superficial observer, who does not allow for any marked deviation which may still exist about the mouth. In a day or two, also, though perhaps not for a week or two, the sensibility of the paralysed limbs again returns to its normal condition. The subjective feeling of "numbness," however, may persist for a longer period.

The temperature of the paralysed limbs soon sinks to the level of that of the opposite side, and after a time it is apt to become even a trifle lower. The paralysed limbs then are, and feel to the patient, colder than those of the opposite side.

The paralysis of the face begins to disappear sometimes after a few days, though more frequently after a few weeks. In the lower extremity, to the opposite side, for a very slight range of movement. Now, it is important that you should understand the kind of facial paralysis which is met with in these cases. It is, as I told you, both partial and incomplete—that is, it only affects, to an appreciable extent, some of the muscles supplied by the posterior division of the seventh nerve; and those which are affected are weakened rather than wholly paralysed. Those chiefly affected are the buccinator and other straight muscles going to the angle of the mouth and lip on the paralyzed side. If, in the patient under observation, the cheek on this side looks flat, the upper lip is less arched, and the angle of the mouth on the same side is decidedly lower than its fellow. As patients and their friends often say the face is drawn," though they refer especially to the paralyzed, non-paralysed parts, where, owing to the resisted action of the muscles on this side, the angle of the mouth is higher, especially when the patient laughs or speaks. Or you may judge of the extent of the paralysis when, in answer to your request, the patient attempts to show his upper teeth. You may note that as usual, can lift his eyebrow and eyelid, and can close his eye on the paralysed side almost as well as on the other side of the face. It is only rarely that a trifling weakness of the orbicularis oculi is apparent after the first two of the attack. And in judging of the existence or amount of facial deviation in any doubtful case you must not lose sight of the fact that an unymmetrical condition of the mouth exists not unfrequently without any hemiplegia at all. The perception of this fact may be of very great importance. You will see the importance, therefore, of recognizing the kind and amount of facial paralysis which goes with hemiplegia, in order that you may be able at a time when fresh attention is being drawn to the subject.

The last sign of the hemiplegic condition to disappear is the motor paralysis of the limbs. Recovery in this respect commences after a very variable period—weeks or months; and whilst in some few cases it may go on to a complete restoration of power, in by far the larger number recovery is almost arrested after the patient's condition has more or less improved. Now it is important to note that there is a certain order observed in the succession in which power is restored to the paralysed parts. The parts which are paralysed least are the last to show signs of improvement, and the parts which are paralysed most are the last to recover. But in all cases of hemiplegia in which the paralysis is not absolute, it is found that the arm suffers more than the leg; whilst of the several parts of each limb, the muscles which are in the proximal joints are least paralysed, whilst those for the movement of the distal joints are most powerless. So that, in accordance with what I have already told you, improve-
elder Marcet, as components of stone, attracted the attention of physicians to the composition and chemical changes taking place in urine. As the substances above-named were found to be frequently formed in excess in the system, it was conjectured that they were eliminated in such quantities by the urine as to be precipitated in the urinary passages. If the passages were free, the deposit passed away as gravel; if the passages were blocked with blood, mucus, epithelium, or otherwise obstructed, the deposit was retained and a calculus was the result.

The view that urinary calculi are the result of a peculiar diathesis wherein uric acid, oxalic acid, or the phosphates are formed in excess in the system, and, in consequence of being eliminated in such quantities by the urine as to be precipitated, and perchance retained, in the urinary passages, is still maintained by many writers. The objections that can be urged against the general acceptance of the view are—1. The urine constituents are not necessarily deposited from urine when they are in excess; a change in the normal reaction of the urine is required to ensure precipitation, and when this change takes place the substances are precipitated and retained whether they are in excess or not. 2. The particles that form the nucleus of a calculus are not mere accretions formed by a process of rapid precipitation, but consist of granules, spheroids, laminae, &c.; structures which have been designated "submorphous," and which have received a considerable time for their formation. 3. The blocking of the urinary passages with blood, mucus, &c., is not sufficient to produce a calculus; for if so, stone, instead of being a comparatively rare disease, would be fearfully common, and every attack of gravel would be fraught with the difficulty that obstructs the diagnostician in his treatment. The conditions that must be resorted to. In this case the deposit does not take place in the cavities of the urinary passages, but originates elsewhere. It has been explained by the preceding views, the hypothesis, originally put forward by Asa Gray, that crystals of calcium oxalate, and often attain an enormous size, growing as it were at the expense of the kidney tissue.

The researches of Rainey,† Ord‡, and Carter§, show that the urinary constituents forming the nucleus of a calculus have lost their crystalline character, and assume the form of granules, spheroids, &c. This modification of form can be artificially produced by allowing two saline solutions slowly to intermix through a colloidal medium, as gum albumen, &c. If the admixture be effected slowly in a dense colloidal the globules are more perfect; if, on the other hand, the colloidal medium be attenuated, and the admixture rapid, the colloidal medium may be more or less decomposed. These researches lead to the conclusion that in order to produce a calculus the urinary passages must furnish a colloidal medium, the form in which the crystals are deposited and condense. I hope, however, I have indicated fairly the probable nature of the local mischief that undoubtedly plays the essential part in the origin of a calculus.

A CASE OF SUDDEN DEATH FROM EMBOLISM IN THE INFERNOR VENA CAVA,
IN CONNEXION WITH VARICOSE VEINS OF THE LEG.

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(Communicated by the Directors-General of the Medical Department of the Navy.)

E. L., aged fifty-one, presented himself at the surgery on Jan. 5th with a contusion of the right leg, lower third, inner and posterior aspect, received whilst engaged on duty in H.M.S. Fostone. There was slight ecchymosis, but the injury seemed unimportant. On the same leg a number of varicose veins existed, for which an elastic stocking was recommended. As he complained of pain in the leg on the day following the injury, and the veins seemed more prominent and knotted, he was recommended rest in the horizontal position. He expressed a strong wish to continue on

‡ On Calculous Disease (Gustilian Lectures), by G. Owen Rees, M.D., F.R.S. London, 1865.

In the Hunterian Museum at Glasgow there are specimens showing this part of the tubuli blocked with calculous deposit, in some cases passing into the infundibulum, as if ready to drop into the pelvis of the kidney.