

male spaniel, in the inside of each thigh; these were completely vaccinated, but, unfortunately, both of them have since had the distemper; and while the spaniel is now slowly recovering, the pug has fallen a victim to its influence. Great attention was paid to this little creature by the lady to whom it belonged; she observed the part inoculated to go through every stage which is described as necessary for giving it proper effect, the animal never appearing in the slightest degree ill.

I had intended to have carried my experiments on a more extended scale; but these two cases appearing so conclusive, and your expressing a desire to Mr. Crespigny to be acquainted with the result, will, I hope, be accepted as an apology for laying them before you.

I shall take the liberty to subjoin the appearances on opening the animal. The parts exhibiting marks of disease, were the membrane lining the nose, the larynx and trachæa, which were in an inflamed state; it is worthy of remark, that the left side only of that tube through its whole length was very vascular, while the membrane on the right side did not deviate from the natural state. The brain was, to appearance, sound. The inflammation of the mucus membrane, in my opinion, readily accounts for the primary symptoms, as affection of the eyes, running at the nose, sneezing, and that peculiar kind of cough which so particularly characterizes this disease;* and effects becoming probable causes from the distress and debility induced, vomiting, purging, fits, spasmodic twitching, and apparent paralytic affection, emaciation, &c. supervene.

I remain, SIR,

With the greatest respect, &c.

WILLIAM FORBES.

Camberwell,
Sept 10, 1801.

To the Editors of the Medical and Physical Journal.

GENTLEMEN,

THE following relation of a case of suspended animation which fell under my own immediate cognizance, being somewhat remarkable for the subject of it recovering sufficiently to express his ideas in very intelligible language, yet surviving only about 21 hours, I send you for insertion in your miscellany,

* The Distemper not having yet obtained any nosological name, perhaps that of Catarrhus Trachealis might not be deemed an improper one.

if you deem it worthy of so much notice. It will be requisite to premise, that I was the active instrument of this person's partial recovery when a young apprentice to Mr. Watts, now Dr. Watts, a very superior and scientific man, of Cranbrook, in the western part of Kent, who did not see the patient till respiration had been established. The subjoined remarks upon this topic in general, you will retrench wholly, or in part, or not, as you may think proper.

I am, &c.

Leicester, July 30, 1807.

T. BISHOP,
Member of the Royal College of Surgeons, London.

John Morfatt, a butcher, of Cranbrook, a muscular, robust man, aged about 29 years, in a state of melancholia, attempted in the autumn of 1792, to terminate his existence by suspending himself to a beam in his slaughter-house; and so far accomplished his object, that he was not discovered till he had hung thus nearly ten minutes, when the cord was cut, and he was suffered to fall precipitately to the floor, which was paved, a distance of about fourteen feet. About fifteen minutes afterwards, the vital functions being completely suspended, the countenance of a deep purple hue, I made a large orifice in one of the veins of the arm, with a view of taking away 6 or 7 ounces of blood; but an old, very ignorant surgeon arriving at this moment, compelled me to take away at least a pound of blood, which was done, and thus another quarter of an hour was expended. Notwithstanding no tremor of the heart, or subordinate vessels, or any other appearance of action could be discerned (excepting this ready flow of blood from the wounded vein, which I apprehended rather was independent of any muscular contraction in the vessels), this person, supposing the case should now be conducted like an ordinary fainting fit, directed me to have the body placed out of doors, to have a free admission of air, and to apply volatile alkali to the nostrils. But the body losing its heat rapidly, he modestly gave up the case. I then, i. e. at least 44 minutes after respiration had ceased, placed the body in a warm bed, and, being unacquainted with the practice of inflating the lungs, as speedily as possible threw into the rectum the smoke of burning tobacco very freely for the space of a quarter of an hour, heat being applied at the same time to the surface of the body by ordinary means. Two or three grains of tartarised antimony in solution were now put into the fauces; which producing no sensible effect, a spoonful or two of brandy and water was also made use of. Some time
after

after the above treatment had been adopted, i. e. about 15 or 20 minutes after he had been put to bed, and at least 55 minutes after respiration had ceased, the colour of his lips was observed to become more florid, and now a slight degree of tremulous motion of the chest took place, which quickly amounted to a very laborious and imperfect respiration, accompanied with very slight convulsive contractions of the whole muscular frame; but which, the respiration becoming stronger and somewhat more perfect, abated; and he soon afterwards appeared to be sensible of pain, which was expressed by groaning. In about an hour after the recommencement of respiration, this function became very much impeded by an abundant effusion of mucus thrown out into the air-tube: he looked around him in great apparent distress of body and mind; the convulsions now greatly increased, affecting still the whole frame, and betraying the epileptic character, in recurring by paroxysms, each of which continued 10 or 15 minutes, till being exhausted he fell into a state of profound coma; and thus remaining from a quarter to half an hour, he awoke and relapsed into another convulsive fit; each succeeding one abating of its violence, in proportion to his exhaustion, for the space of 18 hours. The impediment to his respiration, during the convulsive struggles, which were at first equal to the coercive endeavours of four stout men, was extremely distressing to the spectator, resembling a good deal the bellowing of a young calf. Fifteen hours after he had begun to breathe, he was asked if he recollected any person present: on which, looking around more collectedly than he had done before, appearing to be in great agony, he noticed, by a conscious glance, his wife in particular, replying in the affirmative. He was asked, how he felt himself? "Very bad."—If he wanted any thing?—"For God's sake let me get to the window for air." He now relapsed into another fit, respiration became more free; the pulse, which had hitherto been very irregular, now sunk: having lain about two hours in a state of insensibility, he expired quietly, within 21 hours after respiration had been restored.

If this case be worth thus recording in detail, it is chiefly so, because it tends to shew in a strong point of view, under what very disadvantageous circumstances the remaining irritability of the moving fibre may be aroused, so as again to put into motion the great engine of life, even after its action had been suspended nearly an hour, and this probably by means, which, from their compound qualities, proved ultimately destructive of the life they had so essentially conduced to restore. We were not permitted to examine the body after death, which might have developed the nature of the mischief which was the remote

remote cause of death; but had it discovered congestion in the blood vessels of the brain, or even a breach in them and consequent effusion, it might have been questioned whether such were the effects of the ligature around the neck, or of the deleterious properties of the tobacco. The convulsions were not remarkably violent on their first appearance, but gradually increased, and remitted as the respiration became somewhat easy; raging again as it became more impeded, which happened in about an hour after he had begun to breathe. This, I apprehend, to be in some degree equivocal evidence, that the convulsions and dyspnoea were joint effects of the tobacco, which eventually exhausted so completely the living powers that they could rally no longer; or, why did not those symptoms occur sooner, pressure on the brain usually manifesting itself as soon as it is applied? On a supposition that the violence originally committed to the brain was the remote cause of his death, it is curious that the brain under such circumstances should admit of so perfect a restoration of its own functions at first; and more so, that, when thus complete, it should yet not be able to support them a longer period.

The use of tobacco is now, I believe, universally discontinued upon these occasions, in this country; M. Portal had long since prohibited it in France. If any hazard attend its use in these cases, it may be occasionally noxious in others. I have seen it, when one drachm of it had been employed in infusion for a glyster, so immediately depress the strength of an old man labouring under the milder symptoms of a strangulated hernia, that he survived but a very short period after its use, when so sudden a change had not been indicated the moment before it had been employed.

It has frequently happened, in attempting to recover persons apparently dead, in fainting fits and in articulo mortis, that fluid poured into the mouth has escaped into the larynx; which must often happen if all the parts concerned in deglutition do not act in concert with each other, and more particularly if they do not act at all, as well when the head is held obliquely, for in that position the epiglottis does not entirely cover the aperture of the glottis. No fluid therefore should be exhibited under such circumstances in such a manner; it can be given safely only by means of a tube which reaches the upper orifice of the stomach. There is no question about the superior utility of taking off the compression made upon the pulmonary artery when respiration has ceased in these cases, and which alone has so often succeeded in restoring it when it had not long ceased: but this step, aided by the electric shock, however properly conducted, would probably never succeed

succeed when the blood has almost entirely parted with its heat, without an additional supply of that stimulus. When bellows, or other apparatus adapted to this purpose are not at hand, a sufficient quantity of air may commonly be forced into the lungs by alternately depressing the sternum and the cartilaginous extremities of the ribs, and suffering their elastic reaction to follow regularly. This mode I find to be completely adequate to the end proposed in the younger subject, the flexibility of the ribs being so much greater than that in the adult: That the lungs are actually distended by this mode may be in some measure determined by the effect of the expired air on the flame of a candle. If any difficulty arise in thus inflating the lungs, and a convenient tube be at hand, it should be put through the nostrils into the larynx, in order to supersede the necessity of making an artificial opening in that part of the air tube; but if this, which is not manageable without difficulty, do not succeed well, or cannot be tried, such an opening should be made. If any hæmorrhage ensue from the wound, whether venous or arterial, the bleeding vessel should be immediately secured; for if blood get into the trachea, and the patient recover, it will at least prove distressing. Such an occurrence had nearly destroyed a patient lately, on whom this operation had been employed by a very eminent surgeon and anatomist, on account of an enlargement of the tonsils, who saw no necessity to tie any vessel while he remained with his patient, and reached him but just in time to save him by tying the vessel.

From the impression which the electric shock communicates to a body recently but irrecoverably dead, which I have witnessed, I have the highest opinion, as every one must have, of its power in cases of suspended respiration; but I apprehend it is very possible to employ it to an extent in which it would be more likely to extinguish than to rouse the living power to action. But few probably will be disposed, in want of an electrical apparatus, to apply the Galvanic excitement to the nerves termed *par vagum*, the intercostal and the phrenic, in their course down the neck; the exposure of which for that purpose requires the cautious and discriminating knife of the anatomist, in whose hands I doubt not of the eligibility of such an expedient in a case of desperation.