collateral circulation, the latter may be severely reduced and the vitality of the distal extremity jeopardized. Comparable situations exist in the case of supracondylar fractures and severe war wounds in this important region.

The use of circumferential plaster may on occasion result in production of a gangrenous limb, notably when complaints of increasing pain are ignored. Many a lower limb has been lost owing to neglect in association with injuries which could have been initially immobilized by a posterior moulded slab or plaster splint. The knee should be immobilized in 15° flexion to avoid any stretch of the popliteal vessels, and the leg should be elevated on pillows to minimize edema.

Constant vigilance and repeated observation of skin colour, capillary filling, temperature, sensation and especially changes in arterial pulsations are mandatory. Hoover[2] has recently reviewed the experience at the Mayo Clinic with 12 instances of injury to the popliteal artery, nine of which occurred as the result of dislocation of the knee. During the period under study dislocation of the knee was seen 14 times. As an indication of the gravity of the situation, six of these nine patients required early amputation for gangrene; and two, delayed amputation for the sequelae of ischemia. In view of this, it has been the policy of this Clinic since 1954 to explore the popliteal space whenever there is any question about adequacy of circulation. Procrastination with temporizing measures in the hope of improvement is not justifiable.

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Today one can scarcely begin consideration of the traumatic arterial lesion without first reflecting on the results obtained a few years ago. DeBakey and Simeone[3] found that amputation was necessary in 49.6% of World War II cases when arterial continuity was not restored; this proportion increased to 72.5% with popliteal ligation. This is in sharp contrast to the dramatic improvements obtained in Korean casualties, as reported by Hughes[4] and by Jahnke and Seeley.[5]

Many vascular surgeons prefer Dacron and Teflon prostheses to arterial homografts. However, the pendulum may be swinging back somewhat in favour of autogenous vein grafts, especially for femoropopliteal bypasses, but what will ultimately prove best for popliteal replacement *per se* remains to be determined.

Determination of the precise extent of ligamentous injury and of the need for operative repair of these structures also requires further detailed studies. While the results of postmortem dissections are of significance, they do not necessarily represent what happens in the dynamic state of the living subject. It is clear, however, that some of these injuries, especially straightforward anterior or posterior dislocations, regain stability and a good functional result without surgical intervention.

Effective immobilization in plaster of the reduced joint for a period of six to eight months may suffice in some cases of complete dislocation of the knee joint, but prompt treatment and individual attention are necessary in all.

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TATTOOS AND IDENTITY

IT was a dramatic sight. Several red-coated huntsmen mounted on splendid horses dashed across his chest from the right costal margin to the left shoulder; a line of hounds streamed over the shoulder and down towards the base of the spine where (disappearing between the nates), "driven to earth", a bushy red fox's tail protruded. Not all tattoos are as elaborate and picturesque as a complete English hunt but, nevertheless, tattooing (the word is derived from the Tahitian *tatau*) has for a variety of reasons persisted since its beginnings in 2000 B.C.

The generally accepted explanations for this practice are that tattoos: (1) serve as ornamentation, (2) have erotic meaning, (3) are a demonstration of courage on initiation to adulthood, (4) are magico-religious symbols and (5) establish the identity of the bearer.

On close examination of the subject, Edgerton and Dingman (*Int. J. Soc. Psychiat.*, 9: 143, 1963) believe that, for individuals in certain levels of Western society, tattoos serve as a means of self-identification. This is an extension or elaboration of the function of this practice in more primitive societies where tattoos are used to indicate tribal affiliation, class, kin, group, secret society membership and so on. Tattoos may be inflicted in order that bodies of warriors killed, and sometimes beheaded or otherwise mutilated in battle, may be identified. Identifying tattoos may even be enforced for some members of non-Western societies, e.g. slaves and persons of very low status, class or caste.

Other means are chosen in Western society to communicate information about the self to the self and to others: for example, group identification through clothing, badges, haircuts, make-up and material possessions such as automobiles. "Naming the self" is more difficult but can be achieved through nicknames; self-names are inscribed on personal possessions, not merely to establish ownership but to display the personal name and link it to something desirable.

Self-identifications that tattooing may accomplish include: relationship to a group (the Armed Service, a penitentiary, a street gang and so on); relationship with another person ("true-love", "sweetheart", "Aunt Mary", etc.); identification in terms the bearer finds desirable ("big-man", "killer", "lover", etc.); and finally a private or magical communication between "the self and the self" (the cryptic symbols that schizophrenics or mental defectives inflict on themselves).

In their investigation of tattooing as a means of communicating with the self in a sub-society whose members were deprived of the opportunity to acquire and display the usual and desirable means of self-identification, Edgerton and Dingman found 199 tattoos among 75 of 3000 mentally retarded persons. Over 90% of these were inflicted during the early months of hospitalization, when the need for self-identity is greatest. The inmates of an institution for the mentally retarded—more than any of the other members of society in whom tattooing is common e.g. enlisted military men, criminals, juvenile gang members, prostitutes, cowboys, miners and loggers, and inmates of "total institutions", such as prisons—are stripped of the ability and opportunity to identify the self.

The self-inflicted tattoos seen among the patients studied by Edgerton and Dingman were classified into four types: (1) "Pachuco" or gang tattoos, (2) boy or girl friend's initials or name, (3) self-initials or nicknames, and (4) "other". The tattoos in the last group presumably communicated something about the self to the self but had no conventional meaning. The patients with tattoos listed as "other" had more severe degrees of emotional disturbance than did the patients in the other categories. However, it is probable that all such individuals are reacting to a deeply felt need when they avail themselves of these rudimentary or bizarre symbols for self-identification.