

**Synoptical tables, shewing the component parts of the principal mineral waters, collected from the works of Doctor Saunders, Doctor Garnett, Mr. Peacock of Darlington, and the late Mr. William Brunton, of Ripon : with some observations addressed to the medical faculty, and to the public / by George Cayley, M.D.**

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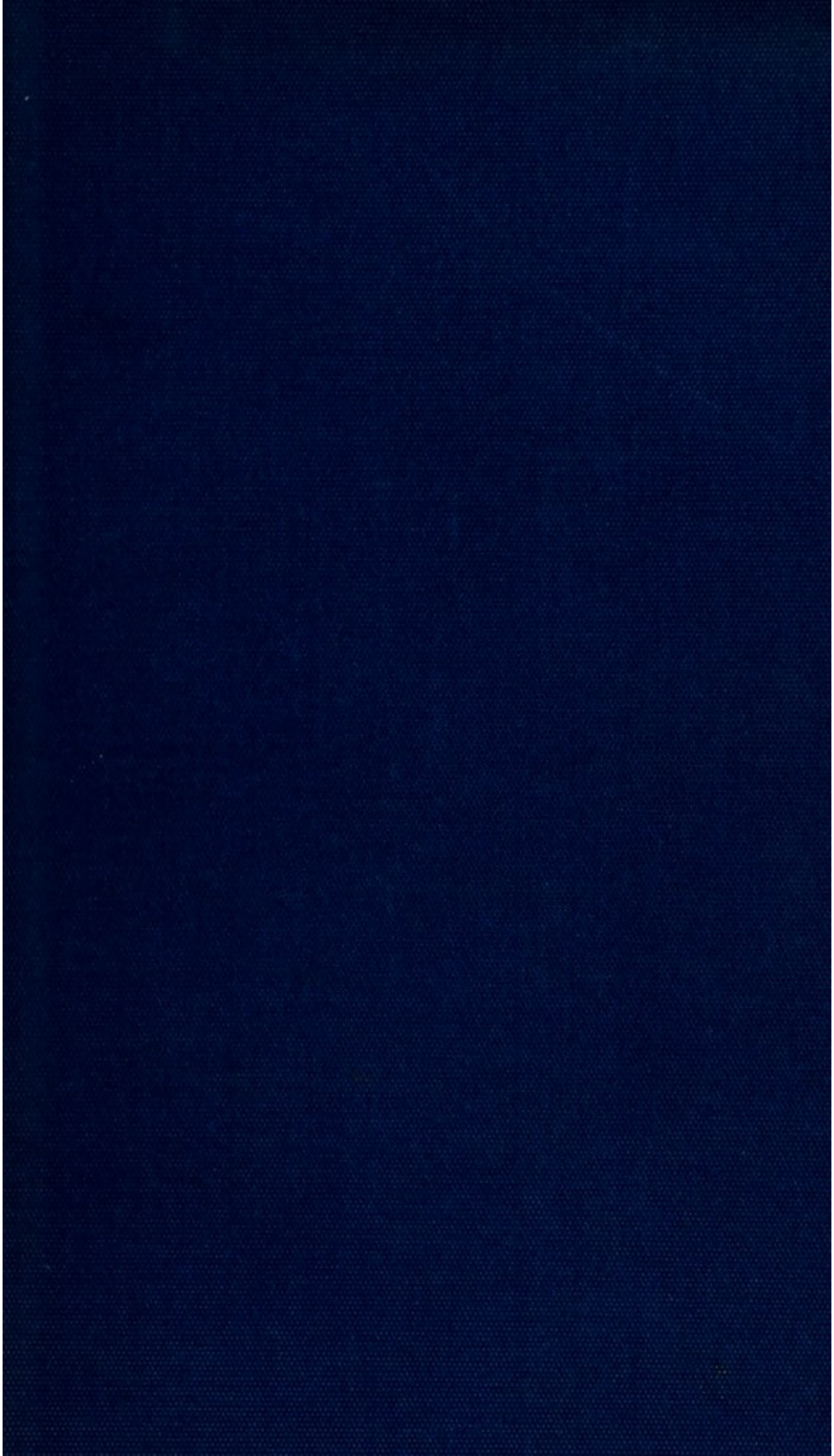
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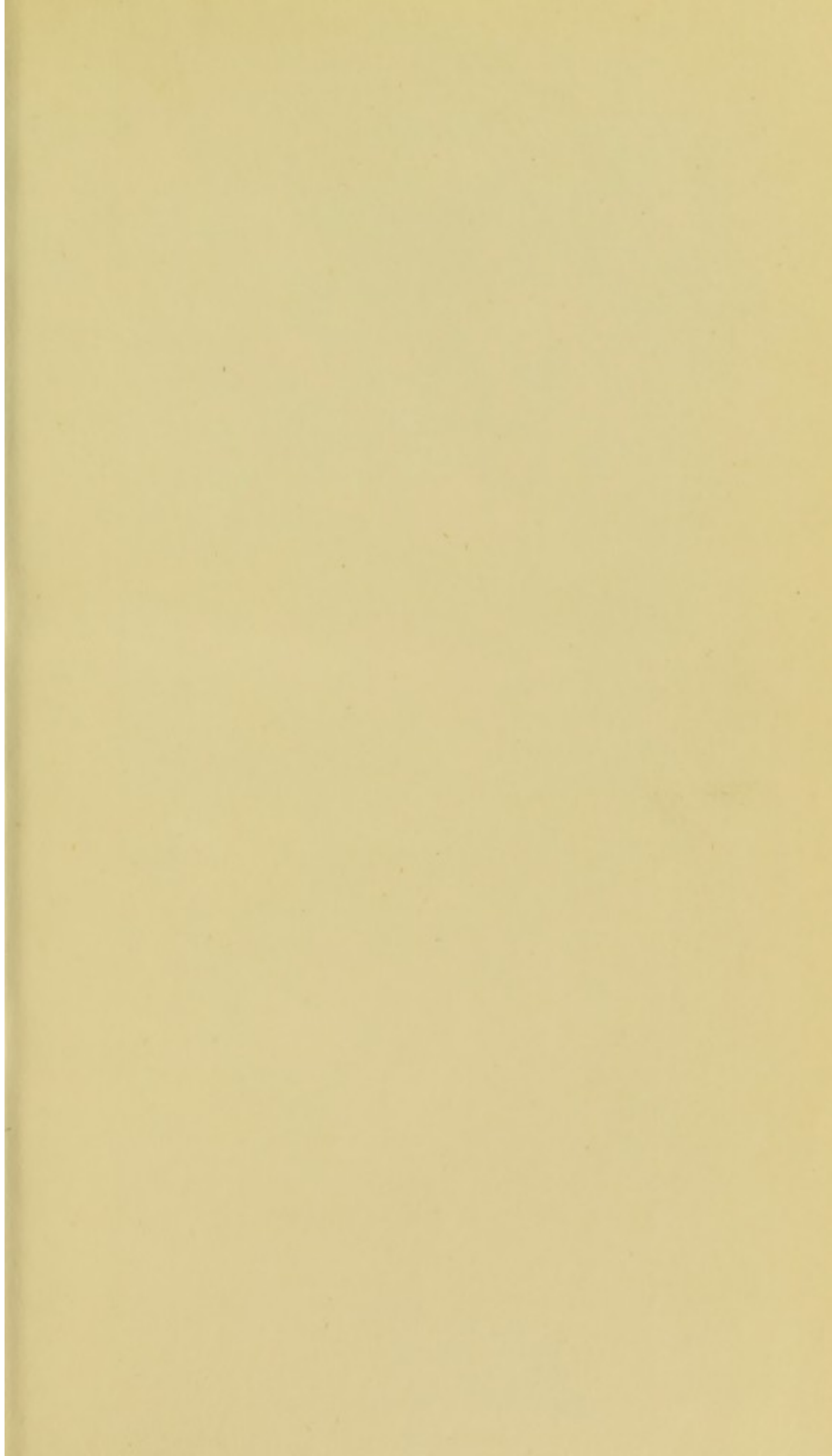
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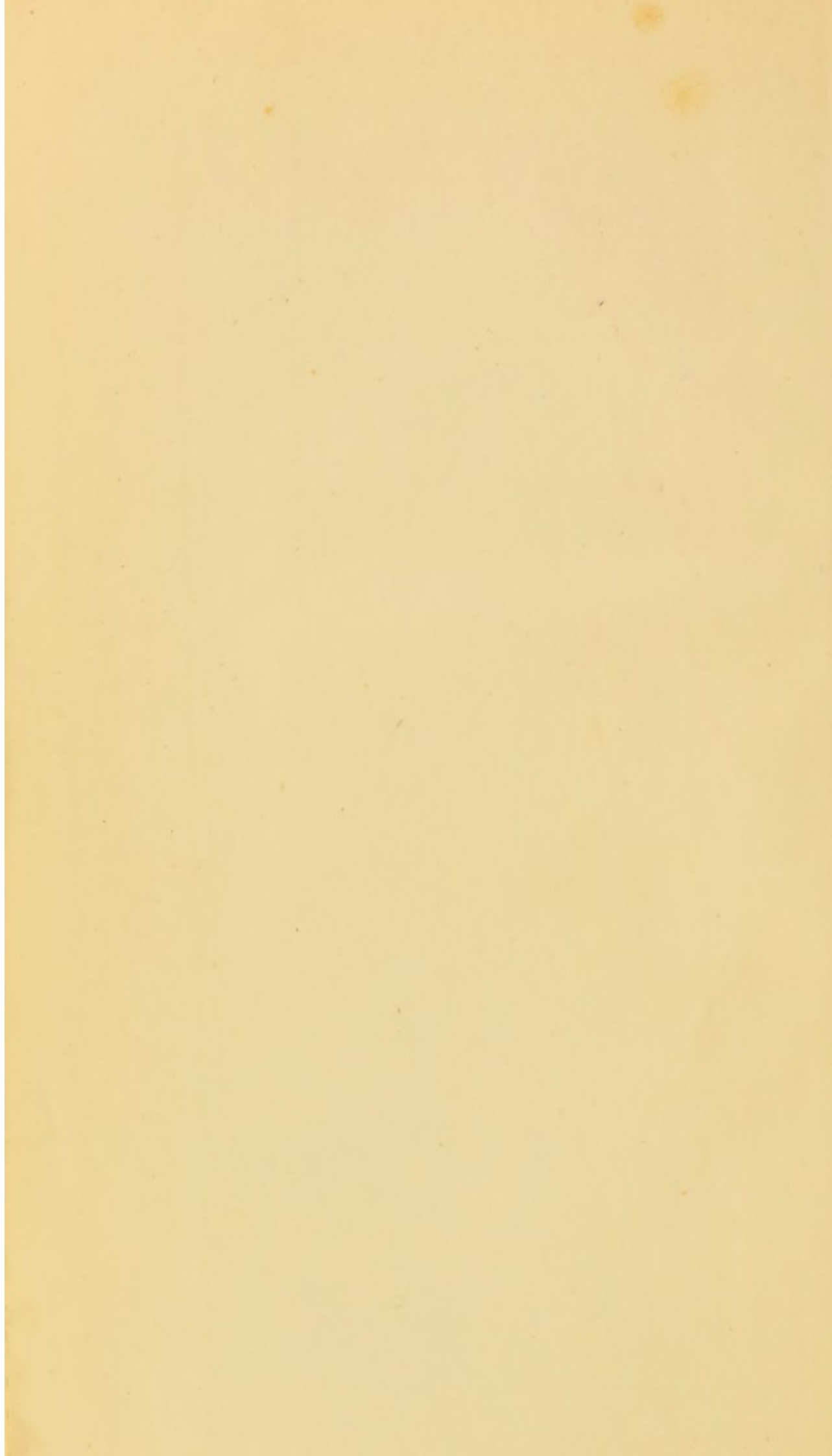


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SYNOPTICAL TABLES,

*Shewing the component parts*

OF THE

Ai - c. 39

PRINCIPAL MINERAL WATERS,

*Collected from the Works*

OF



DOCTOR SAUNDERS, DOCTOR GARNETT,

MR. PEACOCK OF DARLINGTON,

AND THE LATE

MR. WILLIAM BRUNTON,

OF

RIPON;

*With some observations addressed*

TO THE

Medical Faculty, and to the Public,

BY

GEORGE CAYLEY, M. D.

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RIPON:

Printed and Sold by W. FARRER:

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1809.

T

2 March 1915

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TO THE MEDICAL FACULTY.

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*This Pamphlet is most respectfully inscribed,  
As a small but sincere Pledge  
of the  
Authors Attachment to the Profession,  
and of  
His Regard for the Members thereof  
in its various branches,  
with the most fervent wish for their  
General and individual Prosperity;  
And a well founded Hope  
That all those who have been regularly  
Educated for the Profession,  
will unite their Exertions to preserve  
Their well earned Privileges,  
As well as to maintain the Dignity  
of so noble a Science  
Against the encroachments of Empiricism,  
and  
Against the mean and degrading  
Practices  
of interested Persons.*

*Ripon, April 5th 1809.*

TO THE MEMBERS OF THE

This Report is most respectfully presented  
As a small but sincere offering

of the  
Author's Attachment to the Profession,

and of  
His Regard for the Advancement  
in its various branches

with the most fervent wish for their  
General and individual Prosperity;

That all these ends may be attained  
Educated for the Profession,

will unite their Numbers to promote  
that most valuable Endeavour,

As well as to merit in the Degree  
of a well-learned Doctor

Against the numerous Errors of Ignorance  
and

Against the more and less  
Prejudices

of Ignorant Prejudice  
Given, April 10, 1780.

SYNOPTICAL TABLES, *showing the Composition of some of the principal Mineral Waters.*

CLASS.	NAME.	Highest Temperature. Fahrenheit.	Contained in an English wine Pint of 28.875 cubic inches.						
			Azotic Gas. cubic inches.	Carbonic acid Gas. cubic inches.	Sulphurated Hydrogen. cubic inches.	Carbonated Soda. grains.	Neutral purging salts. grains.	Selenite & earthy carbonats. grains.	Oxyd of Iron grains.
Simpler Cold . . . . .	Malvern			uncertain	none	none	uncertain	uncertain	none
	Holywell				none	none	uncertain	uncertain	none
Simpler Thermal . . . . .	Bristol	74°	uncertain	3.75	none	none	2.81	3.16	none
	Mutlock	66°		uncertain	none	none	uncertain	uncertain	none
	Buxton	82°	0.474	uncertain	none	none	0.25	1.625	none
Simple Saline . . . . .	Sedlitz			1.	none	none	185.6	8.68	none
	Epsom				none	none	40.2	8.2	none
	Sea				none	none	237.5	6.	none
Highly carbonated alkaline . . . . .	Seltzer			17.	none	4.	17.5	8.	none
Simple carbonated chalybeate . . . . .	Tunbridge		0.675	1.325	none	none	0.344	0.156	0.125
Hot, carbonated chalybeate . . . . .	Bath	116°	1.2	1.2	none	none	10.2	10.2	uncertain
Highly carbonated chalybeate	Spa			12.79	none	14.7	4.632	1.47	0.56
	Pymont			26.	none	none	7.13	23.075	0.56
Saline, carbonated chalybeate	Cheltenham		uncertain	5.687	uncertain	none	62.125	6.85	0.625
	Scarborough			uncertain	none	none	20.	10.	uncertain
Hot, saline, highly carbonated chalybeate . . . . .	Vichy	120°?		uncertain	none	uncertain		uncertain	uncertain
	Carlsbad	165°		uncertain	none	11.76	47.4	4.15	uncertain
Vitriolated chalybeate . . . . .	Hartfell				none	none	none	none	4.815 *
Cold Sulphureous . . . . .	Harrogate		0.875	1.	2.375	none	91.25	3.	none
	Moffat		0.5	0.625	1.25	none	4.5	none	none
Hot, alkaline, Sulphureous . . . . .	Aix	143°		uncertain	uncertain	12.	5	4.75	none
	Borset	132°		uncertain	uncertain	uncertain	uncertain		none
	Barege	120°			uncertain	2.5	0.5	uncertain	none

\* That is, 2.94 contained in the Sulphat of Iron, (this Salt when crystallized containing 28 per cent. of Oxyd of Iron, according to Kirwan) and 1.875 additional of Oxyd of Iron.

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TABLE II.  
(Calculated by the Wine Gallon.)

DOCTOR GARNETT'S *Analysis of the Harrogate Waters.*

NAMES of the WATERS.	Specific Gravity.	Grains.			Grains.			Grains.			Grains		
		Carbonic acid Gas.	Azotic Gas.	Sulphurated Hydrogen Gas.	Muriat of Soda.	Muriat of Magnesia.	Muriat of Lime.	Carbonat of Lime.	Carbonat of Magnesia.	Carbonat of Iron.	Sulphat of Magnesia.	Sulphat of Soda.	Sulphat of Iron.
Sulphur Water.	1.0054	8.	7.	19.	615.5	91.	13.	18.5	5.5		10.5		
Crescent Water.	1.002	20.8		13.6	137.	45.		3.1		2.	8.		
Tewitt Well.	1.00017	16.	5.							2.5			4.
Old Spaw.	1.00014	15.75	4.25							2.		3.	1.5
St. George's Spaw.	1.00012	13.5	3.5							2.			4.5

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TABLE III.

*Mr. William Brunton's Analysis of Aldfield Spaw near Ripon.*

Temperature.	Cubic Inches.			Grains.				
	Carbonic acid Gas.	Azotic Gas.	Sulphurated Hydrogen.	Carbonat of Lime.	Carbonat of Magnesia.	Sulphat of Magnesia.	Muriat of Magnesia.	Muriat of Soda.
54° *	6.	4.	21.	12.5	3.5	5.	96.	208

\* A fresh Water Spring within a few yards 48°

TABLE IV.

*Analysis of Dinsdale Water near Darlington by Mr. Peacock.**Its Contents in a Wine Quart.*

CLASS.	Specific Gravity.	Temperature.	Cubic Inches.			Grains.	
			Carbonic Acid gas	Azotic gas.	Sulphurated Hydrogen gas	Car. crate of Lime.	Sulphate of Lime. †
Cold Sulphureous.	1.0016	52. §	2.	1.50	8.32 †	2.	25.

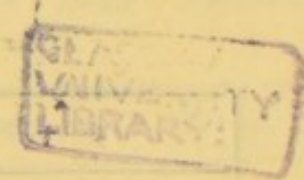
§ 8° above that of the Neighbouring Springs.

† which contains  $2\frac{1}{2}$  qrs. of Sulphur.

‡ or Selenite, which requires 500 times its weight of Water to dissolve it.

1875	1876	1877	1878	1879	1880
1881	1882	1883	1884	1885	1886
1887	1888	1889	1890	1891	1892
1893	1894	1895	1896	1897	1898
1899	1900	1901	1902	1903	1904

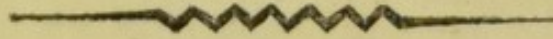
Analysis



Class.	Grade
Subsequent	Record

of 2 above list of the  
bindings.

*Where the several Places are situated.*



Malvern	} Worcestershire, in the Vicinity of each other.
Holywell	
Bristol	Somersetshire.
Matlock	} Derbyshire.
Buxton	
Bath	Somersetshire.
Sedlitz	Bohemia.
Epsom	Surry.
Sea	
Seltzer	Germany.
Tunbridge	Kent.
Spa	Germany.
Pyrmont	Westphalia.
Cheltenham	Gloucestershire.
Scarborough	Yorkshire.
Vichy	France.

Carlsbad	Bohemia.
Hartfell	Dumfriesshire.
Harrogate	Yorkshire.
Moffat	Dumfriesshire.
Aix la Chapelle Borset	} Germany, in the Vicinity of each other.
Barege	} Confines of France and Spain, on the Pyrenees.
Aldfield	Yorkshire, near Ripon.
Dinsdale	} Durham County, near Dar- lington.
Butterby	Durham City, near to.



## TO THE READER.



TOWARDS the Conclusion of this Pamphlet, the candid Reader will find that the Author does not attach much importance to its contents, neither does he wish to claim any merit from such a production, which certainly contains too little to merit praise, and certain he is that the Critic will find it too insignificant to occupy his Attention, nevertheless, he trusts that it will be found useful in some of its parts, having for its object an impartial exposition of the principal Mineral Waters known; as no one will deny that Medical Men often send their patients to Watering places without being at all acquainted with the Component parts of the Waters, and with a perfect ignorance of their relative strength, such a plan therefore as the following, will, it is presumed, prove acceptable both to the Faculty and to the Invalid; and the Author trusts that that eminent Physician, Doctor Saunders, will not judge it impertinent in him to have robbed a part of his Excellent Treatise, when it is considered that

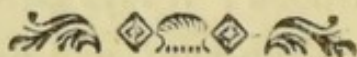
the main object is Public good, he cannot however quit the Subject without recommending to the perusal of the Reader the Treatise in question from which he will derive more useful Information than from any other Work with which he is acquainted, upon the Subject of Mineral Waters, and upon hot, warm, tepid and cold bathing, with remarks on the Aqueous Regimen.

*April 5th. 1809.*






tains too small a portion of any of the purging Salts to render it an active Water independant of the Hepatic Gas it contains, there is however within a few Yards, in the centre of the River Wear a remarkable strong saline Water, the Country people who frequent this place for cutaneous Affections, and obstructions in the Alimentary Canal, mix the two together which have the desired effect; a great many of the lead Miners resort to this place annually; there is no house of Accommodation; about half a Mile from the Sulphur Water is a Chalybeate, but weaker than any of those at Harrogate.



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MR. PEACOCK, gives the preference to the Dinsdale Water over that of Harrogate, because it contains a much larger portion of the Sulphurated Hydrogen Gas than the latter, and considers it as a very great Advantage that it contains no Salt, upon the axiom first laid down by the late MR. JOHN HUNTER, "that no two important Actions can be carried on in the System at the same time; so that whilst the Bowels are acted upon, there can be little or no determination to the Skin" To corroborate this opinion Mr P. introduces a passage from DR. GARNETT'S Analysis; who, he says, candidly gives up the Action of the Salt, and rests the efficacy of the Waters solely upon the Sulphurated Hydrogen Gas. I admit that the Dinsdale Water, § may possess six times more of this powerful agent than that of Harrogate, so far its action may be more powerful;

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§ See Note A at the end of this work.

ful; but I differ in toto with those Gentlemen as to the Solid contents of Mineral Waters having nothing to do in the Cure of Herpes; and that whilst a powerful operation is going on in the Bowels, there can be little or no determination to the Skin:

Every one who will be at the pains to attend to those who are under a course of the Sulphur Waters at Harrogate, will soon be convinced that the determination to the Skin is indeed very great, although the Action upon the Bowels has been considerable, this is a circumstance I have invariably observed. Antimony will act both as a Sudorific and a Purgative, after its effects as an Emetic have ceased. It is also well attested by daily experience that the Sympathy betwixt the Stomach and the Skin is one of the most remarkable Sympathies that subsists in the human frame; what effects are produced in the Stomach by the Salts beyond their purgative ones, I will not pretend to determine, but that their Action extends to the surface I can have no doubt, therefore that the Solid contents of the Waters, (the soluble ones I mean) are highly beneficial in Cutaneous Affections is more than probable, though I readily admit

mit that the Hepatic Gas is the most essential, but by no means the sole agent in those Cases; their Action upon the Urinary Organs are equally great.

As an Argument in favor of my opinion that a certain Action induced in the System through the Medium of the Stomach is salutary in Herpes, and which I think cannot be ascribed solely to the Hepatic Gas, I shall take the liberty to transcribe a passage from MR. PEACOCK'S history of the Waters at Dinsdale.

“Almost every Case of Herpetic eruption which has come under my care, I have been able to trace to some previous disease or derangement of the System, which the eruption is commonly the cure of. The Subjects of them are generally of consumptive, or what is called nervous habits; low Spirits, Flatulency, Indigestion, restless nights, (particularly from the hours of two to six in the Morning,) occasional Colics, which do not give way to the usual means of relief, hectic heats, palpitations of the heart upon motion, griping pains, and occasionally a lax state of the Bowels, which seldom lasts more than a day; a great sensibility of the Skin to heat and cold; occasionally

a giddiness of the head, and an inability to fix the Attention even on the most urgent business; these we have to lament, only form a part of the Symptoms which characterise the Herpetic temperament."

Here then we have MR. PEACOCK'S decided opinion that Herpes is in general a secondary disease, and upon my word I am ready to grant it; what is the usual Language in such Cases, "Causa Sublata, tollitur effectus. Is it not reasonable therefore to attempt to cure the previous disorder of which this is only the effect. That the Sulphur Waters at Harrogate are well calculated to this no one who visits that place can deny, though I admit that tepid baths of simple Water will produce powerful effects upon the internal Organs.

Let any one read DR. HAMILTON'S ingenious and excellent treatise on the use of purgatives in a great many disorders which were formerly treated with Tonics, (I will testify as to their efficacy in Chorea Sancti Viti and Chlorosis) and I think no one will deny the powers of the purging Sulphur Waters at Harrogate in curing many disorders, and Symptoms of Disorders, which do cause,  
and

and are accompanied by Cutaneous Affections, and which, if not timely attended to will render itself and the secondary Affection, both incurable :

I cannot however pay a Compliment to many Invalids who frequent Watering places, who do every thing but follow the Advice of the Faculty, and charge every failure to the Waters, forgetting their own indiscretions. \*

One word more upon the list of Mineral Waters.

It certainly will require MR. PEACOCK'S invisible and intangible Sylph to render several of the Waters enumerated in this Pamphlet the least efficacious, for they certainly have nothing to recommend them, that can come in any tangible shape.

The Sulphat of Lime in the Dinsdale Water cannot be prejudicial to Health.

The following is an observation made by DR. SAUNDERS.

“The Reader will please to observe that under the head of Neutral Purging Salts, are included the Sulphats of Soda and Magnesia, and the Mu-

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riats

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\* Read Doctor Saunders, upon this Subject, on Harrogate Carlsbad and Cheltenham Waters.

riats of Lime, Soda, and Magnesia. The power which the earthy Muriats may possess of acting on the intestinal canal, is not quite ascertained, but from their great solubility, and from analogy with Salts, with similar component parts, we may, I think, conclude that this forms a principal part of their operation."

"The Reader will likewise observe that where the spaces are left blank, it signifies that we are ignorant whether any of the substances at the head of the column is contained in the Water; that the word *none* implies a certainty of the absence of that Substance; and the term *uncertain*, means that the Substance is contained, but the quantity is not known."

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**A** Correct Knowledge of the Component parts of the principal Mineral Waters, must be a Subject well deserving the attention both of the Physician and of the Invalid; it will guide the one in his choice of the Place to which he may recommend his Patient, and it may prevent the other from running from Watering-place to Watering-place in search of Health, and thus wasting his time in Drinking Waters which are too inert to produce any effect upon the System, and where the credulity of the Invalid is imposed upon by the Selfishness of Interested Individuals.

There are many places in this Kingdom that can boast of their Mineral Waters; the two principal of which are in competition with each other, Harrogate and Cheltenham, each has its Advocates; let us confront their respective Merits, facts will speak for themselves; in DR. SAUNDERS' Synop-

tical Table, as well as in that of DR. GARNETT, you have the real difference that Subsists betwixt them, and it is too great not to convince the unprejudiced reader, who can have no difficulty to decide which of the two possesses the most of an active principle, and which of the two requires artificial aid to render its Waters more active than they of themselves really are; it is not intended from this to infer that either of them are in every instance sufficient for the purpose for which they are prescribed, no, for it is well known that the same dose, or even larger doses of the same Medicine, are not at all times equally efficacious in different habits, nor in the same habit at different times, and that one Person derives all the good effects of the Waters when drank cold, whilst another requires them to be heated, which process deprives them of a large portion of their gaseous contents; but from the above Tables we shall find that in equal quantities of the Waters of Harrogate and Cheltenham, there is a much larger proportion of active substances in the one than in the other, the Analyses of each is presumed to be perfectly correct; the

Authors

Authors of them celebrated Chymists, could have no motive to deceive; slight inaccuracies will sometimes occur.

Here then we find the advantages greatly in favour of Harrogate as to their solid contents nearly as three to two, and with a much larger portion of the Azotic and Sulphurated Hydrogen Gases than are found in the Cheltenham Waters, and of all the Gases the Sulphurated Hydrogen being the principal in the Cure of Cutaneous Affections this alone gives a decided preference to Harrogate; that of Cheltenham however possesses a much larger quantity of Carbonic Acid Gas than the Harrogate Water, and contains a small portion of Oxyd of Iron, but then if a Chalybeate be required with the purgative Water, you have them combined in the Crescent Water at Harrogate, and they certainly are in many Cases salutary adjuncts to each other; if the Crescent Water do not always prove sufficiently active as a purgative, a small portion of some of the Neutral Purgings Salts may be added to the first glass, which is daily practised at Cheltenham, or a glass of the Sulphur Water may be drank to quicken its operation,

ration, but the Invalid must bear in mind that when a mild Chalybeate is recommended, strong purgatives are to be avoided. I have found after many years experience that the Crescent Waters may be drank with great Advantage in many Cases, when the more powerful Chalybeate would be highly improper. If the purgative Waters be required then without a Mixture of Iron, it is at Harrogate, where he will find it of a degree of strength Superior to any other known in this Kingdom except Sea Water, if a Chalybeate be required either jointly with the Purgative or separately, the Invalid will find numerous Sources of this invaluable Water of various degrees of strength also at Harrogate, equal to which, I believe, there are few to be met with any where.

From what has been said, and from a review of the Synoptical Tables the Reader must at once be convinced of the Superiority of Harrogate over any other place in this Kingdom as to its Sulphurous Purgings, and its Chalybeate Waters, which, in their action upon the Digestive Organs, upon the Secretions, and Excretions which comes in a  
 tangible

tangible shape, and in their more occult qualities, are not excelled, I may say not equalled by any others known, and as there are many Cases which require a due Administration of both, is it not an Advantage to the Invalid to possess both on the same spot, in their highest perfection.

The Liver, the Biliary Ducts, the Glandular System, the Urinary and Perspiratory Organs are each of them acted upon by those celebrated Waters, and they are well known to exert extraordinary powers upon Worms, and in a variety of Disorders which cannot be noticed here, nor can we explain in many respects their mode of Operating upon the Human Frame; much no doubt may be attributed to their Chymical and mechanical Operation, as well as to the action of their gaseous contents both internally and externally applied.

When we come to speak of the Cure of Cutaneous Affections too much cannot be said of the Sulphur Water at Harrogate when used as a Warm Bath; the most obstinate and inveterate Herpetic Affections have been completely cured by this Water. Here I beg leave to make a remark,

mark, the validity of which I trust the Reader will readily admit.

If it is supposed that Disorders of the Skin are cured purely by Warm-Bathing, as some are inclined to believe, it is to the degree of temperature that the Cure is to be ascribed, and not to the contents of the Waters; if on the other hand the contents of the Waters have an equal share of merit with the heat, it must be allowed that the more the Waters abound in those active Substances, the greater will be their effect upon the Skin, that this is really the case I have not the least doubt; let any one apply Sulphur, Vitriolic Acid or Mercury to the Skin in a Disorder which is common amongst the lower orders of people in this Country, though unjustly ascribed to a neighbouring Country as the Harbinger of that Disorder, and also in many other eruptive disorders, and he will find that the Disorder will be removed without the Assistance of Warm-Bathing, will the reader after this hesitate to give the preference to Harrogate in Cutaneous Affections, as containing a larger portion of active, Chymical Substances.

The dangerous practice of external Applications

tions in Herpetic Cases ought to be guarded against as much as possible such as preparations of Lead and Mercury, for although they will frequently remove the Complaint, they do often entail other Disorders of a more dangerous tendency.

Much might be said upon the Subject of Warm-Bathing, but it cannot properly be a part of this Pamphlet, nevertheless I shall make a few cursory remarks on the Subject.

Warm-Bathing was for many years held in great disrepute, to which it is by no means intitled, the injudicious, and often the sparing use of it, the want of Attention to the proper degrees of temperature betwixt a hot and a cold Bath, the imperfect knowledge that a great many practitioners have of the general effects of Warm-Bathing have all contributed to bring it into disrepute, to which I may add the unpardonable impatience of a great many Invalids to leave Watering places before the Cure is accomplished, and their not returning afterwards, for it cannot be supposed that one Season is in every Case sufficient. It is often boldly asserted that Warm-Bathing must be weakening, this I deny; properly and judiciously

ously managed it is strengthening; it is said too that a frequent use of it is highly improper, the following, among many other instances I could adduce, will convince the Reader of the folly of both these Assertions.

I had a Patient at Harrogate a very few years ago, who laboured under a very distressing Disorder in his Face, his stay there was to be very short, and there was very little prospect of his deriving much benefit from the Waters in so short a time; the debility of his frame too was great; I advised him to Bathe every day, which he did, to the astonishment of the Man who attended the Bath, seventeen days together; on the nineteenth day he left Harrogate nearly well, and boasted of considerable increase of bodily strength and vigour; the temperature was  $96^{\circ}$  and he continued in the Bath from fifteen to twenty Minutes, and always went in about two o'Clock after his Morning ride; he drank the Waters too.

The Antients well understood the Warm Bath, amongst them it was esteemed a luxury as well as a remedy, and on the Continent at this present time it is in great Vogue, and deservedly so, but

in

in this Country it is too little attended to.

It may be proper here to remark that a great many Invalids come to Watering-places with general directions from their Physicians, and Apothecaries, who live at a considerable distance from them; the Absurdity of this must be evident to every one; when a Physician has decided upon the place to which he is to send his Patient, would it not be more consistent with reason that he should provide his Patient with a brief summary of his Disorder, and to enumerate some of the principal remedies which he has taken, leaving the management of his Patient to some of the Faculty upon the Spot, for there is much to attend to under a course of Mineral Waters, far beyond the powers of many Invalids to decide upon; and the mischief arising from conforming with sealed orders received at head quarters, is frequently too serious not to be noticed.

I shall now beg leave to make some observations on the general Conduct of those who frequent Watering-places, and to point out many Improperities, against which, with the greatest deference, I beg to caution both those who are in search of Health and the Votaries of pleasure.

Waters

Waters so strongly impregnated with Minerals, and possessing so many different virtues, must produce powerful effects upon the human frame, as is witnessed in the cure of diseases, nevertheless we daily see persons drinking them largely without consulting those who would certainly advise them against an indiscriminate use of them, for it is indisputably true that if they do good, they must, if injudiciously taken, do harm, and I have frequently seen the bad effects of such practices.

Every one will observe persons in high Health to take large potations of the Sulphur Water daily, what their object is, is best known to themselves; I grant however that to persons in the midst of Health an occasional purgative may be necessary, it is the abuse of Mineral Waters that I argue against, they should be taken with Caution.

Persons who have lived hard, and by intemperance have debilitated their digestive Organs, and become subject to the Gutta Rosea, and other like Affections of the Skin, whether on the Face or on other parts, will reap great benefit from the Sulphur Water, both internally and externally applied, they come however under the denomination

tion of Invalids, who are in an especial manner cautioned against taking any steps without consulting some of the Faculty who usually frequent Watering-places; discrimination and judgment are in no instances more necessary than in diseases of the Skin.

I shall next take notice of the impropriety of keeping late hours at Watering-places, the too frequent and long continued dancing, of drinking the Waters late in the Morning, and amongst the Gentlemen, the large quantities of fermented and vinous liquors that some of them drink whilst under a course of the Waters, and the many anxious hours that some of them pass at the Card Table; all, or any of these are sufficient to destroy Health, what must then follow when to one species of Excess another is superadded? the Digestive Organs and nervous System being already weakened by excess of stimulus, by fatigue, by want of natural rest, and by anxiety of mind, the Stomach is rendered incapable to digest the Mineral Waters, which under different circumstances would produce the most salutary effects, whereas when thus abused, they often occasion Symptoms more

troublesome than those they were intended to remove. Moderate dancing, proper exercise, a well regulated diet, and wine in moderation, often form a part of the curative plan, but then early hours, and drinking the Waters at a seasonable hour in the Morning should be attended to; I would have every person to go down to the Wells from about seven to eight o'Clock in the Morning; the advantages of this would speak for themselves.

As my object in writing this Pamphlet is public good, I hope no one will be offended at the freedom with which I have treated the latter part of the Subject.

If my observations added to the Synoptical Tables which I have now the Honour to offer to the Public should meet with their approbation, I shall consider it as the amplest reward for my feeble exertion, but I beg to assure the Reader that I attach too little consequence to these pages to expect praise or commendation.

As the main object of this Pamphlet is to shew the Reader under one point of view all the principal Mineral Waters known, with their component Parts, and relative strength; it is not  
my

my intention to give any practical remarks on their uses, these he will find fully laid down in the Writings of the † three first Authors named in my title page, to which I refer the Medical Reader in particular, but as Authors can do no more than lay down general rules, it will be always adviseable that the Invalid do consult some of the Faculty upon the spot.

DOCTOR GARNETT'S Analysis of the Waters at Harrogate is in general very well known, as well as his practical remarks on their use, it may not however be improper to insert an observation made on his Analysis by that excellent Chymist, the late MR. WILLIAM BRUNTON of Ripon, by whose Death in the prime of Life, the Public has sustained a great loss; the following are his words.

“ DOCTOR GARNETT, whose Analysis of  
 “ Harrogate Water evinces so much Skill, and  
 c 2 such

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† Vide Saunders on Mineral Waters, printed by  
 W. Phillips London. 1800.

Garnett on Harrogate Water, by T. Gill, Leeds 1799.  
 Peacock on Dinsdale Water, by E. Walker, Newcastle  
 1805.

“ such extent of Chymical Knowledge, has made  
 “ Muriate of Lime one of its component parts.  
 “ Since the Publication of MR. KIRWAN’S  
 “ essay on the Analysis of Mineral Waters, it is  
 “ known that Muriate of Lime cannot exist in a  
 “ Water that contains Sulphate or Carbonate of  
 “ Magnesia. The Doctor’s error was commit-  
 “ ted by the manner in which Analyses were  
 “ then conducted. \*

Much may be done at Watering-places to add  
 to the comforts and conveniences of Visitors, for  
 if these are not sufficiently attended to, † all the  
 efficacy of the Waters will avail little; and I flatter  
 myself that the Inhabitants of Harrogate will do  
 me the justice to acknowledge that I have been  
 of some use to the place, by planning the Promen-  
 ade Room at Low Harrogate, and by my exer-  
 tions to have the Wells covered in, the plan of  
 which had long been in contemplation before I  
 came into the Neighbourhood; whereas I was the  
 first and sole promoter of the Promenade Room,  
 in

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\* Vide History of Ripon, page 225.

† Want of attention to this point often offends the  
 Company.

in which I have been most ably assisted by my esteemed Friend DOCTOR HUNTER of York, by whose indefatigable zeal and attention, the undertaking has acquired a solid reputation. ||

The Promenade Room, situated in the Crescent Garden, to which the Subscribers have free access, affords the Company every kind of accommodation, with London and Provincial Newspapers, Books, Magazines, Music, and sacred Music on Sunday Evenings for the moderate Sum of 3s. 6d. per Week.

Being in the constant habit of visiting Harrogate during the Seasons, I do not doubt but I can point out other improvements of equal value to the Company that resort thither with the Assistance of my Medical Brethren there, particularly the construction of Baths upon an improved plan; thus Harrogate may Vie with the first Watering-place in the Universe, and acquire that Celebrity to which the Superiority of its Waters justly entitles it.

Before I conclude I beg to add a remark on

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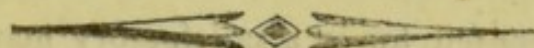
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|| Since writing the above, the Author has to lament the Death of so worthy a character.

the Efficacy of the Sulphur Waters in the Cure of Asthma ; a strong Case of which occurred at the Granby last year in a patient of mine, in whose recovery I was interested in more than an ordinary manner,—it was my own Brother.

**F I N I S.**

§ See page 9 Note A on this Subject.



MR. PEACOCK has made the following positive assertion upon reading the 108 and part of the 109th, pages of Doctor Garnett's observations on the Harrogate Waters.

“ He (*the Doctor*) here candidly gives up the Action of the Salts, and rests its efficacy solely upon the Sulphurated Hydrogen Gas ” in the Cure of cutaneous Diseases.

Now I beg leave to lay before the Reader the whole of what Doctor Garnett has said in the two pages above mentioned, also what follows on the same Subject in page 112, and he will see how very different were the Sentiments of this great and much to be lamented Philosopher from those of Mr. Peacock, whose aim is evidently to establish the Waters at Dinsdale at any  
rate

rate (though they have some merit) even by the most incorrect inferences and erroneous statements.

Dr. Garnett says, speaking of the Sulphur Water.

“ Its impregnation with hepatic air renders it one of the most powerful remedies in several diseases of the Skin; its mode of Action in these diseases has not been accounted for in a satisfactory manner, but experience confirms its use. The saline Substances which it contains *may* contribute to the cure of cutaneous diseases, both by promoting perspiration when the Water is taken internally, and by stimulating the cutaneous vessels, when it is used externally; but I am *inclined* to think that the hepatic air acts a principal part in the Cure of these complaints, for I have known common Water impregnated with hepatic air produce powerful effects in some herpetic Cases, in which the Sulphur Water at Harrogate had been formerly used with success, but to which the patients could not then conveniently have recourse.”

“ The Sulphur Water speedily and easily carries off the effects of intemperance, as is experienced every year. Those who have spent the Winter in festivity, come to Harrogate with a Constitution loaded with impurities, and heated by repeated debauches; but the use of the Sulphur Water for some time, as a purgative,

ative, or gentle laxative, not only cleanses the first passages, but purifies the Blood, opens the pores of the Skin, and promotes perspiration" mark these words indulgent Reader, "and such patients though they become heavy loaded, their Appetites gone, and their Nerves unstrung, generally return alert, their spirits lively, and Appetites good." Pages 108 and 109.

"By much the greater number of patients who resort to Harrogate, are those afflicted with eruptions on the Skin, and the relief experienced in the most obstinate Cases of this kind from the use of the Sulphur Water is astonishing. This Water was thought for a long time too offensive or too dangerous to be taken internally; and therefore was at first only used as a bath or wash in diseases of the Skin, many of which it annually Cured by this mode of application only; but when, in time, it came to be used internally also, its efficacy in removing those diseases became still more striking and obvious." Page 112.

Now, in the name of truth, is there any one single argument in the above passages that can possibly bear Mr. Peacock out in his gratuitous assertion; does not the whole of the above Quotation plumply contradict his statement? I cannot view it in any other light; there are optical illusions, so there are mental ones too, I hope

hope I do not labour under the latter, and I pledge my honour that my Quotations are perfectly correct, which will remove all imputations as to the former.

The whole then is reducible to this, that the Celebrity of Dinsdale Water is to be established upon the two following words made use of by Doctor Garnett, “ may, ” “ inclined. ”

The House built upon a sandy foundation is just as durable as such an ill founded reputation.—I will however admit that so long as the Dinsdale Water contains so large a portion of Hepatic Gas, and so long as the Family so renowned in the County of Durham, the just objects of Mr. Peacock’s Panegyric can provide them with Coals wherewith to boil the Water, so long will it have a name, but all the Lambtons, and all the Coals of Durham and Northumberland, to which I will add all the powers of Mr. Peacock’s pen, will never raise its eminence above the point of Mediocrity when compared to Harrogate, Cheltenham, Aldfield, and other places already mentioned in the Tables.

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Farrer, Printer, Ripon.

## ADDENDA.

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It is customary for Persons to have Harrogate Water sent to them at a great distance; I should think that from the Deposition and Evaporation that must take place, its powers must be very much reduced:—this must strike every Chymist, and it is well known that all Medicinal Waters are the most efficacious when drank at the Fountain Head.

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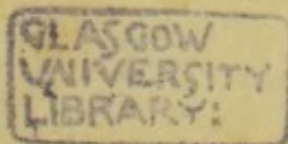
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## ERRATA.

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Table III. add, calculated by the Wine Gallon.  
Page 19 line 8, for persopiratory, read perspiratory.  
— 34 — 12, for renowed, read renowned.

— 0000 —  
Farret, Printer, Ripon.



ADDENDA

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It is necessary for Persons to have their Gate Water  
sent to them at a great distance; I should think that  
from the Dignities and Exaltation that will be  
placed, the power will be very much reduced. — this  
must strike every Christian, and it is not known that  
all Medical Wives are the most of them, and  
even at the present time.

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ERRATA

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TABLE III. 8th, corrected by the Water-Gate  
Page 19 line 8, for correction of the word  
124 — 12, for error, and corrected.

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Printer, Printer, Ripon.

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