with no stairs interposing between the patients and their pleasure grounds would possess the advantage of facilitating their enjoyment of them.

In conclusion, I must be allowed to observe that, in many particulars, the foregoing principles of construction, have been recognised by several foreign asylum physicians, and, as I was pleased to find, after I had elaborated them in my own mind, and had drawn out the particular design alluded to in previous pages, coincided with those which had the able advocacy of Mr. Samuel Hill, of the North-Riding County Asylum. Although, in some points, my notions of Asylum construction have been anticipated by others, yet they have not hitherto, so far as I know been very prominently put forward nor arrested very general attention: consequently, I shall flatter myself that I am doing some service by this paper, if it only ventilate the subject.

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## *On Forced Alimentation.* By Dr. Harrington Tuke.

(Continued from page 37.)

In the former part of this essay, I have dwelt at some length on the various causes that may induce a patient suffering under mental derangement to refuse food; and I imagine it is not difficult to gather, from what I have already said as to the treatment of such a case, that my opinion is strongly in favor of "Forced Alimentation." As a general rule I consider that less harm can accrue from even too early mechanical interference, than must happen if the patient be left unaided till the vital powers have become enfeebled, and symptoms of dangerous exhaustion have set in. At the same time, I trust I have made it clear that I look upon the forcible administration of food to be the last resource, and only to be used when all persuasion has failed, and everything that experienced tact can suggest has been tried in vain.

Any expert surgeon can without much difficulty feed a reluctant patient by force. It is the higher office of the practitioner in lunacy to overcome morbid repugnance to food by gentle and patient soothing, and to combat the dangerous and distressing delusions of his patients, if possible, without having recourse to coercive and apparently harsh measures.

It may be thought that I over-estimate the number of cases of insanity in which refusal of food is a prominent symptom;

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and that the rarity of its occurrence is the reason why so little stress is laid upon it in our class-books. But I need hardly fear this charge from my present audience. The great attention paid to the treatment of continued morbid abstinence by the French writers on insanity, and its having been made a special subject for comment by some of our most distinguished associates, amongst whom I may mention one of the Commissioners in Lunacy, sufficiently mark its practical importance. The very variety of measures to counteract its danger, which I am about to detail, affords evidence, if evidence were wanting, of the frequency of its occurrence.

Dr. Hood, whose zeal and talent in the practice of psychological medicine, finds a large field in the extensive hospital of Bethlem, which he has so much improved, tells me that he has been obliged to have recourse to the stomach-pump in several hundred cases, on account of obstinate and persistent refusal of food. In no case, he adds, has any accident occurred from its employment. My friend Dr. Campbell, of the Essex Asylum, has at this moment four patients under his care, who are entirely sustained by instrumental feeding. The experience of all of us must lead us to the conclusion, that the symptom is one we may be daily called upon to treat.

It would be as great an error to imagine that the symptom we are now considering is not sometimes of great urgency, as to under-estimate the frequency of its occurrence. The opponents of forced alimentation appear to be convinced that refusal of food, which has gone to the extent of requiring mechanical interference, will almost always end fatally. They assert that life can seldom be more than prolonged by any treatment. They accumulate instances where convulsions, or even sudden death, have followed the passage of the tube down the gullet; of abscesses opening into the mediastinum; of wounds piercing the walls of the œsophagus; of patients sinking exhausted even after successful instrumental feeding. We may, at least, gather from them a clear proof that the symptom is most serious, and one that requires our greatest skill and care.

I may be too sanguine, and have arrived at my conclusions from an insufficient number of cases; but my own opinion is that refusal of food, though an important symptom, seldom indicates danger to life. There are some obvious exceptions to this rule; and where lung-symptoms are present at the same time, unless we can clearly make out that the breathing became affected long after the repugnance to food showed itself, there will generally be too much reason to fear that the

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base of the brain is involved in organic disease, and that forced alimentation will be useless. Guislain has recorded that out of thirteen fatal cases, where food had been refused by lunatics, ten died with gangrene of the lungs. I should be unwilling to give a favourable prognosis where there were lung-symptoms, even though I thought forced alimentation should be tried. Often it is entirely inadmissible. Ulcers of the stomach in cases of insanity, and that softening of its coats which Rokitansky describes as co-existent with cerebral ramollissement, seldom give evidence of their existence during life. Patients so afflicted will generally, I fear, be found in the number of those who die under, or rather, in spite of the employment of forced alimentation.

The advocates of the forcible administration of food, have been wrong in not fairly pointing out the cases in which it would be absurd or mischievous, and it is therefore not surprising that indiscriminate recommendation of this practice and the painful effects such practice must have produced, should raise in the minds of some of our wisest and kindest physicians, a disapproval of the system of forced alimentation altogether. In cases where acute inflammatory symptoms, cancer of the throat, or of the pylorus, or mechanical occlusion of the alimentary passages, the injection of food is of course improper: the same rules that guide the general physician in such cases, must direct us also. I have omitted to mention one class of cases where artificial feeding is important. Stress is laid upon these by Mr. Wilkes, in the paper to which I have referred. (*Asylum Journal*, No. 11.) They occur in that "form of cerebral disease in which the muscles employed in deglutition are paralyzed, and no food can be swallowed without imminent risk of suffocation." In a case which occurred in his practice, "a sufficient amount of nutriment could not from this cause be taken, but any quantity could be readily injected by means of a tube, and though used only to prolong a painful state of existence, it is nevertheless our duty to try to effect this by the employment of any means in our reach." This is a practical recommendation of great importance; and in a case of general paralysis under my own observation, its value was forcibly illustrated. The mistaken kindness of friends, and the want of experience of the practitioner in charge of the case, occasioned the patient's want of power to carry his food even to the pharynx, to be mistaken for disinclination or loathing; and death was certainly accelerated by thus induced, yet apparently voluntary abstinence.

I think it must be admitted that I do not overrate the

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importance of this subject, and that it is not from my own experience alone, I have come to the conclusion, that refusal of food, while being one of the most common symptoms of mental derangement, is often of fearful augury, and a mistake as to its treatment may either involve the unhappy patient, in a great amount of needless suffering, or leave him to die slowly, yet certainly, before our eyes.

It cannot be doubted that there are many cases, where the timely injection of food into the stomach preserves life, and gives time for the mind to recover its healthy action without giving occasion to much suffering or serious danger. Among the advocates of compulsory alimentation great diversity of opinion has existed as to the best mode to be adopted in the administration of food, and I therefore propose to sketch rapidly the various plans that have been and are in use, before I detail the mode of operating I have found most successful, which seems to be recommended by the highest authority, and which I believe some day will become generally adopted.

The systematic writers on the treatment of insanity, I must do them the justice to admit, seem unanimous as to the propriety of feeding patients against their will, who persist in abstinence from food. Their rule was simple enough; if an insane person refuse to take nourishment, he was to be made to do so; and though they occasionally on this system, must have done much mischief, yet in the principle they were right, though of course altogether wrong in the barbarity with which the plan of feeding was in too many instances carried out. The old directors of asylums appear to have revelled in the invention of gags, bits, screws, and nameless instruments of torture, which are painfully characteristic of the treatment of lunacy in their day. I can well remember the rueful glee with which Dr. Conolly, at his *Cliniques* at Hanwell, used to show us a long banished metal contrivance, formerly in use there, consisting of two plates of iron, which when inserted between the upper and lower teeth, were slowly separated by a screw, exercising an amount of mechanical power, sufficient to open or fracture the jaws of a tetanic tiger. There were other terrific instruments, that answered equally *badly* the same purpose, all of them happily now obsolete and forgotten.

The invention of the "spouting-boat," was imagined to be a great improvement on former plans, and so perhaps it may have been. Its admirers particularly dwelt on the fact that it was made of "soft metal," to obviate the danger of hurting the mouth. Shaped something like a pap-boat, it acted as a wedge, and was driven forcibly between the teeth. Dr. Haslam

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in his "Observations on Madness," is particularly and justly severe on this instrument, which he calls a "most destructive and devilish engine," and laments the number of patients he has seen, who had lost all their front teeth under the infliction of its use. I have myself seen this instrument at the present day, in the hands of old attendants. They call it a "forcing" or "medicinal spoon," and in some of the private asylums it may yet hold its ground. Of course it is not now used so recklessly as Dr. Haslam describes, but it is not a weapon to be safely entrusted to servants' hands. Cut lips and broken teeth must sometimes accompany its use, besides which, all pretexts for contests between patients and their servants are dangerous. No force should be employed except in the presence of the medical attendant, or his accredited representative, and without this precaution I should never sanction the administration of any remedy against the will of the patient.

Dr. Haslam's own invention, as figured in his book, was not in my opinion any very great improvement, though it was kindly meant, and in his hands was I dare say, more efficacious, and not nearly so painful as the "spouting boat." Dr. Haslam's plan was to introduce into the mouth, by means of a long handle acting as a lever, an iron bit, with a hole in its centre, through which the fluid was poured in small quantities at a time from a proper vessel. The nostrils being closed, deglutition of course followed. This mode of procedure, or something very like it, has its advocates in the present day, and I therefore dwell on it at length. Feeding through a funnel is still a common practice at some asylums, the mouth being forced open, the nostrils closed and fluid sustenance introduced into the pharynx. The involuntary action of its muscles of course carries it down. This is Dr. Haslam's principle exactly, and I shall quote from him, the details of his practice.

"The manner in which this compulsory operation is performed, consists in placing the head of the patient between the knees of the person who is to use the instrument; a second assistant secures the hands, (if the strait-waistcoat be not employed) and a third keeps down the legs. The nose of the patient is held by the person who uses the instrument." Dr. Haslam continues, "A little address will obviate the determination of the patient to keep his teeth closed: he may be blindfolded at the commencement, which never fails to alarm him; causing him to sneeze by a pinch of snuff, always opens the mouth, or tickling the nose with a feather commonly produces the same effect."

I do not know whether the admirers of the "funnel-system"

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will admit this to be a fair description of their treatment; it must, however, bear a close resemblance to it, and the operation even in patient and skilful hands is open to grave objections.

It is not only the violence, that must accompany the administration of food in this manner, that inclines me strongly to deprecate this mode of treatment, but I believe that it must sometimes be an exceedingly painful operation. The sensation of something going the wrong way is familiar to us all, and it appears to me that pouring soup into the pharynx of a screaming and violently resisting patient, is very apt to induce spasm of the glottis, or even cause the passage of some of the fluid into the lungs. I do not think that an exhausted patient could safely be submitted to such treatment. I see no advantage that the plan can have over the stomach-pump, and I should even prefer the operation of the spouting-boat. I would recommend to the followers of this system, an improved and more humane instrument of the latter kind, the invention of Mr. Reeve, which he has described and figured in the sixth volume of the "*Psychological Journal.*"

Another method of treating obstinate resistance to food, I should scarcely have thought worthy of serious notice, did it not bear the confirmative of so distinguished a name, as that of M. Brierre de Boismont. Our honorary associate will pardon me if I say, that while I joyfully acknowledge the great value of his contributions to psychological literature, I cannot but object to his advice on this point.

M. de Boismont seems convinced of the necessity for forcibly administering food to some of those patients who have morbid aversion as to nourishment, and the operation he recommends may be made conducive, he thinks, to the mental cure. I have condensed his instructions in my translation, of course without alteration of their purport. He directs that a *camisole de force* should first be put on the patient, who is then submitted to a confinement chair and a catheter is introduced through the nostril, but not lower than the cavity of the pharynx, care being taken not to enter the œsophagus. Soup is then poured in, and the mouth and nostril at once closed by an assistant. In the effort at respiration, deglutition is produced. After a few moments breathing time, another portion of soup is introduced in the same manner.

By this proceeding, M. de Boismont attempts to subdue those "*volontés de fer*," which seem to "triumph over all the resources of our art," to achieve a victory over this perversion

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of the will at its commencement, is what he thinks we should do; and we require, he says, a "vigorous, striking, and energetic measure" of this kind, which shall be equivalent to the obstinacy we have to overcome. "I have not been deterred," he continues, "from this system by any of that '*douceureuse*' philanthropy which is so often a sentimental deception."

To the propriety of such measures, even through sanctioned by so high an authority, I feel sure that my hearers will demur, on the principle that intimidation is inadmissible in the treatment of mental disorder. The mode of administering food may not, however, appear to many of the gentlemen present so very painful. With the difference of the tube being introduced through the nose, rather than the mouth, it would seem little more distressing than feeding with a funnel, which I have already shewn to be attended with very distressing effects. I however imagine that the symptoms are much the same, and I therefore give the description of them in M. Boismont's own words:

"*Il y a ici une véritable lutte, des symptomes d'asphyxie commençante, un aspect capable d'effrayer;* mais il y a aussi presque certitude de succès, car la plupart de ces aliénés cedent à la première épreuve, et n'affrontent que rarement la seconde."

I do not, of course, mean to state it as my impression that the excellent medical men who I know constantly use the funnel in feeding the insane, always produce these symptoms. I know the contrary to be the fact; but it is obvious that their example must afford an excuse to others to employ the same means, who may not be so kind, or so skilful, and whose attempts at alimentation may produce just the results described. I entertain a strong opinion, I must admit, that the feeding of the insane should be entrusted solely to the medical attendant, who should use instruments, and not trust to the involuntary action of the muscles of deglutition.

There is another great objection to this mode of feeding; it involves the medical attendant in a sort of personal contest with his patient, which must engender feelings of hostility, most detrimental to the proper exercise of moral influence. The medical attendant living on terms of intimacy with his patients, should never descend to the position of a rough nurse. Feeding with a tube *secundum artem*, is a painless surgical operation, which if rapidly and skilfully done, will not give rise to the same feelings of degradation, and therefore irritation, as I should imagine "funnel" feeding must occasion, even if the infliction of pain be avoided. Attention to trifles of this kind,

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is the great distinction between our present practice, and that of even a few years ago.

The plan of feeding patients through a tube passed into the pharynx, or the stomach, appears to have been general on the continent, long before it was adopted in this country. The French writers on the treatment of the insane, frequently mention and recommend the instrument they call the œsophageal sound. This does not appear to have been tried much in England, till the invention of the stomach-pump, drew attention to the ease and celerity with which fluid might be introduced by tubes into the stomach.

It is about forty years since Sir Astley Cooper first brought the stomach-pump before his class at Guy's hospital, and demonstrated its wonderful utility, in cases where poisons had been purposely or accidentally swallowed. I do not know who first applied it to the purpose of feeding the insane, but it is now in very general employment, as a means of overcoming the effect of morbid aversion to food. In my opinion we should have done better in our special department of medicine, if we had adopted the treatment already recommended by the French physicians. It is no doubt perfectly true that the stomach-pump has been used for years without any accident, by no inconsiderable number, and that it overcomes all resistance to nourishment; but it by no means follows that it is therefore the best means of doing so, and I think its obvious defects quite account for its not having become of universal adoption.

There is so much danger attending its use, that the negative testimony of those who have used it for years without mischance, proves their skill and care, but still more their good fortune. I have known one of the most expert surgeons in London, pierce the thoracic-aorta, of course causing immediate death, in consequence of the accidental movement of a patient, while the tube of an ordinary stomach-pump was being passed down the œsophagus. Recently at one of our large hospitals, the trachea was perforated, and the patient's life lost in the same manner; and many cases are on record where the œsophagus was torn, and still more where fluid intended for the stomach has been injected into the lungs with fatal results.

Another great objection to the stomach-pump is the size of its tube. It seems absurd to force down the slender gullet of a poor deranged girl, whom it may be unfortunately necessary to feed by force, a tube, the diameter of which can be more than one-half diminished without interfering with its efficacy. As a means of conveying fluid aliment, all the stomach-pumps

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I have seen have been armed with tubes much too large for the purpose. Used for that for which they were intended, the injection and ejection of fluid from and into the stomach with the greatest possible rapidity, in cases of poisoning, their size causing more or less pain, was not thought of much importance.

Dr. Watson in an admirably written and interesting letter on the stomach-pump, published in the *Medical Gazette*, inculcates the necessity for caution in its use, and cites several instances of dangerous, and even fatal effects following its introduction into the stomach. He dwells on one case, where the mucous membrane of the viscus was sucked into the holes of the tube, and torn into strips, a contingency not unlikely if the mouth of the tube happens to be in contact with it.

This last danger, which depends upon the reflex suction-action of the stomach-pump, is simply gratuitous in the case of an insane patient, where only injection of food is required. In experienced hands I know the danger is slight, but still this accident has happened to most skilful surgeons, not operating on insane patients; with the latter, of course, there is greater liability to sudden movements, and therefore greater danger of such an occurrence.

I pass over a long catalogue of minor evils, resulting in a great measure from the size of the tubes employed, such as inflammation of the throat and of the tonsils, leading even to the formation of abscesses in the cellular tissue around the œsophagus. Enough has been said to prove that the stomach-pump should not be entrusted to unskilled hands, and that we should do well to invoke, if we can, the aid of a less dangerous instrument.

I have not yet noticed the first, the greatest difficulty, in the introduction of the stomach pump, or indeed any other tube into the mouth. How are the firmly closed jaws of the patient to be separated widely enough to admit such a mouthpiece as the stomach pump requires for its passage? The means suggested for this purpose are some of them exceedingly ridiculous, others extremely cruel. In the first of these divisions I must place Dr. Haslam's plans already mentioned, of blind-folding a patient, or exciting sneezing to make him open his mouth. Some of the other devices are so utterly opposed to our present views as to the proper treatment of the insane, that it would seem almost incredible they could ever be gravely contemplated. The prolonged application of the cold douche, is extolled by one writer, as most efficacious in inducing the patient to "relax" his lower jaw. Inserting the handle of a

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spoon and then turning it, will give you an opportunity of inserting a gag or plug and thus easily to pass the tube,—this is the most humane of the recommendations I have found recorded.

M. Belhomme, who has invented an ingenious little instrument which acts in the same way, but is perhaps better than the mouth-piece of the stomach pump, after describing the action of his "*baillon biberon*," when in the mouth, adds, "it is difficult certainly to get it there, but when once effected the rest is easy enough." In this opinion I quite concur.

A French writer recommends the employment of the *baignoire fermée* so common in their asylums, as admirable means of preventing all movement, when you wish to introduce the tube between the teeth. In this contrivance a patient lies at full length in a bath, with a metal cover, which embraces his neck, and allows only his head to be seen. I should have fancied from what I saw of them abroad, that a strangulation or dislocation of the neck, would certainly ensue, even without the assistance of a forcing tube, should the patient struggle or in any way resist the natural action of this water-guillotine.

Another gentleman advises that we should extract, or if that be not possible, *break* a tooth, to allow the passage of the tube! But the climax of absurdity is certainly reached by an Italian physician, who suggests, and has actually practised the expedient of introducing needles into the digestive muscles, and connecting these with a voltaic battery. The mouth was opened widely by this means, and Dr. Philipi dilates on the astonishment of his patient who ceased to contend with a power that he came to consider quite supernatural! This might excite a smile, did we not remember that the victim of such treatment, was suffering and insane.

Esquirol, to whom psychological medicine is almost as much indebted as to his great master, Pinel, seems to have been the first to suggest the introduction of food into the stomach by means of a tube passed through the nostril. The tube thus used was the ordinary "æsophageal tube," to which I have already alluded. This, though considerably smaller than any stomach-pump tube now made, was larger than we should think of employing for such a purpose.

Dr. Burrows, in his *Commentaries on Insanity*, recognising the difficulty of introducing the tube of the stomach-pump into the mouth, says: "To pass its hollow elastic tube through a nostril is a more ready method than forcibly separating the jaws." Dr. Burrows here, perhaps, follows Esquirol, without any practical experience of the plan. If not, the stomach-



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pumps he used, or saw used, were armed with tubes of a different calibre to those of the present day, not one of which, I believe, could possibly be employed in such a manner. However this may be, Dr. Burrows's remarks on "resistance to food" are most valuable, as far as they go; but he has evidently found the first step in forced alimentation, getting an instrument between the teeth, to be the great difficulty, and seems to have given it up in despair, when he speaks of "practice giving some attendants a wonderful dexterity in getting down food," and recommends, "they should, if possible, be resorted to for this purpose." This is not the doctrine of the present day.

Following the lead set them by Esquirol, who altogether evaded the difficulties of forcing open the jaws of his patients, the French practitioners in lunacy set themselves to improve upon the instruments for the passage of food by the nostril; and Dr. Ferrus and Dr. Metivié made the first, and, in my opinion, the only necessary change, in substituting an ordinary elastic gum catheter for the stiff tube recommended by their great predecessor. Refining on this, M. Baillarger provided the catheter with two stilets, one of whalebone, the other of iron. This last, bent to a proper angle, was thought to assist the passage through the nostril, and then being withdrawn, the elasticity of the other stilet was intended to carry the catheter against the posterior wall of the pharynx, and thus escape the danger of entering the *rima glottidis*, or the mouth.

M. Emile Blanche to whose treatise on æsophageal catheterism, I am indebted for this history of the progress of Esquirol's plan, brought forward an ingenious instrument, by which he hoped to avoid the production of the pain, that followed the withdrawal of the iron stilet employed in M. Baillarger's plan of operating, and at the same time to obviate the difficulties that were presented by the liability of the catheter to remain fixed against the posterior wall of the pharynx for want of a proper bend towards the æsophagus, and by its tendency, which the whalebone stylet of M. Baillarger's so well overcame, of curving too much forward, after it had passed this point. I copy the following description of this instrument from the "selections" from foreign literature in the second volume of the *Psychological Journal:*

"It consists of an articulated stylet, the rings being thirty-one in number, and so arranged as to play freely when flexed, but when extended, which is effected by a watch-spring working inside the rings, and soldered to a stiff and moveable stem,

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it assumes all the rigidity of a non-articulated stylet. This instrument, then, after it has been passed in the curved state, through the nostrils into the pharynx, can be straightened, and passed on so as to avoid the larynx. All that is requisite is to pull upon the watch-spring, which becomes straight, drawing with it the rings of the metallic chain, and thus applying the catheter against the posterior phraryngeal parietes. When it has reached the œsophagus, the stem connected with the watch-spring is let go, the articulated part resumes its flexibility, and the stylet can thus readily be withdrawn."

I should hardly be inclined to question the correctness of the opinion of so high an authority as the Editor of the *Psychological Journal*, who "declares the instrument to be a valuable modification and improvement on those previously in use;" and I should be still more unwilling to cavil at any terms of praise addressed to M. Emille Blanche, for whom I have a high esteem; but I believe, practically, that this instrument, though ingenious, is unnecessary, and liable to get out of order at most inconvenient times—the common fate of all complex contrivances. I have good reason to know, that the inventor himself never uses it; and English surgeons, who have spoken of the admirable dexterity and tact with which M. Blanche performs the operation of feeding, have assured me that the instrument he uses is always the ordinary small œsophageal tube; and I am, therefore, not surprised to find him telling us, that "with the ordinary elastic gum catheter," he has "always easily performed the operation of feeding," and, with proper care, considers it certain to be successful.

I believe, however, that the "articulated catheter" of M. Blanche may be convenient for an operator who is not certain of his skill, or who resorts for the first time to the forcible administration of food. With this instrument an unskilful operator is less liable to do mischief than with the simple elastic tube.

I have seen, at one of our County Asylums, an ingenious instrument for the purpose of forced alimentation, which I was assured is most successful in its operation. It is, I think, the subject of a French patent, and is called the "*irrigateur d'eguisier*," or "*des guilliers.*" I am not quite certain of the name of its inventor. This instrument is liable to the same objection as the last: it appears liable to get out of order when most wanted, and is complex and costly; still it has a great advantage in the smallness of its tube, which is less than any of those I have seen



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attached to the stomach-pump. The principle of its action is much the same as that of the *cafetiéres*, in which the hot water is poured into the vessel, and then forced, by atmospheric pressure, through the ground coffee berry. I did not see this pump in use on a patient, but I tried its action, and was quite satisfied that it would eject fluid with considerable force. I do not, I confess, much admire this clock-work plan of squirting sustenance into the stomach, nor did I like the appearance of the instrument,—but it is, at all events, ingenious, and may be useful where assistants are not easily to be obtained. The surgeon, having screwed up the *irrigateur*, has nothing to do but affix it to the tube, and turn the injecting tap; still it altogether reminded me very much of the machine devised at Laputa, which was intended to supersede the ordinary plan of cutting cabbages with a knife.

Far superior, in my opinion, to any former instrument, for feeding by force, either of French or English invention, was the syringe introduced into use at the Glasgow Asylum, by the late Dr. Balmanno, which still continues to be employed there, and indeed in nearly all the Scotch asylums. Dr. Balmanno seems to have seen how much too large many of the stomach-pump tubes were, for the purpose of being passed down the throat, and the necessity for sometimes passing the canula through the nostril,—he therefore recommended a smaller tube, calculated, he thought, to be used without pain, either as an œsophageal or a nostril tube; and a syringe of a plain and simple construction, which did not possess the dangerous reflex action of the stomach-pump.

This would appear to answer admirably, but still there are objections to it: in the first place, it is cumbersome and costly; and secondly, although its tube is smaller than those formerly in use, it is, I think, still too large, and in many cases its passage must occasion pain. In the eleventh number of the *Asylum Journal*, there is a clear account of this instrument, and a high opinion expressed as to its efficacy, in a valuable and practical paper, by Mr. Wilkes, which I have already referred to. He states that it often produces irritation when passed through the nose. Now this I do not think would occur if a smaller tube were used; at all events, I have never in my own practice found such a result to follow the passage of the *graduated* tube I generally employ. Mr. Wilkes suggests, that the piston of

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the syringe should be metallic,—the one usually employed being liable to get clogged and out of order.

With so great a variety for our choice, it becomes a matter of importance to decide which mode of administering food should have our suffrages. I hope to be able to show that the simple plan, originally suggested by Esquirol, and modified by M. Ferns, is the least liable to objection, and effects its purpose with the least suffering or danger to the patient.

In my own practice, having reluctantly arrived at the conclusion that the patient must be sustained by artificial feeding, the instruments I use for injecting food into the stomach are œsophageal tubes, about seventeen inches in length, made of elastic gum, like an ordinary catheter, and of various diameters, from the size of a number three to a number six urethral catether. One of these, if the patient will open his mouth, I pass down into the pharynx. If there is resistance, and the mouth is obstinately closed, I send the tube best adapted to the size of the nostril, without any stylet, but well oiled, along the floor of the nasal passage, and so into the cavity of the stomach. The sensation is certainly disagreeable, but not painful, and I have never heard a patient complain of any ulterior ill-effects. This plan is entirely free from the danger of breaking the teeth, or lacerating the lips or tongue, so frequently the effect of other modes of feeding, a tube can be introduced through the nostril with greater ease, and less pain, than a gag can be forced into the mouth, and the risk moreover of exhausting the strength of the already half-fainting patient is considerably lessened. It must be remembered also, that when the gag is introduced, the first step only is gained, as then the tube must be passed through its perforation: an operation not easy where the patient offers obstinate resistance, as the tongue can still be opposed to the passage of the catheter; and, as the invention of M. Belhomme to keep it down—the "*baillon-biberon*" of the French surgeons —sufficiently proves, such opposition is often most embarrassing. Another great advantage from the use of the small tube is that it leaves the breathing of the patient free, and this is sometimes painfully affected in using the stomach-pump and other instruments.

The first objection made to the use of the nostril tube is, that it will not always pass easily through the nasal passage. I have never found the least difficulty, taking care of course to use a catheter proportioned to the size of

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the nostril, and taking advantage also of the frequent difference that exists in the relative calibre of the right and left passage, even in the best-proportioned face. The right nostril is generally the larger: this is Cruvelhier's opinion. It is well, therefore, if no difference is externally visible, to try that side first, and then the other; if both fail, the catheter is too large, and a smaller one must be used.

The next difficulty, the one that M. Baillarger's instrument was intended to surmount, is that the tube strikes against the cervical vertebræ, and there remains fixed. I have seen this happen also in the case of the stomach-pump; the reason is, that the pharynx is at right angles, with the mouth and nasal passage, and the tube will not easily curve down it. The remedy is simple: let the instrument be previously bent, so as to give it a tendency to turn downwards; and, at the moment it approaches the posterior nares, let the head of the patient be thrown back, so as to diminish the sharpness of the angle it must describe. A well-oiled catheter passes in this way with the greatest ease. It is obvious, from what I have said, that the operation should not be performed when the patient is in the supine position.

The next problem, that of avoiding the entrance of the larynx, or the opening of the fauces, is solved by bringing the patient's head forwards and downwards, which will send the point of the tube against the posterior wall of the pharynx, but to a practised manipulator this will not be necessary; and this part of the operation will be as easily performed as the *tour de main*, with which a good surgeon sends the sound below the arch of the pubes into the bladder. The tube, having thus far proceeded, comes within the grasp of the constrictor muscles, and now glides down the œsophagus almost without aid from the operator.

The next objection is the likelihood of the catheter entering the larynx, and the danger of the lungs thus receiving the fluid intended for the stomach.

The numerous cases on record, in which this accident has happened, and the testimony of such observers as Sir Charles Bell and Dr. Watson, sufficiently demonstrate the fact, that it is quite possible to pass a tube unintentionally into the larynx, and even to inject the lungs, without any symptom warning you, at the moment of your mistake. This danger is common to tubes introduced either through the mouth or the nostril, perhaps in the latter case, the smallness of the tube may render the accident more probable. A simple rule, will prevent this mischance, producing any serious result.

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The operator must never attach his injecting apparatus to the catheter, before at least fourteen inches of the tube has been passed. If no violence has been used, this will sufficiently indicate that its point has entered the cavity of the stomach. Only a very practised operator should risk injection of fluid, with a shorter length of catheter; although, of course, it may have been done for years without any fatal result. It is, I believe, never unattended with danger of some fluid entering the lungs or regurgitation taking place, and all the painful effects of funnel feeding.

It may be well to mention a precaution often neglected in withdrawing the tube, whether passed through the nostril or the mouth; its orifice should be closed by the finger, else at the moment of the tube passing the opening of the glottis, a small quantity of fluid is almost certain to be drawn into the larynx, a violent fit of coughing frequently follows the operation when this simple precaution has not been taken. It is important also to see that the inferior orifice of the catheter is at the bottom and not at the side, because in the latter case, the tube is likely to become blocked up by the accumulation of particles at its end.

The tube being introduced, the question how the fluid is to be passed through it, is not altogether unimportant. It may be injected with a syringe as in Dr. Balmanno's apparatus, or by means of an india-rubber bag, or even an ordinary bladder; but some amount of impulsive force is necessary. I, myself, always use the little instrument now on the table. It is perfectly simple in its construction; it is economical, and does not occasion the same repugnance that instruments of metal usually do. It consists of a ball of gutta percha, easily grasped by the hand, with two tubes of the same material issuing from it. One of these is immersed in the fluid, to be injected; the other fits tightly, by its own elasticity, over the mouth of the catheter. By a simple arrangement of pea-valves, which only allows of a forward passage, the fluid, on squeezing the central ball, is propelled directly through the tube. It is almost impossible this should get out of order; if it should do so, a dozen might be purchased for the cost of one stomach-pump or syringe; and a second may be kept always in readiness, should it get out of order. I have used the same for the last three years. We owe its introduction to the ingenuity of Mr. Higginson, of Liverpool, who is the original patentee. It was not intended for feeding, but simply meant as an

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enema apparatus. It is now commonly seen in the shops of dealers in articles of gutta percha. I think it must eventually supersede all other means of injecting fluid in medical or surgical practice.

The administration of food having been once effected by this means, and the patient having seen the contents of a bason of soup vanish, as if by magic, into his stomach, it will seldom be necessary to repeat the process. I have found it of great importance, especially in hysterical cases, to treat the operation as one of no consequence, and as not entailing any great trouble on myself. I think it very advisable in many cases to add, in the presence of the patient, some remedial agents, such as wine, or quinine, or even purgatives, to the soup or other fluid I am about to injeet, so as to mark the distinction between food forcibly injected, and food taken voluntarily. Patients should not be encouraged to like artificial alimentation, as in some cases they certainly do; and I so far agree with M. Briérre de Boismont in the opinion, that feeding our patients should not be our only object, but that we should also attempt to overcome the force of the delusion which prompts the refusal of food; to treat, in fact, the cause and not the symptom. These remarks are intended to apply to recent cases, and to specific delusions more particularly.

The question, as to the quantity of food to be injected at a time, must be decided by our knowledge of the individual case, and the rules as to diet which guide the physician. As a general rule, small quantities are best. Dr. Seymour says, a few ounces only at a time; but where there is violent resistance, it is better to give as large a quantity as the stomach will bear, in order to obviate the necessity of feeding soon again, with recurrent struggles and consequent exhaustion. In ordinary cases, however, the resistance is not prolonged beyond the second or third time, if the operation has been done with activity and apparent ease. I must not omit to mention one important hint, in cases of prostration with excitement,—such as is seen in phthisical mania,—food or medicine may be given at once, by pouring it from a spoon down the nostril. Such a case was recently so treated by my friend, Dr. Sibson, with great benefit to the patient.

It has been suggested, in cases where forced alimentation is necessary, that chloroform should be given as a means of diminishing resistance. I have not myself had any experience of this plan. In a case, where there was great terror

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at the idea of instrumental feeding, conjoined with refusal of food, the inhalation of the vapour to a point short of insensibility would be very advisable, but then it must be with the patient's own consent. I should think it quite unjustifiable to resort to chloroform to overcome a difficulty that can be surmounted in any other way. There are many cases where chloroform would be highly dangerous. I should only venture to give it against the will of the patient in cases where life was in peril; or where, after mature deliberation, it was thought likely to have a permanent good effect on the mental symptoms. It is obvious, that if force must be used, it would be as easy, and far less dangerous, to pass the tube down the nostril, as to compel the inhalation of the vapour of chloroform.

The employment of nutrient enemata, by which life can certainly for some time be prolonged, is not often necessary in the treatment of the insane. As in the administration of chloroform, force must be used, and the injection of food into the stomach may as well be at once effected. There are many patients who would rather submit to the stomach-pump than the enema apparatus.

I have used injections of beef-tea, with good effect, in cases where there was great exhaustion, before resorting to the stomach-pump. By this means the patient has gained strength enough to make the struggle attendant on forced feeding, less dangerous. Injections of this kind would also be indispensable where there was disease of the alimentary canal, preventing the passage of the catheter; and in such a case as that mentioned by Dr. Winslow, where there was stricture of the pylorus, life may be preserved for some weeks under their use; but the question of their employment is rather in the province of the general physician, and does not come altogether within the scope of my present subject.

I have to return my thanks to the President and to the Members of the Association, for the kindness and attention with which they have listened to my remarks. I feel that much which I have said, must be very trite and familiar to many now present; but they have remembered, that I undertook to answer those who are opposed to the forcible administration of food, and that one of their strongest arguments is, that compulsory feeding is generally painful and often dangerous. I hope that I have shown that it need not be so, though I have been forced to admit, that this mode of feeding is not altogether free from objection.

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I need not make any further apology for the length at which I have treated this apparently trivial subject. I know that by my present audience, no point of treatment conducive to the advantage of those entrusted to their charge is considered unimportant, and that they will freely pardon my dwelling with detail on this frequent symptom. I trust they will believe that my object has been not so much to describe my own practice as to elicit their views, and place on record their opinions.

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*An account of a visit to the Asylum for the Insane, on the Isola di S. Servolo, Venice: by* C. LOCKHART ROBERTSON, F.R.C.P., Edin.; M.B., Cantab., &c., &c., &c.

Before proceeding to give a slight description of a most interesting visit which I paid last September to the Asylum for the Insane, on the Isola di S. Servolo, Venice, conducted by the *Padri Ospitalieri di san Giovanni di Dio*, I am tempted to extract, from Dickens' *Pictures from Italy*, an account of his arrival by night at Venice, as it so prettily tells the story of my first impressions there, as leaving the railway station I embarked on board one of the black gondolas,* just as the bright harvest moon rose in all its glory on the broad waters of the Grand Canal.

"Before, (says Mr. Dickens) I knew by what or how, I found that we were gliding up a street—a phantom street; the houses rising on both sides from the water, and the black boat gliding on beneath their windows. Lights were shining from some of these casements, plumbing the depth of the black stream with their reflected rays: but all was profoundly silent. So we advanced into this ghostly city, continuing to hold our course thro' narrow streets and lanes all filled and flowing with water. Some of the curves, where our way branched off, were so acute and narrow that it seemed impossible for the long slender boat to turn them;

* "*From that funereal bark*
*I leaned, and saw the city, and could mark*
*How, from their many isles, in evening's gleam,*
*Its temples and its palaces did seem*
*Like fabrics of enchantment piled to heaven!*"
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