

"THE CLINICAL PICTURE PRESENTED BY THE SICK CHILD
&
ITS VALUE IN ESTIMATING PROGRESS."

*Thomson Memorial Medal
in Diseases of Children
1931*



In deciding on a subject for investigation along medical lines, there is a tendency to think of research implying the use of the laboratory with all its varied tests and equipment, and in doing so, to forget the far more extensive and more intriguing field of investigation to be found in the study of the reaction to disease of the patient himself.

It is in no way meant to suggest belittlement of the value of laboratory work, but, no branch of medicine can so ill afford to allow the purely scientific outlook to displace the essentially clinical side, as that dealing with the study of children and their ailments. More particularly does this strike the medical only beginning to attempt close contact with patients unable to word their complaints, and who, in the early stages at least, are more inclined to fear the approach of the doctor instead of looking to him as a sympathetic friend. With children at any rate, before even⁺ his mind flies to chemistry and physics for a line of research, it would seem therefore that for every clinician the first investigation he must carry out for the benefit alike of himself and his patient is to acquire an understanding of the young patient. He must learn to see in gestures what, in the absence of words, he cannot be told, to read in the expression of the eyes the child's feelings regarding his own condition, to appreciate the outward signs of a struggle for life, and to realise how even the slightest indications may justify a guarded optimism. The doctor must in fact, teach himself to instinctively^{to} see and understand the picture presented by the child, and by so bridging the gap between the infant's and his own maturer mind, establish a mutual sympathetic understanding between himself and his young patient.

In his book dealing with Sick Children, the late Dr. John Thomson devotes an entire section to what he terms "Facial Diagnosis". Such diagnosis he points out, "often affords the only satisfactory means ----- of answering the important question 'How is the child feeling?'" "Feeling" in the quotation has special reference to diagnosis, but to the House Physician doing his ward rounds several times a day, the same question arises with each child in connection with/

with progress ---- "How is the child feeling as compared with yesterday, with a week ago - how far is he on the high road to recovery?" Seen three, four or five times a day, it would seem almost as if the multiplicity of rounds would tell against an accurate measure of progress being made, but actually the reverse is the case. While in any one case, day to day examination may reveal few if any changes in physical signs, a close observation of the appearance, behaviour, attitude and expression of the child each time the cot is passed, will give the doctor invaluable information as to how the patient is progressing. The child, as it were, unknowingly betrays "how he is feeling" and so also "how he IS", and by being ready to observe the many and varied indications from day to day, or hour to hour, the doctor can come to judge of the child's progress or otherwise.

By briefly reviewing a number of cases an endeavour will be made to illustrate the practical application of these remarks. As should be for the study to be of any value, the cases in question cover a large range in the matter of age, while also the patients considered were drawn from all types of home surroundings. The first essentials then, in watching the children were to make allowance for the influence of environment, for the natural reaction to having strangers in attendance, and to keep in mind the child's estimated normal temperament, and finally, throughout to let all judgments be adjusted to the patient's age.

In all the cases these outside factors have been considered and the required allowances made according to the particular circumstances of each, with the result that, all the children referred to may be considered to have been studied from a uniform viewpoint. In one respect uniformity could not be obtained, and that was in the nature of the illness, and this fact suggested that the most suitable treatment of the subject would be to consider it under broad groupings of clinical conditions.

Graphs will be found appended in an endeavour to give diagrammatic expression to the line of argument employed. The method used has been, taking a time basis, to plot general observations against/

against other data of peculiar interest in the case. No pretence at a quantitative representation has been made: but the graphical presentation serves to show clearly and concisely the relationship, constant or otherwise, between general observations, routine, charted records, laboratory findings and the general course of the condition in question.

Not a few cases come to the attention of the practitioner as an effect of such or other discharge, in which, from the size of the discharge, the less experienced observer is inclined to support the original diagnosis. The absolute physical signs, and with the assistance of the older and more experienced opinion, it is of course possible to the resident in the hospital upon which to determine what progress the case is making. Probably in respiratory conditions more than any other, a close observation of the patient as he lies in bed, reveals a very true reliable index of the state of affairs.

In the child stricken down with bronchitis at its severest, the rapidity of the respirations is evident to the most casual observer, but there is yet more in the character of the respirations. There is a sense of obstruction in them, expiration scarcely is allowed to complete itself, the next inspiratory movement follows as closely as it can, with a noisy crackling sound occurring each inspiratory and expiratory movement due to moisture in the upper part of the air passages, but so much the moisture adds to the obstruction, the child has neither time nor strength to remove the obstacle. The extreme urgency characterizes the breathing, and if he watches long the observer himself almost becomes infected with the fear that could come to be the child's, a fear which breeds lest one single respiration should be missed and so, as it were, incur the risk of death.

With improvement the note of fear in the respirations gradually gives way to one of increasing sense of satisfaction - inspiration requires a deliberation, a pause between inspiration and/

RESPIRATORY CONDITIONS.

Considering the very large percentage of cases which come under this heading it is natural to treat it first; in no type of ailment is it more essential to have something like a confident idea of the seriousness of the condition being dealt with.

Not a few cases come in to hospital bearing a note recommended by the practitioner as an urgent broncho-or alveolar-pneumonia, in which, from the time of admission to that of discharge, the less experienced house physician finds nothing definite to support the original diagnosis. In the absence of any ^{absolute} physical signs, and with the knowledge of the older man's original opinion, it is of inestimable value to the resident to have some basis upon which to determine what progress the child is making. Probably in respiratory conditions more than any other, a close observation of the patient as he lies in bed, reveals a very true reliable index of the state of affairs.

In the child stricken down with broncho-pneumonia at its severest, the rapidity of the RESPIRATIONS is evident to the most casual observer, but there is yet more in the character of the respirations. There is a sense of desperation in them, expiration scarcely is allowed to complete itself the next inspiratory movement follows so closely on it. Often too, sticky crackling sounds accompany each inspiratory and expiratory movement due to moisture in the upper part of the air passages, but, no matter how much the moisture adds to the distress, the child has neither time nor strength to remove the obstacle. An extreme urgency characterises the breathing, and if he watches long the observer himself almost becomes infected with the fear that would seem to be the child's, a fear which dreads lest one single respiration should be missed and so, as it were, incur the risk of death.

With improvement the note of fear in the respirations gradually gives way to one of increasing sense of satisfaction - inspiration acquires a deliberation, a pause between inspiration and/

and expiration appears again, upon which the child appears to dwell revelling as it were in once again enjoying the full aeration of his lungs, and having appreciated it, the act is completed by a slow thorough emptying of the chest. Relentless speed has given way to rhythmical thoroughness - where a sense of vague desperate fear existed, there is a very real, deliberate joy.

Furthermore in this connection, among a number of cases kept under observation, it has been noticed that on being given complete open air treatment the reaction of the child has a very definite significance. In one or two instances, babies showing the desperate type of breathing referred to, were put out in the open with apparent little effect - it seemed as though with the respirations so extremely rapid, and so gaspingly shallow, it mattered little whether the cot lay merely across the open window, or was placed out in the open among the natural breezes. These children seemed oblivious of the change in their surroundings, their whole being apparently concentrated on maintaining those vital respiratory movements, and even the respirations failed to automatically accommodate themselves to the more liberal supply of air.

On the other hand, there were children in whom there appeared just that faint change in their breathing already described, and these when treated in the open showed a rapid appreciation of the change - eyes, which had been expressionless for days, lit up, respirations seemed to have discarded some encumbering weight, and although not at once becoming markedly slower, acquired a new ease in their movement. It is as if this trial of complete fresh air treatment served to bring into more rapid and finer focus the picture, the details of which ^{provide} ~~serve as~~ an estimate of the child's condition.

Again the COLOUR, as seen in the child's cheeks is of immense importance. The healthy pink tinge that increases with successful convalescence is recognisable by all, but there can be observed changes of infinitely less degree and yet of even more significance. Books all dwell upon the cyanosis associated with true broncho-pneumonia - by watching this cyanosis at intervals a very accurate measure of the existing distress can be made.

In the acutely grave condition there is an exasperating tendency/

tendency for the degree of cyanosis to vary from hour to hour, and an apparent improvement may be more than lost in a very short interval of time. The cases, in which this has been seen, showed no corresponding rapid changes in physical signs, but the high mortality occurring among them, and the tendency to complications among those which eventually recovered, suggest that the tendency to rapid alternating changes in the degree of cyanosis is a ~~w~~^raning of the extreme gravity of the condition not to be lightly ignored ~~is~~ in considering the question of prognosis.

Another point which it is of value to look into in this connection, is whether the cyanosis has been modified in any way apart from its presence or absence. Two cases in mind stressed this very definitely - the children had put up a stout fight, for several days had been living only to gasp desperately for breath, but examination suggested that the pneumonic process was, after all, on the wane and that the extent of lung involvement was decreasing. At the same time, what can only be described as a dusky muddiness had crept into the skin and rendered the cyanosis less striking - both cases died within eighteen hours of this change, of what was shewn post-mortem to have been a true septicaemia. All cases fortunately, do not end with such dramatic suddenness, but any suggestion of a dusky hue in the skin in respiratory cases may be considered to carry with it a ~~w~~^raning - and this has been found to apply to children of all age periods.

The cases quoted above, both occurred in children in the first 18 months of life - another instance was seen in a girl aged ten, suffering from a very acute bronchitis. In her, consolidation was never found, and the disappearance of physical signs long preceded any tendency for the existing extreme distress to become lessened. Eventually the first real step towards symptomatic progress was a fading of the muddy tint in the complexion leaving a true cyanotic appearance. Only at this time did the girl experience any relief - later on cyanosis disappeared and an uneventful recovery was made, but the turning point in her condition was most accurately denoted by the slight but important change in her appearance already described.

Another observation of value if regularly made, /

made, is to note the varying degree of the child's ACTIVITY - in some cases the variations have to be watched for closely, in others they force themselves upon the attention of the observer. One dramatic instance is worth quoting - the patient, a boy of some three years, was admitted late one evening with all the signs and symptoms of a lobar pneumonia. Seen last thing at night, the child was running a temperature around 103°F., was in obvious distress, extremely thirsty, resented interference and presented the picture of weariness - the severity of his illness was obvious. And yet, next morning, some nine hours later, expected to be found lying prostrate the child was sitting up enthusiastically playing with his toys. Examination revealed few if any changes in the chest to have occurred in the interval since admission, and yet there was this startlingly complete reversal of the boy's whole demeanour and attitude. The boy presented a picture of tremendous improvement which no physical examination could have deduced at the time, and his subsequent uneventful recovery justified the optimism inspired by the unexpected lively morning greeting.

Few cases are quite so startling, and in the severe bronchopneumonia's in infants nothing quite similar is found, but there are numerous small details providing information in the picture presented by these cases. At its worst the bronchopneumonic child lies almost motionless - it is as if every particle of energy has to be devoted towards maintaining the respirations and as though even the slightest movement of trunk or limbs would tax the available strength over much. In cases which have failed to rally it has been seen that while breathing may continue in its own characteristic way, alae nasi which have shewn similar activity, have as it were their movements damped, until they become immobile. Often too, weakness evidences itself in an increasingly weary droop of the upper eyelids, and before they eventually hang completely limp, the expression in the child's eyes can be seen to be dull, listless and completely unresponsive to the approach of any stranger. In a case which has sunk to such an extreme depth of exhaustion, the noticing of even a slow tired turn of the eyes in the direction of some external stimulus has its message of hope - later on with continued/

continued improvement, interest creeps into the expression, a new sharpening activity into the movement of the eyes all indicative of a returning mental and physical alertness. Consideration of a number of critically ill children would appear to justify stress being laid upon observing even the earliest suggestion of such changes. Even ^{al-}though it be sluggish and not devoid of evidence both of mental and muscular weakness it marks a hopeful accomplishment in the hitherto prostrate child.

With returning strength and extended interests, no better measure of the patient's progress can be found than in the increasing activity of his mind and body - curiosity grows apace, every strange sound, every unexpected flash of light or colour, result in a quicker turn of the head; bed clothes that annoy or an irritating cap are no longer peevishly tolerated, but are deliberately adjusted or even angrily thrust aside.

Much also can be learnt from the patient's utterances. His VOICE, and the readiness with which he uses it betray the extent of his weakening. In the older child, commonly quite unused to hesitate from making himself loudly heard, the strain of a severe illness imposes an unnatural quiet upon him: he rarely speaks unless spoken to: if he requires attention his requests are made known with a minimum of words. With improvement he is first with his morning greeting when the morning round is carried out, and as his vigour increases his cheery welcome is heard long before the bedside is reached. Then the time comes when during the day his conversation is confined no longer to the occupant of the adjoining bed but the boy must needs have his joke with his fellow in the furthest away corner, until one day a mirthful roar of laughter at some quip tells of a very nearly complete recovery in a once desperately ill child.

It is not only in the strength of his utterances that the boy's progress is evident, because much can be learnt from the attitude to others which his remarks betray. The illness at its height tends to reduce one and all to a very similar state of petted peevishness - their every request is tinged with a note of complaint, their voice is mournful almost self-pitying in nature, and despite all/

all the attention paid by those in charge the needs of the patient are never satisfied. The disappearance of this selfish attitude is one of the surest signs of betterment - from being completely self-centred the child is now at pains to express to those around him in his own simple way, a gratitude which in its depth far exceeds that of the average adult in similar circumstances. A friendly smile replaces the earlier ill-natured drawn expression. Nothing done for him goes unappreciated.

Even in the youngest, where speech doesn't^{not} exist, the voice can convey to some extent how the child is feeling. Resentment even at this age characterises the patient at the critical stage: weakness commonly allows only of a feeble cry, but its curt nature tells of ready resentment as if it were a doubly cruel fate to be not only curiously watched, but also unable to more effectively protest. As other signs of improvement arise, the irritability tends to disappear, and as though with the removal of an impending crisis the infant finds time and energy to size up his surroundings more rationally, his cry becomes one of pathetic helplessness in keeping with the weak condition in which his illness has left him.

As new strength is acquired, so do his wants increase in number and in insistence of demand - again a very exacting irritability asserts itself, but of a very different kind, to that seen when life was most despaired of. Then a peevishness at the hopelessness of things seemed not unnatural in an infant unused to face hardships, but this new contrariness with the simultaneous return of bodily robustness far more resembles the attitude of the spoiled child. The stubbornness arises out of an unconscious realisation of regained potentiality and vigour, betraying a fresh, if irrational activity of mind, and marking a very definite milestone on the road to recovery.

Consideration of cases under the heading of Respiratory Conditions would be incomplete were some mention not made of those developing an empyema, for here again close observation along the lines already referred to has been found of value. One particular case occurred in an eleven year old boy. After running the normal course of lobar pneumonia he appeared well set for an uneventful recovery and beyond an evident recent loss of tissues, looked/

looked the picture of active health as he sat up amusing himself in bed. The boy was revelling in his recovered feeling of fitness, his activities were almost excessive, and it seemed only natural when a hint of tiredness crept into his expression and actions. Despite denying any feeling of weariness he would have his quiet nap unobserved as he thought, but later the realisation that some new factor was trying his strength (which had already been noticed by those observing him), had to be admitted by the boy himself, now he lay down and slept without shame and more frequently. Obviously something had arisen to interfere with his expected progress, and yet a thorough overhaul at this stage revealed nothing beyond what might have been expected in a resolving pneumonia.

The tiredness persisted - a curious tiredness, with the boy remaining happy and contented but he always bore what might be called "the bedtime look", and seemed as it were, to smile thro' a sleepy mystification. Then very definite signs of limited activity arose; he no longer sat up, his head and shoulders craning forward to ensure seeing and hearing all, but was content to have the pillows arranged for him to lean comfortably back on. While before his bed-covers were strewn with innumerable books and papers he now preferred to lean back, one book only, near enough for him to lazily stretch out for and disinterestedly turn the pages over. Not until outward signs of a change of condition had become very evident were there sufficient findings on examination to justify the use of an exploring needle. The changes noted in themselves were small, but taken as a whole and carefully followed in their development they proved to be among the earliest indications of the probability of complications. As events turned out, the possibility of an application of these observations was early put to the test by closely watching another boy whose disease ran a similar course. In his case, the early development of a tendency to exhaustion was not associated with any other distinct sign of increasing embarrassment and the weariness and changed demeanour remained, up to the time of confirmation by fresh physical signs, the sole outward suggestions of the presence of an effusion.

Another case deserves mention - occurring in a two year old boy/

boy with a history of pneumonia a month previously, he was sent ~~in~~^{to} hospital because of unexplained failure to convalesce satisfactorily. Repeated, thorough examination revealed nothing beyond a very questionable localised patch of dullness at one base, and X-Ray films provided no evidence of any pathological focus. An exploring needle was inserted and a small pocket of pus struck. Over some weeks, aspiration was repeated on 5 occasions, pus of a green viscid nature being obtained in small quantities. The improvement in the boy's condition, slow at first, eventually became evident to the most uncritical eye, and coming as he did from a good home in the country, mere change of environment did not entirely explain the change.

For two weeks, the child lay inactive and disinterested, showing a pallid puffiness suggestive of a urinary condition (never borne out by urinary examination), but slowly his tissues acquired a firmer tone, bloom appeared in his cheeks, the bars of his ^{cot} gave rise to the new game of dangling his limbs out between them, and to derive the full joy of sleep he required to twist himself up into the most grotesque attitudes. Aspiration, which used to bring forth shrieks of terror, came to cause less disturbance than that arising from a delayed meal.

The vital point in the case was, that throughout treatment no aid was obtainable from temperature, pulse or respiration findings as these remained constant from the start - pus, once localised, was aspirated at intervals but the only criterion as to the success of the treatment was the boy's general condition observed in ways as indicated above.

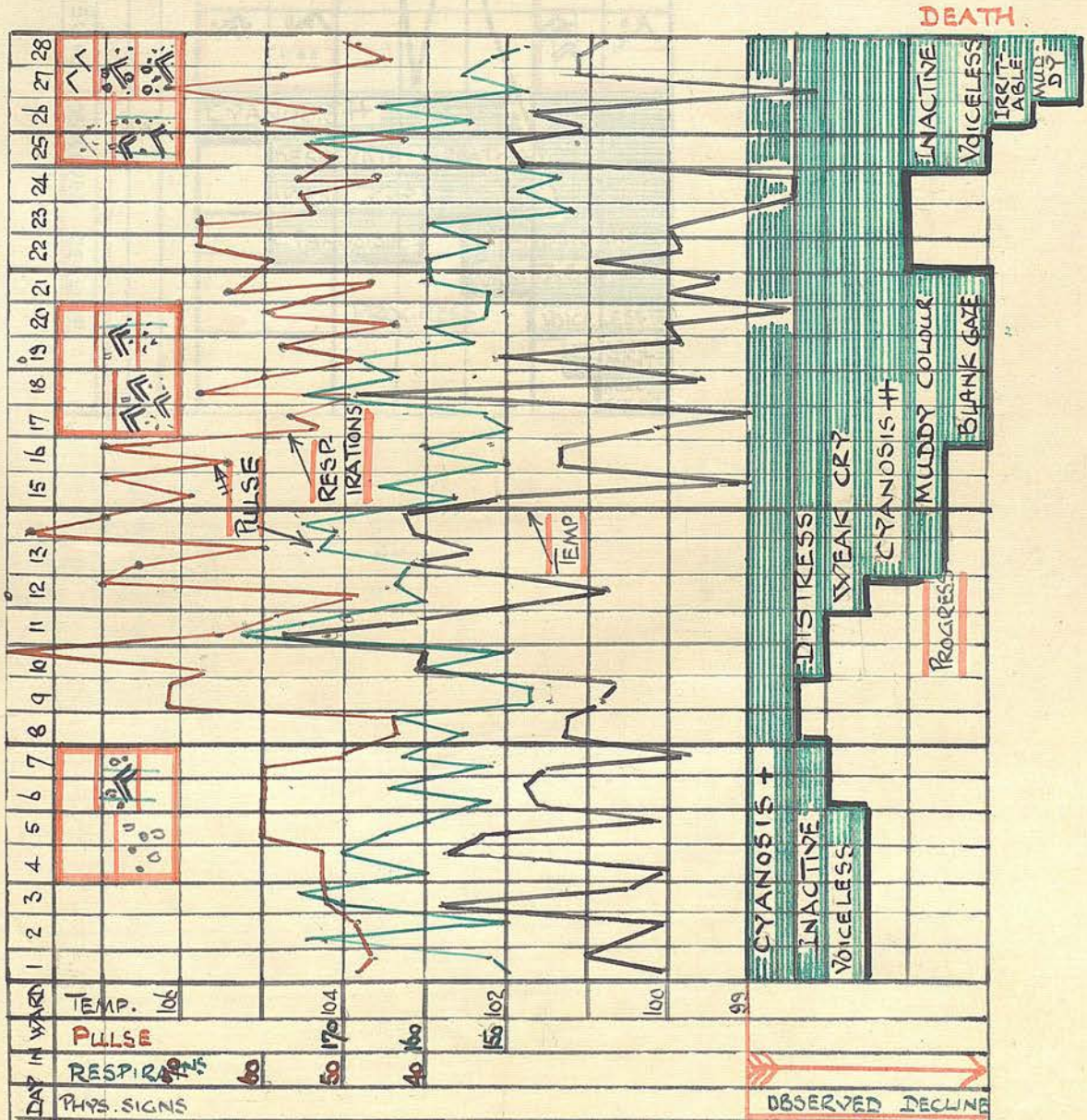
The subject under consideration has been treated at some length in its connection with respiratory conditions partly because diseases of that system figure so largely in children's ailments, and partly because although a grouping of clinical conditions has been decided upon, many observations and deductions must necessarily be common to all groups. In treating the remaining groups, only those points which appear to have a special relation to each one will be dwelt upon.

Case of BRONCHO PNEUMONIA

Duration prior to admission - 12 days.

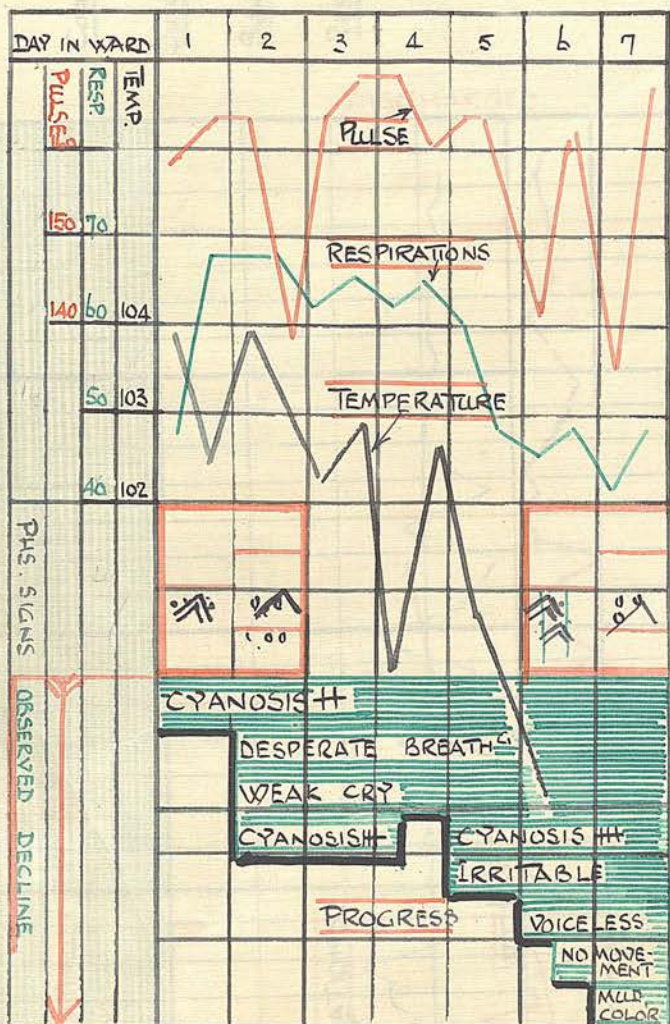
Sex - Female Aet. 7/12.

Result - Death.



Case of BRONCHO PNEUMONIA
Duration prior to admission - 12 days
Sex - Female Aet. 7/12
Result - Death

11-5.



Case of BRONCHO-PNEUMONIA

Duration prior to admission - 4 days

Sex - Female Aet 8/12

Result. Death.

Case of ALVEOLAR PNEUMONIA

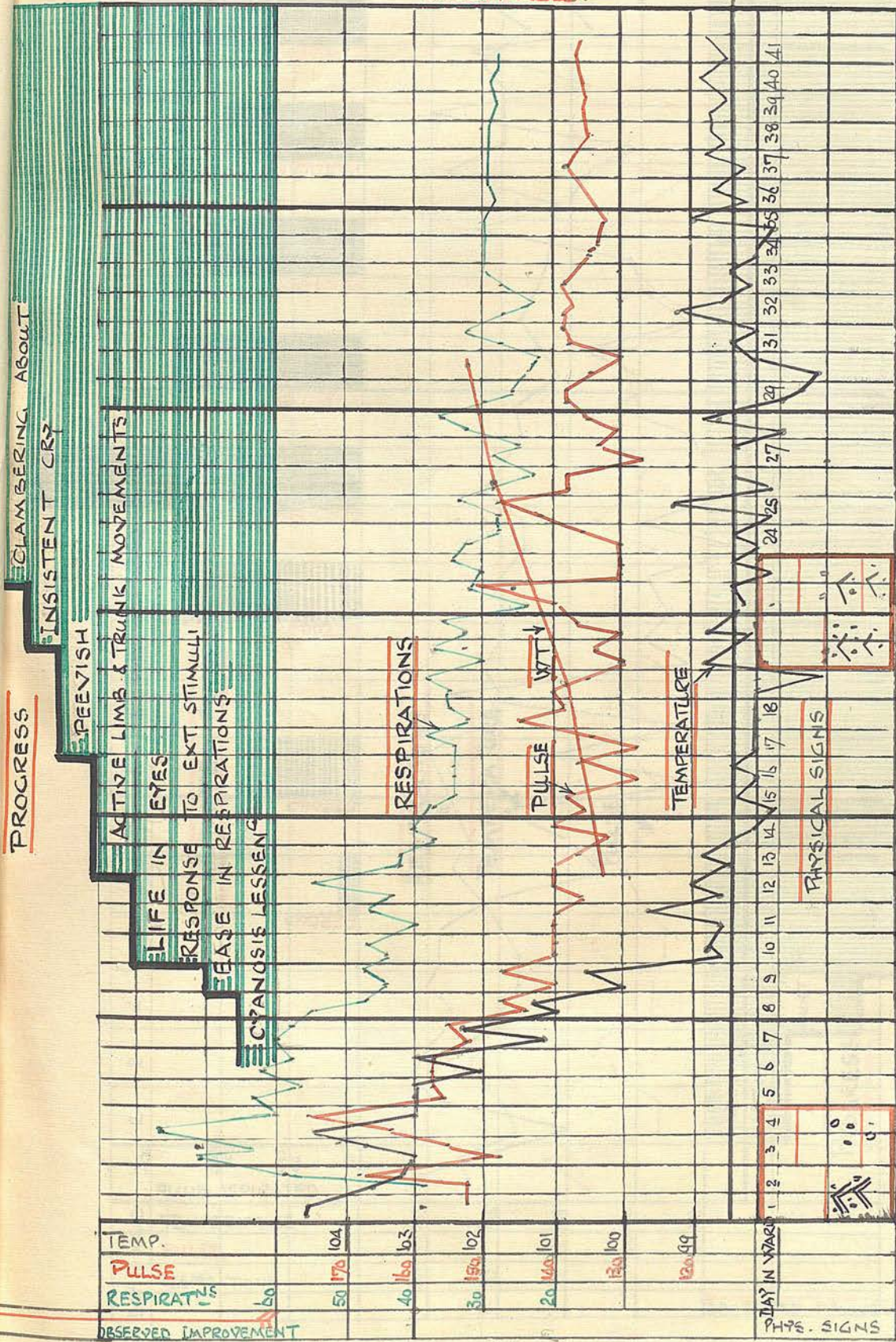
Duration prior to admittance - 2 days

Sex Female Act. 1 1/2

Result - Recovery

110.

DISCHARGED.



PROGRESS

CLAMBERING ABOUT

INSISTENT CRY

PEEVISH

ACTIVE LIMB & TRUNK MOVEMENTS

LIFE IN EYES

RESPONSE TO EXT. STIMULI

EASE IN RESPIRATIONS

CYANOSIS LESSENING

RESPIRATIONS

PULSE

TEMPERATURE

PHYSICAL SIGNS

OBSERVED IMPROVEMENT

TEMP. SIGNS

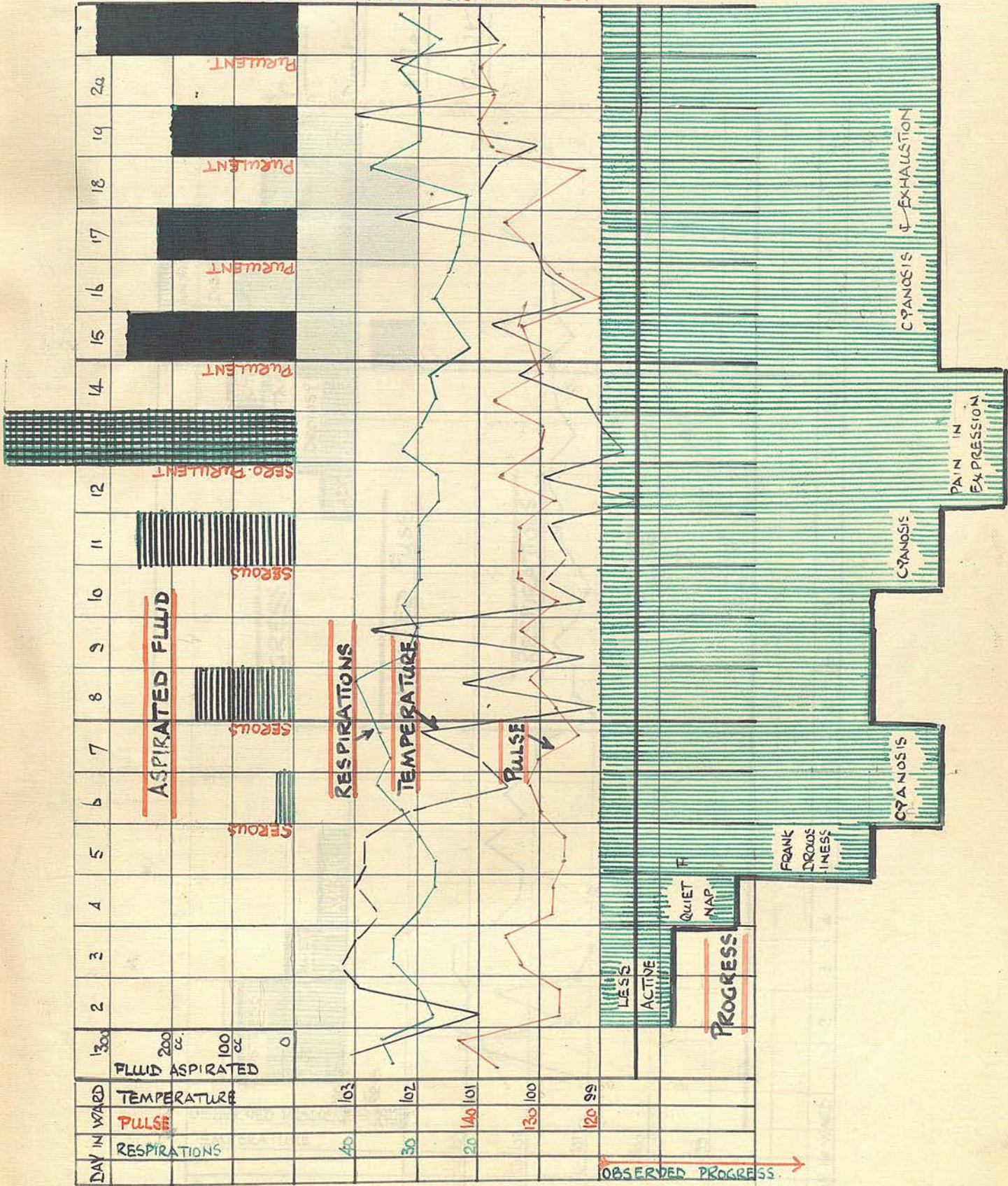
Case of EMPYEMA

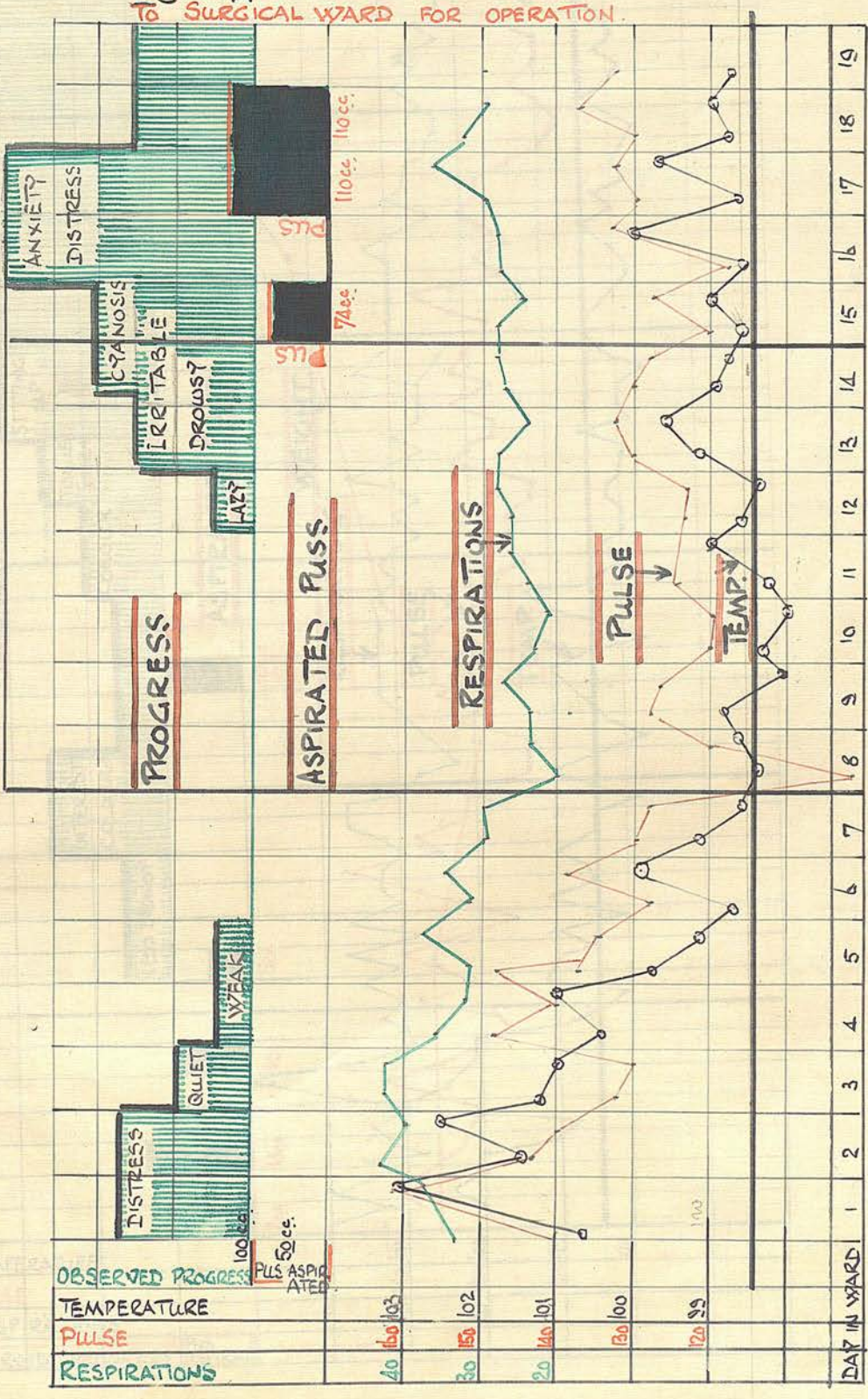
Duration: prior to admitt^d - 2 days

Sex: Male Aet: $9\frac{3}{12}$

Result: Operation

TO SURGICAL WARD FOR OPERATION.





Case of EMPYEMA

Duration prior to admission - 2 days

Male - Aet - 6⁹/₁₂.

Result - Operation

TO SURGICAL WARD FOR OPERATION.

PROGRESS

ASPIRATED PUSS

RESPIRATIONS

PULSE

TEMP.

OBSERVED PROGRESS
TEMPERATURE
PULSE
RESPIRATIONS

100 cc.
50 cc.
PLUS ASPIRATED

DISTRESS
QUIET
WEAK
DISTRESS
ANXIETY
DISTRESS
CYNANOSIS
IRRITABLE
DROWSY
LAST

74cc.
110cc. 110cc.

DAY IN WARD

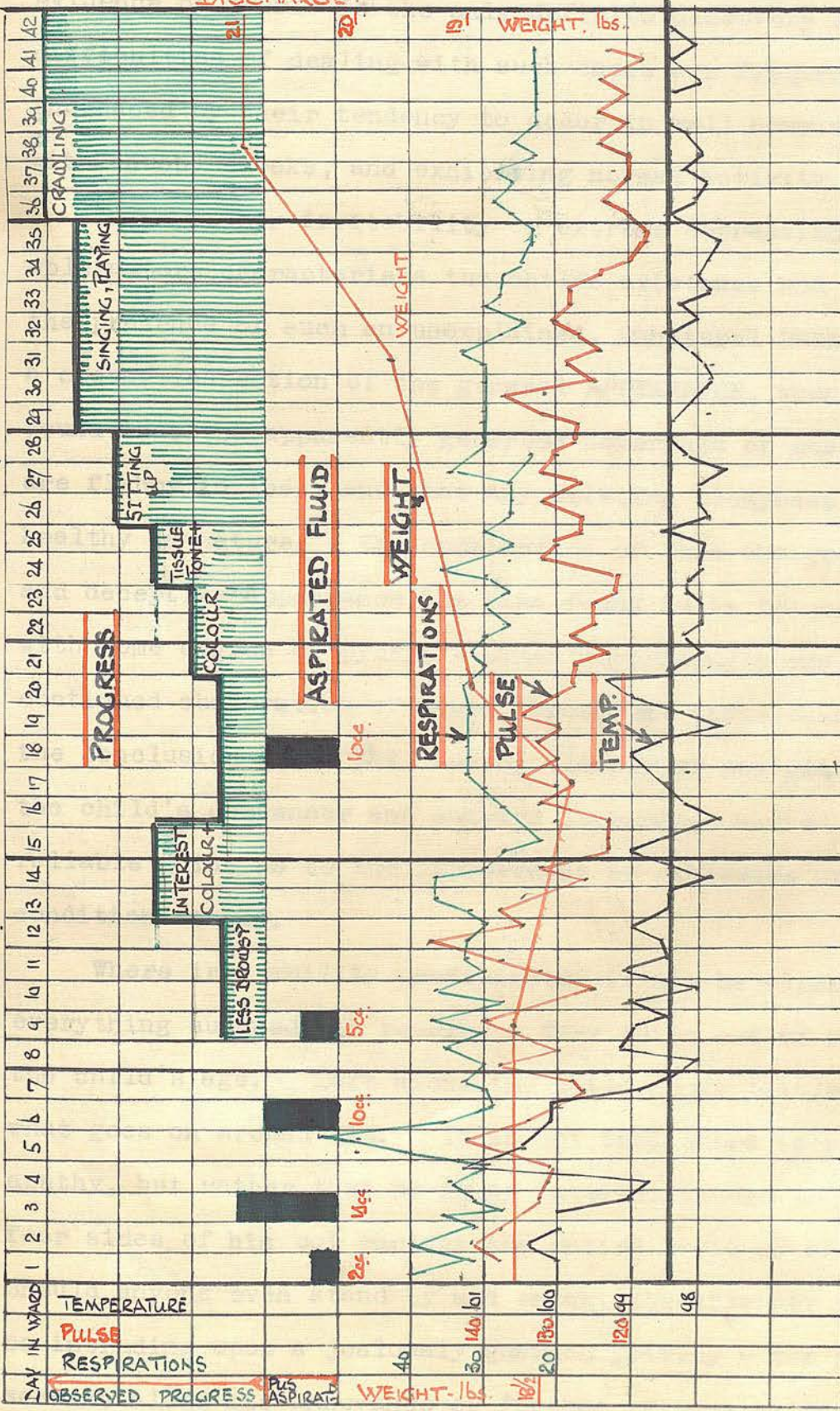
Case of EMPYEMA.

Duration prior to admission - 6 weeks

Male Aet. 1 1/2

Result - Recovery

DISCHARGE



URINARY CONDITIONS.

This group also covers a vast field, but is chosen second in order on account of the frequency of occurrence in children of urinary conditions in a baffling form. It is not proposed to deal with acute nephritis as it commonly occurs in the young, but rather with the vaguer type of case, where microscopical evidence of pyuria is the only definite discovery made. The difficulties of dealing with such cases are frequently very much increased by their tendency to occur in well nourished children with chubby cheeks, and exhibiting normal activity.

Either irritability or extreme depression of an unaccountable nature characterises the child's existence and more than once the presence of such an unexplained, unnatural DEMEANOUR has led to a closer inspection of the general APPEARANCE, when it has been found that the apparently generous coverings of muscle and tissue are flabby in tone, and that any existing plumpness is not really healthy in nature. The combination of this changed temperament and deceptive appearance has been found to be frequently associated with some degree of pyuria - often surprisingly small. Furthermore continued observation of cases throughout their course justified the conclusion that ~~the~~ noting closely of any gradual changes in the child's demeanour and outward appearance served as a very reliable guide as to the improvement or otherwise of the urinary condition itself.

Where irritability predominates it may be almost diabolical, everything succeeds in rousing a fury quite out of keeping with the child's age. Left alone, the child shows little interest in what goes on around him. It is not that there is any evidence of apathy, but rather that he is of interest enough to himself and the four sides of his cot enclose the entire world of his existence. Should anyone even stand by and watch, the stranger is considered to be intruding upon a jealously guarded privacy - the patient either screams aloud his annoyance or further retires within himself by adopting an impenetrable, sulky attitude. Even the bringing of the child his meals is no safeguard against his repulses: he takes his food/

food with a celerity that betrays appreciation but his twisted outlook requires him to show continued disgust.

In two particular instances this state of affairs persisted for some ten days during which time the urine continued to show a decided pus cell content. In the one the pyuria disappeared with great rapidity and the child from being the most unmanageable in the ward became one of its happiest inmates.

The other case ran a longer course, with partial relapses. During the time the pyuria was at its worst, the child (a girl of 4½ years) bore the most dejected look. Profound disgust mingled with complete distrust was written all over her face - it seemed impossible for her to credit anyone with a kind thought and she appeared to draw completely into herself, there to brood over the imaginary injustices being continually done her. For a time at least, she had no wish for outside interests: her own thoughts provided ample occupation: the whole day was spent her chin buried in her chest, her eyes never looking beyond her own lap.

Then came a change in her outlook, a change as was afterwards found which had been preceded by a definite tendency to improvement in the condition of the urine some few days previously. From being genuinely, utterly disinterested the girl began to show a stealthy curiosity - her head still bowed lest any movement of it should betray her thoughts, she would raise her eyes and covertly watch those in the ward. The least suspicion of being seen resulted in an immediate return to her old impassive state.

Gradually the fear of discovery left her, but still a near approach by the stranger caused her to once more withdraw into herself. For days attempts at humouring proved futile, until on one occasion the lips at last relaxed and a SMILE, restrained very evidently by a sense of defeat, spread over the face that had been expressionless since admission.

During all this period of strange mental contrariness and antagonism, the urine had maintained the improvement previously noted; indeed, there were many days when it showed no abnormalities, but every now and again there occurred a temporary reappearance of pus cells in the specimens. It was as tho' the mental dubiety of the child/

child were being reflected in the hesitancy of the urine to finally clear up, or vice versa.

With the lapse of another interval of time the smile lost its consciousness of defeat - there existed now a readiness to smile, and only a shyness, as if of shame at her previous folly, delayed the day when the little girl literally beamed her welcome at the stranger's approach. By this time the outward physical appearance of her face had undergone ^{progressive} improvement, her tissues had come to acquire a healthier tone, her colour a more pleasing pink, and more significant still from the point of view of these remarks, her urine, by repeated examination was shown to have attained and maintained definite normality.

One case only has been referred to at length, admittedly the most striking available, but observations of several others bore out the fact that in the condition under consideration the demeanour of the child if closely analysed may be utilised as a useful guide to the changes in the basic urinary condition, and so too, to the progress being made by the child. It is not claimed that the association between outward observations and microscopical findings is a rigidly close one - but only that the mental attitude of the child and the urinary alterations do appear to run roughly parallel courses, and that while day to day observations in themselves can be of but slight assistance, much can be derived from a careful review, over suitably long periods, of the variations and changes in the child's attitude and appearance.

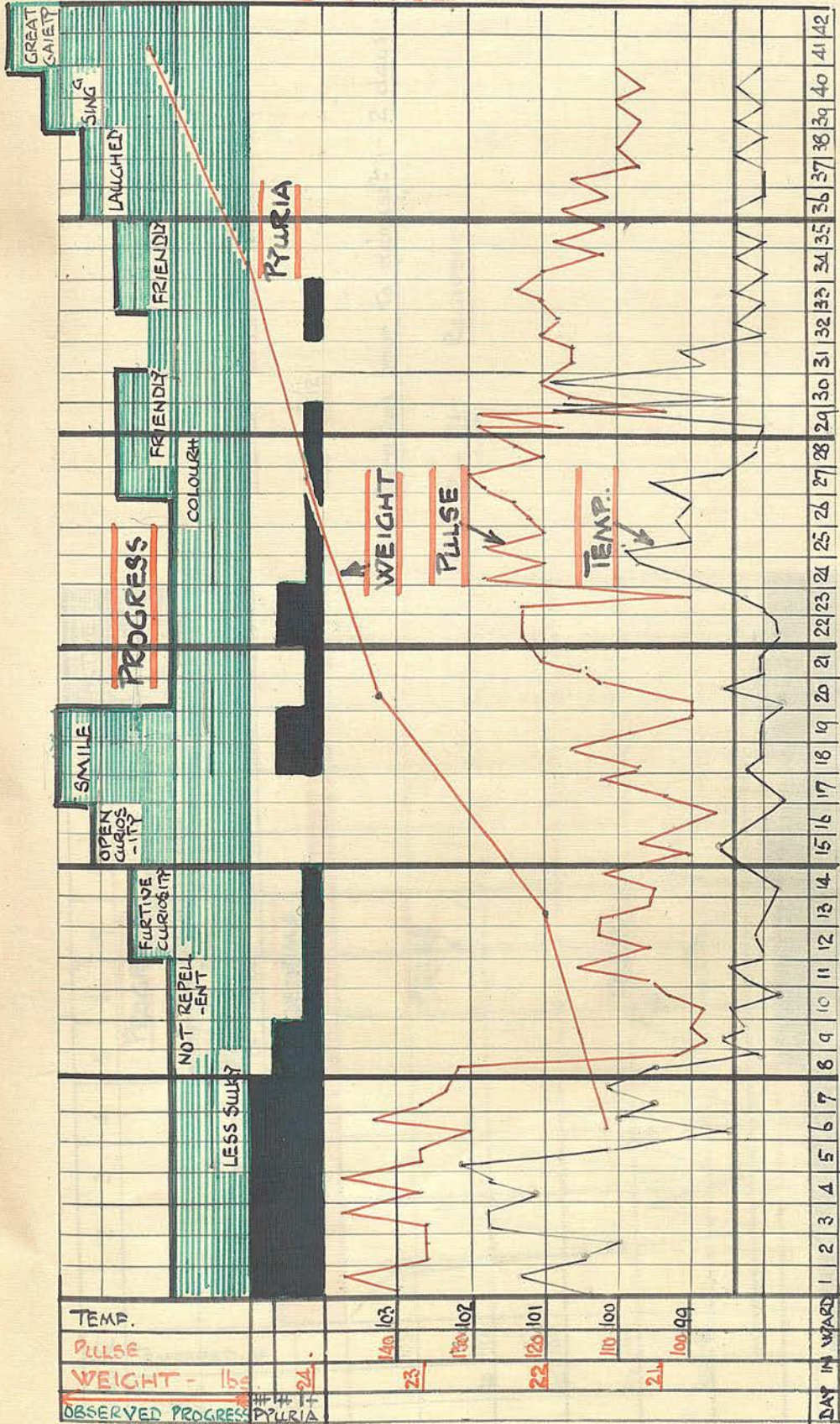
Case of PYELITIS

Duration: prior to adm. 2 weeks.

Sex: Female Aet.: 4 1/2

Result: Recovery.

DISCHARGED



ACIDOSIS

In no group of cases has it been found of more undoubted value to closely watch the general appearance and behaviour of the patient than in those in which there has occurred evidence of a severe acidosis, and a review of the facts of several cases points to the fact that a relatively reasonable idea as to prognosis can be arrived at even in the absence of diagnosis.

This was well illustrated by a boy sent in to hospital as a probable meningitis. The patient, (aged $5\frac{1}{2}$) came in with a history of vomiting and cerebral vomiting and the tentative diagnosis of meningitis was made by a practitioner of many years experience and of no little repute. At the time of admission he was practically comatose and in a muttering delirium, there was distinct rigidity of the neck and positive Kernig's signs - in addition lumbar puncture gave a clear cerebro spinal fluid being obtained under considerable pressure. Examination of the fluid showed an increase in the number of cells, while

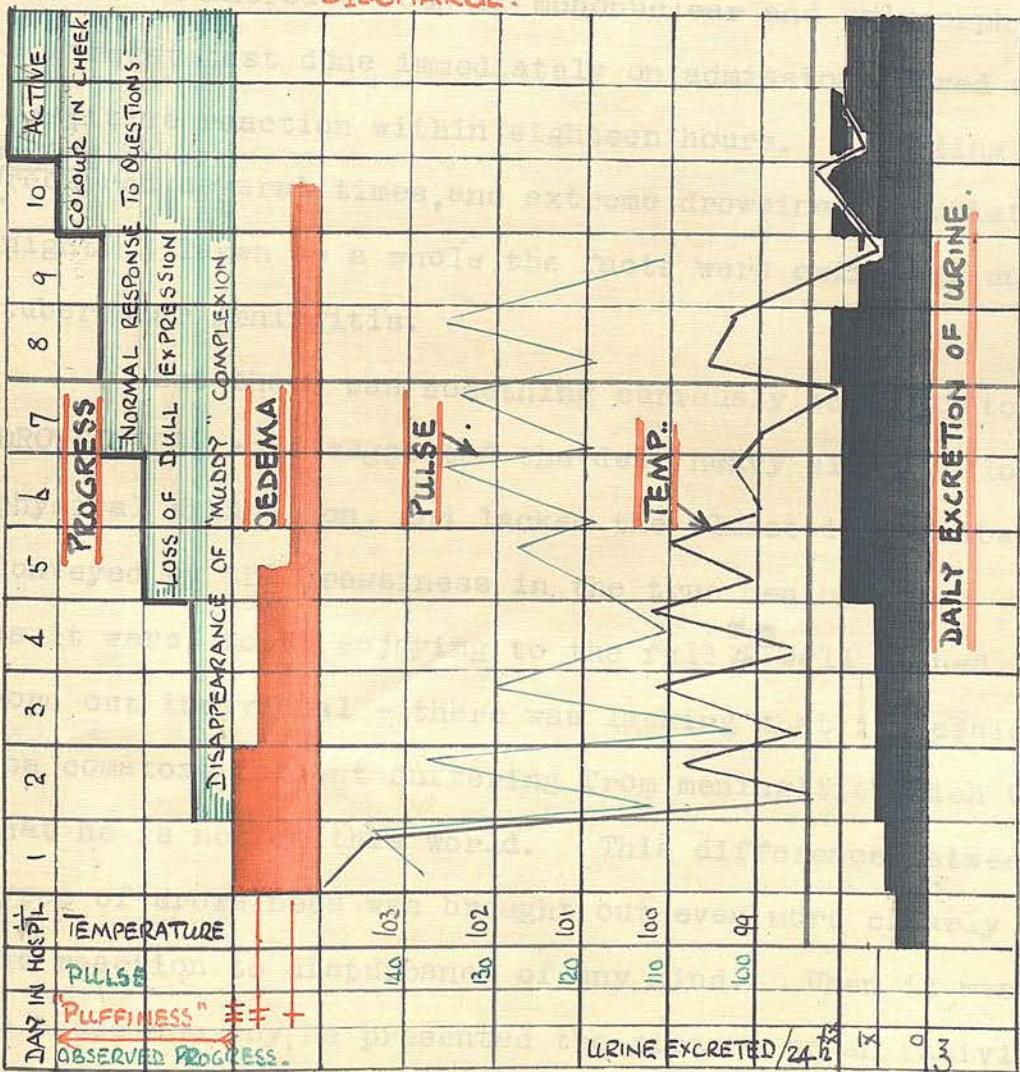
Case of ACUTE NEPHRITIS

Aet $4\frac{1}{12}$

Duration prior to admittⁿ - 2 days

Result - Recovery

DISCHARGE.



DAILY EXCRETION OF URINE.

PROGRESS

LOSS OF DULL EXPRESSION

NORMAL RESPONSE TO QUESTIONS

COLOUR IN CHEEK

ACTIVE

LOSS OF "MUDDY" COMPLEXION

DISAPPEARANCE OF "MUDDY" COMPLEXION

OEDEMA

PULSE

TEMP.

3

ACIDOSIS

In no group of cases has it been found of more undoubted value to closely watch the general appearance and behaviour of the patient than in those in which there has occurred evidence of a severe acidosis, and a review of the facts of several cases points to the fact that a relatively reasonable idea as to prognosis can be arrived at even in the absence of diagnosis.

This was well illustrated by a boy sent in to hospital as a probable meningitis. The patient, (aged 6 $\frac{1}{2}$) came in with a history of drowsiness and cerebral vomiting and the tentative diagnosis mentioned, made by a practitioner of many years experience and of no little repute. At the time of admission he was practically comatose and in a muttering delirium, there was distinct neck rigidity and undoubted positive Kernig's signs - in addition lumbar puncture resulted in clear cerebro spinal fluid being obtained under considerable pressure. Examination of the fluid showed an increase both of mononuclear and polymorph cells, while a Pirquet test done immediately on admission showed a violently positive reaction within eighteen hours. Vomiting of a projectile nature recurred several times, and extreme drowsiness persisted during the night. Taken as a whole, the facts were ominously suggestive of tubercular meningitis.

But there was something curiously contradictory about the DROWSINESS, - it suggested the deep heavy sleep following on great physical exhaustion, and lacked the almost indescribable sense conveyed by the drowsiness in the true meningitic. The boy seemed as it were, to be enjoying to the full ^{the} well earned luxury of the worn out individual - there was lacking that impression underlying the comatose patient suffering from meningitis which vaguely suggests that he is not of this world. This difference between the two types of drowsiness was brought out even more clearly by noticing the reaction to disturbance of any kind. When it was attempted to rouse the boy, he presented the picture of an individual awakened during the first hour or so of a deep natural sleep - he stirred slowly, showed sleepy resentment, his eyes ~~were~~ ^{tried} to open several/

several times before finally succeeding. His gaze was misty in the extreme, meaningless, ununderstanding at first, until a semblance of consciousness slowly crept into it, but only a very limited consciousness and one swathed in dreaminess.

In a rather older child in whom the diagnosis of tubercular meningitis had been definitely established, and in whom drowsiness was very marked, the result of disturbance was very different - true a consciousness of a sort appeared to be regained but of a strikingly momentary nature as if the child had been betrayed unawares into revealing it. The consciousness too had an artificiality and unnaturalness about it, as though factors beyond the grasp and explanation of the observer were controlling it - furthermore, its presence was appreciable only at the time the child was disturbed and it vanished completely, ~~and~~ rapidly as the child dropped back into his comatose state in contrast to the other child mentioned, whose drowsiness crept over him once again much more slowly.

Eventually the child of $6\frac{1}{2}$ proved to be suffering from an acute acidosis of intestinal origin, and the facts of his case, supported by those of less striking instances suggest that even in the absence of diagnosis where drowsiness is causing apprehension a close analysis of that drowsiness may to some extent give the medical man some aid in an estimation of the gravity of the situation.

Uncertainty surrounded the first case mentioned, a considerable time, but although perturbing physical signs persisted it was noticed the drowsiness began to show insidious changes, and with these last there occurred a roughly parallel course of improvement in the amount of acetone present in the urine. The boy still lying recumbent began to show an interest in his surroundings, even al-
-tho' of a dreamy kind - in time he evinced a desire to sit up. As he sat propped up, he looked benumbed, like some person wakened in strange surroundings still mentally groping after his bearings - but in the picture there was enough to justify putting aside the dread diagnosis once considered likely.

To that extent a feeling of optimism was justified, but at the same time experience showed that so long as any suggestion of drowsi-
ness/

drowsiness existed a cautious view of the patient's condition had to be taken. On several occasions a recurrence of vomiting was preceded by a slight increase in the boy's lethargy, he would require to be wakened for his meals or show a return in slowness in replying to questions, and actions of any sort once again bore an air of grudging deliberation. The day was spent in one long dream.

Then one day, a great step in progress, never to be lost as it turned out, was signalled by a smile slowly breaking through the mist of weariness which had enveloped the boy since admission - it lacked the cheery crispness in the smile of the normal child, but, while in the cases of pyuria quoted the child seemed to betray emotion against his will, the boy here appeared to be struggling to throw aside his lethargy and let his real nature assert itself.

When the boy had reached this stage there was little beyond observation of his demeanour to assist in measuring the effects of treatment - vomiting had ceased, his urine showed no abnormalities, his bowels were functioning correctly, his appetite was in keeping with his relatively inactive state, and his sleep during the night differed in no way from that of the normal individual. From this time to that of discharge, the boy's gradual return to his usual health was evident only in the changing nature of his expression and actions - there was a slow transition from a lazy slothfulness to briskness and rapidity. The boy ceased to loll in bed: instead of having his food brought almost to his very mouth he was sat up expectantly, his hand outstretched over the bedside almost ready to seize his portion. There had been not only a return of physical alertness, but also a mental quickening and events were no longer accepted as accomplished facts, but were anticipated. With all there was a renewed joy in existence.

Were the case an isolated instance, it would be dangerous to draw too hasty conclusions, but in the short space of four months, three others of a very similar nature came under observation and it was found applied to these the deductions derived from the first case were not misleading..

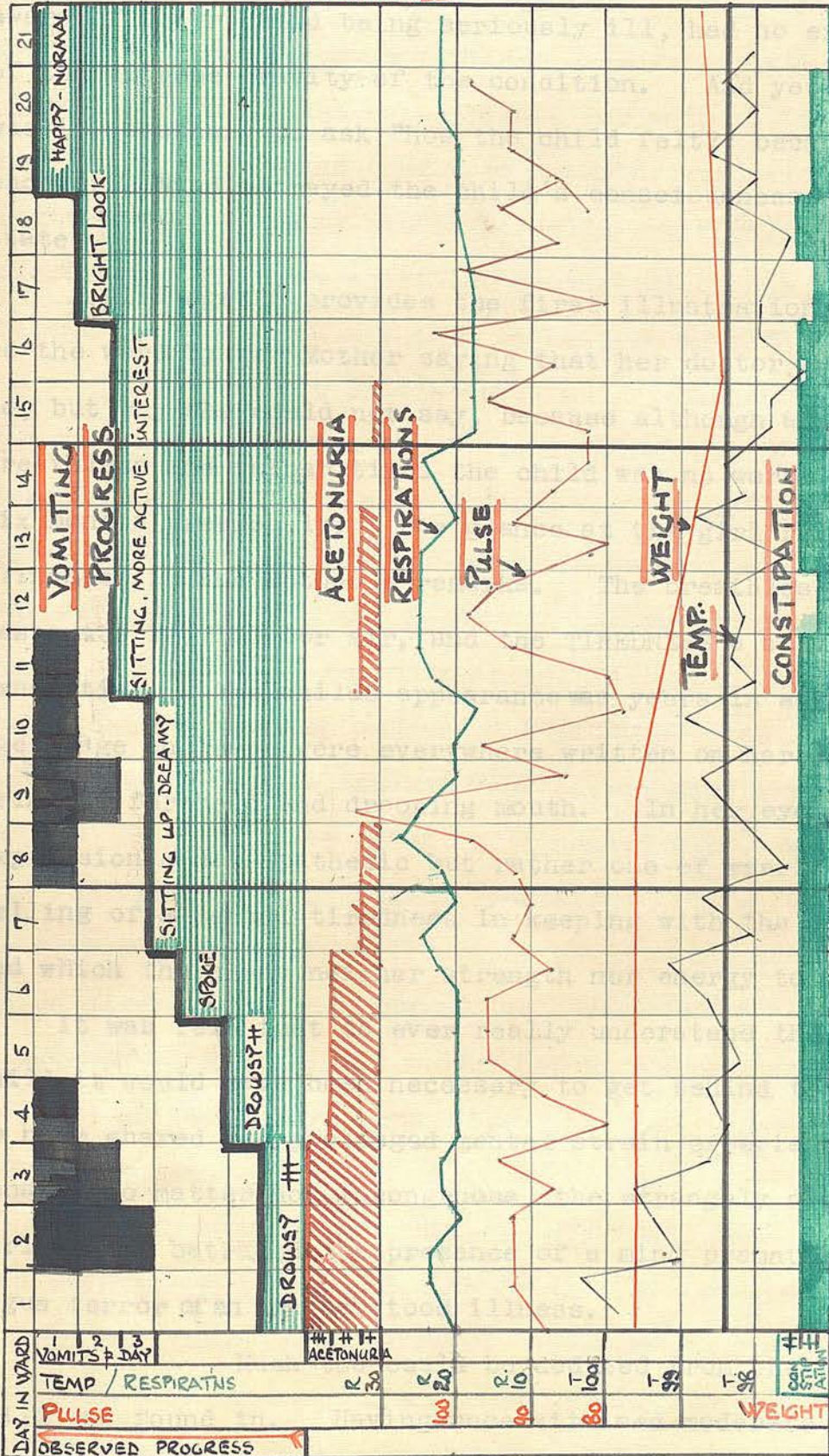
Case of ACIDOSIS

Duration prior to admis^s - 3 days

Sex - Male Act. 6/12

Result - Recovery

DISCHARGED



CARDIAC CASES.

For the purpose of showing how in cases primarily cardiac an invaluable amount can be learned by observation as to the patients condition, it is proposed to consider first a small group consisting of a very acute nature, occurring in the older child. The two examples to be quoted had in common the fact that in each case the child was brought to hospital by parents who, although aware of their child being seriously ill, had no exact realisation of the extreme gravity of the condition. And yet in neither case was it necessary to ask "how the child felt?" because, the picture each presented, betrayed the child's consciousness of his own desperate state.

A girl aged 8 provides the first illustration. She was brought to the ward by her Mother saying that her doctor had urged her to do so, but why she could not say, because although always slightly breathless and rather tired the child was no worse at the time than six months previously. One glance at the girl revealed the tragic blindness in the Mother's remarks. The breathlessness was a desperate PANTING for air, and the TIREDNESS a state of complete exhaustion. The child's appearance was years in advance of her true age: age and care were everywhere written on her face, with its wrinkled forehead and drooping mouth. In her eyes was a dull expression - not apathetic but rather one of wearied exhaustion, telling of a mental tiredness in keeping with the physical fatigue and which there was neither strength nor energy to tell of in words.

It was felt that to ever really understand the sufferings of the child it would have been necessary to get behind that expression and to have shared the prolonged mental strain experienced by the child, because no matter how incongruous, the strangely old look in the girl's face betrayed the presence of a mind prematurely aged by the vague terror of an ununderstood illness.

Much too could be deduced from the POSITION which the child was found in. Having once attained moderate comfort, her limbs took up an attitude of readiness as though at any instant they might have to clutch desperately to some support. The child seemed unconsciously to realise that ease in breathing found in certain postures/

postures had a deeper significance than one of relative comfort --- even in her sleep thoughts were never far removed from consciousness of the fact for the times when she woke with a start, her first instinctive action was to grasp the bed rail or nearest sheet lest she should slip from her position.

In this girl's case, while hospital treatment afforded her greater comfort, she continued to decline, and as she did so it was strange to see stronger and stronger how the resemblance to an adult case was brought out. She betrayed a curiously stoical outlook throughout, there were few if any demands beyond those for drinks, she rarely asked for help to be made comfortable but on the other hand drew into herself, apparently determined to fight her last losing battle herself. She seldom if ever smiled; there was a grimness about the appearance of the child, only very occasionally relaxed and then, in restrained pathetic fashion.

One incident brought this out. The child, propped up among her pillows, engrossed in her laboured breathing, was handed a doll - the change in the girl's EXPRESSION was dramatic, but only for the instant. For one fleeting moment a bright, almost gay smile lit up her face as the doll was placed in her arms - it was the one solitary occasion during all her time in hospital that anything approaching childish joy was seen in her. Rapidly however, a look of resignation crept into the smile and her look at the same time seemed to both rebuke and appreciate an act of kindness with its false optimism. The incident, however slight, was significant. Although too young to have ever thought of life, the child betrayed in her whole outlook an unconscious realisation of the fact, that for her the days of childhood were past, and though not understanding what lay ahead, a feeling of indefinite resignation appeared to have established itself in her thoughts.

At this period, despite all that complete rest could do, the heart showed less and less ability to function adequately - slowly the blood pressure fell, and increasing cyanosis betrayed a progressively failing circulation. Even the slightest EFFORT taxed the child's strength - when wanting a drink she would slowly raise her head, and ~~turning~~ it in the direction of the person to be addressed, but/

but in time she came to lie with her head still resting on the pillow, her eyes only turned in search of someone to gratify her needs. Towards the end even this was beyond her, no matter how great her thirst she could do no more than cry for her drink, not having strength enough to open her eyes, much less move her head.

Increasing tendency to ~~oedema~~ oedema of the tissues and water logging of the serous cavities further emphasised the failure of cardiac function despite a maintained regularity of pulse, and with these developments all the time the nature of the girl's CRY underwent alterations which revealed a changing mental attitude. Strong at first, her voice in its requests had an almost grateful note, the child in a way more to be expected in an adult, seeming to show hesitation in troubling others. As she seemed to realise her decline her cry sounded more self-pitying until in time it was definitely peevish as though implying neglect. Finally, despite increasing weakness, a real irritability crept in to her voice, and the more consideration she was given, the more did she attempt to domineer those attending her. More and more, as she lost ground did she resemble in such ways the failing aged invalid, who so commonly, as the strain of a long illness begins to tell, slowly loses those finer characteristics for which he or she was once known, and comes to be as ruthless and selfish a dictator as circumstances permit.

Then, not long before the end, the whole picture changed, and RESTLESSNESS/irritability became extreme, the mental control, which had for so long contributed to the strangely mature attitude of the girl completely disappeared. Desperation displaced a long taxed reason, the child would sit up with an abrupt suddenness or fling her arms about in wild fashion, muttering or crying incoherently all the time. The change, deceptive perhaps in itself, considered as a stage in the sequence described was ominous - the new energy only served to use up all that remained of her remaining strength.

Post mortem there were found an old endocarditis affecting the efficiency of both mitral and aortic valves, an old syphilitic aortitis and a congenital defect of the intervertricular septum - a condition of affairs remarkably compatible, however unusual in a child, with the clinical course which the patient had followed.

The other case to be mentioned arrived at hospital under as misleading circumstances. A boy of 10 years was the patient, having been sent in as an empyema. Reaching hospital at 2 a.m. after a seven hours motor journey, his parents were completely oblivious of the gravity of their boy's condition, but a consideration of the boy's looks and behaviour along the lines discussed above, compelled a realisation of his extreme distress.

The grey PALOR of his cold sweating skin, his great exhaustion, the pain of his EXPRESSION, his desperate but laboured RESPIRATIONS taken along with the existing mild delirium aroused suspicions of cardiac involvement. Examination revealed a wholly irregular, extremely rapid pulse and all the signs of active endocarditis and pericarditis.

The picture had much in common with that of the previous case but a comparison is of interest in that it demonstrates how the type of course run by each case modified their respective outward manifestations. With the boy the cardiac condition had been of comparatively short existence in contrast with the history extending over many months in the case of the girl. While extreme exhaustion was apparent in boy and girl alike on admission, there was none of the aged careworn APPEARANCE in the former and his face showed no lines or furrows suggestive of prolonged strain. Rather his exhaustion suggested a state of acute sudden shock associated with unexpected fright, and his face told of a startled fear entirely lacking the emotionless stoicism arising from continuous struggling seen in the girl.

The slow inevitability of her illness produced in the girl an ATTITUDE which accepted events almost philosophically, but the relative suddenness of cardiac distress in the case of the boy brought about a reaction totally different. With the fright in his eyes, there was a sense of immediate urgency in all he did or SAID, he flung his arms and hands about eccentrically, his respirations even though laboured and panting were curiously hurried and what few words he had to say were uttered with a haste regardless of intelligibility as though in a frantic race against time.

This urgency in the picture was strangely in keeping with the ever increasingly/

increasingly rapid pulse, the growing palor of the boy's lips and face, and the consciousness on listening to the racing scarcely audible heart sounds racing after one another, that such a hectic speed must have a sudden end.

The element of relentless rapidity persisted to the end, but other significant signs arose. A growing weariness became evident, first seen in sluggish movements of the eyes as they turned upwards, and later in the helpless droop of the head. Speech became more erratic, there was neither physical energy nor mental concentration necessary for correct articulation and words became slurred although their meaning still remained sensible. As the end drew nearer utterances became distinctly delirious, and weakness became still more extreme, and exhausted by his own impatient movements the boy would collapse, limp and without strength to use either muscle or limb.

Consideration of cardiac cases would be incomplete were mention, at least, not made of the child whose heart has been left chronically affected by rheumatic infection.

No type of case requires more careful watching and none may suffer more from a too hurried examination by the doctor, but here again a close general scrutiny of the child's general appearance will result in the examiner learning sufficient to warn him of any serious developments before the chest is even exposed.

This was brought out very emphatically by a boy, who since a previous acute rheumatic attack had been coming up at regular monthly intervals for overhaul. He was up on one of his customary visits, the father accompanying him saying that beyond being a little more easily fatigued than usual, the boy was quite fit.

But there was much about the boy's general appearance which seemed to suggest otherwise - there was a most evident wearied slowness in his movements, to rise from his seat caused obvious effort and as he came into the room he seemed to trail after his father. Moreover he looked tired, and although he tried to put a brave face on things, his smile did not lack sadness. All occurring in a boy of normal development and nutrition, it was strangely incongruous. Weariness characterised his answers, he preferred to remain undisturbed in his chair, looking pale and in an attitude suggestive of the/

the old decrepit crouching over the fire. There was little else of a definite nature to be seen, not enough to make any diagnosis on, but sufficient to suggest the existence of some grave condition,

Examination led to the discovery of a greatly distended heart associated with a correspondingly large pericardial effusion and distinct valvular murmurs, while the presence of rheumatic nodules irregularly distributed over the body, pointed to an acutely severe recurrence of the boy's old condition.

At the time of writing the boy has been in hospital some five weeks, and although regularly examined, only recently have there been found changes in physical signs suggestive of any improvement. True, the pulse rate early on showed a decrease in rate in response to digitalisation and rest, but the blood pressure has never at any time shewed any maintained variation, while it was not until after three weeks of treatment that the pericardial friction disappeared, and not until after four weeks that there were any signs of the left border of cardiac dullness retracting. And yet even in the absence of any definitely encouraging findings in day to day examination, it was impossible to help feeling that, gravely ill though the child was, he was slowly improving. No one fact ^{solely} contributed to the impression, rather it arose while approaching the bed-side, from a quick summation of the points in the patient's general picture and an unconscious rapid mental comparison of any details of the picture showing recent changes.

Perhaps most obvious of all were changes which occurred in the ATTITUDE taken up by the boy in bed - for many days he was content to lean back in a state of almost complete relaxation on his buttress of pillows, never moving a limb, nor turning his head. His field of interest was limited by what he could see turning his eyes slowly round without any accompanying movement of the neck, and any conversation he carried on was never allowed to involve any adjustment of position in order to address the other party more directly.

Slowly this essentially contented inactivity disappeared, the boy began to use his hands more, they no longer lay limply in front of him on his cover sheet, and although still almost consciously avoiding movement of the trunk, he would twist his neck round/

round to follow some object of interest. Later still, his whole body would be moved in a change of position, and he would turn and lie on his cheek and side and so be able to talk with his neighbours or read his comic paper as it lay on his bed.

^{Thus} ~~And so~~, day by day, the extent of the boy's activities were added to and in time he came to less and less depend UPON his pillows for continual support and would lean forward in an endeavour to see more, or sit up, that he might the easier turn over the sheets of his paper, until now one of his favourite postures is to sit up resting his chin on his hands and so command a view of the whole ward. Each of these small incidents trivial though they may sound, in the very unostentatiousness of their appearance significantly express a subconscious sense of improvement in the boy.

In keeping with the boy's changing attitude were the differences in his EXPRESSION - when first admitted he both was, and looked, apathetic. While not appearing stupid or drowsy, he seemed to lack concern in anything as though nothing were worth the doing. Although in many respects the picture resembled that seen where exhaustion has been extreme, here it could not be helped feeling that, behind everything there was particularly also, mental disinclination towards exertion.

Very gradually a suggestion of pink suffused the cheeks, and the lips lost their extreme pallor, and at the same time the expression in the boy's eyes acquired a new brightness betraying the return of interest in things for him, and an appreciation, hitherto absent, of the attentions paid him. It was at this time too, that the boy first shewed any inclination to read, or to use pencil and paper, but such developments all pointed to a reactivation of mind that was taking place simultaneously with that of the body.

The Child's DEMEANOUR too underwent changes. In the early days, while spending the day inactively and disinterestedly the boy betrayed no emotion beyond a mild irritability if troubled too much with questions, but as the weeks passed he lost his resentment at being disturbed and in time came rather to look upon talking with someone as an agreeable break in the day's existence. At first conversation was rather cut and dried, and very much to the point, and/

and it was noticeable that harmless teasing did not go down well, but daily increasing initiative appeared in the boy's talk as it was doing in his whole attitude. Teasing in time evoked a smile, rather wan at first, but later full of shy mischief until now altho' still quiet by nature, he expresses appreciation of humour with as mirthful a chuckle as could be wished.

The pictures of the boy now, and on admission present a tremendous contrast - five weeks ago, ill though he looked, his apathy appeared grossly out of proportion; now, altho' with cheeks coloured again and no longer sunken, the impression given is that his cheeriness and activity seem almost too great for a physical frame left weak and fragile by illness. Striking as the contrast is, the practical point is that by close scrutiny of developments in the changing picture, an indication as to how the boy was faring was obtained over short periods when no other conclusive evidence was available, and when any suggestion of a lessening of the gravity of the situation was doubly welcome.

In the case quoted above deductions from general observations have since been borne out both by improvement in physical signs, and disappearance in large measure of distressing symptoms. In addition betterment of cardiac function is now seen in the regular satisfactory urinary excretion, the disappearance of fluid from the serous cavities and the change in colour particularly in the extremities.

Another case, also at present under observation is presenting much the same problem - admitted on account of undiagnosed pains, the rheumatic nature of the girl's condition was finally clinched by the appearance of an acute pericarditis with effusion. For some weeks now, percussion has invariably elicited a stoney dullness over the left hemithorax, anteriorly, posteriorly and in the axilla; fluid has been drawn off from the pleural cavity, but there has been no suggestion of diminution of the various physical signs. In addition the daily excretion of urine has been so variable, and the alteration between a diarrhoeic and a constipated state of the motions so frequent, as to be of little value in giving indirect clues as to how successfully the heart is acting.

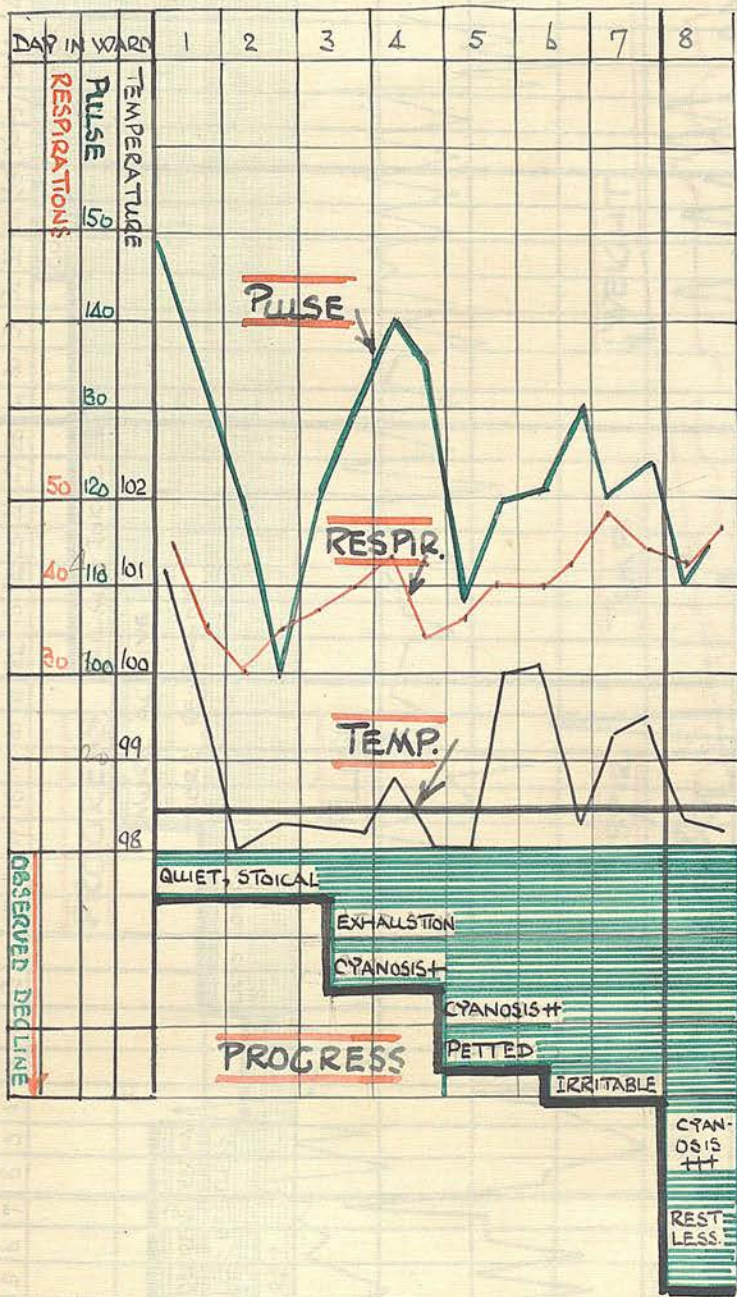
Little can be learnt from the various charted details as to how the girl's condition is varying from day to day, and changes of a comparatively gross nature in the child's whole vitality have occurred without any corresponding alterations in the rate or nature of the pulse or in the blood pressure. Actually the course run by the disease has not been constant; there have been times when mental brightness, physical alertness, returning colour etc. have told of unmistakable improvement, other times when drowsiness, a tired expression in the eyes, a tendency to irritability or some increase in the distress caused by the existing cough have betrayed a definite loss of ground. There are, admittedly, no facts sufficiently reliable to justify risking a definite prognosis but observation of the general demeanour of the child tell of daily variations indicated nowhere else, and if they tend to be disturbing they at least emphasise the continued gravity of the girl's condition. *indefinite*

The cases referred to have been chosen as good examples of those which have been met with most commonly in hospital: in outside practice the type will vary more, but if allowance be made for the stage of convalescence or degree of permanent organic impairment, by first observing the general picture of his cardiac patient, the medical will best learn how they "feel", and how they are responding to the life they are leading. *Female - Act 8 1/2*

Case of PNEUMATIC CARDIAC

Age 12 1/2

Result - Improving



Case of COMPLETE CARDIAC FAILURE

Duration of illness - indefinite

Female Age 8 1/2

Result - Death

TUBERCULAR MENINGITIS.

The relative frequency with which this condition is found justifies its separate consideration. Although once a definite bacteriological diagnosis has been established the result becomes a foregone conclusion, observation of a number of cases has shewn that by closely following the details in the changing picture some idea can be come to regarding the rate of the patient's decline.

For teaching purposes gross subdivisions of the condition are made such as stages of drowsiness, irritability, coma and so on, but in their clinical application to make the most of the available material, observations must pay very close attention to the small individual details and the sequence in which these details occur.

Probably most valuable in their indications are the changes in TEMPERAMENT which follow on one another. At first the child's altered attitude may be so slight as to be attributed by the parents to some temporary digestive upset, and it is eventually only its persistence and tendency to become more marked that occasion worry. As the mentality changes, a curious state exists in which, as it were, the child is buffeted between two opposing inclinations one a day long desire to remain completely inactive in mind and body, the other a readiness to flare up in petty peevishness on the slightest provocation. With time lassitude becomes drowsiness, and peevishness uncontrolled irritability, the two become more and more extreme as the disease gets a firmer grip of the child.

The irritability in tubercular meningitis acts as an outlet for the most primitive side of the child's character so that it may take an almost savage form, quite regardless of the home surroundings from which the child is drawn. Invectives fit to shame the proverbial trooper, were freely uttered by one young boy who could scarcely have been credited with having ever heard the language he used, while another small girl whose outstanding charm on admission was her gentle unspoiled nature, developed an almost maniacal temper, and had to be disturbed but for an instant to be sent into a fit of frenzied screams and struggles. There was more than the ordinary irritability of the peevish child in such exhibitions, and the struggles/

struggles were not merely petulant protests ---- a glance at the child's expression revealed a fierceness in the eyes, the face looked set, and the jaws were often firmly clenched. A purposefulness existed behind the rage, however ununderstandable to the observer, suggesting that hidden in the child's mind there lay some reason for the fury.

With loss of strength as the days go by the violence of the outbursts diminishes, the angry expression persists, but struggling gives place to an irritable shrug of the shoulders, a curling up of the entire body or the child tightly rolls himself up in his bed-sheets and turns his back on anyone approaching him. His old offensiveness takes on more of a defensive peevishness; his tone of voice is full of discontented annoyance probably best described as extreme "grievousness"; before even he knows whether he is going to be disturbed or what is going to be required of him, he expresses resentment by petted outbursts of "I won't" or "I don't want to".

In all cases too, it has been noticed that as increasing weakness curbs the effective expression of the patient's presumed feelings, the irritability becomes a more constant factor and one less dependent for its existence on disturbance. From being intermittent it gradually becomes continuous: the child looks the picture of aggravated misery lying in bed, and his commentaries grumbling all the while assume a running nature, the slow decrease day by day in the strength with which they are voiced, serving as an indication of the decline in the patient's general condition.

By this time, commonly, other very gross evidence of the disease has been found to be present as for instance in the appearance of an obvious squint, a marked neck rigidity, or a facial palsy - all of these point to an involvement of the cranial base, but a subtle change occurs in the demeanour, which, having been seen may be considered of even greater significance. It is the gradual disappearance of any rationality that ever existed in the restless antagonism of the child's mind: a monotonous persistence creeps into his protests, his irritability is continuous --- something, indefinite certainly, exists that appears to be maintaining him in a state of constant unrest. Even his movements are meaningless and repetitive and/

and where there was anger there now very gradually appears an uninterested expression in the gaze of the eyes. In one case the boy never ceased to slowly turn his head from side to side, while another at this stage used to aimlessly paw the air with his hands - the actions had no purpose, seemed to express no intelligible thought, but their very persistence appeared to give satisfaction. In both instances the movements described continued throughout the night and day, and the strangeness of the picture was added to by the mask like appearance of the face which became increasingly more pronounced, and by the disinterested, infinitely distant gaze so that in many ways the child resembled the mental defective. Virtually at this stage the mind was already dead, and during the remainder of the child's life the observer was left only the body as a failing machine to watch.

Throughout the course of the disease, changes in the patient's DROWSINESS undergo corresponding changes - in its early stages it appears strange only in so far as inactivity and lethargy are foreign to the normal child's nature. The laziness has the appearance of resulting from lack of interests, and later when the child is confined to bed, the constant tiredness seems in keeping with an existence calling for neither physical nor mental exertion. It has not been uncommon to have children admitted as possible early cases of meningitis presenting similar drowsiness in whom antecedent or familial history strongly suggested at least a tubercular association. In a few, grave fears have proved themselves justified, in others unfounded. With each the question arose, when could the fear uppermost in mind be confidently dispelled - much has already been said on this under the heading of acidosis, but in all cases where lethargy is the perturbing factor, concentration on the minutest changes in its nature may provide at least the basis for early clues as to the seriousness of the condition.

In the meningitic, the drowsiness attains a depth no explanation for which can be found by looking to the healthy individual for a comparison - there is a definite strangeness in it, it seems out of place occurring in a still comparatively strong child. It is the realisation of this strange incongruity that seems to be of very definite/

definite significance. Its appreciation, admittedly, is a matter of no small difficulty, and of the cases in mind no two were absolutely similar in this respect. For days one case was seen regularly, and nothing of any extraordinary value noted, until on one occasion it was suddenly realised that the unsolved puzzle in the child's illness centred around the difficulty in satisfactorily connecting his dreaminess with the rest of his condition. In another instance it took but a routine examination to impress one with the fact that with one exception the symptoms were in keeping with one another, the exception being a drowsiness of an excessively severe nature and of an ^{cut} ~~an~~ obviously illogical type. It was the strangeness of the symptom in these two examples which forced itself upon the observer - but in others (and these would appear to be the commoner) a mere suspicion of mental sluggishness caused ^{one} ~~us~~ to deliberate its nature as best ^{one} ~~we~~ could, and to determine just to what extent it reasonably fitted in with the rest of the picture. Where tubercular meningitis eventuated, it was found that the drowsiness never corresponded in degree to the alimentary or other systemic symptoms - in each case the mental factor required separate consideration. The very vagueness and difficulty of making deductions, make their explanation almost impossible, but the relative consistency with which they have proved useful over an admittedly limited number of cases suggest that study of the element of drowsiness in its earliest stages is of peculiar value.

Indeed for the study to be of value its application early on is essential, because in cases turning out to be meningitis a new confusing factor enters into the picture. To the drowsiness, with its impenetrable background, there is added the weariness of true physical weakness as the body fails under the strain of illness until in time the patient reaches the stage described elsewhere, where he seems to be living in another world. As the patient sinks, the hollowing of his cheeks, the hanging jaw, the drooping neck, along with many other such signs betray a weakness which is more than sufficient to explain the lethargy present. The drowsiness has lost its mysteriousness, and now, whether actually it be due in part or whole to physical exhaustion it is quite in keeping with it, but the change marks another/

another very definite step in the advance of the disease.

Associated with the changes described above, it has been noticed that, ~~altho'~~ not confined to this group alone, much can be gathered as to the rate of development of events by watching the ATTITUDE the child takes up in bed. In his early days, with his unnaturally luxurious drowsiness, the child presents the picture of comfort - his every joint and muscle appeared relaxed and at ease.

As irritability of mind shews itself, the restfulness disappears from the posture, he lies still, if undisturbed, but in any and every unorthodox position. At times he prefers to curl himself up and bury his head in the pillow, or again he may remain his knees fully flexed and his chin fallen on his breast - as though even in posture he must demonstrate his contrariness.

But as growing weakness in time modifies his drowsiness, so it does also his posture: partly on account of lack of strength to maintain any single attitude for long, and partly on account of an increasing restlessness of purpose in mind, no one position proves satisfying. Restlessness of body follows restlessness of mind, he no sooner settles down than he once again stirs about in an endeavour to find more comfort. Irritability is evident in the abruptness of each movement until in the later stages weakness prevents even the expression of discontent and the picture resembles in many respects that described under terminating cardiac cases, when complete exhaustion of the tissues results in movements never being completed. An intended readjustment of position terminates half way, leaving the child in some ungainly posture and too weak to put matters right. His irritability gone in part the while, he is only too ready to grumblingly accept proffered assistance to restore his comfort.

When the end is very near, the pathetic note is even more pronounced, the patient lies in whatever position he is left or may have slipped into. Be he lying on his back or his side, he moves neither muscle or limb. Only the respirations prevent the picture being one of complete immobility, and as cheyne stokes breathing becomes more and more striking, during the apnœic period the child in appearance differs little in his stiff awkward motionlessness from the body on the post-mortem table.

In the above remarks the older child has been uppermost in mind, but even in the infant a very similar course of events may be seen, though even more insidious in nature. One case in point was that of a child only a few months old admitted suffering from pulmonary tuberculosis already firmly established. The lung condition extended rapidly, a lumbar puncture revealed the presence of the tubercle bacillus in the ^{cere-}embro-spinal fluid before even there were signs or symptoms to suggest involvement of the meninges. The bacteriological discovery prompted early and close observation, and inactivity later developing into a real state of drowsiness was noticed to precede any other evidence. So long as the lung condition predominated, the infant instinctively lay on the side suffering most from disease giving the better acting lung more play, but as nervous involvement became increasingly extensive, muscular paresis followed and the fragile infant thorax gradually became more and more contorted in shape, a condition which was aggravated by the partial collapse of underlying lung. Head retraction and facial hemiparesis became added to the picture, marking step by step, the advance of the disease, until before death brute force could hardly have twisted the bodily frame into a more hideous form.

It seemed in keeping that, as - despite the infant himself, his body was cruelly mangled in this way, his drowsiness should give way to increasing irritability, to endless screaming and constant spastic movements of his limbs and facial muscles. As in the older child however, weakness even more rapid in the infant, made itself felt - as disease crushed the body, mental activity decreased, and an expression of torture followed on that of wearied irritability. This look of pain was the last evidence of thought or feeling on the part of the child, because as paralysis continued to involve the body, a simultaneous paresis of the mind was shewn by an increasing blankness in the expression and last of all by the glaze which slowly crept over the eyes.

Particular attention has been paid to the tubercular form of meningitis because in it the patient is customarily under observation for/

for a longer period - the cases considered lived three weeks to within a day or two from the time of admission to hospital. Septic meningitises seen, all terminated much more quickly, so that developments succeeded one another with corresponding greater rapidity, but even so, a review of the facts suggests that the same course of events hold true in them as that described in connection with tubercular meningitis.

Here again it appears justifiable to assume that, apart altogether from the inevitable termination, a relatively constant parallelism exists between the picture the child presents, and the pathological progress of the disease.

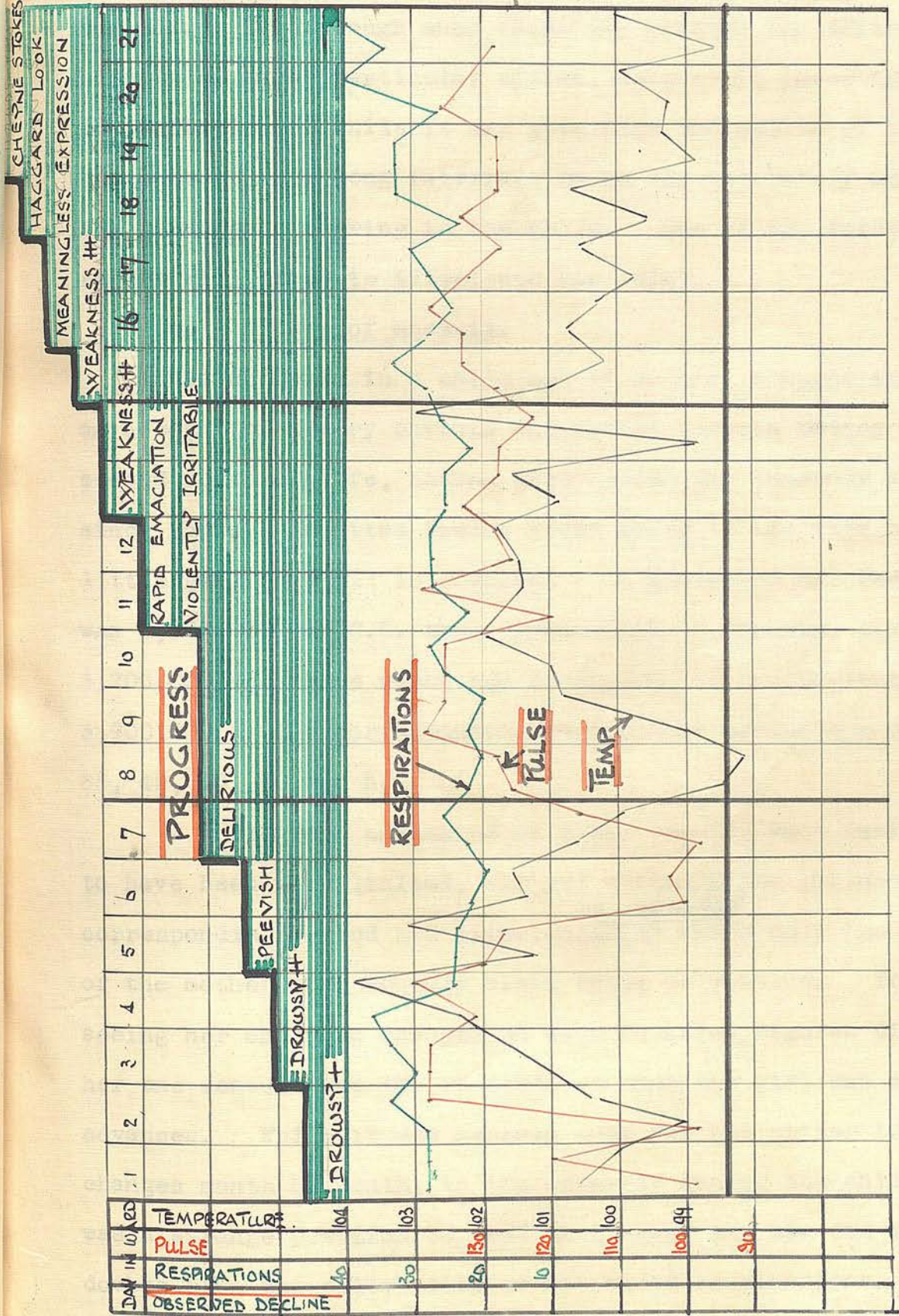


Case of TUBERCULOUS
MENINGITIS
Duration prior to adm. = 8 days

Male - Aet 8/12

Result - Death

DEATH



CHEYNE STOKES
HAGGARD LOOK
MEANINGLESS EXPRESSION
WEAKNESS #

WEAKNESS # 16 17 18 19 20 21

WEAKNESS #
RAPID EMACIATION
VIOLENTLY IRRITABLE

PROGRESS

DELIRIOUS

SPEECH

DROWSY +

DROWSY +

RESPIRATIONS

PULSE

TEMP

DAY IN BED

TEMPERATURE

PULSE

RESPIRATIONS

OBSERVED DECLINE

104

103

102

101

100

99

98

30

20

10

110

100

90

VAGUE CASES COMING UNDER NO PARTICULAR GROUPING.

It is natural to associate conditions of long standing with patients at the other extreme of life to that being considered, but even among children cases do arise where no matter how energetic the treatment, progress, evident to the casual observer, is so extremely slow that it can only be appreciated over very long periods. Even though such cases may involve the efficiency of a certain organ or particular system, scientific investigation into this efficiency, while it may give some indication of the individual's progress at very long intervals in no way accurately measures the real changes occurring in the child. One or two cases taken at random will serve to illustrate the point.

(i) A case of anaemia.

This occurred in a child age 18 months, brought into hospital on account of a very obvious and severe anaemia dating back to the second month of life, having never shewn any tendency to disappear since then. Admitted twelve weeks prior to the time of writing the little girl is still in hospital - on admission her red blood count was 3,100,000 per C.C. three weeks later 3,800,000, six weeks ago 3,700,000 and three weeks ago 3,800,000, at the present time being 3,900,000. The corresponding haemoglobin percentage readings were 35, 45, 45, 50 and 50.

Progress estimated on these figures as a basis would appear to have been very limited, and yet actually the child over a corresponding period had experienced ^{an improvement} to which only the astonishment of the mother each monthly visit could do justice. To the mother seeing her child so changed on each occasion, figures did not matter; her one concern was the realisation that the girl was making rapid advances. While it was perhaps easy for the mother to appreciate changes month by month, to the observer seeing the child daily, it was a strange position to feel that every day ~~his~~ did more to cast doubts upon the reliability of his blood examinations. The correct technique of these examinations having been verified, it eventually became apparent that if a real estimate of the child's progress was to/

to be arrived at, the child herself would have to be looked to for aid. And by what exact indications did she help?

On admission she lay in her cot almost lifelessly, which was not surprising considering her extreme degree of palor, but in her stillness there was a great deception, for it was as if she were conserving her energy for the frenzied anger she betrayed whenever approached. To have contact with anyone meant the most unutterable misery to her - it was not the surly viciousness seen in the cases of pyuria mentioned, but seemed more as if there was an ever present pent up store of vile temper waiting to be sparked into a blaze on the slightest provocation. No shrieks were piercing enough to relieve her feelings, and in her fiercest moments she would rain ceaseless blows upon her bedclothes until, exhausted, she lay back to sob away the remains of her pique. Her fiery temperament was a part of her whole illness and was in no way attributable to a change of surroundings because she had subjected her home to the same storms for months before coming into hospital, and it was left to hospital treatment to so change the child that from greeting her mother with an unrestrained display of reasonless temper, she came to lean forward her arms outstretched the sooner to get into her mother's arms. Surely as convincing a sign of progress as could be wished for.

Long before this however, there were even more delicate signs of changes for the better. The child's colour never seemed to improve greatly, but her ACTIVITIES gradually increased until it caused astonishment to see a child so pale and yet so lively. Attempts to gain her friendly trust, instead of giving rise to her old outbursts, resulted in her being content with giving the venturesome stranger a petulant push aside. In time a hand could even be laid on her head or on her lap, but without calling forth any response, until one day, with an almost wicked cock up of the head and glint in her eyes, hers was the hand to be first held out in friendly fashion. Occurring in a child who for weeks had been endeavouring by vague indications to belie her pallor, that one small incident carried with it a wealth of conviction, it confirmed improvement in advance of all that blood examinations suggested.

From that time improvement has been continuous - it provides a strange/

strange ~~contrast~~ to see those same arms, which once could not beat her pillow frenziedly enough, now gaily semaphoring mischievous but ununderstood messages across the ward, or to see the child who twelve weeks ago tightly screwed up her eyes at the sight of another party, now using all her ingenuity to enable her to peep round screens and watch other peoples' movements. If dubiety still remained as to the child's condition it was finally dispelled by finding her one morning having clambered along the length of her cot, her legs dangling gleefully between the bars, ready with a morning greeting that chuckled "You didn't expect this of me". These are but a few, the most clear of many incidents, but they each and all help to answer the questions "How is the child feeling?" and "How does she feel as compared with when she was admitted?"

(ii) A case of Coeliac Disease.

Another case it is proposed to mention is that of a small boy, in his third year, suffering from coeliac disease - in this instance estimation of the patient's progress was made even more difficult by the fact that prior to coming under observation he had already been benefiting from seven months continuously successful treatment, by which time he had come to look the picture of health for a child 12 to 18 months younger than ^{he} actually was. Indeed, this very fact was apt to be very misleading - his ruddy cheeks, curly hair, lively antics, all pictured such perfect health that his developmental retardation was apt to be overlooked.

Here there were no means other than by close observation of every detail in the child's attitude and demeanour of coming to any conclusions regarding his progress - true the nature of the stools in some measure served as a criterion, but satisfaction in regard to these was relatively early obtained, and beyond occasional temporary relapses occasioned by the existence of some slight septic focus, there were no variations to which there could be attached any great value. In fact the passage of unchanging stools was looked upon as the most satisfactory indication of consistent functioning of the bowel.

Nevertheless it was continually necessary to estimate, apart from his mere physical health, to what extent leeway lost was being made up comparing his general development with that of a normal child of his own years. Observations extended over approximately four

months, and in that time it could be accurately claimed that the child had given evidence of having struggled out of the stage of what might be termed true babyism.

Seen at first, the child's existence consisted of little else other than lying happily, wriggling in his cot, enjoying his meals and appreciating the constant attention his attractive babyishness earned for him: his interests never extended beyond the bounds of his own bed clothes, his cot was his nursery and anything outside it did not concern him. But very slowly he grew out of his own limited sphere and realised he was one of a number who could share their pastimes. It took many weeks: for days he surveyed those in adjoining cots and watched them as they joked and called to one another - the wish to become one of them became clearly evident in his looks, but with it there was the timidity of the outsider approaching his elders. The chance arose, however, for him to make his first essay unobserved. A merry gang in his corner of the ward was singing some popular ditty, and forgetting his shyness the little coeliac in a very short time was gaily adding his boisterous if tuneless portion to the general noise. To him it was a great occasion, and to those who saw it a significant one.

Almost as significant was the outcome of this initial sally into community singing - the song came to an end, but the voice of the newest songster outlasted all the others in an unconscious solo effort, until with a cruel suddenness the little fellow realised his rôle had changed from being one of ^a choir to that of unwitting comic artist. His song could not have ended more abruptly, he was dumbfounded, embarrassed probably for the first time in his life, caught unawares, and those strangely foreign wrinkles that appeared on his brow betrayed a mind trying to understand its first encounter with the strangeness of convention. He had grown to extend his own little world and was early encountering its difficulties.

Fortunately every advance did not meet with similar rebuffs, bricks which for long had been mere objects to handle were built into imitative erections, mechanical toys which for days he had shown no particular interest in, gave him hours of thought in endeavours to solve the mystery of their clockwork motors. Where before/

before no toy, however novel could hold his interest for any length of time, now he would investigate every new object he could lay hands on. A trumpet puzzled him for days, he handled its every bit, examined it from every angle until one day in the act of sampling it with his teeth, he surprised himself as much as others by eliciting its note. It did not take long after that to master the purpose of the instrument. CURIOSITY had led to DISCOVERY, and discovery to DEDUCTION - in themselves all signs of a wakening activity.

His extended INTERESTS demanded a development of expression, and he began to TALK away in his own unintelligible language as he played with his toys until he found that apart from toys there was a satisfaction in chattering to himself. A sense of rightful POSSESSION grew, a toy which had been his for any time, should, he thought, be his for always: deprived of a plaything one day he came to be able, twenty four or even more hours afterwards, to show his wish for its return by pointing in the direction of some bedmate to whom the toy had been given the day before. It was evident his mind was developing the power of quick RETENTION.

Physically too, progress was manifested by the extension of his crawls to the foot of the bed, and his learning to utilise the cot side as an aid in clambering on to his feet, when he could then see his favourite spot on the couch by the fire, and although lacking words to express himself, his wish to get by the fire was shown by the plaintive way he held out his arms in its direction.

Always a happy child, even his SMILE betrayed changes, and before discharge, when greatly amused at anything his chuckle had an almost absurdly old mannish note in it. Remembering the child of earlier months ~~too~~, petulantly turning aside or ravenously devouring meals according to his moods, it was strange later, to see the philosophical way he examined the proffered plate. A rusk became an object of interest as well as of taste: firstly it was critically examined and only afterwards consumed and even then with a surprisingly methodical deliberation.

It may be argued that none of the facts mentioned in connection with this case differ in any way from what may be observed in any growing child, but the essential point is that, /

that, they occurred in an abnormal child. The boy was one in whom both physical and mental retardation existed, and in the absence of any other aid, progress was measured by noting the various changes in relation to what might have been expected in the average child of the same age.

(iii) An unusual case of chronic gastro-enteritis.

This case differed from the usual type of gastro-enteritis met with in hospital practice in its chronicity. It occurred in an infant boy, the younger of prematurely born twins, already a confirmed bottle baby by the time of admission in a definitely critical condition. Hospital treatment covered almost three months, during which time there were many occasions when he appeared at long last to have got firmly established on the road to recovery, and as many when unaccountably he suddenly dispelled the hopes of those looking after him by losing the progress of weeks in the same number of hours.

All the time, the customary hospital routine was observed and temperatures, pulse rates, respirations assiduously noted and charted, and yet it was noted what little relation existed between such variations as did occur in these, and the general condition of the child. Even the weight record did not provide a consistently accurate idea of progress or otherwise, for there were occasions when a loss of several ounces would coincide with an increase in the child's vitality, and other times, when a gain in weight served as no adequate consolation for an unmistakable change in colour, or depression of the infants' activities.

True, changes in the nature of the stools, a return of diarrhoeic greenness or undigested food particles, or the recurrence of vomiting were found to run a course roughly parallel with that of the general condition, but the parallelism was found to hold only over comparatively long periods.

To those observing the child many times per day and wishing to form at least an approximate estimate of the child's state one day as compared with the previous, other sources of information had to be looked for and it was here again that by endeavouring to learn from the/

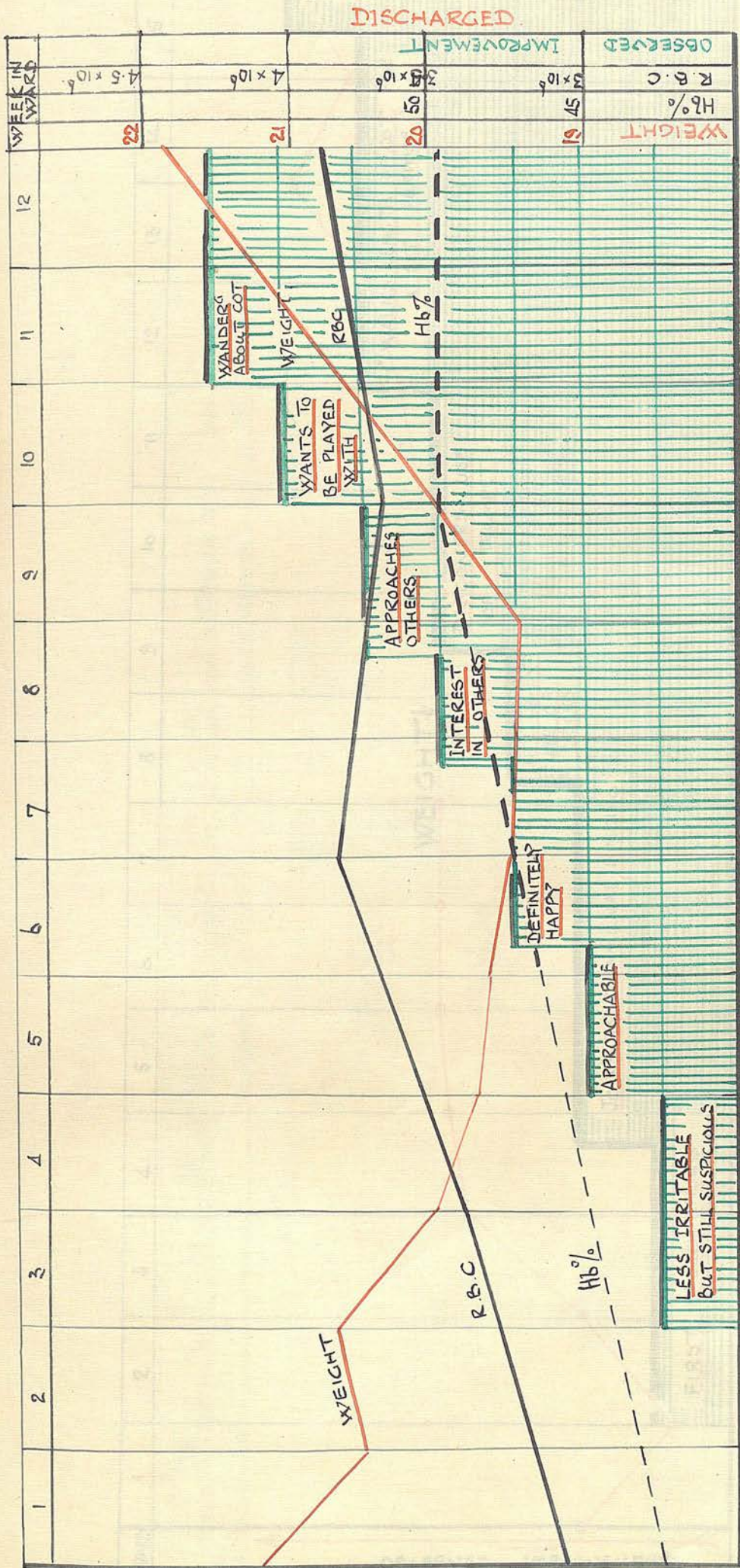
the infant himself "how he felt" that the most reliable impressions could be formed.

There were days when the child lay unnaturally QUIET, although healthy in colour, obviously subject to some hidden retarding factor - his SMILE would be absent for days on end, his INTEREST in those attending him discouragingly slight. No variation in any of the observations recorded on the chart might have occurred, and yet there was no hiding the fact that there existed in the infant a degree of both mental and physical TORPIDITY.

At other times he would squirm among the bed-sheets, or twist round his puny head to catch the first sight of the feeding bottle, expectancy glistening in his eyes, or he would suck with all the vigour of his parched lips, everything and anything within reach of his mouth until in desperation at the delay of his feed he would set himself to CRY until satisfied. The restless ACTIVITY of his body, the quick darting of his eyes, the ceaseless activity of his lips, his obvious interest and curiosity, all went to make a picture contrasting strangely with that of him during his relapses, when he lay morbidly self contained almost resenting attention.

The longer the case remained under observation, the more was primary consideration given to the infant's appearance and behaviour and the greater the tendency to look upon charted records as having more a supplementary value. Feeds were changed from time to time, and while certainly any sudden aggravation of severe diarrhoea was an indication for immediate dietetic readjustment, much more often an estimation of the efficacy of a change had to be based upon the general reaction of the child. A new feed which in the course of three or four days resulted in a definite increase in weight or an unmistakable improvement in the nature of the stools, much sooner than that would show evident results in a brightening or depression of the infant's general demeanour thus giving an earlier indication of what was to be expected from the new treatment.

The child eventually died, and during the long drawn out final stage the evidence of decline was far most striking in the child's face and limited activities. A slow insidious paralysis seemed to get a grip of the child, his movements became more sluggish until, in the end they disappeared entirely and with the bodily/

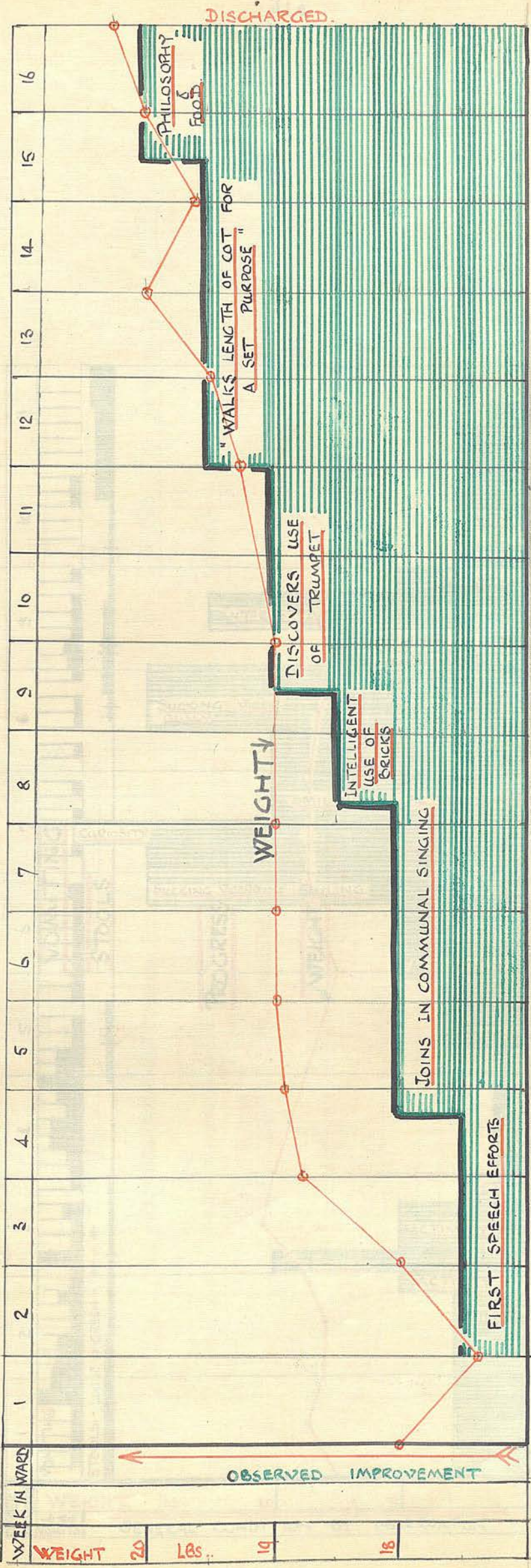


Case of ANAEMIA (? Primary)

Duration prior to admission - 16/12.

Sex: female Aet 1⁶/12

Result - Decided improvement.



Case of COELIAC DISEASE

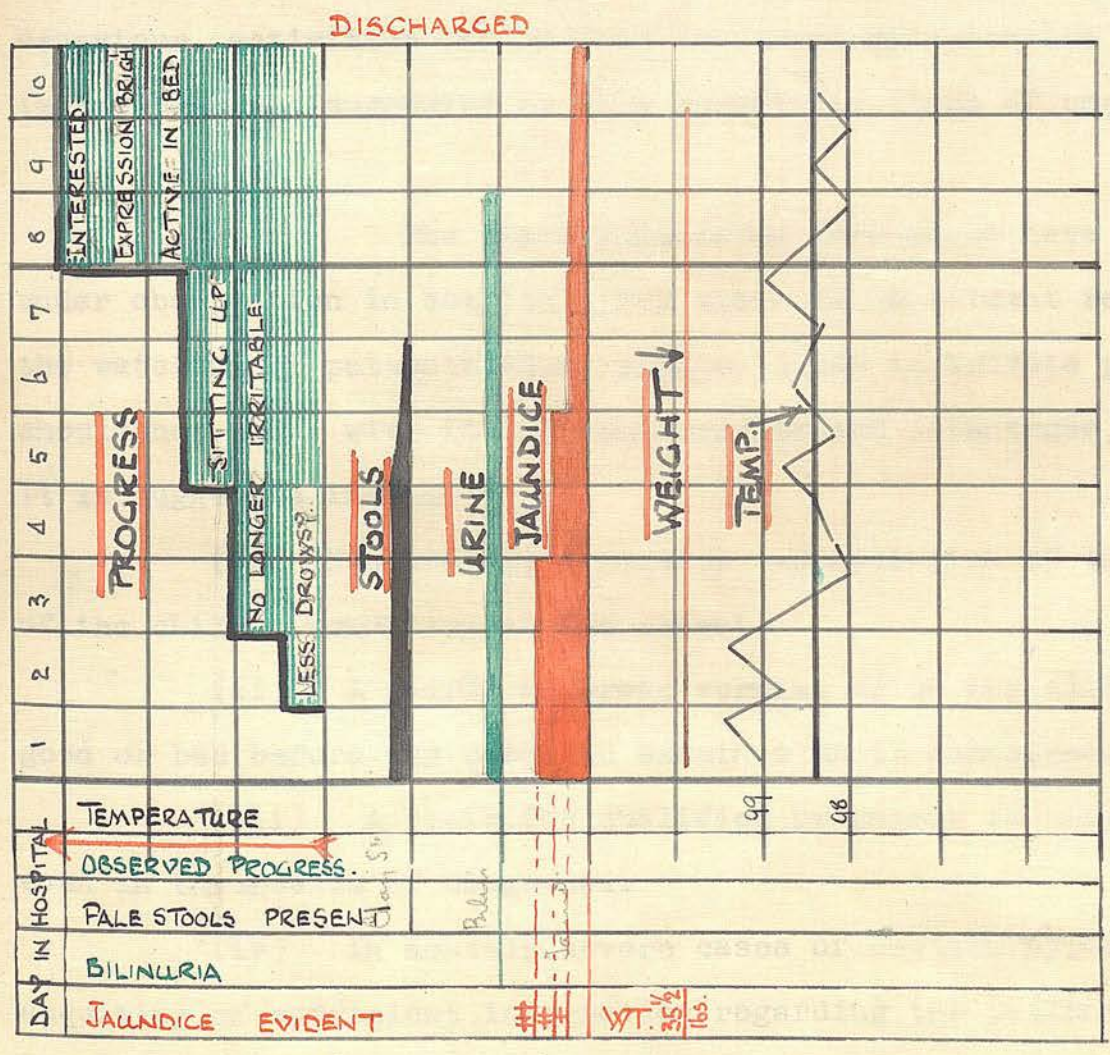
Sex - Male Act. 2 years.

Case of Catarrhal Jaundice

Aet 6⁵/₁₂

Duration prior to admisⁿ - 3 days

Result Recovery



SUMMARY & CONCLUSIONS.

The primary object of the foregoing remarks has been to emphasise the immense value of a close observation of the young patient. With this in view, the method has been to attempt to give an impression of the pictures presented by various patients as they changed from day to day, to explain the method of arriving at conclusions, and to correlate them with the clinical findings and course of the case. Graphical expression of the findings has also been appended, which will be found to show

(i) In many cases day to day changes in the appearance and demeanour of the patient occurred almost simultaneously with other changes in physical findings.

(ii) In certain conditions a careful general observation of the patient allowed of an earlier appreciation of the course of the illness than could be obtained from any other forms of investigation.

(iii) In a few isolated instances a study of the child's behaviour, activities and outlook confirmed an impression of marked improvement not suggested by more scientific lines of enquiry.

The cases considered throughout have all been under observation in hospital, but there is no evident reason why the watching of patients along similar lines in private practice should not carry with it the same results and advantages, and these it is suggested include:-

(i) Frequently, a readier appreciation of the gravity of the child's condition at the outset.

(ii) A fairly accurate surmise as to any alteration for good or bad before any detailed examination is commenced.

(iii) A basis for qualified prognosis in certain cases, even in the absence of diagnosis.

(iv) In acutely severe cases of certain types the acquiring of sufficient information regarding the patients state without the disturbance of frequent examination.

(v) The unconscious acquirement of a sympathetic understanding of the child's feelings, leading to a more intimate and more/

more natural reaction between patient and attendant.

It is neither possible nor desirable to lay down hard and fast rules as to how this form of clinical observation may be acquired. An arbitrary grouping of clinical conditions was necessary when discussing the question, but actually in the application of the subject of the paper, there can be no set method nor rigid formulary method of approach. On each occasion the individual factor arises both in regard to patient and clinician, and there lies the line of research. The medical has to study for himself his own attitude towards children of all ages as they differ from adults, to learn for himself how children react towards him, and finally, allowing for these two factors to develop the power of first of all seeing all that exists in the picture the child presents, and then afterwards interpreting the significance of each detail in that picture. Once capable of that, then, the clinician can utilise purely laboratory findings to better purpose, and eventually pursue a line of scientific investigation without ever forgetting the individuality and personality of the children providing^{him} with his material.

(Our thanks are due to Dr. Charles McNeil for permission to refer freely to his cases).