pathological influence, which has caused the arrest of development of the brain, or impeded education by the severance of social connections.

Pure hereditary influence, affecting the whole of the brain in an harmonious manner, is hypothetical. Through heredity, pathological influences act by local processes and disharmony.

At first sight I thought it possible to compare the brain of Pullen, which appears almost well fissurated, with those cases of infantilism as described under the name of "Type Lorrain." But I had soon to abandon so hazardous an opinion. The brain is small, its frontal and temporal lobes are badly developed; there is a lack of complexity in the convolutional pattern of these lobes, and this is especially marked in the speech centres; his deaf-mutism was more central than peripheral in origin. The parietal lobes were not so bad; the occipital lobes were good, the corpus callosum was remarkable, and *he was bound to have special capacity in the visual sphere of his mental existence.*

I have never thought it possible to explain by the description of the brain, why Pullen was so tenacious and so industrious. Just as the complexion—may it have been the internal secretions that granted him a sound long life?—the foundation of his character was not only to be found in his convolutions.

"Science has done much for us," says Carlyle, in his *Hero Worship;* but it is a poor science that would hide from us the great deep sacred infinitude of Nescience, whither we can never penetrate, on which all science swims as a mere superficial film. This World, after all our science and sciences, is still a miracle; wonderful, inscrutable, *magique*, and more, to whosoever will *think* of it."

And so was Pullen.

(1) The brain of this interesting case was sent to Lt.-Col. Mott by Dr. Caldecott, who handed it to Dr. Sano for investigation, who acknowledges with gratitude a grant from the Medical Research Committee of the National Health Insurance.—(2) A. F. Tredgold, *Mental Deficiency*, second edition, London, 1915. Contains a complete record of Pullen's activity, illustrated by numerous figures. The figures which I give in this paper have not hitherto been published.—(3) "Convolutional Pattern of Relative Brains in Man," *Proc. Roy. Soc. Med.*, 1917; *Id.* in "Identical Twins" (*Philosoph. Trans. of the R.S.*, 1916). F. Sano.—(4) The numbers refer to those of Table B.

An Ectromelus (1)*: An Atavistic Relapse.* By S. B. Pal, B.A., L.M.S. (Cal. Univ.), Assistant Surgeon, Central Asylum, Federated Malay States.

Darwin, after a most comprehensive and searching investigation of the phenomena of life and variation, came to the conclusion that "man is the co-descendant with the other mammals of a common progenitor," and still "bears in his bodily frame the indelible stamp of his lowly

origin." With the immense and varied ancestry man has had, and the infinitude of his connections with the rest of the animal world, "atavism," *i.e.*, inheritance of characteristics from remote, not from the more immediate ancestors, is a very interesting subject of study. The presence of supernumerary nipples in man may be cited as an example of atavism. This abnormality has been noticed by me in four patients during five years' observations in the hospitals in this country. In some parts of Central and Eastern Europe a very high percentage of men is said to possess this abnormality. This characteristic is absent in apes, baboons, and monkeys, who are men's immediate successors, but is found in lemurs, an order of mammals lower in order. The rare occurrence of multiple births in women is a characteristic which is reversion, or atavistic towards the condition normal in lower vertebrates.

Dr. F. E. Bolton, in his paper on "Hydro-Psychoses" (water atavism), brings together some of what he terms "the abundant proofs of man's pelagic ancestry." One of the characters mentioned in the paper is the formation of the hand of man. He considers the hand of man is in shape and bones "more like the primitive amphibian paddle than is the limb of any other mammal." Emerson, in the same way, thinks that "the brother of man's hand is now cleaving the Arctic Sea in the fin of the whale, and, innumerable ages since, was pawing the marsh in the flipper of the saurus."

If our hands are regarded by naturalists as developed from the limbs of our remote ancestors who lived in the sea, I think that the characters of the limbs of the ectromelus, photographs of whom are reproduced here, show a further "atavistic relapse."

Besides the superficial similarity of appearance of the upper extremity of the ectromelus to the fore-limb of the whale or seal, the characters of the different bones have some similarity to those of Cetaceans (whale family).

The following diagram of skeleton of the upper extremity of a man, of the ectromelus, and of the fore-limb of a whale, clearly shows how that of the ectromelus resembles the fore-limb of a whale.

The points of resemblance between the upper extremity of the ectromelus and the fore-limb of the whale are:

(i) The stunted appearance as compared to the upper extremity of man.

(ii) The arch-like curvature of the bones of fore-arm.

(iii) The immobility of the palm, the phalanges, except the thumb, of the ectromelus having no power of flexion or extension.

In whales there are no hints of hind-limbs, and in this ectromelus the lower limbs are in proportion to those of a normal man very small, as shown in the diagram below.

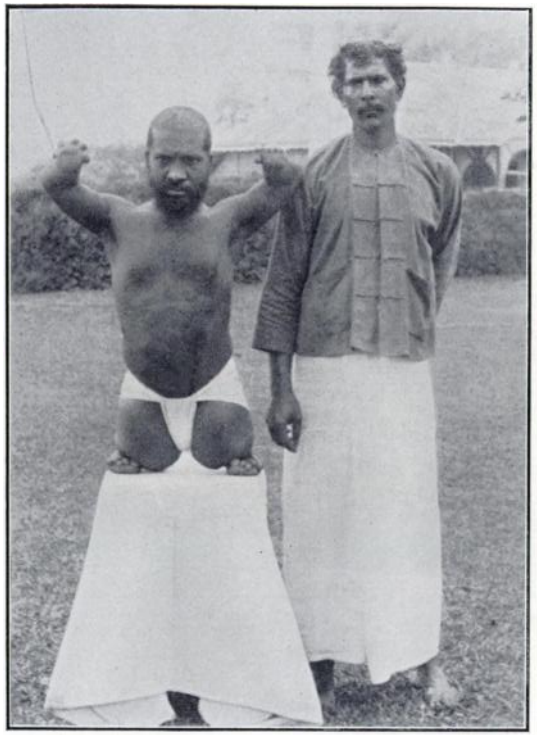
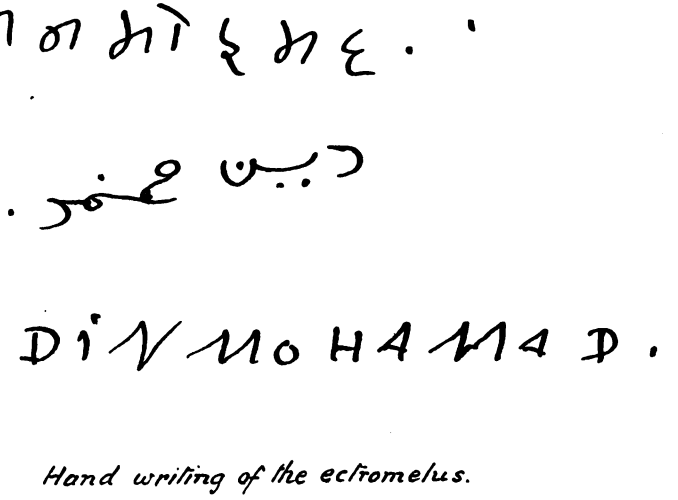


FIG. 1.



Hand writing of the ectromelus.

FIG. 2.

To illustrate paper by Dr. S. B. PAL.

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FIG. 3.

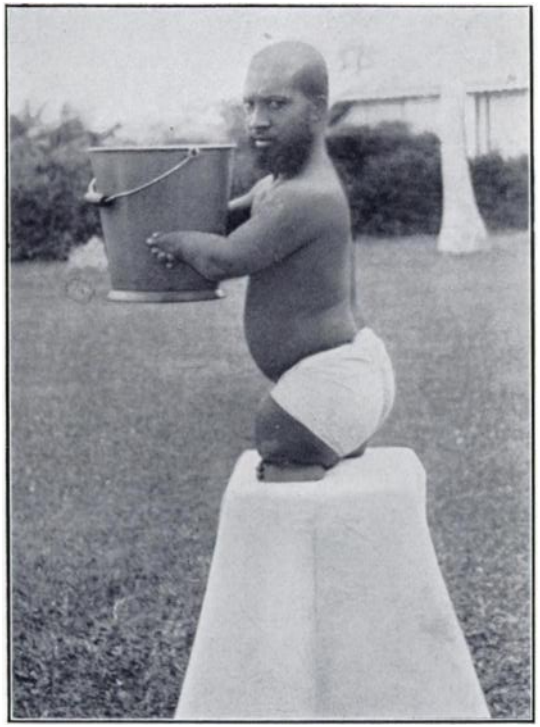

FIG. 4.

To illustrate paper by Dr. S. B. PAL.

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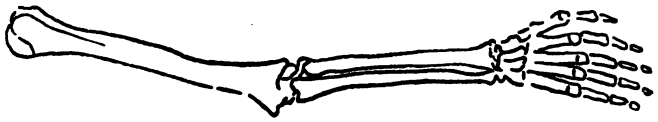
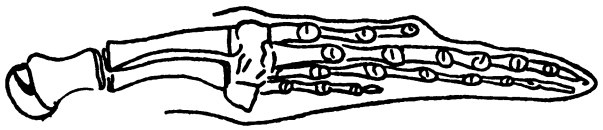
The hind-limb of the whale is represented by a rudimentary femur and tibia only, and it is remarkable that in this ectromelus there are no



Man

Ectromelus.

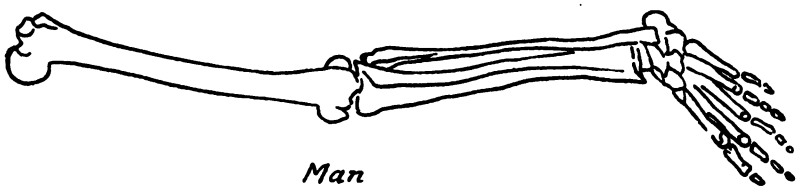


Whale

FORE-LIMB.

fibula or metatarsal bones and the phalanges are rudimentary, consisting of one digit in each, and unattached to any muscle.

The ectromelus, an Indian Mahomedan, æt. about 36, was admitted



Man

Ectromelus.

HIND-LIMB.

into Batu Gajah Hospital for the treatment of malarial fever. He lives on the charity of others, and roams about from place to place. Nothing about his family history can be made out, as he thinks his parents died or deserted him when he was a baby. There are no points of interest

in his previous history, except that he contracted venereal disease about five years ago.

It would have been very interesting to get radiograms of the limbs, but in their absence I will try to show in the appended table the size of the different parts of the body of the ectromelus as compared to the same parts in the individual who is standing by his side in the photograph.

	Ectromelus.	*Man.*
Weight	6 st. 10 lb	10 st. 6 lb.
Height	3 ft. 1 in.	5 ft. 8½ in.
Body:		
One acromion process to the other	1 ft. 4 in.	1 ft. 5 in.
Girth of chest at level of nipple	2 ft. 11 in.	2 ft. 10½ in.
One anterior superior iliac spine to the other	11 in.	1 ft. 1 in.
Upper extremity:		
Acromion process to outer condyle of humerus	9 in.	1 ft. 1½ in.
Girth of arm	10 in.	11 in.
Head of radius to its styloid process	5 in.	11 in.
Metacarpals: (*a*)		
First	½ in.	2 in.
Second	½ in.	2½ in.
Third	¼ in.	2½ in.
Fourth	*nil*	2¼ in.
Fifth	*nil*	2 in.
Phalanges: (*b*)		
Thumb	1 in.	2½ in.
Other phalanges	¼ to ½ in.	—
Lower extremity:		
Anterior superior iliac spine to lower border of patella	7 in.	1 ft. 7½ in.
Girth of thigh	1 ft. 10 in.	1 ft. 8 in.
Head of tibia to inner maleolus	5 in.	1 ft. 4½ in.
Fibula	Wanting	—
Metatarsals	Wanting	—
Phalanges: (*c*)		
Big toe	1 in.	2½ in.
Other toes	about ½ in. each	—
Foot	5 in.	10¾ in.

(*a*) Only the first metacarpal is jointed to the carpus, the second and third being only thin spicules of bones, having no connection with the carpus. The third metacarpal bone is absent in the left hand.

(*b*) There are six phalanges in the hand, the sixth one arising from the fifth. All the phalanges consist of one digit each. The thumb only has power of flexion and extension, other phalanges being immobile.

(*c*) The phalanges, five in number, consist of one digit each and are immobile. They project more from the dorsum of the foot, and do not touch the ground when the ectromelus walks.

In view of the fact that the limbs of this ectromelus are so very defective, it is really astonishing what he is able to accomplish. He can easily walk a distance of a mile or so, and is independent of any

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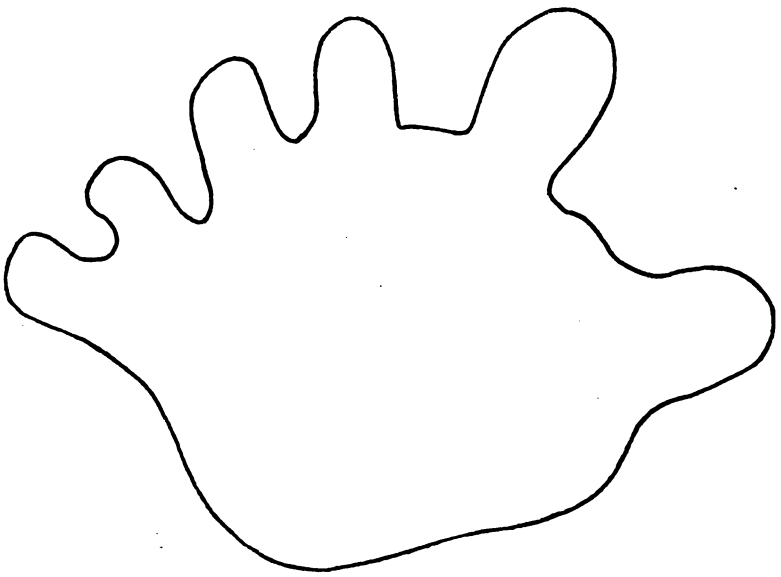
help from others, or of any mechanical contrivance for eating, dressing himself, etc. He uses a spoon, which he holds between the thumb and the palm. To eat "chapati," he holds one edge between the thumb and palm and tears a small piece. This piece, with a little curry over it, he pushes on the dorsum of the right hand with his left, and then carries it to the mouth. The "langoti" (a T-shaped apparel used as underwear by some men of Northern India), in which he appears in the photograph, is arranged by himself. He holds a pen between the thumb and palm or between the external edges of two palms, and writes tolerably well, as shown in the diagram of writing.



Actual size of palm (left).

He can roll tobacco in paper to make a cigarette and then light it, as shown in the photograph: and can easily raise the bucket full of water, weighing 36 lb., as also shown.

To climb a height, as on to the stool on which he is standing in the photograph, he puts his palm on the top, and with the arms he raises himself up a little. Then he puts one foot on one of the legs of the stool and rises up in the same way as we would climb a place nearly equal to one's height.

My thanks are due to Mr. S. A. Row, Hospital Assistant, for taking the photographs according to my suggestions.

REFERENCES.

(1) A. F. Chamberlain.—*The Child.*
(2) Thomson.—*Outlines of Zoology.*
(3) Foster and Shore.—*Physiology.*

TANJONG RAMBUTAN,
March 24th, 1918.

(1) Derived from Gr. *ἔκτρωμα*, abortion, and *μέλος*, limb.

A Record of Admissions to the Mental Section of the Lord Derby War Hospital, Warrington, from June 17th, 1916, *to June 16th*, 1917.(1)

By R. EAGER, M.D., Major, R.A.M.C.(T.), Officer in Charge Mental Division L.D.W.H. and Senior Assistant Medical Officer Devon County Asylum.

DURING the first twelve months of the admission of patients to the mental wards of the Lord Derby War Hospital there were 2,429 admissions and 1,466 discharges. The average number of admissions per month was 202, and the average number of discharges per month was 122. To those who have devoted their time to the admission and discharge of mental cases in large asylums in peace time these numbers alone will convince them that the condition of things must be very different to what they have been accustomed. The enormous amount of work in investigating these cases will also, I am sure, be appreciated, and those who, in addition, have any knowledge of Army Forms and the preparation of these before the final discharge of a patient from hospital will realise the amount of routine necessary before these 1,466 patients could be discharged.

I propose now to review the work done during these twelve months, and in doing so to briefly indicate the nature of the cases coming under the various groups.

Table No. I shows the total admissions to the mental section of the hospital during the period under review, grouped under the sources from which they came. It also shows the discharges under the same headings and their disposal.

Table No. II shows the cases classified according to the official nomenclature under the various forms of mental and nervous disorders represented by these cases.

Before further splitting up these figures into their sub-groups I should mention that on the opening up of the 1,000 beds provided at the Lord Derby War Hospital for the accommodation of mental cases a large amount of the room was very quickly used up by "home troops." By the latter term I mean cases who had not served overseas with an Expeditionary Force and who had shown mental symptoms sooner or later after enlistment. From the admission rate of these cases alone