operated upon at one or several different times. On this point the author is opposed to M. Guerin, and affirms that it is better to divide several muscles at once if they belong to the same region. If another articulation or limb requires an operation, it should, he observes, be always at an interval of a week at least from the former one.

The author farther states, that tenotomy should never be performed on infants under a year old. The operation for strabismus ought not to be recommended before the age of eight or ten years, as up to this time the resources of nature may prove sufficient. So also for club-foot, we ought never to operate before the age of twelve years, because previously to this age a cure may be accomplished by mechanical means alone. After the age of sixty the author thinks tenotomy useless. Inflammation of a retracted articulation is a potent contra-indication to an operation in all cases.—*Casper's Wochenschrift.*

OBSERVATIONS ON THE INHALATION OF SULPHURIC ÆTHER.

By E. COPEMAN, Esq., F.R.C.S., Coltishall.

Amongst the novelties of the day nothing has excited a greater or more universal degree of interest than the performance of surgical operations without pain. The reason for this is so obvious that it is needless for me to refer to it. Through the instrumentality of the press, both medical and general, facts are daily brought before the public which prove to demonstration, that by means of the inhalation of æther, the pain of a surgical operation may be avoided; and it is very probable that the wide diffusion of these interesting facts may lead to a trial of the effects of the vapour of æther, not only by surgeons, but also by some who are not educated to the medical profession. But it seldom occurs that a great good is unmixed with evil; and I believe it to be as much a duty on the part of surgeons to represent and warn against danger, as to relieve suffering, and cure disease. Upon this principle I lose no time in communicating the circumstances attending a trial of the inhalation of æther, on the evening of the 23rd instant, in my presence.

The experimenter was a medical gentleman, who requested me to extract a tooth for him, provided he could make himself insensible to pain by means of æther. He breathed the vapour for several minutes without any apparent effect, but soon afterwards thrust the apparatus suddenly from him, exclaimed that he could bear it no longer, staggered about the room, and was assisted to a chair. His breathing became very difficult; his arms were stretched out; his fingers extended; and he was perfectly cataleptic. I would then have attempted to draw his tooth, but he showed some resistance, and his breathing was so exceedingly laboured, that it would have been almost impossible to perform that or any other operation. Each expiration was accompanied with a loud *Hah!* his eyelids were closed; his head was hot; pupils not altered; conjunctivæ much injected; pulse 120; and his appearance altogether was so distressing as to excite great alarm in the

minds of the bystanders. I applied cold to the head; gave some brandy and water, for his hands were cold; and admitted fresh air freely into the room. Soon the cataleptic symptoms disappeared, and were succeeded by severe hysteria, with about the same degree of consciousness as is usual in that disease. With some difficulty I led him to the outer door, when he exclaimed—“Cover my chest,” “cold, cold, cold.” He was then removed to the sofa, when he was seized with severe cramp in the legs, the difficult breathing still continuing. I gave more brandy and water; applied hot flannels to the feet, and cold water to the head; admitted fresh air freely, and watched the progress of the case with no little anxiety; for these distressing symptoms continued for more than an hour, during which time I had to contend against the most fearful apprehensions of the mother, as well as to administer relief to a near relative who had voluntarily taken a poison, the effects of which I had not before witnessed, and the probable result of which I could not from experience determine. At last a few deep inspirations ushered in a state of semi-consciousness, the patient raised himself to a sitting posture, and looked about him with a vacant stare, the conjunctivæ being very red and suffused. He attempted to rise, but tottered like a drunken man, and suffered a degree of exhaustion and giddiness which lasted until he was taken to bed. He slept well, but next morning complained still of languor. I should mention, that while he was lying on the sofa I applied strong ammonia to his nose, without its producing any visible effect, and he had afterwards no recollection of the circumstance.

The description afterwards given by the patient of his sensations whilst under the influence of the æther, was as follows:—He felt nothing for several minutes, but on a sudden appeared to lose all muscular power. He seemed to take leave of the external world, but experienced a dreadful sensation of universal tremor, and yet a perfect fixedness of the limbs. He felt irresistibly disposed to lie down, and get his head upon the ground; was much distressed with a sensation of cold; also of tightness across the chest; and although he seemed to be aware that persons were talking to him, had no consciousness of what was really passing around him. He said his sensations were so dreadful that he would rather undergo any amount of pain than submit to the same again, which he could compare only to a state of utter helplessness and impending dissolution.

The impression on my own mind was, that I would on no account willingly produce a similar train of symptoms; and that, if such were to be the frequent effects of the æther, there would be few who would wish to exchange for them the pain of a surgical operation.

The apparatus employed was a glass jar, with openings at the top, into one of which was inverted a flexible tube for inhalation; and into the other a funnel, containing a piece of sponge, saturated with æther. About an ounce of æther, and several pieces of sponge, were in the jar. The patient was 23 years of age, spare, and of nervous temperament, with a brain very active and excitable. The time at which the inhalation was performed was soon after dinner; I presume,

therefore, that neither was the constitution of the patient suited to the exhibition of æther, nor the time for the performance of the operation judiciously chosen. Certain I am, that it would have been extremely difficult to perform any operation requiring steadiness or delicacy in its execution during the presence of such symptoms as were produced in this instance by the inhalation.

It is clear that great judgment is required in the selection of cases, and that the inhalation of æther ought on no account to be practised by any but competent medical practitioners. The object for which it is employed is so desirable, that in all probability it will become general in the profession; but in order to be useful, *it must be safe*, and I trust the above narrative will prove, as it is intended to be, a warning against the indiscriminate employment of a powerful agent, which, in incompetent hands, or under unfavourable circumstances, is capable of producing very disagreeable if not *dangerous* effects.

Coltishall, January 25, 1847.

AMPUTATION PERFORMED UNDER THE INFLUENCE OF ÆTHER.

TO THE EDITOR OF THE PROVINCIAL MEDICAL AND SURGICAL JOURNAL.

SIR,

The result of operations performed upon patients under the influence of æther, will, for a long time to come, be regarded with peculiar interest both by the medical profession and the public; and it seems desirable that the practice of reporting all the cases which occur, whether favourable or otherwise, should be continued, as affording the best means of enabling us, in due time, to obtain a correct knowledge and form a just estimate of the real value of this highly interesting and, I hope, most happy discovery. I am consequently induced to send you a brief report of a case which I had at the Northampton General Infirmary, on Thursday, the 21st inst.

My patient, a little boy 12 years old, had for two or three years been the subject of scrofulous disease of his left knee. Treatment had proved useless, and his constitution had begun to feel the effect of local disease. Amputation therefore became the only chance of saving life, and to this both the parents and the patient were at length induced to consent. The means so happily discovered for preventing the pain of surgical operations not having been tried at this Infirmary, I determined to avail myself of this case for the experiment, and had arranged to call upon the parents and request their consent, but fortunately the mother, anticipating my wishes, waited upon me, and requested that either this or any other measure might be adopted if it could afford a chance of relieving her child from the agonies of the operation.

I thought it expedient to try the effects of inhalation the day before the operation; and I am inclined to attach some importance to this, believing that some cases of failure, which have been reported, might possibly have been successful, had such a measure of precaution been used. The little boy was at first rather alarmed, and, from the effects of agitation and apprehension, not able to breathe the vapour well, but by a little gentle persuasion and encouragement he soon succeeded in doing

so, and in about two minutes the stupifying effect of inhalation was full and satisfactory. By various little means we assured ourselves that he was unconscious of pain. He was pleased when he awoke, and talked about his nice dreams, and, the next morning, when I went to him, a little before the time appointed for the operation, I found him quite cheerful, and apparently feeling confident that he should not suffer any pain. He said he should not be afraid this time, and that he would breathe it well. He did so, when placed upon the table, without any agitation; but the effects on this occasion were not produced so soon as the day before, which I attributed to his seeing so many gentlemen in the room, together with other feelings which might attend the occasion; but in about four minutes the state of unconsciousness appeared to be complete, and I proceeded with the operation,—amputation above the knee.

The limb was removed in about two minutes, during which time not the slightest motion nor sign of sensation was observed; afterwards he became partially awake, and capable of conversation, but still seemed to suffer no pain from tying the vessels and dressing the stump. As on the day before he talked about his dreams, but most distinctly assured us that he had not been conscious of any suffering. All the medical officers of the Infirmary were present, and, with one or two exceptions, all the surgeons of the town, and some others, and every one was satisfied that the power of the vapour had been most fully and satisfactorily shown.

I attach no particular value to the apparatus I made use of, not doubting that many better ones are already in use, and that farther improvements will probably still be made; I merely mention, therefore, that it is a common wide-mouthed bottle, holding about one and-a-half pint, fitted with a cork, which is perforated by two glass tubes. One of these, the breathing tube, goes in no farther than just through the cork; the other goes nearly to the bottom of the bottle, its lower end being immersed in the æther, of which about half a pint is required. This tube admits fresh air into the bottle as fast as it is drawn out by the breathing tube; and the said air passing through the æther, becomes strongly impregnated by its vapour. A piece of sponge is fixed at the upper part of the bottle above the æther; an elastic tube is attached to the outer orifice of the breathing tube, and to the other end of the elastic tube, a tin mouth-piece of two parts, one for inhaling out of the bottle, the other for exhaling, the latter tube requiring a simple valve.

I have pleasure in stating that my little patient, is going on in all respects perfectly well.

I am, Sir,

Your obliged and obedient servant,
H. TERRY.

OBSERVATIONS ON THE INHALATION OF SULPHURIC ÆTHER.

By CLEMENT HAWKINS, Esq., Surgeon, Cheltenham.

The introduction of a new remedy into the practice of medicine and surgery, at all times attracts great attention; and I am inclined to think many useful remedies often fall into disrepute and disuse, in consequence of the indiscriminate application of them.

Those members of the medical profession who have