elevation and depression of the symphysis pubis, the ilia moving upon the sacrum. By the elevation of the symphysis (or projection forwards of the promontory of the sacrum), the angle of inclination of the pelvis is diminished, and the conjugate diameter of the brim is lessened to the extent of one, or even two lines; the corresponding diameter of the outlet is increased about twice as much. This different ratio of the effects of the motion upon the brim and outlet, results from the fact of the centre of motion being much nearer the promontory than the apex of the bone (in the second sacral vertebra). The promontory, therefore, will describe in its motions an arc of a smaller radius than the apex.

That the alteration of the dimensions of the brim and outlet by these movements is not insignificant, but the reverse, is a proposition which every obstetrician will confirm. It only remains, then, to be observed, how these alterations correspond with the phenomena of the progress of the child in parturition. Now, in the erect position, the brim of the pelvis is in its enlarged condition, the symphysis pubis being then depressed, while the outlet is correspondingly contracted. In the course of the first stage of labour, while the head is pressing into the brim, the human female is generally standing, sitting, or lying on her back, or in an easy position. But as soon as the head has descended into the pelvis and infringed upon the sensitive vagina, then forcing efforts accompany the pains. These forcing efforts consist, in great part, of powerful contractions of the anterior abdominal muscles, the effect of which, especially the action of the two recti-muscles, will be to tilt up the symphysis pubis, thus throwing the promontory forwards, contracting the brim, and enlarging the outlet, and diminishing the angle of inclination of the pelvis. To all these changes, the position usually assumed by the female in the second stage of labour will contribute. For the simple bending of the body forwards (even in man), has for its effect the tilting upwards of the apex of the sacrum, and enlargement of the outlet. And, it is a curious fact, that a woman in her forcing pains, in the second stage, is found to draw up her legs, and bend her body forwards, thus inducing changes in her pelvis, which facilitate the advance of the child in that stage.

These motions of the pelvic bones in the human female agree with those taking place in the cow at the time of labour. The changes occurring at this time in the guinea pig, find their analogies in the altered condition of the symphysis in woman—changes which in her are generally only to a small extent.—(*Dublin Quarterly Journal of Medical Science.* August, 1854.)

The Entrance of the Spermatozoon into the Ovum. M. KEBER.

By the diligence of embryologists, the science of development continues to make wonderful advances. Martin Barry and Nelson had already published observations of the entrance of the spermatozoon into the ovulum; but their observations were not regarded as completely satisfactory, till Keber, following in their footsteps, by a careful observation of the process as it takes place in the fresh water mussel, made out and described the different stages of this wonderful function. Since Keber's work appeared, M. Bischoff has been twice in the press; first of all, with a pamphlet controverting the views of Keber, and then with one fully confirming the same views. Bischoff also takes occasion to make some amends to Martin Barry, whose uncommon accuracy and profound research he has occasionally failed to recognise, till forced by overpowering evidence.

In the fresh water mussel (*unio*), at the time of conception, the ovulum, although still small, projects at one part a minute process which springs from the membrane of the albumen, and perforates the cortical mem-

brane. This process dehisces, lets escape a little albumen, and admits one of the spermatozoa which surround it. This done, the micropyle, as it is called, again closes by constriction or obliteration.

Afterwards (and sometimes earlier) there is formed near the micropyle an adhesion between the membranes of the albumen and of the yelk, then the yelk-bag dehisces, receives the spermatozoon into its interior and again is closed.

The spermatozoon afterwards sinks deep into the yelk, swells and becomes rounded; after some time a nucleus appears in it, while its outer membrane thins and at length disappears.

The nucleus of the spermatozoon splits up into several irregular divisions which at first lie near one another, and then become diffused through the yelk, so that before the dissolution of the germinal vesicle the yelk is filled with particles derived from the male.

M. Keber has also confirmed the observations of Barry in regard to the small pellucid vesicles not rarely found in the abdominal cavity of the rabbit, attached to the ovary, the fimbriæ, the oviduct, the peritonæum, or the uterus itself; within which are observed vibratory motions over the whole surface and rotatory movements of various corpuscles, and of a large mulberry-like body on its axis, which increases under the eye of the observer by the apposition to it of roundish corpuscles from the fluid of the vesicle.

Barry observed a similar vesicle imbedded in the mucous membrane of the uterus. Those found in this situation, are smaller than those of the abdominal cavity. In these bodies Keber has observed changes resembling the formation of the micropyle in the ovulum, and for that and other reasons regards these vesicles as ova. But for farther discussion of this subject we refer the reader to Keber's monograph.

The Fibrous Tumour of the Uterus. DR BRISTOWE.

The specimen exhibited was one of some interest; it was removed from a patient whose case is related by Dr Waller in the "Medical Times and Gazette," for April 1853. The following is a very short abstract:—A healthy woman, forty-one years of age, had been married fifteen months, during which time she had miscarried twice, but in a third pregnancy succeeded in attaining the full period. No sign of uterine affection appeared during utero-gestation, except a slight and easily-arrested hemorrhage about the end of the eighth month. When labour came on, a large tumour of bony hardness, supposed to be an exostosis, was found to obstruct the passage of the child. As it was impossible to deliver the woman *per vias naturales*, the Cæsarian section was had recourse to. She survived the operation thirty-six hours.

Post-mortem Examination.—The tumour supposed to be an exostosis, was found to be really a fibrous tumor, occupying the space between the rectum and vagina. The uterus itself measured five inches in length, the incision four. The os, cervix, and anterior wall were healthy, but the lips of the incision gaped widely, being apparently prevented from closing by the traction exerted on them by the tumours behind. The fibrous tumours were connected solely with the upper two-thirds of the posterior wall of the uterus, and formed an irregular lobulated mass about nine inches long, five broad, and three or four deep; the mass scarcely extended higher than the summit of the uterus, but quite three inches below the os, and as much as five below its lowest point of attachment. The depending portion terminated in an irregular, lobulated, pedunculated mass, about the size of a large orange. It was this that had impeded parturition. On section, the muscular tissue of the uterus was found to