The following journal is intended to
contain Experiments and Observations
on Galvinism, and Such Electrical
Phenomena as A may seem to be
connected with it —

1

Journal

of

Galvanism —

for Dec^r 1801 —

Calcutta

Calcutta — 1801

Dec. 8th. This evening ended my first Calcutta season. It consisted of 20 pair of metals 1½ Inch square — what paper was used for Dies. The Instr acted strongly and my intention is to [illegible] at last it by my Lecture on Thursday next which ends the present term. The Term should end only with the month but as the Lady's yearly examinations commence next Wednesday the Students are exempted from attending Lectures during the remainder of the month. The greatest shock with me is when the conductors are placed on the ends of the lips. The flash of light is very dreaded and certainly takes place before the conductor comes into Contact.

1801 Feb

Wednesday 9 Dec

This morning found the fish not quite so powerfull as last night— Could any difference from touching the same or different metals at the extremities of the fish— made Discs of Platina & Lead as well.

The shocks follow each other very irregularly Last from the Zinc Disagreable like the dividing of Salt fish on the tongue.

— The workman has made the conductor of Zinc mixed with lead instead of Zinc. There seems to be little difference in their powers, changes, or even in reversing the conductors, that is applying Silver to Silver, and Zinc to Zinc—

Calcutta 1805

Thursday 10th Dec^r —

Exhibited the Pile with the Manuel Discharge in a Solution of common Salt. At first it would not act, probably owing to the quantity of water running down the sides. When the water was wiped off, and the Pile began to dry externally, the action commenced. It was more powerful than it had yet been —

— Exhibited the Pile at this last Lecture of the Course. Every Student tried it, the shocks and flashes were strong and frequent. Students much pleased with this new and singular experiment. —

Calcutta 1801

Friday 11th Oct

This morning the Jack is as strong as last night — Took off the upper plate (silver) Found the Zinc below it oxided over about a fourth of its surface. Replaced the silver and it would not act[illegible] many trials act. No' it acted well when I made it connect with the upper and lower Zinc. — The oxyde was then rubbed off the Zinc when the Jack acted as usual. — Intends to[illegible] this ingenious. —

1801

Saturday 12th Dec.

The fish still acts, but feebly, the discs being almost dry. — Tooth down the fish found much oxyd on the Zinc and none on the Silver. The latter was in some places almost quite black on the side next the Flannel which was also in several places turned black. The Zinc and Discs ~~was~~ had the same dayd, that is of Zinc, the oxyd on both sides of the discs seemed also to be that of Zinc, but I shall examine them more particularly afterwards. —

The Flannel discs adhered pretty strongly to both metals. —

6 Calcutta 24th Dec. 1801

I have now completed a pile of fifty pair. Intend to make it a hundred at least. Got a mould for casting the 3rd plate

— 9th Jan.y 1802 —

This evening casted two piles of ~~20~~ 25 pair each very powerfull — Shock felt through ~~[illegible]~~ as high as the Shoulders — Disagreably strong in the mouth — Flash very vivid from the outsides of the sheets — The shock when frequently repeated produced a numbness in the fingers, and wrists insensible on using them when the skin is removed — The Disks were of brown cloth Broad cloth and soaked in a Solution of Muriate of Ammoniac —

— 10 Jan.y —

This morning the Pile as last night. felt a numbness in my arms after a number of shocks, which continued for at least an hour.

Calcutta 17th Jan.y 1802 3

Erected the Gal.s Battery. Two Jails thirty feet in each Room. Brown Broad cloth, which had been soaked for several days in a Solut.n of Muriate of Ammonia — Very strong Shocks, two mouth. for the mouth

— Received from Robt. Armstrong two boxes which held the two Jails mounted — Carried them to Mr. Fowler, when Galvanism Shock was given to a large compan.y —

10th

— The Jail is as strong as when erected yesterday at noon. The same Shock occurs as formerly. i.e the Jail will not act on account of the copper plates having been moved, but when the communication is formed between the metal from the action is powerful

— Applied to a paralytic case, the Cattle membrane on one side the face. — The Shock affected him

as

8 as much as the Shock of a Jars will charge with electricity. —

19th Jan.y

Rele nearly the same as yesterday. Lost it down at 1 ½ 6. Pm. Much oxid on Cloth slicks 20 Just to the Zinc that it is supended with Copper The oxid on the Zinc plate very black on some; on others White. The cause of this difference I do not see. — Much oxid on the cloth. —

Exp.t

Lay a Seam of Selen on a plate of Zinc and put a Lock Leech on the Selen. When the current crawling of the Selen first touches the Zinc it starts back, and cannot be prevailed on Leave the plates. — ✱ The plates may be connected with the extremes of a Galvanic battery. — M.r Macarthy thinks Galvanism as useful to him as Elec.y — was Galvanized again on the face, this morning. —

Thursday 21st Jan.y 1802

Shewed to Mr Buchanan and Mr. Wm. Hunter the Galvanic battery consisting of two Jars of 30 ℔. each — Called Jower — Sudley —

— All Hands should do not contain Oxygen are incapable of transmitting the galvanic influence E.g. Alcohol Ether, Fat & Essential oils — — Mr. Cruikshank —

31.

Friday 21. ——

Exp.t. To form a Comp.d battery between the external surfaces of the Battery, I made use of the Electr. universal discharger. A Comp.d was made by a Gold Button, between the bottoms of the Jars, and the tops were connected by the brass of the discharger. From these were hung two slips of tinfoil passing each into a basin of water, reaching to about 1½ Inch

below the surface. The circulation was then completed by laying a wire over the tumblers from each end of which hung down into the water a piece of tinfoil. By this contrivance the distance between the pieces of tinfoil in each glass could be regulated at pleasure.

Hams

Q Put the machine in action — A Buck boy now beginning to clean up. — Then was the appearance. In three or four minutes a white smoky substance began to issue from the Zinc end, and descended in a waving stream with a slow velocity to the bottom the distance being two inches — At the same time, or a very little after, the other slip of tinfoil in the same tumbler and which hung from the end of the wire connecting with began to open in small bubbles of air which adhered for some time to the surface of the metal, like the experiment of the egg in the air pump. The bubble started off

very. now and then, and rose to the surface.
The same phenomena took place in the other
tumbler, but reversed with respect to the layers of
tinfoil.— The white matter descended to, and
rested on and at the bottom. Part mixed with
the water which it rendered milky, more in
the Zinc ~~tumbler~~ than in the Silver water
11 1/2 P. M. One of the tumblers had its water
milky white, the other not so white, a white
sediment in both— Took down the battery—
Propose to examine the oxids to morrow—
The battery when cleared of the apparatus, gave
M. Bently a smart shock.

Sat. 22 ~~Feb.~~ Jan.

The whole matter in the tumblers
is the oxide of Zinc— The tinfoil in
both is decomposed—

Thurs 16 Feb. 1802

The Pile decomposed the water only at the Silver wire the Oxygen gas is with Drawn and the Hydrogen escapes. The oxygen gas circulates through the pile and appears at the Zinc wire, this phenomenon but not decomposing the water in the neighbourhood ——— H

~~Z~~ 29 March

This evening gave a Lecture on Galvanism (concluded the term). The Battery consisted of 100 pairs, in 4 pairs of 25 pairs each. Much powerful & Experiment on Water-bows both brass, many bubbles seen. The Silver wire - the Zinc wire became black, in short the phenomena were exactly the same as described by Nicholson in his first experi-

14 ferruginous on Water. A Green matter collects at the Bottom. The points of the Fingers were became red, that of the Tongue was black — When the Vibrating rods are moved on the connecting ends of the Battery, a continued uninterrupted Discharge takes place, very severe on the wrists particularly my left hand — The difference on my two hands is probably owing to the comparative strength of the muscles on the right. by heavy Shower with Thunder.

14 April

Exhibited a Galvanic Battery of 120 pairs to the Abbots the Rev.d Dodd Clancy and family — acted but indifferently —

1st May — 1802

— Facts in Galvanism —

1. Silver and of the Pile is always
minus. Zinc always plus-

2. The Water and produces in Water,
Hydrogen Gas, the Zinc and with a
Gold or Platina wire, Oxygen Gas
— with a Copper wire ~~no~~ Gas,
but the wire is oxyded —

3. Solution of muriate of Am: or
of Muri: of Soda better than com:
Salt for the cloths — Dry Lime with
Am: (diluted and electric —

4. The Galvanic shock most pun-
gent when the Skin is broken

and much more so on the moon than on the plus side. — Same with Electricity

5. Galvanism accumulated tho' surrounded by conductors of Elect.ty then (Diff: from Elec.

6. Galvanism is much less forcible through a number than through one person. Hence it differs from Elect.ty —

7. Metallic solutions made part of the circuit instead of water — The latter will decompose the metal, and no Hy. S. Gas is produced — Solutions (Diamag —

8. Alcohol, Ether, the fat and fixed oils do not conduct Galvanism —

9. Vegetables do not conduct Galvanism

Hence Sal.r is different from Elect.ty

10 Plus and minus ends of the Pile Double Jack.

11. Wax does not answer for ~~casting~~ Lining the Jacks Box — Wax allowed by the Galvanic Jury

12. The Zinc of the Wet Cloth is unprofessional on the ~~Dry~~ sides of the metals

13. Old People feel ~~the~~ strong Shocks more severely than young; but weak Shocks less

14. The Jacks may be constructed of Platinum-Lago and a metal. —

15 Men and Women in the same circuit Women feel the whole Shock, more Acute.

16. The Charging of an Electrician by the Jacks Doubtfull — (1862) Jacks have been Batteries can now be charged almost without labour. —

17 The following composition instead of
not doth greatly increase the strength
of the Pile

1 Lb of Clay
1 Ounce of Plumbago in powder
1 Ounce Black Oxyd of Manganese
2 Ounces of Common Salt

Made into a Paste and applied between
the Plates of Metals ——————

18. A Case of Paralysis which was occasioned
by Electricity was much affected by Galvanism

19. When one of the Conducting rods is made
to vibrate on one end of the Pile it
produces a Sensation similar to that called
Pleasing of a foot or other member — Hopefully
this Pleasing may be a Salvanic effect —

20. From W. Nicholson's experiments it seem probable that the velocity with which the Galvanic fluid produces Electricity is two hundred times more rapid than that can be produced by the labour of one man with a powerfull Electrical machine, whilst at the same time its intensity is so low, that the shock it may be considered as produced much more by the mass, or quantity of Electricity, than by the velocity of its motion.

21. In Galvanic Batteries the metals need not be quite pure.—

— 1. B has the strongest effect on an Animal when one end is connected with a nerve and the other with a muscle of the same limb

— 2. B is powerfull in Vacuo, but more powerfull in Oxigen Gas—

— X Two Batteries of the same No of pairs appeared equal in shock, and to the Elect. Thro the Diam. of the hand one as 115, but the latter most powerfull in melting

1803 — 5 March

22. Galvanized Capt.n Thomas for diagnosis — Battery
Go pairs Lady Silver, Lady Copper — very strong
Used it also on my own ears — curious rattling
Sound in the ears, difficult to describe — a chain
round the ears.

23 — 6 —

I send breakfast from the Galvanic battery I
am persuaded that I hear better, since yester-
day

— Took to pieces the battery — Cloths on discs
smell strongly of Volatile alkali. — A
proof that the muriate of ammonia in
which the discs were soaked, was decomposed.

24. With a Solution of Sulphate of Lead, the Negative wire forms a Lead, owing to the Hydrogen in its nascent State reducing the oxid of the Lead —

25. — Solution of Sulphate of Copper. two Crystals but a Solid Button adhering firmly to the wire —

26 Solution Sulphate metallic Crystals — needle like Crystals —

27.

Calcutta 10th June 1803

Extract from a late English paper

"The Lady of Fowkes who was executed on Monday last was subjected to the Galvanic process by Professor Aldini under the inspection of Mr Keate, Mr Carpue and several other professional Gentlemen. On the first application of Galvanism to the face the jaw began to quiver, and the adjoining muscles were horribly contorted, one eye was actually opened. In the subsequent part of the process the right hand was raised and clenched and the thighs and legs were moved yet in motion. The by-standers thought the man would be restored to life. His horror could not be suppressed as his fate had been strongly predicted to fall him the moment out of

Lecture 24

by some friends near the Scaffold — Some
is shown the strong action of this new power
on the human frame. — Drowning — Suffocation
Apoplexy and other disorders of the head —
M. Aldini, who is Nephew to Galvani,
has applied it with success to diseased eyes
& insanity.

Calcutta 24 Jan 1803

At the house of Mr Hunter I saw a
rabbit on which various experiments on Galvanism. The head of a Dog was cut off and
placed in conjunction with the neck, laid on
a table rubbed with a Solution of am:
Two wires communicating with the Galvanic
trough, were then applied, one to the ear the
other to the anus, when both head and body
were thrown into the most unnatural
muscular motion. The body flacked up with
a movement which threw it over the
table, the head moved, its lips and teeth
gnashing violently. Curiosity was expressed
to know the experiment tried on a criminal recently executed — English people
(This seems to be a fair Debt to the Storm.

Calcutta 10 June 1803

Doctor Bischoff has applied for admission into the Hospital for the following diseases

1 Diseased Liver — Man aged 40 — 70

2 — Ditto — — Girl 20 —

were Sent on a relation of the diseases which Gentlemen cured

— 3 A Woman aged 20 was brought to the Hospital with a paralytic affection in the right Arm, right Side and right Leg cured by Gentlemen.

— 3. A man aged 50 — a chronic Asthma and pain in the Shoulder cured, and his weak right Arm strengthened by Electricity

A Epileptic affection greatly relieved by 60 Pair —

Doct B— finds that the action of the two fluids (different more in quantity than quality— One fluid a Black, Coffee or Sediment resulting of the nerves— came of the Diff: emunctories. Belongs to the Zinc fluid a sourish taste, to the Silver or Copper more Saline. alkaline— Most untuous and more Inclining at the Zinc pole

Doctor B. calls the fluids, when they pile up created in their proper Silver, Zinc, Lead cloth by the undermost the Zinc. and upper most the Silver pole, for the others pile of the fluids he says are not concerned

Doctor Nauche at Paris has found a person perfectly blind may be made to perceive very lively and numerous flashes of light by bringing one extremity of the 2d Lecture pole into communication with the hand on foot, and the other with the face, skin of the head and even the nose. That accidental appearances of Electr.y when they comprehend the whole hand, produce great agitation many nerves involuntary tears, memorial sensation of the Retina, an and a Attraction Taste, a quick sensation of the vision, and mucus of heat and transpiration, and of perspiration in the Galvanized parts. That the Action of the Electric fluid may be unbeard by drawing it off by a sharp point

N.Y. May: 2d: 1809

The Coagulum of the blood was effected by the Galvanic Flames for about 40 minutes, or until the blood was cooled to nearly the temperature of the Atmosphere

Mr. May: Feb. 1803

In attempting to restore suspended animation by drowning it is recommended to apply Tobacco fumes to the lungs

The Quassia of Surinam is found to be an excellent stomachic, & better known than Peruvian bark or any other substance

Voltaic Battery

Facts

1. Two Jars of an equal number of plates and of the same metal and order, one of 1 Jnch, the other of five inches in diam.r appeared equal both to the Elect.r and Rep.r shocks. —

2. A Battery of 200 pairs Copper and Zinc the plates 5 Inches square melted 23 Inches of Iron wire, A platina wire of $\frac{1}{175}$ Jnch of an Inch in diameter was fused into a Globule

3. In fusing metals the larger the diameter of the metals, the greater is the effect. —

4. Eight pairs of plates of Copper and Zinc 10 Inches square, (both moistened with diluted muriatic gave sparks so vivid as to burn iron wire; yet the shocks they produce are hardly sensible and the Chemical changes are undetected; whe

2d Series (Similar) of only 2 Inches square, which occasions Shocks and Chemical agencies, more than three times as intense, / produces no Light whatever

5. The Property of decomposing Water by Common Electricity is now removed by Dr Wollaston exp A Gold wire is fixed in the mouth of a capillary tube it projects thro' the bottom & thro' it is fixed by softening the Glass the fine point is made even with the surface of the Glass — Strong sparks taken thro' this decomposing tube, the Gases the more the decomposition

6. The structure of the organs of the Torpedo. Electric Eel &c. resembles the Voltaic pile, Lamina arranged in columns, with moisture, a pasteboard or Gland between them — W. J. Hunter — Ph. T. vol 63, 75 — Another circumstance of resemblance is that both give a Shock in Water. ——

7. There is no difference in the appearance of the Sparks whether it be taken at the positive or negative end of the pile —

8. The power of the Battery is in proportion to the rapidity of the oxidation of the metals. —

9.

Wednesday 22 Feb. 1804

Set up a new file of 34 pair 3 Inches in Diam.r also a file of the same No. and 1 3/4 square. The latter gave more powerful strokes than the former. This I cannot account for. Each file had the same cloth, and same Soluter of manner of Appl.n — On my return home after Dinner at 8 o'clock the velum was so weak as to be scarce perceptible on the lips — The files had been up but 5 hours. On other occasions I have found the action continue for two days. —

— During the first two or three minutes after I put the above files, on applying my finger to the upper end of the file and completely stopping the orifice the pulsation or the nail which however did not touch the file, was very strong and plain, but

4 March — Notes on Ore

Received of Mr. Hare in all 100 pairs of Metals 3 Copper and Zinc, which I intend to try against the same number of square plates 1.8 Inch in the

19 —

Received from Mr. Hare in all since the 4th Inst 200 pairs of 1.8 Inch square.

22 —

Put up the 100 pairs in three Columns and the 200 pairs of 1.8 in 2 Coll.

The first acted at first but indifferently, but next morning very powerfully — The other did not act at all — Discovered one pile in a wrong position when this was corrected, two of the Coll. acted powerfully

* I could not however keep the whole into other together, owing, no doubt to some mistake in casting so many plates

+ Lay Strata of fibrous Zeo and Copper, with hot cloth — Perhaps the fibrous, might be kneaded together with some substance to answer the purpose. Possibly a greater power may be produced by Galvanism than by the soldered metals

Can Mamma thanks the muriate of Am.ª prefe
rable to the carb.: Mr Davy says that deliquid Nitre
and muriate carb.ª are best, and that troughs are
better than piles — I think piles preferable in
many cases —

Calcutta 6th April 1802

Galvanic Battery

1st 150 plates Cop: & Z. with 50 Ditto Silver and Zinc
the whole 4 Inches square — in four troughs
— Nit and 1 Water 100 Mr Davy R.I. Ins.n —

2. 200 pair of plates 5 Inches square — Van Marum Cavallo

3. 22 Series 8 Inches square — Prof. Simon Batavia —
Sol.r of Com.n salt —

4. 60 Series 6 Inches square in two troughs with
improved apparat. by Mr Davy — Phil.l Mag.: No 57.
Nit: and 1 Wat. 16 —

5. 20 Series Copper and Zinc 13 Inches square
Mr Davy Royal Institution
— Nit: and 1 Wat. 60 —

6. 52 Series 5 Inches square Klaproth — metals burnt

7 120 Series of Silver and Zinc 2 Troughs — 2¼ Inches
Asiatic Society ~~Lt Tennant Bombay~~

My own Batteries

400 pairs ✠ 1.8 Inch Square
120 — round 3 Inches in Diam
100 — ~~Square~~ 5 Inches Square
25 — — 10 Inches Square
£9 60 = 6¼ Square — } = 695 pairs

0. 120 pairs Silver and Zinc 2 Inches square
by Adams — St Thomas's hospital —
Mil: M. 56

9. 0 pairs 10 Inches by 7½ — Hatchet St Thomas
doth in Journal of Am.ª

10. 200 pairs Silver and Zinc 1½ In in Diam.
Charge great Elect. Battery — Van Marum

11. 110 pairs 5 Inches square — D. Marum —
12 pairs by Hatchett £3 — 0 by Fourcroy
In oil

The Galvanic Battery No 7 page 39 belongs to the Askesian Society and Zinc 2¼ Inches consists of 60 pairs of plates square in Trough, Cells 1 Inch & deep each hold 2 ounces of water in which 1/4 Oz of Nitric & Muriatic Acid is mixed — Bright Sparks from Steel wire with the Scintillations — in Oxigen it would burn inflamed

Phil: May No 41 and 42

Calcutta 9th April 1804

Mr Bentley requests that I would galvanize his friend Mrs S—th I could not go. but sent my Trough, of 50 pairs, with instructions to Mr Bentley how to manage it

——— 10th April.

Mr B— informs me the Rheumatism in Mrs S—o leg was completely removed in the course of a few minutes, and that she had no return last night ———

20th April

Does the quantity of matter in the Conductor of the Battery make any difference in the quantity of Galvanic Elect?? — Probably the larger the battery the more powerful the Galvanic proportions (This now Aug. 1805 that the part held in the hand should be large

21

Mr Davy found in some of his first ex-
periments that a solution of Sulphat of
iron was preferable to that of common Salt
for the Galvanic fluid — Lect. Lon. 91. —

3 May

Is there any difference in conducting power between
the living and dead subject? Exp. experiments
on Animals, raw beef muscles &c —

11 May

Galvanism and Stimulant of Mr Warrington's
on a paralytic affection extending from the
elbow to the wrist of the right arm — The zone
was 120 pairs in two Jars — The power was
insufficient to produce sensation in the diseased

can altho' the shock has been very strong, rather disagreeably so. — There seem to be but slender hopes of recovery —

— 13 May —

Late. The servant in second time, he feels the shock a little on the discased arm — some hopes —

— 16 —

Late. The patient servant a third time — arm sensible to the shock, the power was only 75

— 22 —

Applied galvanism to Mrs Gardiner right eye the sight of which she lost all at once in the act of lifting a cupful of water to the from her mouth to the window. As the eye appears perfectly sound, the disease is most probably an affection

of the Optic nerve — the forward the Globe
starts in the blind eye most distinctly —
Power 50 in Two Columns ——

12 June

This day published a Letter respecting
the present State of Galvanism with my
intention of trying up Animal Galva-
nism. The increased number of patients
obliged me to take this step —

16 July

I am constructed a Galvanic Ap-
paratus for Animal and Chemical
purposes, consisting of 100 pairs in
two boxes, with glass tubes Zinc and
brass wires &c for Chemical Exp. &c 100

and have about 200 5 lbs with many
orders on hand. —

— 20 —

It is necessary during the rainy season
in this country to pack the Galvanic
plates with little metals touching each
other, otherwise contrary metals by the
intervention of the very moist atmosphere
will oxidate each other without the wet
cloths. —

22

Send from 5 to 6 specimens. viz
the 10 Inst.

— Any plates, particularly the
Big ones are rusted with (Lapis.) many specs
a circle of spots round the end of the

July

Iron on the copper side is much oxidated whilst the end on the Zinc side is free from oxid—

— I propose to test my apparatus in this respects, to prevent the plates from oxidation by the very great moisture of the Atmosphere — Copper Pl' cleaned over to work, will begin to tarnish in two hours. —

24. Thursday

This being my public morning for shewing the Galvanic Apparatus, several Gent.ⁿ attended — Machines in action — Small plates 60 — old 3 In. (Ditto 120 in ~~the~~ two plates — New Plates with plates 100 in two plates — This acted with double the power of the last mentioned — (Decomposed water, both by the single and bent tubes. Find

Gun powder. All the experiments succeeded perfectly well. — The pistols ought always to be very well cleaned — Charcoal and water answer very well for cleaning the Cylinders but not for the Fire

— This morning first up, with the assistance of W. Hare and W. B — The 5 Inch battery — 100 Rounds. The Mouth was not perfectly diff: from that of the three inch battery. It was long. in proportion to the Gun Powder than the three inch battery; and certainly acted very imperfectly.

25 July

This morning found the large Battery much weaker, but the Smell one much stronger. The Latter burnt iron like which the former

would not touch — This must be owing, I think to the Zinc plates not having been well cleaned — As the action of the machine chiefly depends on the oxidation of the Zinc the plates of this metal should be made quite clean. —

28 July

This day received a letter from M. L. Colvin Junr. informing me that his Uncle M. L Colvin is confined by reason of a violent Rheumatism by which he has an arm and shoulder very attacked and the pain was so great that he could not lift his hand to his head

31st July

In decomposing water, when both the Zinc and the gold wire of the tube. The water in the tube soon became whitish, and afterwards it became turbid — Gum the cause. —

Book

10h August

Francis Nixon Gunsmith called to inform me that Galvanism had cured his Rheumatism. This disease was of five months standing. It affected the arms thighs and legs of the right side. It was at times so violent as to prevent him for a fortnight from attending his work. He felt a little better after the first and was completely cured by the sixth application 100 pairs were used the machine acted very powerfully. His right arm only was galvanized, which under the cure of the whole side more remarkable. —

1862

14 August

Yesterday at 6 p.m. put up a Sale Machine (200 Lives). It acted immediately, very powerfully. This morning at 6 I was surprized to find the Power almost gone. The cloths were soaked in a Saturated Solution of Common salt — Hence when a powerfull but short action is wanted a Saturated Solution may be used, altho' a weaker Solution is in the whole preferable —

— Soon the Power of the Machine increased

Labourers W. Stanley —

H
1½ p.m — The machine nearly as strong as usual. Gum the cause —

1804

5th Sept

In Absence, from Wilkinson's Elements of Galvanism That extension ought to produce the continued combustion of metals 300 Series of Copper and Zinc each 4 Inches square

16th Sept.

Mr. Wm. Cruse for his Lecture 1 Oz Ammc. acid to a Pint of Water — The water use of the same mixture 8 or 10 times for medical purposes.

2 Oct.

Put up 80 Series of 2½ Inch plates cloths soaked in diluted Muriatic acid — Acts powerfully —

— Galvanized Mrs Wilcox Jun. H worked Dame —

1804

19th Oct

Prepared a Soap for the first time. succeeded perfectly — Contractions very violent. Tearing my leg almost every time struck. the Brand which held the other — Experiment with two shocks also succeeded perfectly — After words held the Jaw in contact with the exposed end of one of the Coils of the 200 pair battery, the contractions were hardly more violent than in the former experiments; but the animal in a short time lost all power of excitability. —

20th

Common Electricity has been found very effectual cure for worms — Galvanism will in all probability be still more successful. — Taught Mr. D Scott how to prepare a battery for Galvanic Experiments.

~~th~~
29 — Oct^r — 1004

Put up three Galvanic Batteries — one of 200 five inch Plates, one of 200 three inch Ditto and one of 100 two and a half inch Plates — The large Battery did not act so powerfully as I expected It burnt small wire, Gold Leaf, fired Gun Powder —

— one half of the large Battery had Salt- ans: The other common Salt — The former acted much more powerfully —

— Sir John Leslie with Mr Blanquiere called on me, by appointment, at eleven o'clock — Exhibited several experiments — Water decomposed, Sir Isaac — Gold Leaf deflagrated — Experiments on a Frog &c —

Mr. H. Pa. assisted me put up Leyden night —

28th Oct.

The two Jars with Sal Amc. — much weaker than the two with common Salt, owing to the more rapid oxidation of the former. Sal-Amc is therefore Improper when a great power is wanted for a short time — took down the ☆ Amc Two Jars to the Island —

29th

The 100 Jars with common Salt act as powerfully as ever — all this day. —

30

The same Plates continue still to act, tho' weaker than

2 Nov.

Miss Wollaston is quite recovered — Sabine has been for the 1st time, in the country

County at least, ~~Lancs~~ transmitted over
an obstacle case of ~~Ft~~ Values Doses —

— 1 Jan[y] 1005 —

Past 8 p 62 pulses 2 pulses square in
the pulses with Defect more accd, Thereafter that
formerly — Acts in pulses and starts some
times very strong, at others very weak
on Paying the conductor on the machine.
sometimes no shocks for three or four seconds
then a very smart shocks, after that a
slow weaker. — This is difficult to account for
— The shock is not in one blow but is
a vibratory motion, three or four shocks
following each other very rapidly. —

1805

Saturday 19th Sept.

Put up for the Lecture on Galvanism this evening 300 Inches of 5 Inches square, in which were included 60 of Six inches square — also put up 300 Inches three inches in diameter with Iron wires & muriate of Ammonia — The Batteries acted as first powerfully, but the large Jars began soon to lose power — Iron powder was found, Charcoal — Water, metallic Lamm dissipated, ~~all~~ This with the experiments succeeded, yet the effects were not so powerful as might have been expected — This perhaps owing to the very great vicinity of the Muriate of Ammonia —

20th Jan.y

Took down the large Battery — Found that my conjecture is right. The Mercury of Iron contains so much earthy matter, that the motion was soon retarded, and large dry clots of oxid mixed with earth adhered to the plates —

" 5 Feb.y

This Evening gave the 1st of two Lectures on Galvanism agreeably to the advertisment — 200 Series of 3 Inch plates — acted well —

9 Feb.y

Attended the 2d Lecture on Galvanism on acct. of the Disputations and drums as given to the Gents of the College, which however I could not attend, being indisposed —

11th Feb.

Attempted to give the 2d Lecture on Gals:
began, but about the middle of the Lect:
was taken ill and obliged to give it up.
This is the first time that I have been obliged
to give up a Lecture since my first appearance
in that character 28 years ago.

10 April

Was com: by Messrs Hen: Bailey and Just
up 100 fine inch plates with Sol: of Sal: am:
and 100 of the same size with Solute mur:
acid. Immediately on just up they acted very
powerfully, burned away deflagrated Gun P.
after passing along the arms. The battery
however soon lost its power of ignition
but the Mark continued the same.
in about a quarter of an hour, the power

was partly restored, tho' it was never equall to what it was at first.—

11 April

This morning the two fellows just up with Sal: Am.c were found thrown down on the table, occasioned by the servant going to open the window. A great quantity of coal dry and hard adhered to the Plates. The solution I think was too strong— The other machine acted & tho' not so powerfully as when new put up. It burnt Gold leaf, but would not fire Gunp.r. The shock was very powerfull. Immediately after the application of a fine Leyden the machine did not ~~and~~ give the least spark.— It recruited after some time, how long I did not observe.—

The machine receives its power in giving

Shocks in a much shorter time
in deflagration. — Guess the cause! —

12

12 April

This morning the battery of 100 Plates gave
many sharks, but the Deflagrating spoon
is very weak, will not fire! Q. Or.
— Look down to be altered ——

1st Item

Gave some Galvanic Expt. at my
Lecture room to the Inhabitants of my
Galvanic Lectures. The Deflagrating
Experiments did not succeed. ——

4 June

Purchased a machine ordered by W. Thos. Beck
2½ Inch plates — Acted more powerfully
than I can remember. ——

Liverpool, Oct. 25, 1858

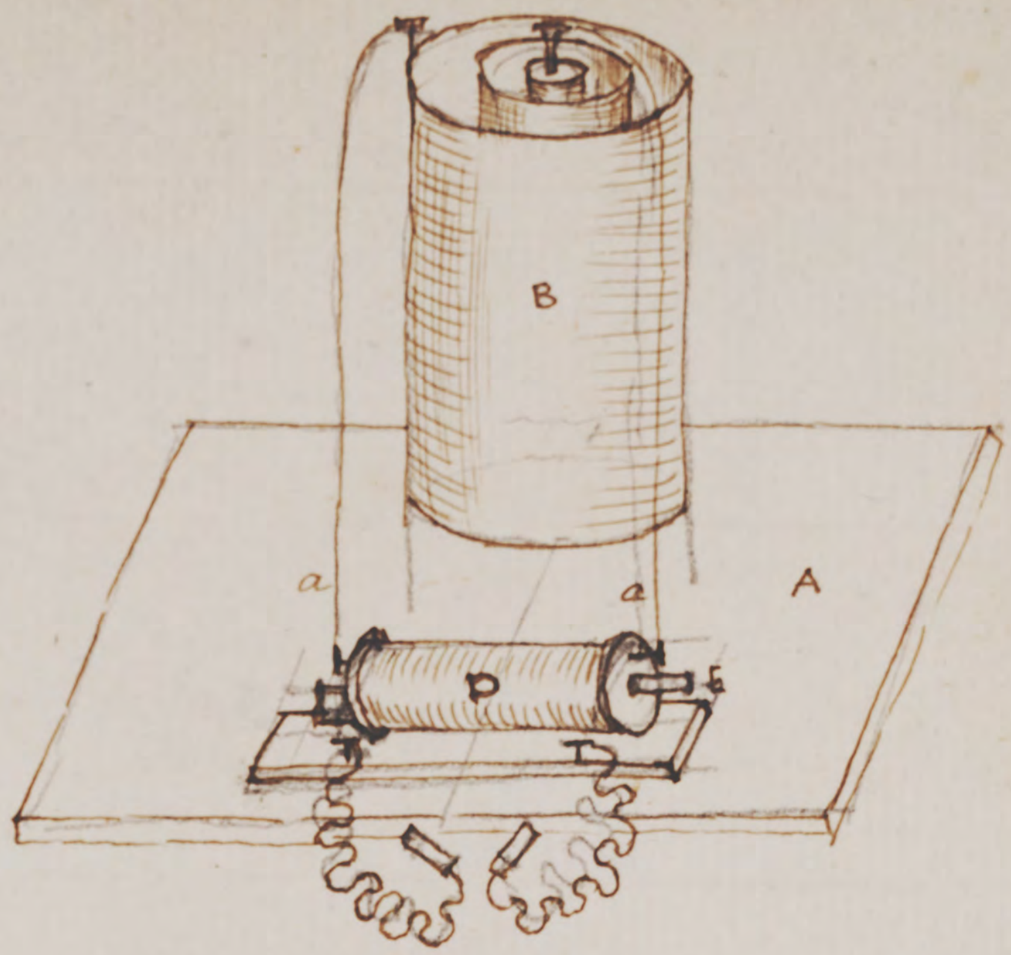
Among the remaining of the philosophical apparatus of Dr. Priniddie which has come into my possession are —

1. A galvanic battery or trough by Cruickshank consisting of 51 double plates, silver and zinc, each plate 1 3/4 inches square
2. A voltaic battery, or pile, consisting of 63 double plates, copper and zinc — 2 in. diam.
3. A similar pile of 12 plates, 2½ in. diameter
4. A series of 27 double plates, copper and zinc 2 in. square, the remains of another Cruickshank trough —

With some two or three exceptions, the first series of plates are sound and good, only greatly oxidized, and very often deeply corroded. The last series seem of little account, but with care and trouble might be made available — As it is my intention to bring these plates into requisition on an occasional occurrence, I am now busy smoothing and cleaning them for that purpose; and, to note down any observations that may present themselves, I have concluded to this journal of the Doctor to record them —

William S. Prindpse

Almost every fine evening, but particularly on that of a Saturday, several Galvanic machines, or batteries are to be met on the streets and very often about the old Haymarket - They are each accompanied with a gas burner and always surrounded by a crowd - Any person may feel the shock, or get galvanized for one half-penny - I tried one to night, and found it very powerful - The machine is vastly different from either the pile or the trough - as the accompanying sketch will shew - A is the table on which the apparatus stands. B. a thin copper jar inside of which is an earthen-ware jar - Inside the earthenware jar is a cylindric piece of zinc, leaving a solid - D is a cylindric apparatus for collecting the galvanic fluid by the two copper wires a, a. - The collecting apparatus is placed upon a thin wooden pedestal to which are attached two pliable wires each furnished with a bone handle - E is a sliding rod divided into degrees for ascertaining the power of the shock - Both the copper and earthenware jars are nearly filled with solution



The above is a correct representation, and perfectly intelligible, excepting the interior of the cylinder D of which I have no idea - the ends are wood, and it seems to be covered with leather -

Gases Exp.ts

1. Frog — Neural. Non Cond.
2. Living animal.—
3. Fusch of metals burnt—
4. Candle lighted — Phosphor
5. Common lighted — resin
6. Bengalline known burnt
7. Gun powder fired in vacuo
8. Element of fuel each tal
9. Ditto in Atmosphere —
10. Oxygen & Hydrogen Gases.—
11. Charcoal in Oxygen Gas—

Expt with frogs

1. Laid on a plate
2. Held in the hand
3. Non conductor
3. Same Kind of metals
4. Two pieces of wire

1803 — Feb — no 37 Peppi appendix

Rhelos, Magazin on Zahnen

1800	Sept	—	no	29	
1801	March	—		34	
—	April	—		35	
—	May	—		36	—
				42	
—	Nov	—		~~49~~	
—	Dec.	—		43	—
1802	Jan	—		44 fag.	310, 326
—	March	—		46 —	105, 161
—	May	—		40 —	374 —
	July	—		50 —	209
—	Oct.			53 —	08
—	Nov			54 —	191 —
	Dec.			55 —	200
1803.	Jan.			56 —	364

7. A spasm in my left side cured by
the instantaneous application of the
cautery

8. Two cases of paralytic affection by
W. Fleming — Aberdeen —

9. A case of St Vitus's dance Miss Wilcocks
had taken on Student. D. D. —

Diseases cured by Galvanism
— India —

1. A paralytic affection of the left half of the head — L. Stewart — 9. D.

2. Violent Rheumatism — Leg — completely removed by one application of 50 Circuits — and two others — Mrs. Smith — M. B — g

3. A violent Rheumatism in the arm and shoulder — W. Mac. Colom Serv.

4. A paralytic affection of the left ankle & foot — John 9. D —

5. Loss of blindness in twilight —
by — Mr. David Scott —

Franz Stron Frankfurt —

6. Violent Rheumatism during 5 Months — right side prevented work for a fortnight together — cure by 6 applications of Galv. 100 cir.
by 9. D —

Exercise

1. Hydrostatics — (Doctr Rossie
2. Laws) Law — W. Wilkinson
3.

Calcutta 7 April 1864

Galvanic Experiments

1st Experiments with simple circles - Zinc & Silver on the tongue of a frog - in the mouth &c &c.

2. Voltaic Battery - Shock. Lips. Cheeks ears &c

3. Water decomposed. various ways with Gold. Silver &c wires

4. Solutions of Iron. Copper Silver &c. -

5. Impressions of Leaves, red Cabbages Radishes &c

6. Zinc in Contact with Silver in Water soon oxidated —

7. Iron ~~Lead~~ with Copper - several experiments

8. Nerves out of a frogs and frogs muscle Breathing ——

9. Iron Nerves of Frogs soon Corrod. in Copper

10. If one end of the battery be connected with
Mercury and a small iron wire, co-
nected with the other end of the battery,
be brought to the surface of the mercury
a beautifull deflagration will take plai

11. Metals in leaves (Gold, Silver &c.) burnt

12. Silver precipitated from its solution Nitri acid
in its metallic state - Carbon Diamond

13. Will burn Charcoal, or any of the com-
bustible bodies, is useful in fixing Gun-
powder and other expts -

14. Hydrogen Gas - several expts -

15.

Le Sabran.

« Cet homme célèbre fut en proie à tous
« les malheurs qui peuvent affliger une ame
« sensible et tendre. Il vit expirer dans ses bras
« sa chere Lucie; il perdit toutes ses places pour
« avoir refusé constamment de prêter le
« serment exigé par les decrets
« de la République Cisalpine. La mort
« vint frapper cette Lucie, presque
« soudainement dans ses proches. Enfin,
« comme celle qui a vécu de peines long temps,
« par les douleurs cruelles qui avoient
« fait siege dans l'estomac et que des
« gens de l'art soupçonnoient provenir
« d'une obstruction de Pylore, ce grand
« homme tomba dans un état de
« marasme et de langueur dont
« les soins aussi eclairés que

" generaux des célèbres médecins Cingari
" et Ottini ne purent arrêter les progrès.
" Il expira le 14 Janvier de l'an
" 7 âgé de 60 ans

— "Après s'être engagé pendant ~~7~~ près
de trente (Dix Huit) ans du bonheur
d'aimer et d'être aimé ———

Histoire de Galvanisme
par A. Duc_ Aîné. —