

Facts in Therapeutics.

by

- x Tetanus is tracheitis, & always cured by ment. salivata.
- x Ulrich von Hutten^{p. 5} p. 5
- x Antimonial pustule a substitute for empon. p. 93.
- x No opium in dysentery. p. 96.

Robert Bennett M. R. C. S. Eng.

- x One or two grains of lime uneliqua p. 46

Mercury

Antimony

Arsenic

Nitre

Quina

March 1857.

Facts in Therapeutics.

In the following sketch, I shall select several of the more important drugs which at present closely occupy the attention of therapeutists, and endeavour to show in what circumstances their reputed remedial effects are founded on sufficient evidence; and at the same time point out various diseases in which they have been employed unsuitably. It will not be in my power to adduce many original observations of my own; I shall endeavour therefore to indicate those views which have lately been rendered most probable, and bring forward some facts which I have witnessed in practice in support of statements not generally received.

Mercury.

I have placed mercury first on the list as the subject of consideration, as perhaps no other drug has been more extensively prescribed in modern times, or excited a greater amount of diversity of opinion as to its actions and uses; and since in the present day, a great revulsion of feeling has occurred as to the extent of its utility in many diseases. The therapeutic actions of mercury, are perhaps best expressed by the terms Catalytic and Eliminative. The first implying a power to counteract or destroy a morbid material or process in the blood. The other, that of restoring the functions of a gland when impaired or eliminating morbid

from the system.
Alterative and Sedative
have likewise been proposed
as expressive of some of its
therapeutic effects; - but the
first, on reflection, will be
found with several others of
its therapeutic titles to be
included under the division
Eliminative, and the second
has been assumed apparently
on insufficient grounds
from its soothing action
in some cases of dysentery
and other enteric affections,
but this is doubtless due
to its eliminative action
on the liver and other
glands and may with
more propriety be placed
under the same division
as the preceding.

Under the first term
Catalytic, the antiphlogistic
and

and supposed antisyphilitic powers of mercury are included.

The voice of general experience has established the fact that mercury is not equally serviceable in all inflammations; that its use is greater in acute serous and fibrous membranes than in that of the parenchymatous organs; and that, from its exerting no sedative action on the heart and blood vessels like antimony, its curative action is less speedily manifested.

From the deteriorating effects which it produces on the blood by diminishing its solids, it should never be administered to induce mercurialism except in
the

wright 2000

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The class of cases above mentioned, antimony generally accomplishing all that can be obtained in sthenic inflammation of other organs.

In acute inflammation of the membranes of the brain and spinal cord in adults, mercurialism following blood-letting are the only remedies that can be relied on -

Mon. Jour.
Oct. 1855.

and Dr. Pies, who regards tetanus and inflammation of the p^{ri}ci mater as identical, states that he knows of no instance where tetanus has proved fatal after salivation had been induced.

Wm. W. W.

In acute iritis its action is invaluable.

In chronic inflammation of the pleura and peritoneum with effusion, counterirritation
with

with the internal admin-
istration of iodide of potassium
we measure generally regarded
as preferable to the exhibition
of mercurials. and as of late
years antimony has tended.
(and from all evidence and
experience that may be
depended on) justly to
displace mercury in acute
sthenic inflammation so
in chronic inflammations,
iodine has in many cases
superseded it.

When the dangerous effects
it produces in scrupulous
individuals along with
the frequency of inflammation
in this class of patients,
and the violent dysenteric
symptoms it very often
occasions when rapidly
introduced into the system
are borne in mind, I

think

think it must be regarded as a beneficial change in medical practice that mercurialism is now much less resorted to than formerly for the treatment of inflammation.

The production of Bright's disease of the kidney by its agency is now well-

*(Christison and
Glynn of Brunel)* established on undoubted testimony, and during any period of study I had an opportunity of knowing intimately the particulars of a case where the disease, if not produced, was called into active existence by mercurialism and proved fatal in a few months.

I lately got the particulars of a case of pleuro-pneumonia from a country practitioner where the fatal termination was

was evidently hastened by severe dysenteric symptoms coming on suddenly while mercurial inunction and frequent doses of the drug were being used, as prescribed by a consulting physician. In a case of pericarditis with considerable effusion which occurred last Autumn, very mild doses of the drug administered for four or five days were followed by dysentery which lasted for about ten days with greater or less violence; the case, however, ultimately did well.

The second reported therapeutic action of mercury, included in the term catalytic, can be best studied by tracing the history of the venereal disease for the last
three

three centuries.

Between the years 1493 and 1495, the venereal disease became so aggravated in Europe, as to cause general alarm; and this, so far as can be judged from history, seems to have been due rather to the great extent to which mercurialism was then pushed, than to any newly acquired virulence of the disease itself.

Ulrich De Botton in 1519 after giving a graphic and fearful description of the results of salivation, states that many chose rather to die of the disease, than undergo such a method of cure notwithstanding the restraints made by him at this early period, the

treatment-

Ulrich von
Huten

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treatment of syphilis by
mercury continued in full
force till a very recent
date. even Boerhaave in the
last century insisting ^{that} to effect
a cure, it was necessary
that four pounds of saliva
should be spat every
twenty four hours and the
salivation continued for
upwards of ten weeks. The
credit of first-attempting
to substitute a less dangerous
and at the same time
an efficient-treatment of
the disease is due to Mr
Ferguson and other army
surgeons who practised it
during the Peninsular
Campaign. but especially
to the late Professor John
Thompson of Edinburgh
whose lectures and writings
were efficient in Scotland

in

in banishing the use of
mercury in syphilis.

In England, however, the
doctrine of Hunter, and in
Ireland those of Crammuel
and Collis have been deeply-
imbibed and still influence
more or less the treatment
of the disease.

What is called the simple
treatment of syphilis con-
sisting of attention to certain
hygienic rules, large quantities
of diluent beverages, the
warm bath, and vegetable
diaphoretics as guaiacum;
dressing the diseased parts
at first with anodyne and
emollient afterwards with
stimulating applications.
and in inveterate cases,
giving the iodide of potassium
internally, has been contrasted
on a very large scale with
the

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the mercurial plan.
In the year 1822, the Royal
Council of Health in Sweden
was commissioned by the
king to institute experiments
on the comparative merits of
the two modes of treatment and
to draw up reports for all
the civil and military hospitals
annually. In the various Swedish
hospitals 40,000 cases came under
treatment, the one half by
the simple method, the other
by mercury; the proportion
of relapses was found to be
seven and a half per cent
for the first, and thirteen
and two thirds in the second.
Dr Frick's experiments (1828) in
the Bamburg hospital tend
to establish the same con-
clusions: he found relapses -
more frequent and secondary
syphilis more severe where

mercury

mercury had been given.
Out of 1649 patients 582 were
treated with, and 1067 without
mercury, the average duration
of the latter method was 51
days, that of the former 85.
He never observed curis, loss of
the hair, or pain in the
bones, follow his treatment:
and on inquiry, he found
that all cases coming under
his care in which these
symptoms were present
had been treated with mercury.
Similar reports by the French
Council of Health in 1833
agree in stating the cure by
mercury as one third longer
than that by the other treatment.
Perhaps no other fact in
therapeutics has ever been
established on stronger evidence
than the negative one that
mercury is no antisyphilitic.

upwards

upwards of 80,000 cases having
been subjected to experiment
in the reports above alluded to.

The Eliminative action of Mercury
is one which is very frequently
employed in the treatment
of disease, appears to me more
certain than its antiphlogistic
effects, and, on account of the
drug not requiring to be -
pushed, ^{so far} as to cause its marked
Constitutional symptoms, attended
with comparatively little -
danger. Although tending to
increase all the secretions
of the body, the preparations
of mercury excite especially
the functions of the liver -
and bowels - in other words
they are said to be Cathartic
and Cholagogue; and, when
the system has become thoroughly
saturated with it, acts as a
Aciolagogue. It has been discovered
in

in the feces and saliva by
M. Lehmann after having been
taken into the stomach, and
M. Buchheim has found it in
the bile of dogs to whom it
had been given - proof of its
obtaining entrance into the
blood, and passing thence
through the glands into their
secretions.

The therapeutic action of mercury
as a Cholagogue is especially
manifested in those cases of
torpor of the liver, where without
any evidence of mechanical ob-
struction to the flow of bile
the stools become white or ash-
colored. The urine of the colour
of brandy, and the conjunctive
perhaps of a slightly yellowish
tinge. From a pretty extensive
observation of those cases, where,
as first pointed out by Dr
Goldring Bird and Scherer.

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The urine after being boiled gives a pink or still deeper colour of the same kind on the addition of muriatic acid showing the presence of an excess of purpurine, I believe the opinion of Dr G. Bird to be correct that this excess indicates some functional or organic mischief of the liver, spleen, or some other organ connected with the portal circulation. In all these cases the exhibition of a mild mercurial, so as to excite the liver to an increased performance of its functions, will be found an important item in their treatment; and I believe that very many of those cases, in which this excess of purpurine is observed and mercury has a beneficial effect in causing its disappearance and improving the general health, are precisely those

those in which the therapeutic action of mercury is commonly expressed by the term Alterative.

One of the most important of the actions of the preparations of mercury which are included under Purgative, is its action in some circumstances as an indirect diuretic. It is well known, that, when the pressure on the vascular system is much increased, diuretics will not act until it has been removed; thus when the portal circulation is the seat of obstruction, a mercurial properly administered will act on the liver, increasing its secretions and at the same time the circulation through the organ and thus remove the congestion of the portal venous system.

In many cases of chronic heart disease

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disease, in which there is -
hepatic congestion when drop-
sical symptoms supervene, the
kidneys cannot be roused to-
increased action by any diuretic
till the congestion of the liver -
has been removed by a mercurial.
This is perhaps the only com-
bination of circumstances in long
standing heart disease which
warrants the administration of
mercury, and I know of no case
where more certain (at least
temporary) alleviation of the
symptoms follows the use of
any other remedy. Dr. Stokes
in his work on diseases of the
heart mentions the case of a
gentleman with the combination
of diseases above mentioned who
had thirty distinct courses of
mercury - and with such advan-
tage as to enable him to pursue
a laborious profession.

Mercury

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Mercury has been administered internally in many diseases which I have not noticed under any of the therapeutic actions mentioned; but I have neither witnessed any good effects from its use so unequivocally, or received evidence from the practice of others so strong, as to convince me that any benefit was to be derived from its use in these cases.

Among the external applications of the preparations of mercury I may mention two morbid states where I have seldom seen them fail to do much good. namely the black wash in varicose ulcers, and the citrine ointment (*unguentum rubratris hydroxygari*) in *Splithurica turri*.

Antimony

From the frequent notices of this agent in the previous remarks on the therapeutic action of mercury, it will be most convenient now to review its curative powers. In modern times antimony has been used very extensively in the treatment of disease, but for a long period it appears to have been employed almost exclusively for its emetic action. Sydenham, for example, using it for that purpose only under the title of *Stinum Benedictum* and *Procus Metallorum* its power of subduing acute inflammation, independently of any emetic effect, having been recognised at a comparatively recent date by Dr. Marquardt of Bristol and subsequently by Rasori of Genoa.

Mr. Deacidland's classification of

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of the therapeutic actions of antimony (tartar-emetic being taken as the type) may be followed as being perhaps the best; very antiphlogistic, special sedative, and eliminative; its irritant action when applied externally will also be noticed.

As an antiphlogistic and special sedative antimony is now by many of the most successful practitioners held as occupying the first place both on account of its more speedy curative effect, and also from its not leaving the patient's constitution damaged to the same extent as when mercurialism has been had recourse to. Like mercury, it deteriorates and impoverishes the blood, but, so far as I am aware, never induces any well marked cae-
thetic state of long standing; the chief danger in its administration being

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being the risk of intensely depressing effects occurring soon after the exhibition of large doses - but this effect is by no means of common occurrence in adults.

The disease in which antimony has been most generally and successfully employed is pneumonia - its sedative action on the vagus nerve proving of direct service by influencing the heart and lungs; while its power of counteracting the inflammatory process in the blood itself is also manifested. There now exists but little difference of opinion as to the signal efficacy of the remedy in cases of acute primary pneumonia; statistics having lately shown the much vaunted dietetic or expectant method of Dietl, as practised at the
Weiden

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Weiden district hospital in Vienna to yield a much higher mortality than the other hospitals in the city. His first report in 1849 gave a mortality of 7.4 per cent. of the cases, in 1852 9.2 per cent., and by a report issued in July 1856, it is stated as 20.7 per cent. D. C. Wilson of Edinburgh gives us the result of 27 cases of primary pneumonia occurring in private practice and treated one half by bleeding and antimony, the other by antimony alone, a mortality of 4.16 per cent. Lunnec states the result of his practice at one time as 2 deaths in 57. The point, which appears at present not quite settled as to the exhibition of antimony in pneumonia is the dose; the followers of Rasori giving it in from one to two and a half grains frequently.

repeated

repeated, while many of the best-British authorities consider one third or one half-grain a sufficient dose. The Italian doctrines are probably for general purposes rather extreme, for much smaller doses are often equally serviceable. Dr. C. Wilson in his excellent paper has I think - indicated the medium dose in acute primary cases - namely, a grain every two hours in solution combined with five minims of tincture of opium. The average amount-taken in his 27 cases was 47 grains; the largest-quantity, 204 grains, but this is small when contrasted with the amount sometimes exhibited after the other method. Thus Strambio mentions a case treated by Rasori where 3590 grains were taken in thirty six days, apparently with good effect.

Ed. Med. Journ.
Decr. 1856.

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In the first stage of acute -
Bronchitis, antimony is highly
useful by diminishing the force
of the heart's action and thus -
removing the pressure from the
distended capillaries of the
mucous membrane; its eliminative
action is likewise in general co-
incident.

In Croup antimony has long been
considered as one of the chief-
remedies that can be employed;
but from the tender age of the
patients, its use in sufficient
quantity to make a strong
impression on the disease is
often attended with symptoms
of such dangerous depression as
to render the suspension of its
use imperative. The sulphate
of Copper in doses of from half
a grain to one or two grains, ac-
cording to the age of the patient,
frequently administered in urgent
circumstances

Journal für
Kinderkrankheiten
1855

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Circumstances every ten or fifteen minutes) has been recommended by Honerkopff as very efficacious. Out of 99 cases thus treated seventy seven recovered; the average quantity taken by each child was 31 grains. Dr J Santer of Posen and Luzzinsky are of the same opinion; the latter, after the urgent symptoms have yielded to the sulphate of copper, relying on the internal use of the carbonate of potash and a blister over the Manubrium of the sternum; he reports 23 cases out of 30 as having been cured by this method.

I lately got the particulars of a case, of croup in a child six years old, where this treatment was adopted with the happiest results.

As I shall not have time or space again to consider sulphate of copper, I may mention that;
in

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in the capillary bronchitis of
of children, the sulphate of
Copper is invaluable. Causing
free emetic action and great
relief without subsequent de-
pression.

In delirium tremens, antimony
uncombined has been proposed by
Dr Peckie of Edinburgh and used
with the best results; in his able
article on the Pathology of delirium
tremens and its treatment without
stimuli or opiates, he has clearly
shewn that his proposal is only
rational; since the most trust-
worthy pathologists as Scipio Pinel,
Abercrombie and Bright view the
disease respectively as cerebritis,
meningitis, and arachnitis and
since the ordinary treatment
by opium and alcoholic stimuli
simply add to the mischief the
first by increasing the cerebral
congestion, and the second by
saturating

Mon. Med. Jour.
1854.

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Saturating more thoroughly
the brain with the alcoholic
poison.

He states that he has treated
upwards of 80 cases of the disease
with antimony in doses of -
from a quarter to half a grain
every two hours or oftener, and
with uniform success. Its direct
influence, he considers, that of
reducing the vascular excitement
of the brain, soothing the nervous
system, and diminishing muscu-
lar power; while its more indi-
rect action is to increase the
secretions of the skin, bowels,
and kidneys. A single case of
delirium tremens, of which I
knew intimately the particulars,
was treated on the principles
above mentioned; and proved,
so far as a solitary instance can,
their correctness.

To enumerate all the instances
in

in which the antiphlogistic and sedative actions of antimony are of service, would be to give a list of acute, sthenic inflammations of almost every organ and tissue; in other forms of inflammation neither decidedly acute nor sthenic, the question as to the use of antimony and the amount to be given, or whether some other medicinal agent less lowering would be preferable, must be determined by the predominance in the individual case of symptoms denoting disturbance either of the vascular system, or of the nervous.

In considering the utility of antimony in pneumonia, it was stated that this was apparently due in part to its sedative action on the vagus nerve thereby lowering the heart's action and diminishing the number of respirations

respirations; the emetic action of the drug seems also referable to its influence on the portion of that nerve distributed to the stomach. Given as an emetic (largely diluted), antimony is often very useful in the early stage of acute local inflammation; but in cases of poisoning, where we wish speedily to empty the stomach it is much inferior to one of the irritant emetics as sulphate of zinc or mustard as these differ from antimony in acting very speedily, and without the production of nausea which would relax the vascular system and so favour absorption of the poison to be evacuated.

(Considered as an eliminative, antimony increases the secretions of the skin and bronchial mucous membranes - in other words, it acts as a diaphoretic and expectorant

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expectorant. Tartar emetic in small frequently repeated doses (one sixth to one eighth of a grain) acts with great certainty, as a diaphoretic when combined with a minute proportion of opium, and is very generally employed in the treatment of the Exanthemata and other febrile states;

but the preparation of antimony which acts most certainly on the skin is a nostrum known by the name of "James's Powder,"

for which the Pulvis Antimonialis in doses of from three to four grains, and a mixture of one part of tartar emetic to twenty of sulphate of potash in similar doses are substituted.

The expectorant action of Antimony is of the greatest use in the earlier stages of Bronchitis and is a remedy rarely omitted to be used by the judicious

Practitioner

practitioner in the circumstances. Applied externally, tartar emetic ($\frac{3j$ to $\frac{zj}{4}$ of lard) is a powerful counter-irritant soon producing a large crop of pustules which remain in general for a considerable time. It is thus often a valuable means of relief in chronic diseases of the contents of the chest or abdomen, and sometimes of the head, but has the disadvantage of occasionally appearing in situations where it had not been applied - in weakly subjects also it should be used very cautiously, or not at all, from the tendency which the large pustules sometimes have to become gangrenous.

In connection with the external application of tartar-etic, I may mention a singular statement made by Lichtenstein in a paper in the sources from which matter

Wufeland's Jour. 1841.

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preservative against the small
pox has been derived", that lymph,
taken from the pustules pro-
duced by tartarised antimony
and inoculated in a person who
has not been vaccinated, produces
vesicles which cannot be distin-
guished from those of vaccinia,
further, that these vesicles confer
a protective power against small
pox equal to the cow-pox, and
that the lymph from them may
be transmitted from person to
person. He inoculated and re-
inoculated thirty one persons
with this matter during an
epidemic of small pox, with
the effect of preserving them from
an attack of the disease, although
they were freely exposed to the
contagion.

The subject deserves further
inquiry

Ipecacuan

This substance has so many analogies to tartar emetic in its actions, as to render any lengthy account of its therapeutic powers unnecessary; but as these differ from those of antimony, considerably in degree, it may be well now to consider them.

The emetic action of ipecacuan, which is its most striking physiological effect, is, like that of antimony, slow in being manifested, and attended with great nausea its action on the vagus nerve is, however, less powerful than that of antimony, and consequently its effects on the lungs, heart, and stomach occur in a minor degree.

As an expectorant, it is of the first service in bronchitis; being generally combined with antimony at the commencement, and subsequently with an alkali: in very young children

children the remedy is often with great success employed singly.

In febrile and rheumatic affections it produces good effects as a diaphoretic when combined with opium, as in the well known Doers Powder where the two are mixed with sulphate of potash.

The disease, in which ipecacuan, next to bronchial affections, has been used most extensively, is dysentery in its various forms especially that occurring in warm climates where it is generally caused by exposure to cold at night after the heat of the day.

A reviewer of "Morehead on the diseases of India" in a recent number of the Journal states that for the treatment of dysentery a combination of blue pill ipecacuan, and gentian, with hyoscyamus is the happiest prescription ever employed, its effects being to

stimulate

Ed. Med. Jour.

stimulate the portal system; opiates he condemns as positively injurious. Sydenham entertained a different opinion; for after speaking of their use in the disease, he says "I cannot forbear mentioning with gratitude the goodness of the Supreme Being who has supplied afflicted mankind with opiates for their relief."

Warr's Edition }
 Sydenham's works }
 page 162.

There can be no doubt that, after the use of such remedies as the combination above mentioned, and the application of a few leeches to the abdomen, opium is of the greatest service by lessening the excessive irritation, and causing determination to the skin.

Lastly, ipecacuanum is often very useful in cases of impaired appetite with slow digestion from deficient gastric secretion, when given in small doses of from half a grain to a grain with a little rhubarb and

and extract of gentian shortly
before breakfast and dinner.

Nitrate of Potash.

The previous observations having
been almost exclusively devoted
to therapeutic agents which are
chiefly useful in the various forms
of inflammation, I shall now no-
tice Nitrate of Potash before leaving
that class, both on account of its
great importance in the treat-
ment of disease, and also from
its being the type of a number
of substances much employed in
medicine, commonly called salines.
The therapeutic actions of this
substance may be stated to be
Antiphlogistic and Eliminative;
to which some add the term —
Refrigerant; which however does
not seem well proved to be quite
distinct from its antiphlogistic
effect; as the diminution of the
increased

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temperature of the body which occurs in febrile and inflammatory states is only one of the minor results which follow the successful use of remedies given for the purpose of counteracting the inflammatory process.

Schultz Nitrate of Potash and many other salines, such as the Chlorate of potash and the sulphate of Soda, diminish the amount of Fibrine in the blood when taken for some time; and Mr Gulliver has made the important observation that they tend to keep asunder the blood corpuscles, which, during the process of inflammation, adhere together in masses. In their action, however, they are surpassed by free alkalis; since salts generally pass out of the ^{body} without change whereas alkalis enter the secretions combined with an acid, and when given in any amount must

remain

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remain to a certain extent free in
the blood.

As a mild antiphlogistic, Nitrate
of potash is used in very many
febrile and inflammatory affections,
either alone, or in conjunction with
tartrate of antimony. but the disease
in which of late years its powers
have by very many eminent practi-
tioners been considered of the highest
value, is acute articular rheumatism.

Its use in this disease was first
strongly recommended by Dr Breckley
and subsequently ^{by} M. Genoin who
after eulogising its effects in the
strongest terms, gives it as his de-
liberate conviction, that it prevents
inflammation of the endocardium.

General Pathology

Simon considers that this effect is
due to its solvent action on fibrine,
and questions very seriously whether
the prevalent notion that the
fibrinous deposits on the valves
are really caused by inflammatory

Action

ation, in the strict sense of the term. He maintains, and with justice, that no part can be said to be inflamed which possesses no blood vessels and refers to Mr Gueth's preparations as showing that the vasa vasorum do not reach the living membrane: He instituted some comparative experiments in living animals to determine whether venous or arterial blood deposited more readily its fibrine on a foreign body introduced into the vessel; and found that arterial blood uniformly did so with the greatest readiness - venous blood very scantily. From a consideration of the whole subject of fibrinous deposits on the valves of the left side of the heart, he was led to resolve their occurrence there to two circumstances - great chemical tendency to the deposition of fibrine, and great mechanical facility for its

Entanglement

entanglement.

The great success attending the treatment of the disease with nitrate of potash, and the rarity of endocardial affection in cases so treated as stated by Genchin, certainly go far to confirm Simion's views; and no one, I think, who has seen much of the treatment of acute articular rheumatism, would like to resort to the old method of bloodletting with Calomel and Opium internally, when endocardial complication threatens.

By many of the advocates of this plan of treatment the salt has been given in very large doses; Dr Busham stating that ^{he} has given from ^{one} to three ounces of the salt daily largely diluted in water and with best results. Professor Bennett gives a series of cases - where he has used the remedy in much smaller doses (half a drachm

Monthly Journal
1852.

drachm to two scruples every three or four hours), with apparently equally good results. I have seen numerous cases treated successfully after the same method.

As a diuretic nitrate of potash is generally combined with other remedies of the same class, such as squill and digitalis; but by many it is considered less certain in its action than the acetate, or bitartrate of potash.

Applied externally during its solution in water, (as in a bladder) it is useful in reducing the temperature of external parts - five parts of nitrate of potash and the same proportion of the muriate of ammonia in sixteen parts of water is a useful refrigeratory mixture, lowering the temperature forty degrees.

Before dismissing the class of
 Balines

Salines, I cannot refrain from mentioning two whose employment in disease furnish two undeniable facts in therapeutics, namely the remarkable utility of chlorate of potash in stomatitis, both in children and adults, and the great solvent-power of the phosphate of soda over deposits of uric acid.

The great efficacy of the acetate of potash in many skin diseases, so strongly advocated by Dr. Easton of Glasgow, is also deserving of notice and may now be considered completely established: its power in many cases being little, if at all inferior, to the *Liquor Arsenicalis*.

Quinine

My time warns me that the important and extensive list of therapeutics agents called Tonics should now be considered, I find it

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it will be impossible to review
such of them separately in detail,
I shall therefore select the alkaloid
of cinchona bark, as exhibiting in
the strongest degree the powers
of other tonics derived from the
vegetable kingdom.

Any other remarks on this class
of medicinal agents, I shall
include in a general enumeration
of striking therapeutic facts which
I have not found it in my power
to notice at greater length - and
with which I shall close this
essay.

The therapeutic actions of Quinine,
(which I shall here consider as
implying the disulphate as it is
the preparation of the alkaloid
most commonly employed) are
Tonic and antiperiodic; Mr Headland,
however, considers all its actions
under the single designation -
Tonic - bringing forward a very
ingenious

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ingenious hypothesis by which he thinks he renders it probable that the beneficial effects of the drug are due to its taking the place in the blood of one of the elements of the bile, Taurine, which he supposes to be absorbed from the intestinal canal, and to be present in the blood in the normal state. Whether his ~~his~~ hypothesis be received as probable or not, quinine is certainly useful in many diseases in which there is a failure in the secretion of bile. In large doses it causes in a healthy person dry tongue, thirst, nausea and intense pain in the stomach, together with violent head symptoms, which may end in death. When there is merely giddiness and ringing in the ears it has been termed Cinchonism and ~~it~~ has been thought by some that these symptoms are necessary for

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Blair. for the full development of
its therapeutic action. It is ab-
sorbed during its action and may
Lauder. be detected in the urine and sweat.
As an antiperiodic in Intermittent
Fever, disulphate of Quina came
to be generally used; long before
its value in other diseases was
known, as such it speedily causes
diminution and I may say cessa-
tion of the attacks. It is the most
powerful antiperiodic in the
whole range of the Pharmacopoea.
In the different forms of ague
it acts as a specific. According
to Dr Barber of Dublin small
doses from one to two grains daily
act equally as well as larger ones
in districts that are not aguish.
Of 30 patients treated in this
way, not one resisted the influence
of the remedy. In Dr Morgan's
Cases half grain doses thrice
daily suspended the paroxysm for
eight

eight days: The amount required to cure an ordinary case of ague is somewhat more than nine grains. In aguish districts, however, and in warm climates larger doses are required. In the aguish districts in Italy, in the Roman territory, and the Maremma, small doses are inadequate and according to Professor Sparanuzzi twenty to thirty grains were given before the desired result was obtained. In America Dr. H. Perrin gave six, eight, or twelve grains daily. In the island of Santa Cruz Dr. Stedman says it is requisite to administer it in doses of ten, twelve, or fifteen grains daily. This corresponds with the observations of Jackson on the ague of North America.

The disulphate is thought not to act so beneficially in remittent fever (and still less in continued) as in intermittent.

In remittent fevers when the
remissions

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remissions are well marked (and if they are not they may be made so, by administering an emetic and then an active cathartic), it may be given nearly with an equally beneficial result. In continued fevers it produces little or no benefit, except when distinct remissions occur, as particularly in the febrile disorders of children and where no obstacle exists from the presence of irritation in the stomach or intestines; in such cases it is almost as perfect a febrifuge as in ague.

In all cases our object should be to render the disease as remittent as possible. This is attained by bleeding, or such means as each individual case may require.

Dr. Dundas and others, both in Liverpool and Manchester have employed Quinine with marked success in Typhus Fever. Dr.

Dundas's

Christison.

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Dr Dunder's plan was to give eight, or ten grains four or five times a day, in an ordinary case of typhus. Under this treatment the tongue rapidly cleared and the head symptoms abated; he believes that without the drug is given in full doses, there will not be the same beneficial result - for when three or four grains were given even four times a day, the same benefit did not follow. This plan of treatment was adopted in the Liverpool Fever Hospital where there are one hundred and fifty beds, in the West-Derby Fever Hospital with fifty beds, and the Manchester Union Fever Board, where eighty patients were so treated, and with apparently great success. From the treatment of the previous number of patients, the following opinions were arrived at.

1st That in many cases a threatened
attack

- attack may be cut short by the exhibition of full doses of quinine.
- 2^d That the duration of the disease is shortened, and many cases (which would in all probability be hopeless under other treatment), recover.
- 3^d That the treatment ought to be persisted in for some time.
- 4th That even when the tongue is loaded and the head considerably affected, quinine is not contraindicated.
- 5th That when there is cough, and this is clearly connected with some affection of the lungs or bronchial tubes, the drug should at once be given up until its abatement.

D. M. Kezins recommends the use of quinine as an antiperiodic in puerperal fever. He was led so to do from observing the effect following its administration in an epidemic of the disease which prevailed during

during the year 1849 in the General Lying in Institution at Stockholm. The disease began in the month of September; in November and December it somewhat abated, but in the Spring it had so increased in virulence, that the wards of the Institution were closed for two months. Nearly all the inmates suffered from the contagion. The mortality was thirty-three per cent. Dr Retzius gave each of the patients labouring under the disease a scruple of the sulphate of Quinine daily, and the disease subsided.

Monthly Med. Journal. 1851.

It is also used with much benefit in certain neuralgic affections when periodic and regular in their occurrence, especially those forms which affect the head.

In pnenmatism (of a chronic character), headache, amaurosis, stricture, &c recurring at regular intervals, quinine is found as efficacious as
in

in intermittent fever.

Within a few years the plan of giving enormous doses of Sulphate of Quina in acute rheumatism was proposed by M. Briquet of Paris and with the most surprising results: the disease being almost as promptly cured as intermittent, by the same remedy. From a drachm to a drachm and a half being given daily in divided doses. It appears however that the brain becomes violently affected when the amount administered is so large; but there is no doubt it proves a very useful remedy when given in moderate doses.

As a Tonic quinine is a very valuable remedy, in certain forms of Dyspepsia, especially those depending upon enfeebled digestion. It increases the appetite and assists chylification. In debility attending Convalescence from acute or chronic disorders it

Lancet.

it is an excellent tonic; but where debility occurs connected with chlorosis or diminution of the red corpuscles of the blood, it would be better to exhibit some of the chalybeates.

D^r Pereira

In certain forms however of Dyspepsia, where there is unusual irritability of the stomach and intestinal canal, Sulphate of Quinine should not be administered as it only increases the previous irritation.

D^r Muntendam, a Dutch physician from an experience of twenty two cases, has shown the use of the sulphate of quinine to be attended with the best results in many cases of phthisis pulmonalis as well as in tubercular deposits elsewhere; he considers it especially useful for married women and children.

The observation of a good many cases which I saw treated in this manner in the country has convinced me of its great value

D^r

In seropulous ophthalmia, particularly in children, no other constitutional remedy produces so good effects as quinine.

In gangrene of the lung quinine has been used with great success by several eminent practitioners: Shoda of Vienna uses it in conjunction with the inhalation of turpentine. but in some cases the latter cannot be borne.

I was informed lately by a country practitioner that he had a patient under his care seventy five years of age with extensive gangrene of one lung whose life was evidently prolonged by the quinine alone he being apparently moribund when it was first commenced.

Dr Cochran of America has shown that quinine and its salts exercise an influence on the uterus in hastening the menstrual period - and consequently he recommends

that

that its use should be avoided, if possible, during pregnancy on account of its tendency to produce abortion. Lastly Sulphate of Quinine may be administered by the Eudermic method. In this way so small a dose as six grains has cured violent ague even when the remedy had failed when given by the mouth - but when so applied it is said to produce excessive inflammation and even sloughing.

Pristin.

Sulphate of Quinine is supposed to have the effect of promoting the action of certain other remedies. viz the action of mercury seems to be greatly accelerated. It has also been supposed by some to increase the action of aloe. I have myself administered it in combination with iodide of potassium in chronic hepatitis in connection with a general anemic condition. with great relief to patient.

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I shall now enumerate briefly some other prominent facts in therapeutics which I find it impossible to notice at greater length. and among these I must first mention the remarkable power of Cod Liver oil in tubercular disease, causing temporary improvement in almost all cases in which it is fairly tried, and a permanent cure in not a few. It is also highly useful in many cases of chronic rheumatism and gout; but these topics are so ably discussed in Dr J. H. B. Emett's well known treatise on Cod Liver oil as to require no further comment. It is also stated to have been used with success in some cases of Diabetes, Mellitus.

The great value of the preparations of iron in all cases of anemia has been long recognised, but its use in the form of the tincture of the muriate in erysipelas for which the profession

profession is indebted to Mr G. H. Bell of Edinburgh, has been known generally to the profession for the last five or six years only. All who have tried this remedy in erysipelas (and I have frequently so treated these cases), have been astonished at the rapid improvement which has followed its use.

It is also a remedy of great value in cases of sloughing (acute phagedaena) along with the local application of nitric acid; in some forms of inflammation it is also found of much service.

The power of Iodine and its compounds in causing the absorption of seropulous and syphilitic swellings is undisputed; but I cannot agree with Mr Headland and others in thinking that it has no power over other swellings unconnected with these states of system, as I have seen organised inflammatory exudations removed

removed under its use.

The beneficial effects of the preparations of colchicum in gout, and some cases of rheumatism, by increasing the amount of uric acid in the urine, is a fact now almost universally received.

I might add many other undoubted instances of the power of medicinal agents over various other forms of disease, but I trust I have adduced a sufficient number to show that a recent talented writer, Dr. Markham, does not estimate sufficiently highly the position of modern therapeutics, when he says, "more faith is placed in the power and efficacy of therapeutic agents as regulating and controlling the course of many diseases than the reason of the case warrants in ascribing to them".

Monthly Journ. 1855.