the legs succeeded. Two formed of a very large size in the hams, and the skin became so thin that I thought it would give way. The child, in three days, became pallid and exsanguine, and her pulse very sharp and hæmorrhagic. After using a mercurial purge, I at once resorted to the following mixture.

R Olei terebinth. ʒss.
Olei ricini ʒj.
Mucilaginis,
Sacchari, aa, q. s.
Olei caryophyl. gtt. iv.
Aquæ dist. ad ʒviij.

Misce ut fiat mistura, cujus sumat cochlearia ij. vel iij. bis vel ter in die.

The effect of this mixture was most satisfactory. The purpuric spots rapidly disappeared, the bowels acted copiously and naturally, the appetite of the child became good, and the temper cheerful.

I certainly believe that in all passive hæmorrhages, turpentine will be found most valuable in its effects; and in this class of diseases we must generally place purpura.

Chesterfield, August 26th, 1853.

GALLIC ACID IN THE TREATMENT OF PURPURA HÆMORRHAGICA.

By T. P. J. GRANTHAM, Esq.

SOME years ago I lost one very dear to me from purpura hæmorrhagica: and my attention was thereby strongly directed to that disease, with the hope of discovering some more satisfactory mode of treatment.

The value of gallic acid in passive hæmorrhages induced me to give it a trial in purpura hæmorrhagica, and the results obtained were very gratifying. Moreover, its safety, promptness, and pleasantness, are no inconsiderable recommendations of this remedy.

If the reader should not find any novelty in the application of gallic acid to this disease, the subjoined cases will at least confirm, as far as they go, the value of the treatment.

CASE I. Mr. E., a farmer and miller, aged 60 years, came under treatment on the 18th November 1852. Two days previously, he had noticed a soreness of the tongue, and perceived that the saliva was bloody. The symptoms of purpura were well marked. The gums were spongy, and they bled freely. The tongue and the buccal mucous membrane were dotted with purple fungoid excrescences, some of which were as large as split peas, and from them blood oozed. The breath was offensive, and the appetite was impaired. The urine contained a considerable quantity of blood. Petechiæ were scattered over the thoracic and dorsal regions; and there was a large ecchymosis on one arm, and another on one of the thighs. The gallic acid was administered in five grain doses every three hours, and two compound rhubarb pills were given at bedtime. On the 20th, the purple excrescences had shrunk and ceased to bleed; the petechiæ and ecchymoses had faded; and the urine was free from blood. On the 30th, the improvement had been sustained. He was quite well again. He said that the first dose of medicine seemed to do him good. Only four scruples were taken.

CASE II. This was a more serious case, several days having elapsed from the first setting in of hæmorrhage from the nose before the patient came under my care. Master C., aged 16 years, a draper's apprentice, was seen by me on the 21st June 1853. He was greatly exhausted and blanched from epistaxis, hæmoptysis, melaena, hæmaturia, petechiæ, and ecchymoses. He was immediately ordered to take gallic acid in doses of three grains every three hours, and subsequently in five grain doses every two hours. The pil. rhei comp. was given as an aperient. The treatment was followed by most marked benefit, and before a week had elapsed, all hæmorrhage had ceased. On the 5th July, a slight recurrence of epistaxis happened,

owing to his having too soon resumed active exercise. But the bleeding was quickly checked by a few doses of the acid, and complete convalescence speedily followed.

CASE III. H. B., aged 12 years, son of an agricultural labourer, after three weeks illness from typhus, then prevalent in the village where he resided, was seized on the 16th August 1853, with hæmorrhage from the nose, gums, and bowels. The tongue was dotted with purple spots, and the back sprinkled with numerous small petechiæ. The treatment adopted was the same as in the former cases. On the 17th, hæmaturia was superadded to the other symptoms, which were very severe. On the 18th, the hæmorrhages began to abate. On the 20th, the spots on the tongue and the petechiæ had faded; the hæmorrhages had nearly stayed. On the 21st, a severe return of epistaxis occurred, from picking his nose. This was followed by alarming prostration of strength. He was ordered to take the acid every hour, and to have his nose plugged. On the 22nd, all bleeding had ceased. On the 30th, I found that there had been steady and daily improvement since last report. On the 31st, he was convalescent.

This was a severe case, as the patient's strength had been so much reduced by a previous exhausting disease; and, accordingly, it was necessary to push the acid to a considerable extent.

In all the cases the dietetic and general management were carefully attended to.

Burgh-le-Marsh, Lincolnshire, Sept. 1st, 1853.

ON FEVER IN RURAL DISTRICTS.

By W. VINER BEADLE, M.D.

IN recent numbers of the ASSOCIATION JOURNAL, I find reports of discussions at the Epidemiological Society, on different kinds of fevers. On a subject of such importance I venture to break the seal of silence, the "sigilla grata pudico", and to offer the following remarks on the Fevers of Rural Districts, as I have myself observed them.

My own impression is, that all the *true fevers* are closely connected with one another in origin and nature; that certain endemic even more than epidemic causes may produce these; but that, once brought into existence, they may under certain circumstances, only moderately favourable, be propagated; but that, these favouring circumstances being removed, they sink for want of their proper pabulum.

I, therefore, fully agree with the remarks of Dr. Southwood Smith, that "fever is no doubt capable of extinction. The old fevers are now unknown; and were the earth cultivated like a garden, and the people all rational beings, it would soon cease." New modified forms, it is true, may arise of the same type, and yet bear no further comparison than does our present newt to the ichthyosaurus of geologists.

On looking at the number of deaths by typhus in the Registrar-General's report for 1842, I find it to be 16,201, of which a large proportion occurred in country districts. It is to this latter class that I now more especially refer.

Amongst the circumstances which I recognise as the most favourable to the development of typhus fever, are—

1st. The *nouveau séjour* of Broussais, in places where the resident inhabitants are little affected.

2nd. (a) The want of drainage and ventilation; (b) human effluvia concentrated; (c) damp and consequently a cold and depressing neighbourhood and soil.

3rd. Though in a less degree, infection from those already affected, if *also* exposed to the same polluting influences.

Such is my impression of the origin of our fevers; and such causes must be efficiently removed ere fevers will vanish. I do not mean to speak dogmatically, since I am happy to say that my experience is comparatively limited; though even the cause of that limitation is not without a bearing on the subject. "Many years ago", remarked a gentleman to me, "fever always raged here towards the autumn; and many who were able felt great anxiety to escape at that time from the town." Now, however, since

drainage and cleanliness have been more attended to, matters have been very different.

I have often heard it remarked, that were fever capable of arising from purely local, i.e., endemic causes, it could not occur on a hilly locality, since drainage and dryness must necessarily be there. The latter, at least, was not the case in two recent instances:

1st. In a set of houses of dubious ownership and neglected state.

2nd. In another hill, a fine, open, country spot, where fever was rapidly spreading through a row of houses, when, on adopting my usual practice to inspect the drainage, I discovered the cesspool of the privy quite full and extending beneath the sitting room of the house where it commenced. Of course, its instant removal was resolved on. No fatal case occurred; and since then there have been no fresh cases.

I have found fever of adynamic character occurring in the house where I first met the collapsed stage of Asiatic cholera: in a low, damp spot, where the Chell, reeking with the filth of the town standing on it, added its baneful exhalations to the other causes.

I have seen fever in the small and low farm house, pent in by abominations. I have seen it in the butcher's house, his lower rooms reeking ankle-deep with the filth of the slaughter house. I have seen it in the cottage of the poor, with its atmosphere saturated with human pollution. I have seen it breaking out under exciting causes amongst the newly arrived, whilst those accustomed to the place withstood its baneful influences. I have seen it on the swampy banks of the Thames, Severn, and Somersetshire Avon, when neglect or want has added to the unfavourable circumstances of the case. *But I have never seen adynamic fever arise in any place where neglect had not produced malarious influence, and where more or less of exhaustion, and privation, or want and misery had not induced it.*

But, though so much has been said of the fevers of large towns, so little has been said of it in country districts, in hamlets, or villages, that the subject has been almost overlooked. "Rusticus expectat" is the old adage; and hence it is the more important for those who can observe to call to action. Celsus, indeed, quotes a saying of Asclepiades; "Asclepiades officium esse medici dixit, ut tutò, ut celeriter, ut jucundè curet". But the modern physician recognises a further duty; viz., to observe and bring his knowledge of the laws of nature to bear where it is required—not merely to cure but to prevent.

The question is not now to discuss simply whether anything or what could have saved some or other case when actually attacked. It is this: Can the cause of the whole be removed? We cannot, indeed, root out a law of nature; but we can so modify these laws that she shall yield the golden grain instead of the worthless weed.

A series of cases of fever having occurred in the hamlet of E., small in actual number, yet large as compared with the very scanty population of the place, may serve to show that the causes I have mentioned and the fever were at least coexistent.

CASE I. November 1852. John G., aged 7, was seized with mild typhus fever; but in about seven days it had so far subsided as to leave him in a state of approaching convalescence. After this, several slight cases occurred in the neighbourhood.

CASE II. February 8th. Ann G., aged 34, required attendance. She was then suffering from bronchial irritation, and it had much the appearance of a cold or influenza, save that she complained of more lassitude, feebleness and want of sleep. She had a rather quickened pulse (90).

For a few days, under the rest and the treatment adopted, she seemed to improve, though much was unfavourable to this. Seven persons slept in one small room; and the husband's earnings, though a strong young man, only amounted to 7s. per week.

February 24th. She still coughed a good deal, with a white frothy expectoration. The pulse was 90; the respirations 30; the skin hot and dry; the tongue dry; and she complained of heats and chills, with severe aching about the

limbs. The hearing was impeded; and there was general dejection of mind. The respiration was short and anxious; the skin dry and hot; the breath was offensive; and accumulation of sordes was commencing on the teeth; stupor was present, requiring her to be roused. All showed, in the absence of sound sleep, the approach of adynamic fever. The treatment adopted was gentle diaphoretic anodynes for the cough; a simple saline mixture every four hours; and a little wine in water arrowroot.

February 26th. The pulse was 120; the bowels had been moved five or six times a day. Submucous crepitation (loud mucous rhonchus) was heard all over the chest; and she expectorated white frothy mucus. In other respects she was as at the last report. The following medicines were prescribed.

R Pulveris ipecacuanhæ comp. gr. iv.
Camphoræ gr. i. M.

Fiat pilula urgente diarrhæa sumenda.

R Decocti cinchonæ flavæ Oss.
Liquor. ammon. acetat. concent. ʒiv. M.

Sumat cochlearia ij 4tâ quaque horâ.

March 1st. The pulse was 120; the respirations 50. She seemed now to doze a good deal by night and day. The cough was less troublesome. She had dulness of hearing; and there had been continual wandering and muttering day and night for the last two days. She complained of no pain. The bowels were now open only twice a day; but the motions were passed almost unconsciously. She had the indescribable stupid look of adynamic fever—"Defixis oculis, animoque et corpore torpet."

She remained much in the same state, save that the general exhaustion of mind and body increased, with picking at the bedclothes, sweats about the breast and head, hiccup, more quickened and feeble pulse: and the peculiar listless expression of countenance increased, until life can hardly be said to have remained. March 15th, she died.

CASE III. Occurring at the same time, I had the case of her daughter, Mary G., aged 15.

February 24th. This day I found her suffering from symptoms of fever, though still nursing her mother's infant. The disease commenced precisely as her mother's, with weariness and bronchial cough. On being questioned, she said she felt ill; and looked most exhausted and wretched.

February 26th. The pulse was 120; the respiration 30. She was very thirsty. The tongue was becoming dry with red edges. The bowels were purged five or six times in the day and night; but she said she had no pain. The cough was troublesome; the expectoration scanty, white and frothy. The skin was dry and rather hot. Simple mild salines, with hyoscyamus and mild opiates for the diarrhœa and cough, were ordered.

March 6th. The pulse was 120, tremulous; the respiration 40. The bowels were moved five or six times a day. The head was hot; the tongue dry; the urine moderate. The abdomen, on firm pressure, was tender and rather tense.

March 8th. The respirations were 44; the pulse 112; the tongue moister; the skin dry. She did not cough so much. The tympanitis of the bowels had now become excessive. Fomentations and terebinthinate embrocations were employed; and a tube was passed *per anum*. The urine was moderate in quantity. Her motions were passed under her, partly from unconsciousness, partly from debility. Wine, arrowroot, and bark, were ordered.

I had here to contend with great inefficiency of the nurse, as she remained only during the day, leaving the sick at night almost unattended.

This case proceeded much as the last until the 12th, when with stupor, delirium, and relaxed sphincters, she died.

CASES IV and V. I have the history of two other cases, which were proceeding during a part of the above periods, and occurred in a parish near the above. The individuals had come to reside "very recently" there; and except themselves, none were affected.

They both commenced with hepatic derangement, one recovering in a few days. In the other, tenderness pro-

gressed over the abdomen. The debility and the peculiar look of stupor increased.

On February 11th, the third day from my first seeing her, she complained of soreness and aching all over. The bowels were still rather painful, but less so. She had pain of head, languor, and lassitude, which she described as having come on gradually, accompanied by alternate chilliness and flushing. The respiration was rather short and anxious; the pulse 100, frequent, weak, and intermitting. The tongue, at first moist and slimy, was now dry and rather brown, but moistened on taking water.

February 14th. The tongue was dry and rough. Her countenance had an anxious, trembling appearance; and there was a good deal of muttering stupor. She wandered and dozed at night.

This case was much marked by imperfect crises, and an improvement would take place, to be followed by increase of the symptoms on the following day.

She continued, with gradually moderating symptoms, until March 8th, when convalescence was so far set in as to admit of her removal to her mother's. She soon finally recovered.

CASE VI. The next case that came under my notice was that of Anna T., aged 65, a relative of the G.'s, who had nursed them by day; but by night were left almost entirely to themselves, save such assistance as the wearied husband could give.

I was called to her a few days after her daughter's death on March 23rd. She was then suffering from lassitude, pain of the head, rigors and flushes, aching of the limbs, and want of sleep. Before the attack was developed, she had removed to another and distant house. In about ten days, the symptoms had so far abated, that convalescence had well commenced, which was aided by wine and bark.

CASE VII. April 16th. On further proceeding, I find the case of Anna B., aged 60. This case was comparatively mild in its character. There was no abdominal, and only slight bronchial complications; and, in about ten days, convalescence had set in.

CASE VIII. April 27th. I was sent for to Harriet P. She had at different times been attending on those suffering from fever, and for the last fortnight had been very unwell, though still getting about a little. For the last two days, she had felt languor and lassitude, with alternate flushings and chills. She could not rise up, from giddiness and feebleness. The pain of the head was severe; she "maundered" a good deal, but could not sleep at night. There was tenderness at the epigastrium and the right hypochondrium. The pulse was 110. She had a trying bronchial cough.

May 2nd. She was in some respects improved; still, however, she did not sleep at night, and had not for many nights past. If she dozed, she says, "for a bit", she woke up, and her head began to wander; but it wandered last night less. The pulse was 110. As her tongue was less dry, and also the skin, I now ordered her wine and bark, etc.

May 11th. The pulse was 90; the tongue clean. She slept moderately well. She was considered convalescent, except that she was very feeble both in body and mind.

CASE IX. April 30th. Susan B., aged 70, had been ill a few days. The pulse was 100 while lying down. She had great sense of feebleness and exhaustion, pains of the limbs with aching, inability to sleep at night, and "wandering of the head". On dropping off to sleep at night, her head wandered, and she began talking. Her skin was hot, and rather dry; the tongue moderate, but coated; and she had troublesome bronchial irritation.

This case followed a medium course, and by the 10th she was convalescent.

CASE X. May 13th. Anne S. This case was of a mild character, and convalescence commenced in about a week. It offered no severe complications.

CASE XI. June 5th. George Y., aged 50, came under my care. He was of a feeble habit. He had been recently

reduced in circumstances to the rank of a labourer, and was much depressed in mind.

I had accidentally seen him a few days before, when he was suffering from diarrhoea, with a coated tongue, and some slight soreness over the umbilicus and abdomen. I prescribed a few doses of hydrargyrum cum cretâ, and compound soap pills, with camphor, for the diarrhoea. Under this, he improved in that respect.

June 10th. The disease now assumed the form of fever. He had been wandering all night, though perfectly sensible on being roused; but would relapse almost immediately. He lay on his back, and did not complain of pain. The signs of exhaustion were very evident in his face and movements. The tongue was red (scarlet) and dry; the skin hot, but clammy; the pulse 80. He had been delirious at intervals for the last two or three days. The head, however, was not hot. The urine was moderate. He had had offensive motions on the previous day. His memory quite failed. Wine and arrow-root were given, and decoction of bark, with acetate of ammonia; also four grains of hydrargyrum cum cretâ at bed time. Chalk mixture with opium and catechu was prescribed for the diarrhoea. Turpentine and opium embrocations were applied over the abdomen.

June 14th. The pulse was 88; the tongue red and dry. He dozed off at intervals, and, on waking up, wandered. The skin was hot, the head cool, the face flushed. There was some tenderness in the abdomen, but no tympanitis. He had five motions on the previous day. He talked sensibly at intervals. He sighed often, and lay on his back. He was not very thirsty, but occasionally called for toast and water. Hiccup was now come on.

June 19th. Pulse 80. He was purged three or four times yesterday, and twice in the night. The tongue was red, and dry, if not moistened. The eyes were half closed, showing the lower part of the albuginea. He dozed and wandered, but, when roused, he answered rationally. The bark and ammonia were repeated.

℞ Pulveris ipecac. comp.,
Extracti hyoscyami, aa gr. ij.
Camphoræ gr. ss. M.

Fiat pilula urgente diarrhœa sumenda.

The turpentine embrocations to the abdomen were continued; wine and arrow root were ordered.

June 24th. He remained much in the same state, with dorsal decubitus. Subsultus tendinum and hiccup were nearly constant. His urine and motions were often passed unconsciously. There was evidently tenderness at the lower part of the abdomen; but his want of sensibility to external impressions rendered it difficult to determine.

June 29th. Pulse 100. He was more exhausted. His mind dwelt, as it had all along, on his change of circumstances. He had never felt the slightest care as to recovery or death. Hiccup and subsultus continued, and he fancied he saw something behind the curtain—the result evidently of the delirium of exhaustion.

July 7th. He died this day.

I now come to the last case of the series.

CASE XII. Anne P., aged 23, was a young person of moderate health, and had a child six months old at the breast. She had for a few days assisted in nursing the previous case.

June 22nd. She was in bed. The pulse was 110; the tongue white, and much coated. She had not felt well for a week, but had been low and depressed in mind, with aching of the head, back, and limbs, and weariness, chills, and flushes. On the preceding evening, she had been sick, and had vomited green fluid. The skin was moist, the head cool, the state of urine and bowels moderate. The head was very painful. The following medicine was prescribed:

℞ Hydrargyri cum cretâ gr. iv.
Pulveri antim. com. gr. i. M.

Fiat pulvis 6tis horis sumendus. Mitte iv.

A saline mixture was given every four hours.

June 25th. The pulse was 100; the tongue more coated, but moist; the head hotter, but less painful. During the

night, she had been wandering and dozing. She was more thirsty. The skin was hot, but not burning; the pupils were rather dilated. The bowels and urine were moderate. Her countenance had now assumed the stupified look of fever.

June 30th. The pulse was 90. She slept moderately, and the tongue was cleaner. She dozed at intervals for a short time, but, on waking up, her head seemed to wander. The improvement in the pulse, tongue, and sleep, with the moist skin, and the wandering of exhaustion on waking up, showed the time for the exhibition of wine and tonics; but her age and constitution warranted in delaying them until now.

July 6th. She was improved, and able to sit up a little, though still very exhausted and feeble. The child had been weaned at first.

The above extracts refer to the history of the cases. Their peculiar complications appear to have been modified by season and atmospheric causes. Thus the two G.s had severe bronchial complication from the very first; bronchitis and colds being very prevalent at that time. The enteric mucous membranes, however, soon became affected; and, in the case of the younger one, death followed the accession of tympanitis. Cases vii, viii, and ix, began also in the same manner. Cerebral affections supervened. In the two cases I refer to as instances of "*nouveau séjour*", fever was ushered in by hepatic disturbances, and the abdominal mucous membranes did not become prominently affected. In the case of George Y. (No. xi), the constitution of the season had by this time changed, and irritation of the abdominal mucous membranes, ushered in by diarrhoea, continued more or less throughout. In the case of Anne P. (No. xii), the cerebral implications were most manifest.

The treatment was adapted as far as possible to the circumstances. The bronchial complications were treated with diaphoretics and mild anodynes, combined, if commencing early, with a slight nauseant; the diarrhoea, by a smooth farinaceous diet, Dover's powder, and camphor, with small occasional doses of hydrargyrum cum creta, and especially external rubefacients. Wine, bark, etc., were given according to the strength and stage.

Thus far had the cases proceeded, when I called attention to the state of the place; for the occurrence of ten cases of fever in a population of fifty or sixty persons demanded inquiry.

On June 25th, in company with the Rev. —, a neighbouring clergyman, and Mr. —, I visited several parts of E., with a view to examine the state of the drainage, general cleanliness, and sanitary appliances of the place.

1st. We examined the cottages opposite the house of Mr. J. Y. Opposite to them, in front of Mr. J. Y.'s house, was a large dung heap, in course of turning or removal. On one side was a pool of stagnant water; near it a heap of filth, flung out from the different houses in front of the dwelling; and, at a short distance, a privy, draining its contents into a ditch, and carried off as the rain might avail.

2nd. We examined the houses called H—'s houses. These are six or eight in number, solidly built, having formerly been barns, but utterly destitute of proper drainage. One row of them seemed to be worse than the other. Stables and pigsties surrounded them; and close by, the *cabinet d'aisance*, a miserable place, visible to all, without a door, and unclosed, protruded its contents into the open air. The women, being unable to go there for want of privacy, made use of utensils up stairs, and emptied these into the open gutters, which slowly dribbled it into a shallow ditch.

One of the inhabitants, a woman, described the stench in the morning as being "dreadful". She would not stay there, but could not help herself. The water in the well was brackish.

The other row was much in the same state. The ordure from all these houses, in which about forty persons reside, was discharged in the midst of them all; to say nothing of pigs and horses. No under drainage whatever seemed provided. Three cases of fever occurred here in one house; the nurse also had an attack.

3rd. We examined the farm house belonging to Mr. —, and recently his residence. A ditch close behind the house, reeking with filth, first attracted notice. Into this the general refuse of the house was discharged, and left to escape or putrify as it best might. The *cabinet d'aisance* was in a bad condition, open and foetid. In front of the house was the cattle yard, in a state of sad neglect, with an overwhelming stench; and there was a deep bricked pit, intended to hold the pigwash, filled with a foetid fluid, loaded with animalculæ and insects, and giving out bubbles of gas. These altogether shewed a state of things in the highest degree detrimental, and induced the Rev. — to exclaim that it "breathed out typhus". The entire place appeared the seat of ignorance, neglect, ruin, and filth, though belonging to the chief proprietor. The back of this place nearly adjoined the last named row of houses. This house was much surrounded with trees, which, preventing a free current of air, greatly increased the malarious effect.

4th. We next examined the houses occupied by —. They presented a ruinous condition. A large stagnant pool was in front. The necessary conveniences were in a bad state; and heaps of filth and household refuse lay near the doors. One case of fever occurred here.

5th. The next place examined was a row of cottages near Mr. —'s, belonging to Mr. —, as I was informed. They were low thatched cottages. In one of them fever was then present. One privy served them all; and this was quite open and offensive. The ditch into which it drained was choked up, and the contents regurgitated into some of the houses, producing a disgusting stench. The whole was closed up by trees, which of course prevented a free supply of air, and increased the mischief.

The hamlet, though large, consisting of some thousand acres, has yet but very few inhabitants; and the above description refers only to those places where fever actually occurred. I have referred to them only to take cause and effect together. In some parts they were much worse. These lay in the main or central parts of the place; and, though a few new cottages had been erected, yet many of the remainder consisted of merely one-roomed mud cabins, like those of squatters, seated in a wild uncultivated part, called the "Furzens", and having no available road, were almost unknown.

But the cause of this waste of life and land, lies perhaps still deeper. The tenure of the property is for the most part lifehold, held under ecclesiastical corporations. The consequence is, that no one having a direct interest in its improvement, it remains much as it was centuries ago: whilst some of the farms have so often injured their occupants, that even now they lie unlet. Some of the adjoining parishes, where the tenure is different, present a contrast. There all looks improvement; here decay. There the proprietors reside and the tenants live; here the real proprietors care neither for flock nor fleece; the semi-proprietors fly off daunted from the spot; the tenants, with large, though low-rented farms, are often unsuccessful; and the *adscriptæ glebæ* pine on the humblest wages, or die of fever.

The soil is very stiff and retentive of moisture, being for the most part unenclosed; the ditches even are few; therefore the many hundreds of thousands of gallons of water which annually fall on each acre, are mainly carried off by the surface. The atmosphere being thus loaded with moisture, has a temperature perceptibly lower than that of the surrounding districts.

Excessive dampness of the soil is therefore evidently one great cause of disease. It is pitiable to see the water standing in the furrows during the rainy season, without a hope of escape; to see the mountainous looking ridges with their tops peering up between, or the little starvelings of corn growing on their lower sides, as though bounteous nature was here rearing stepsons. But worst of all is it to traverse the roads in such a district. The main one is bad in the extreme; the off ones are not in existence, but the unhappy horse follows his perilous track, floundering to his knees in mud or ruts, perhaps for miles, like a ship in a head sea.

It is of no use to talk with those who contrive to exist under such circumstances. "Us lives as long as our neighbours, and us pays our way; and I don't see any use in what you talk of," was the reply of one magnate to my remarks, though severe disease was so prevalent in his community. But I submit it to the judgment of the profession, whether there is not a close connexion between the two states? Is there no connexion between such tenures and such a state of things, that whilst much around is flourishing, here is neglect or decay; and that within sight of, and only a few bowshots distant from, one of our towns of luxury and ease, and whose practitioners boast of their ignorance of fever?

I should much like to know the experience of others, as to the state of parishes under such tenure; since, if such are its effects elsewhere, it is high time that its days were numbered. And it is no more political to discuss such questions, than it is polemical to investigate the educational neglect of such and similar localities.

There doubtless is a connexion, since pathology points out that derangement of function always results from some change, either in the structure or composition of the tissue itself, or from some corresponding vitiation in its proper stimuli. Under such conditions, the vital tonicities of all is diminished, and the typhoid ferment soon vitiates the fluids.

The place lies on the lias, consisting of lias proper, blue marl, and clay. Under this lies the saliniferous marl of the new red sandstone formations, and which crop up at not distant places. The saliniferous current seemingly takes a southern direction, passing through Droitwich, Tewkesbury, Cheltenham, Stroud, etc.; at all which places saliniferous springs are to be found, occasionally impregnated with sulphur.

It is a good dark and deep soil of vegetable mould, mingled with the decomposed lias, and capable of high cultivation; but it is evident, from the nature of its underlying formations, that deep and thorough drainage is the only way to render it available for agriculture, or properly habitable for man.

But I fear that, generally, the condition of the rural population will not bear inspection; and that our rank as a nation in the social scale must suffer, if means are not taken for its improvement. Unfortunately, however, enlightenment has only to a very limited extent pervaded the agricultural mind; and its *Epicuri de grege porci* still slumber on.

Tewkesbury, Gloucestershire, August 25th, 1853.

ON THE TREATMENT OF CHRONIC AND OTHER DISEASES BY BATHS OF COMPRESSED AIR.

By THOMAS POYSER, Esq., F.R.C.S.Eng.

As I am not aware that the treatment of diseases by baths of compressed air, now practised so extensively and successfully at Lyons, has been described in this or the other medical journals, a short account of it may not be unacceptable. Under this impression, I subjoin a translation I have made of a small tract, recently published by Dr. Milliet (descriptive of the method of constructing and using these baths), which was placed in my hands a week or two ago, by Dr. Strange, of Naples. This gentleman, who is now in this country, visited Lyons on his way, and made particular inquiries of the medical practitioners there, as to the extent to which this treatment is carried, and the success attending it.

The result of Dr. Strange's investigation led him to form a very high opinion of the great advantages of this practice, in the management of many obstinate and intractable diseases. From his testimony, and from a communication with which I have been favoured by Dr. Petrequin, I am induced to think that it merits the attention of medical men

in this country. Dr. Petrequin was for many years principal surgeon to the Hôtel Dieu of Lyons, and is now in extensive practice in that city. He is also favourably known by his researches on the salts of manganese in combination with steel; and by his introduction of these valuable remedies into medical practice.

Dr. Petrequin has no interest whatever in these baths: that is, he is neither the inventor, nor does he derive any emolument from them; but he has frequently witnessed their effects, and the following short statement is chiefly the result of his own experience. He believes that the bath acts on the system in two ways: 1. By its mechanical pressure. 2. Chemically, by infusing into the system, *i.e.* the blood, a larger quantity of oxygen than it would otherwise receive.

1. The effect of pressure on the surface of the body is, to drive the blood into the interior parts, and thereby give the vessels time to recover their tone: in this way inflammatory eruptions of the skin, and ophthalmia, are relieved or removed. Dr. P. has seen patients go into the bath with the conjunctiva quite red, and in a short time come out perfectly pale. He does not state that this effect is always permanent; but, by repeating the process, time is given for the vessels to recover themselves, and the disease is effectually removed. Again, pressure acts on the absorbent system in a remarkable manner, as is frequently witnessed in the absorption of external tumours; but it is only by means of the air-bath that this pressure can be applied to the lungs and air-tubes. Dr. Petrequin believes that by means of this bath, we can cause absorption of the lymph or mucus which is effused in cases of bronchitis, either on the surface of the mucous membrane, or between this and the lungs; and which thereby prevents the entrance of oxygen into the blood. Dr. Petrequin goes so far as to assert, that this pressure will cause the absorption of tuberculous deposits in the air-cells; but he does not state that he has witnessed any positive proof of this having been accomplished.

2. Dr. Petrequin believes that the bath acts favourably in many diseases on chemical principles, by infusing a larger quantity of oxygen into the blood than it would otherwise receive. The fall of the pulse, and the diminution in the number of respirations, soon after entering the bath, are remarkable proofs of the correctness of this theory: for if at each inspiration a third more of atmospheric air can be introduced into the lungs, it is clear that the inspirations may be diminished by one third, and the same quantity of air be still received. As the number of pulsations bears in general a certain proportion to the number of respirations (say about four to one), it is evident that, as these diminish in frequency, the pulsations will do the same.

M. Petrequin has seen the pulse fall in a short time from 120 to 80, or less. On these two principles of mechanical pressure and increased supply of oxygen, the compressed air-bath has been used with advantage in asthma, humid or spasmodic, but more particularly in the former; in emphysema, and various other chronic affections of the lungs and air-passages; in deafness dependent on thickening of the membrane of the ear: in various affections of the uterine system, amenorrhœa, chlorosis, chronic inflammations, etc., etc.; in enlargement of the liver and spleen, and other visceral diseases; also in dyspepsia, hypochondriasis, and in almost every kind of chronic disease.

Having made this short statement of the high estimation in which these baths are held by eminent and disinterested physicians who have witnessed their effects, I now proceed to give the proprietor's account of the method of constructing and using them.

THE MEDICO-PNEUMATIC ESTABLISHMENT OF AIR-BATHS AT LYONS. BY DR. MILLIET.

This establishment, which I opened at Lyons last year, was erected under the direction and advice of the inventor himself, M. Tabarié. I thought I could not do better than to act up to his principles, his process, and method.

The physical phenomenon which characterises this process is the augmentation of atmospheric pressure, and de-