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OBSERVATIONS ON THE ADVANTAGES TO BE DERIVED FROM INCREASED ACCOMMODATION FOR THE INSANE; ON THE BENEFICIAL EFFECTS THAT WOULD ATTEND A MORE EXTENDED APPLICATION OF MORAL TREATMENT; AND ON THE PROBABLE CAUSE OF THE HIGH RATE OF MORTALITY IN ALMOST ALL COUNTY ASYLUMS.

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(Read before the Manchester Medical Society,
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The following "observations on the advantages to be derived from increased accommodation for the insane; beneficial effects that would attend a more extended application of moral treatment; and the probable cause of the high rate of mortality in almost all county asylums;" are brought before the Society with the conviction that they will receive from its members that attentive consideration which their importance demands; and if they should be admitted as established, happy consequences must follow, as they will prove a means of spurring on the authorities to make that ample provision for the insane, which a strong necessity calls for.

However desirable it may be, it is impossible to ascertain with accuracy the proportion which the insane bear to the population; an approximation to their probable number must content us, as there are no means of obtaining those data on which to found exact calculations. In England and Wales they are computed at 1 in 500, which is under the mark, as it appears from returns furnished by the Metropolitan Commissioners in Lunacy, that in every 1000 persons there is one insane pauper, and those receiving relief in South Britain do not constitute a fourth of the population; and yet, on this estimate, of 1 in 500, the insane of this county, (Lancashire,) with a population of 1,700,000, will be no less than 3400.

A knowledge of the probable number of persons who annually become insane paupers would be invaluable, as it would be an evidence of the accommodation that is required; and, be it remem-

bered, it is only in asylums that this, the most terrible of all afflictions, can be fairly subdued. With such means as are at our disposal, let us make the inquiry.

The insane are divided into two classes—lunatics or those who have had sound minds, and idiots, together with the congenitally insane; the two latter comprising one-third of the number. The pauper insane in this county, at 1 in a 1000 of the population, will be 1700, from which one-third for idiots, &c., being deducted, leaves 1134 lunatics; the annual mortality of these lunatics, at 12 per cent., the per centage in Lancaster Asylum, will be 136, and their average duration of life consequently 8.34 years. The number cured of those attacked does not exceed 1 in 3, which low rate is dependent on want of accommodation and other causes.

Assuming even that insanity is not increasing in a greater ratio than population, the adding to the deaths those cured and relieved will give the number of new cases annually—for example, the lunatics in this county 1134; annual deaths at 12 per cent., 136; probable number cured and relieved, $67 = 203$, the number of persons who will annually become insane paupers—for by deducting from this sum the numbers cured, *i.e.*, 1 in 3, there remains 136, which multiplied by 8.34 years, the average duration of life of pauper lunatics, gives 1134.

Let us further illustrate this by what occurs in the County Asylum, which contains 600 patients, and in which there is a constant succession of lunatics, as the vacancies caused by deaths and cures are at once filled up. The deaths at 12 per cent. are 72, to which sum, 36 being added for those cured and relieved, gives 108, the annual vacancies, for by deducting 1 in 3 for those cured, there remains 72.5, which being multiplied by 8.34 years, the average duration of life of pauper-lunatics, gives 604, (an excess of four patients.) Strictly speaking, the number of annual cases would somewhat exceed 203, in a ratio as population increases; however, in every 8374 of the population, there will be one person who will annually become a pauper-lunatic, or 203 in 1,700,000.

The County Asylum having but annual vacancies for 108 of the 203 cases, it is evident increased accommodation is required, and which is the more urgent, as it does appear commensurate advantages would be more than gained. Insanity is a very curable complaint. Dr. Willis has asserted, that nine patients out of ten were restored, if they were placed under his care within three months of the attack. Tuke also states, that those who are subjected to suitable treatment within three months of the attack, recover in the proportion in 2 in 3; those who are allowed to remain a year, scarcely 1 in 5; two years, 1 in 10. Many other practitioners of authority entertain as favourable views, and even go so far as to maintain, that it is not more intractable than other acute diseases, with this notable distinction. In 100 cases of fever, let it be granted, 66 recover, and 34 die; in 100 cases of lunacy, 66 recover, whilst 34 become incurables. Death in the one, and loss of reason in the other occurring. Were the 203 patients annually attacked removed at the onset of the disease to an asylum, where their complaint can alone be successfully combated, the number of cures would be 2 in 3, or 66.67 per cent., *i. e.* 134; and assuming the deaths may be reduced to 6 per cent., 58 only would become incurable.

Let us see what would be the result at the expiration of 20 years. Present number of lunatics 1134; annual mortality of 1134, at 6 per cent., 68; number of fresh cases annually 203, of which 133, or 2 in 3, would be cured.

Admissions in 20 years $203 \times 20 = 4060$

Deaths in 20 years $68 \times 20 = 1360$

Cures in 20 years $133 \times 20 = 2660$

The result under the present faulty system, partly arising from non-accommodation, will be as follows:

Number of lunatics 1134; deaths at 12 per cent. 136; new cases annually 203, of which 66.5, or 1 in 3, will be cured.

Admissions in 20 years $203 \times 20 = 4060$

Deaths in 20 years $136 \times 20 = 2720$

Cures in 20 years $66.5 \times 20 = 1330$

A comparison of the number of cures and deaths must satisfy every one of the manifest advantages that would follow ample accommodation; the increased number of cures in 20 years, being no less than 1338, and the diminution in mortality 1360.

It may be said, this is taking a too favourable and flattering view of the case. What obtains at some establishments? At the retreat at York, the cures amount to upwards of 60 per cent. of recent cases, and the mortality is reduced to 4.70 per cent.—*Tuke*.

At Bethlem Hospital, the number of cases admitted in 20 years, ending 1842, was 4404. numbers discharged cured 2269, or $51\frac{1}{2}$ per cent. ;

numbers who died 224, or $5\frac{1}{4}$ per cent.—*Dr. Webster*.

The statistical table of St. Luke's Hospital, a CURATIVE establishment, and from which, all who are on survey pronounced incurable, are discharged fully corroborates the views taken, as to the favourable results that would follow were there ample accommodation. The patients admitted into that establishment, from its foundation 1751 to 1844, were 17,645; discharged cured, 7648; as incurable, 6172; died, 1318. From an average taken for 1843, there was of males discharged cured, $65\frac{1}{2}$ per cent.; incurable, $31\frac{1}{2}$ per cent.; died, $8\frac{1}{2}$ per cent.: females discharged cured, $62\frac{1}{2}$ per cent.; incurable, $28\frac{1}{2}$ per cent.; died $8\frac{1}{2}$ per cent.: average weekly number in house, 215.

Beyond a question, then, were there an additional asylum, a CURATIVE establishment in this county, results equally gratifying to every friend of humanity would be obtained. For of the 203 annual cases, 133 would be restored to reason, their friends, and families; 12 would die; thus leaving 58 incurables to be drafted off to Lancaster Asylum, which, however, from its being shut out from all that is cheering in nature, is scarcely a fit receptacle even for them.

The novel treatment of lunacy, as pursued by a Brigham, Conolly, Jacobi, Tuke, and others, has been attended by very surprising results, and which cannot be too widely diffused. It is, however, to be desired that some one of these distinguished men should combine into an harmonious whole the doings of their fellow-labourers, being fully impressed that they might found such a system for the control, management, and government of lunatic asylums, as would command the gratitude of the public.

The insane have too long been regarded as something less than human; physical force, "whose days are numbered," the means employed for winning them back to reason; and the houses for their reception, places wherein they might be shut up, as if they had become an inconvenience to the rest of the world; the horrors which have been perpetrated therein, and the misery which their unoffending inmates have endured, have become matter of notoriety. It would, however, be catering for a morbid taste to speak of them; is it not better that the veil of oblivion be cast over them. Brighter prospects are now opening; the lunatic is being treated as a human being; constant and regular occupation for his mind and body are provided, and rational amusements wisely blended. So cheering are the results that have already attended the change, as to warrant the affirming that a more brilliant success will obtain, when they have had that full and perfect application which they imperatively demand.

The means employed comprise that branch of

science called mental therapeutics, which have proved equally valuable with, and consequently are, as indispensable as, the best directed pharmaceutical measures.

Respecting the utility of the first of these, "religion," it is to be lamented a contrariety of opinion should prevail. That religious controversies should be positively injurious, as all superintendents of asylums represent, need excite no surprise; but surely these are not to be confounded with that religion which is the offspring of truth and love, and the parent of benevolence, hope, and joy. Religion in general possesses the same influence over the mind, as medicine does over the body, and if the latter, in the hands of a skilful or ignorant man proves either a blessing or a curse, so will the former, which, more especially in its application to the insane, can only be judiciously imparted by him who is a messenger of truth—a legate of the skies. And yet a very few years ago, when the question as to the propriety of the appointment of a chaplain was first mooted, the idea was scouted and ridiculed, even by persons of intelligence; but now there is a happier spirit abroad—a spirit of inquiry, which must disabuse the public mind of its prejudices, and render it sensible of the duties it has to discharge.

The following evidence ought to satisfy every reflecting person, that no public asylum should be without a resident minister:—Dr. Jacobi, the superintendent of the Siegburg institution, belonging to the Prussian government, relates, "that where a regular system of divine worship has been introduced, its general effects upon the minds of the patients, and even of those, who may be anything but keenly sensible to religious impressions, are of a tranquillising and alleviating character;" he also further adds, "that impressions made on the religious consciences of the insane, and particularly of those who are in a convalescent state, may be made available as a powerful means of inducing them, on re-entering their former social relations, to avoid those moral deviations which have been instrumental in bringing on their derangement." The Metropolitan Commissioners in Lunacy state, as the result of their enquiries, "that the effect of devotional exercises and religious instruction is productive in a remarkable degree of good order and decorum, and that the patients look forward to the service with pleasure, and consider exclusion from it a privation." The duties of a chaplain are not to be confined merely to the reading of prayers and preaching—were they so, his high calling would lose much of its importance; it should be an especial object of his ministration to make himself personally acquainted with the characters and dispositions of the patients, and by gaining their esteem and confidence, become their

friend and adviser. At the Siegburg Institution, which has two resident ministers, they have daily to visit the patients, keep a journal of the most important cases, confining it entirely to the psychical part of their disorders, and every ten days have a conference with the physicians to communicate the results of their observations, especially as relates to the mental and moral deportment.

Music and singing may be advantageously employed for soothing and tranquillising the mind diseased. The celebrated traveller Kohl relates, that the patients in the asylum at Prague, who are not considered dangerous, meet every Sunday in the principal garden, on which occasions a band of music is always provided, and further, that it is a characteristic of music-loving Bohemia, that in the asylum of its capital, music should be considered one of the chief instruments for the improvement of the patients. In addition to the garden concerts, there are quartettos every morning and evening in the wards, and a musical director is appointed for the express purpose of superintending this part of the domestic arrangement. It is questionable how far this might be applicable to England. It would appear that in our asylums, music should be more of a domestic nature, resembling our own manners as much as possible. A master might be profitably employed in teaching psalmody, which would render the religious services more impressive, and in getting up and superintending an occasional chamber concert, which would prove an attractive relaxation, and serve to divert, if not break, the morbid chain of thought.

The annual reports published by the medical profession in America, contain valuable information, and afford convincing proof of the lively interest that country takes in the protection, comfort, and welfare of her afflicted citizens. It is far from the wish to draw invidious comparisons, but the perusal of those documents must satisfy every one, that in the race or onward progress of practical benevolence which is now being run, they are second to none. The high character of their intelligent superintendents is a guarantee of the truthfulness and faithfulness of those reports, which put to shame the meagre unsatisfactory ones emanating from many of our own institutions. It gives infinite pleasure to find such a man as Dr. Brigham, possessing, as he does, not only an American, but an European reputation, enlisted in the cause of the lunatic, as his opinions must have weight and influence, and will assist in dispelling those widely-spread prejudices, which have been and still are, a barrier to a better order of things. Who a few years ago would have dreamt of establishing schools for the insane? Yet the experiment has been tried and found to answer beyond expectation. Dr. Brigham, of the Asylum, New York, Utica,

1844, states, "We have long been desirous of seeing systematic efforts made to cultivate the minds of the patients. For this purpose we have established schools, two for the men, and one for the women, and our brightest expectations of good results have been more than realized. Among our convalescent patients are those accustomed to teach. These take charge of the schools; they commence at ten and two o'clock, and continue from one to two hours; the best of order prevails. The patients read in rotation, and sometimes at once; spell; recite pieces they have committed to memory; attend to arithmetic, history, and geography, assisted by maps and black boards. Many attend to writing, and some have first learned to write. We have no more beautiful sight than our school-rooms, where the patients may be seen engaged in their studies with all the sobriety and ardour usually seen in other schools. The school is beneficial, especially to the convalescent, to those that are melancholy, and those who appear to be losing their mental powers, and sinking into a demented condition.

If relaxation and a cessation from labour be indispensable for a healthy and vigorous tone of mind in the sane, must they not be equally so for the insane? What are our theatres, concerts, and popular lecture rooms?—but so many places of refuge from the too engrossing cares of active life, where man may be rationally diverted, amused, instructed, and enjoy social intercourse. Thanks to those intelligent superintendents who have had the good sense and courage to try their effects on the insane. At the Glasgow Asylum, last February, 1844, the play of *Guy Mannering* was performed, partly by the patients and partly by young gentlemen belonging to the medical staff; afterwards a banquet took place in the hall, beautifully ornamented for the occasion, in the course of which various appropriate toasts were given, the company, who consisted chiefly of patients, being addressed by the Lord Provost, Mr. Sheriff Bell, and Dr. Hutchinson, &c. The getting up of dramatic performances occupies the thoughts so much in the preparation, as well as acting, that morbid feelings are weakened in the mind, and, as remarked in the *Dumfries Herald*, on the occasion of recording the performances of *Cramond Brig*, in the Crichton Institution: "The thing has passed into the annals of medical philosophy as a very remarkable experiment, fairly tested, and attended with such satisfactory results, as to warrant its becoming a standing curative means in any lunatic asylum.

Dr. Woodward, of the Worcester Hospital, Massachusetts, in his report, 1843, remarks, that social intercourse is as favourable in institutions of this kind as elsewhere, and adds, he would rather

increase than diminish it, and would encourage walks, games, and especially dances, in which the intelligent and convalescent of both sexes are brought together under the guidance of their attendants, and hold free and pleasant intercourse. Especially would he have them assemble together for religious worship on the Sabbath, at singing parties, and other seasons of social enjoyments.

The *Medical Times* for 1844, in its notice of the new-year's festival kept by the female patients of Hanwell Asylum, where the evening was occupied with dancing, music, singing, and amusements of a literary character, adds, that Dr. Conolly and the matron could not but have been gratified with the affectionate regard shewn to authority, and perfect attention paid to good order and harmony, by a multitude of human beings, whom society has been accustomed to treat as so little under the empire of humanity's better feelings.

Sir William Burnett, who has control over the Naval Lunatic Asylum, Haslar, induced the Admiralty to provide a boat for the use of the patients, and which has proved the most valuable of all remedial agents employed. The patients are permitted to make excursions to Spithead, where they amuse themselves with fishing, &c.

It is universally allowed, that manual employment is highly beneficial to the lunatic, rendering the violent tranquil, and in many cases contributing materially to their recovery. As illustrative of the advantages of occupation, Dr. Gall, of the Williamsburg Asylum, Virginia, relates a case of a coloured woman, who was brought in chains, a condition in which she had been for eight or ten years; the chains were removed, she was set to work, became in a great measure calm and tranquil, and one of the most useful in the house.

In some returns stress is laid on the amount of the earnings of the patients. This is to be deplored. The labour of the patient, as the Metropolitan Commissioners in Lunacy observe, neither can nor ought to be reckoned upon as a source of profit; the object of employment not being to make a return in value for the money expended upon him, but that his tranquility and comfort should be promoted, and the disease with which he is afflicted, consequently mitigated or even removed.

The late Dr. Armstrong, than whom no one knew better the value of mental therapeutics, a few hours before death, exclaimed to his physician, "Boott, remember to be always cheerful in your intercourse with the sick, it takes a load from their heart, and infuses into it hope and confidence." Forbes Winslow, whose interesting works ought to be in every library remarks, "Much of our success in practice will depend upon placing about patients, persons of a cheerful and lively disposition. How often have the best directed efforts proved

abortive, owing to the mind of the invalid being depressed by the looks and conversation of those in attendance. It is the sacred duty of those associated with the sick to co-operate with the physician, by encouraging the hopes of the patient, and inspiring confidence in the means used to promote recovery." Ought not great judgment then to be exercised in selecting suitable attendants for the insane, to whom so much is necessarily confided? The great difficulty in procuring them may be attributed to the low scale of remuneration. Could a plan be devised for granting them retiring pensions after a lengthened service, this would be obviated. That they merit them is indisputable. Suppose after twenty years £20 per annum were allowed, would not persons of intelligence seek such appointments? Undoubtedly, and what is of more consequence, as the granting of such pensions would depend on, and the amount be regulated by, good conduct, they would prove a powerful means of retaining their services and ensuring a humane attention to the afflicted and helpless creatures committed to their immediate charge.

It would be wearisome to adduce further instances of the beneficial effects of moral treatment. Sufficient has been related to render it evident a happy combination of them would tend to the comfort of the insane, and be conducive to their recovery.

The cause of the high rate of mortality in many county asylums, which at Lancaster is 12 per cent., and has ranged as high as 18, and at Wakefield 16 per cent., would appear to be in a great measure due to the scanty diet allowed their unfortunate inmates.

The first conditions of animal life are, as Liebig observes, the introduction into the system of nutritious matter and oxygen; the latter, by means of the organs of respiration, is constantly taking place, and as no part of the oxygen taken into the system is given out except in the form of carbonic acid and water, the carbon and hydrogen of which are replaced by the carbon and hydrogen supplied by the food, it is clear the amount of nourishment required by the body must be in a ratio to the quantity of oxygen taken into the system. He also has satisfactorily demonstrated that the amount of carbon, daily consumed, or burned, in the body of an adult man, taking moderate exercise, is nearly fourteen ounces, and the heat given out sufficient to keep up the temperature of the body, and to account for the evaporation of all the gaseous matter expelled from the lungs and skin; and as this carbon is indirectly derived from the food, it is evident, that in all dietaries for adults, taking moderate exercise, there ought to be at the least, fourteen ounces of this most essential element.

There are numberless instances of men of war,

with a complement of 150 hands, having been on foreign stations for three years without losing scarcely a man, a convincing proof that their diet is not in excess, and it contains fifteen ounces of carbon per day.

Compared with the above, the amount of carbon in the dietaries of many lunatic asylums is exceedingly low, and scarcely compatible with the integrity of the human frame, and a healthy discharge of its functions.

The diet allowed the male lunatics at Lancaster consists of—

Bread per week, 78½ ozs.	Equal to 25 ozs. of carbon.
Oatmeal and flour, 43 ozs.	21 ozs. ditto.
Fresh meat, with fat and bones, 45½ ozs.	8 ozs. ditto.
Cheese, 4 ozs.	1½ ozs. ditto.
Milk, 2 pints	2 ozs. ditto.
Beer, 2 pints	2 ozs. ditto.
Tea, with sugar, 1 pint	1 oz. ditto.
Coffee, half a pint	1 oz. ditto.

Total per week 61.5 ozs. of carbon,
or 8.7 ozs. of carbon per day. Mortality 12 per cent.

DIETARY AT WAKEFIELD.

Milk per week, 7 pints	Equal to 7 ozs. of carbon.
Oatmeal and flour, 21 ozs.	10 ozs. ditto.
Meat, 20 ozs.	4 ozs. ditto.
Yeast dumplings, 24 ozs.	12 ozs. ditto.
Soup, 4½ pints	4½ ozs. ditto.
Rice currie, 2 ozs.	1 oz. ditto.
Vegetables, 32 ozs.	7 ozs. ditto.
Treacle sauce	3 ozs. ditto.
Beer, 5½ pints	5 ozs. ditto.

Total per week 52 ozs. of carbon,
or 7.4 ozs. per day of carbon. Mortality 16 per cent.

The dietaries of many other asylums present the same lamentable deficiency in this most essential constituent. It need, then, be no longer matter of surprise, that the mortality in these asylums should range so high. It is a physical impossibility for their inmates to be in health; there disease is certain to be rife, as the oxygen conveyed with the blood to every part of the body not meeting with a sufficiency of carbon to neutralize it, must produce direct destruction, corrosion, or decomposition of the living tissues. Dr. Playfair has related, that when an animal receives a quantity of food sufficient to restore the matter carried off by the oxygen, there are exhibited no peculiar phenomena; but when it is deprived of food, as in the case of starvation, the changes of matter which occur in the system are very characteristic and worthy of attention. As the oxygen of the blood does not now meet food with which to unite, it seizes upon the tissues themselves, and effects their destruction; the sufferer now becomes rapidly emaciated, and the urine is observed to contain an excessive quantity of the products which result from a waste

of the tissues. After the emaciation has continued for some time the substance of the brain begins to yield to the destructive action, and according to the rapidity of its waste, excited action or delirious paroxysms ensue. Poverty, with its attendant want, is a fruitful source of insanity, and though a man on a stinted diet may not be actually in a state of starvation, yet, virtually he is so, as far as regards ultimate effects produced. Health can only be maintained by waste and supply being kept in equilibrium, and this can only be done, through an ample allowance of food.

The Metropolitan Commissioners in Lunacy, in their reports state, "The supply of a sufficient quantity of proper food appears to us one of the most important aids towards the relief or cure of insanity;" and again, "it is worthy of remark, that in two of the county asylums, those of Middlesex and of Dorset, the diet of the patients was some time since improved by an increased allowance of food, and that in both of these asylums, there was recorded after this alteration, an increase in the number of recoveries.

The dietary of the Middlesex or Hanwell Asylum now consists of per week—

Milk porridge, 7 pints	Equal to 17	ozs. of carbon.
Fresh bread, 96 ozs.	" 29	ozs. ditto.
Meat, 21½ ozs.	" 4	ozs. ditto.
Yeast dumpling, 16 ozs.	" 8	ozs. ditto.
Vegetables, 32 ozs.	" 7	ozs. ditto.
Soup, 1 pint	" 0.5	ozs. ditto.
Irish stew, 12 ozs.	" 3	ozs. ditto.
Meat pie crust, 12 ozs.	" 6	ozs. ditto.
Cheese, 14 ozs.	" 6	ozs. ditto.
Beer, 7 pints.	" 7	ozs. ditto.

Total per week 87.5 ozs. of carbon,
or 12.5 ozs. per day. Mortality, 6.40 per cent.

DIETARY OF DORSET ASYLUM.

Meat, 23 ozs.	Equal to 4	ozs. of carbon.
Vegetables, 68 ozs.	" 13	ozs. ditto.
Soup, 1 pint	" 0.5	ozs. ditto.
Suet padding, 16 ozs.	" 8	ozs. ditto.
Pie crust, 8 ozs.	" 4	ozs. ditto.
Fresh bread, 93 ozs.	" 28	ozs. ditto.
Milk porridge, 7 pints	" 17	ozs. ditto.
Cheese, 14 ozs.	" 6	ozs. ditto.
Beer, 7 pints	" 7	ozs. ditto.

Total per week 87.5 ozs. of carbon,
or 12.5 per day.

It is exceedingly interesting to observe, that in these two asylums, the quantity of carbon daily consumed approaches the quantity mentioned by Liebig, the advantages attending which have already been noticed, as regards an increase in the number of recoveries.

This is consolatory, and justifies the assertion that a full and liberal allowance of food, abounding with more than a sufficiency of those materials

which are daily eliminated from the body of an adult man, taking moderate exercise, would be followed by a large increase in the number of cures, and a marked diminution in the number of deaths.

It is devoutly to be hoped, that the Government will insist upon the establishment of one uniform dietary for all asylums, and let Liebig's standard, if one may be permitted so to call it, of fourteen ounces of carbon per day, be the *minimum* quantity it contains, as then, the lunatic will not only receive a full supply of that essential constituent, which will be found to soothe and tranquillise his diseased mind more effectually than any anodyne, but also vitality will be afforded the means of remodelling its impaired structures, with the probability of again rendering the brain fitted for the seat of reason.

A CRITICAL ANALYSIS OF THE PRINCIPAL FACTS OF DISEASE.

(Continued from page 209.)

INFLAMMATION, ACUTE.

Before drawing conclusions from the preceding tables, it is necessary to examine their contents.

It has already been established in table i., that a large proportion of the symptoms of collapse from injuries is identical with those caused by loss of blood; the succeeding tables, which take a wider range, tend to increase this proportion. Thus, in table ii., the following additional symptoms appear under the heads of collapse, caused either by burns, fractures and lacerations, operations for recent injuries, or operations for chronic diseases; and at the same time, of collapse from loss of blood:—Mind distracted (1); coma (3); delirium (4); pupils dilated (6); præcordial distress (13).

In the same manner, in table v. are found:—Pulse quick (7); extremities cold (8); surface pale (9); surface cold (11); countenance pallid (12).

These additional symptoms in common bring the two affections into close approximation as regards their nature. In fact, no further analysis is needful to establish the identity of the two states. By glancing at table i., and deducting the symptoms for which analogues have been found, it will be seen that but few remain, and that, for these, equivalents may readily be detected. For instance, diminished consciousness (4) is contained in syncope (2); bewilderment of mind (5) is the equivalent of distracted mind (table ii., 1); sensation of cold (6), and shivering (9), are only different manifestations acting through dissimilar structures of the same state that causes 14, 15, 16, 17, 18, and table v., 11.

The identity of collapse caused by injuries and loss of blood, as laid down in table i., is thus completely established, and will be acted on without reserve in the succeeding developments of the present definition.

It is not assumed in the present argument, that collapse from injuries has no special symptoms; for it has several which, during its course, give it distinctive characters; it is only urged, that the constitutional