collect in the pulmonary vesicles, it may incorporate itself with the substance of the lung, its presence, as a source of irritation, may react upon the existing disease; the respiratory functions will thus become embarrassed, and those organic changes in the substance of the lung ensue, which, after an uncertain period, unfit this organ for its purposes in the animal economy.

That some such predisposition as is here presumed is necessary to the accession of the disease, is proved by its rareness; and as disease of the lungs is comparatively unfrequent among colliers, the rareness of the affection (if the predisposition consists in such disease) stands still further accounted for. Certainly, in the cases detailed, confessedly difficult though it be in such a matter as the present to distinguish betwixt cause and effect, the impression on my mind is, that pulmonary disease, arising from natural and cognizable causes, preceded in every instance the accession of the peculiar affection under consideration.

It may be said that the same objection as was valid against the inhalation of lamp-soot, as the cause of this disease, may be urged against the inhalation of coal-dust. But it ought to be recollected, that while the former of these causes is identical in its nature in all cases, the existence at all of the latter depends upon a variety of circumstances, as the nature of the coal, the method of working it, &c. Thus, when the coal is very soft, and wrought small, as in the English collieries, or when the workings are of a wet or damp nature, from the neighbourhood of springs, or from constant leakage, the production of this fine powder can scarcely take place. But when, as in the pits in which these cases occurred, the workings are perfectly dry, when the coal, as in them, is close, hard, and compact in its fracture, and when it is wrought large by the continued and laborious application of the pick, then we have circumstances in all respects favourable to the production of this fine dust.

Were it necessary to advocate still further the opinion here advanced, respecting the origin of this disease, the collateral evidence of the analysis of the melanotic matter in Dr. Gregory's case might be adduced, as well as the direct proof afforded by the fact, that the disease only occurs in colliers, and in artificers who, like them, are exposed to the inhalation of carbonaceous matter; thus a case lately occurred in this vicinity, in the person of a workman employed in dusting moulds for fine castings with finely powdered charcoal. Finally, analysis of the sputum

of two of the cases detailed, demonstrated, clearly, the carbonaceous nature of the deposit, and its unlikeness to any of the secretions, or to any animal substance whatever.

The process pursued in this analysis was the subjecting the matter to the action of nitric acid at the boiling point, subsequently to that of a solution of caustic potass, and, finally, to the operation of heat; and though the analysis was not carried so far as to ascertain the identity of the matter with coal, yet its affinity to charcoal was sufficiently evident.

Cambuslang, Sept. 12th, 1834.

HYDROPHOBIA

FOLLOWING THE BITE OF A DOG NOT
SUPPOSED TO BE MAD.

To the Editor of THE LANCET.

SIR,—The very peculiar manner in which the following case of hydrophobia was excited, renders it, in a professional point of view, one of considerable interest. Being thus impressed, I feel it a duty to communicate it to you for insertion in your excellent journal.

I am Sir,

Your obedient servant,

E. L. KNOWLES, Surgeon.

Soham, Cambridgeshire,

Sept. 5th, 1834.

Case.—Wm. Hills, of Soham, ætat. seven. His mother states, that about five months ago he was bitten by a dog which was exasperated by the continued teasing of this and other boys. His shoulder was much lacerated, but the wound was considered of little importance, the animal being well and still in existence. It was simply dressed, and it soon healed; from which period, till Saturday, June the 9th, the boy appeared to be perfectly well; he then complained of thirst, nausea, and a disinclination to move. On Sunday his symptoms had much increased, and he expressed very great aversion to being washed, according to usual custom. Notwithstanding these symptoms, his friends were still impressed with the idea of the disorder being a bilious attack, until Monday, at four p.m., when the symptoms became so augmented as to induce them to apply for medical assistance.

On entering the room, the first symptom that caught the eye was the great distress depicted in the patient's countenance. The eyelids were opened to their fullest extent, accompanied by considera-

ble dilatation of the pupils; the face, neck, and chest, were bathed in perspiration; the angles of the mouth were drawn up by the spasmodic action of the zygomatic muscles, producing a horrid grin, and he was incessantly spitting a frothy mucus. When spoken to, he answered in a hurried manner, and in broken accents. There was no pain in the site of the wound, but considerable uneasiness was experienced in the region of the heart. Pulse 90, feeble, irregular, and intermitting; respiration hurried, and deglutition appeared to be entirely suspended. Notwithstanding he had great thirst, the sight of the smallest quantity of water produced the most violent spasms and jactitations of the whole body. The muscles of the back were violently contracted, and the arched appearance existed which is so frequently observed in tetanus, with which disease it might have been confounded had it not been for the effects which the appearance of fluids produced, and the absence of a recent wound. The spasms occurred, when not excited, about every five minutes.

At six p.m. On visiting him at this period, I found him in every respect the same, with the exception of having a great antipathy to his bed; he was therefore allowed to dress and walk during the intervals of the paroxysm. We now succeeded, by means of a small reward, in prevailing upon him to swallow a strong opiate. He made repeated attempts ere he could accomplish it; and although it was succeeded every time by a violent spasmodic constriction, yet, so determined was his character, that he persisted to the last degree in his efforts. The warm-bath and an opiate enema were now proposed, in the hope of alleviating the spasmodic action; but we were obliged to abandon it, in consequence of the powerful and distressing effect produced on the patient's mind. The avidity with which he took an orange was astonishing; violent spasms however instantly succeeded, particularly about the throat and adjacent parts. He appeared perfectly sensible, and repeatedly expressed his thanks for the small reward given for trying his utmost to overcome the difficulty that arose in swallowing. Great anxiety still prevailed in his countenance, with sighing, and every word was succeeded by a convulsive sob. The draught was ordered to be repeated every hour.

Ten p.m. The malady is evidently advancing, although the spasms continue much the same. Symptoms of exhaustion are now evident. His friends are unable to confine him in bed, except by the assistance of two men. He is constantly spitting, and has a great propensity to

bite his attendants, who cannot now prevail upon him, either by threats or reward, to suffer the smallest quantity of fluid to pass his lips. From this time he gradually became worse, and at 12 p.m. death put a period to his extreme agony.

REMARKS.—I am sorry to say that no post-mortem examination was permitted. There is, in my opinion, in this case, a character well worthy the attention of the profession generally, as it may unfold the answer to a question which has long been doubted by the medical world, viz. whether the canine race are capable of communicating *hydrophobia* under a state of irritation or excitement, when not actually labouring under the disease. In Dr. Thomas's *Practice of Physic*, the following remark is noted:—M. Rossi, in the *Mém. de l'Académie de Turin*, tom. vi., endeavours to demonstrate, by cases, that animals, previously healthy, when enraged or irritated, in a high degree, are capable of communicating the disease by their bite, although Dr. T. considers that sufficient evidence has not yet been advanced to establish the principle satisfactorily. I made every inquiry, both of the patient and, since his death, of his mother, as to whether he was bitten by any other dog, and they positively answered in the negative. What led me to the investigation in a more minute degree than I otherwise should have pursued it, was the fact that the animal which inflicted the wound continues alive and well up to the present time. Therefore the facts of this case are in perfect unison with the sentiments of the French author: and as practical knowledge is of more value than theoretical speculation, I shall not trespass upon the valuable time of your numerous readers, by advancing any physiological hypotheses on the subject.*

EMPLOYMENT OF FREE INCISIONS IN GLOSSITIS.

To the Editor of THE LANCET.

SIR,—In a communication in THE LANCET (page 634) from Mr. Horne on the efficacy of the nitrate of silver in glossitis, there is a case related in which the nitrate was applied every morning for the space of a fortnight, and in the early stage of the disease twice a day. A fortnight is a long time to con-

* An opinion on this subject expressed by Sir B. Brodie, is recorded at page 944 of the present No.