
Madras —

A report on the Means
of Salt peter in the Kingdom
of Hungary — G. B. Meyer

The mode of manufacturing
used by the Natives of the following

In the month of Nov. after
the rains are over, the Salt water
lands people get out early in the
morning to before or immediately
after sun rise to sweep the
mouldered earth they find at the
bottom of old wells a fine earth
which shows signs of having
absorbed the moisture of the dew
more than the others and which
therefore has a blackish colour

The Salt peter being in a
superior degree more soluble than
other salts, and more so when

not quite saturated with the acid, it attracts
the moisture of the air and dew, and parts
with it only when the heat of the sun
at eight or nine o'clock deprives it
of the same, retaining those parts which
contribute to its entire saturation with
the acid.

The earth brought to the working
place is then put on a heap, and if
sufficient hands are employed it is
excitiated immediately; or if otherwise,
it is allowed to remain two or three
months longer exposed to the air during
which the take care to turn the heap
at least once a month. By proceeding
thus, it is but natural, that more of
those airy particles (Phosphorus and
Vital air) which constitute the Nitric
acid, will unite with its Alkaline
basis, and thereby render the Saline
product more abundant —

The earth is then put into large
Culchere pots, and heated & covered on
it from this the unimpregnated water

is let off into others, and evaporated
by heat. The product, which varies,
may be computed at about $\frac{1}{10}$ of
the earth used: it is in very small
Crystals, mixed with a great share
of heterogeneous particles, and is called
Salt Petre of the first boiling. In this
state it is hardly fit for any use,
and must therefore undergo a
purification which is obtained by
dissolving it again in water and
straining and Crystallizing it,
by which it is rendered sufficiently pure
for common use. The Nature find it
in common, advisable to keep it
some months in the Store house before
they subject it to this process. The
price is then from 18 to 20 Pags:
a Candy = 500 lib

From people who make it
privately, I have learned that a Candy
of the first boiling will come, including
of their trouble for collecting the earth
&c, to about 5 pags. which they sell for

sia, and to give which a second boiling
will cost from one to one and a half Cds.
but then they loose $\frac{1}{3}$ or $\frac{1}{2}$ the weight
the weight or quantity.

This year the Gentle has en-
gaged to make 100 Cans of Salt petre
and I dare say he might make
a great deal more if he would em-
ploy more hands, for as an ^{incontestable}
~~undoubted~~ fact, it may be considered
that all old walls, especially those
in large cities, which are made from
the earth in the streets, and especially
such streets as are madden by cattle
produce Salt petre, which will yield a
greater quantity in proportion as the
original soil is a vegetable one
From experiments which I have made
in the center in this Neighborhood
I hesitate not to pronounce that
Salt petre may be made here to a
large amount. The richest stock
will also never be exhausted for the
cause.

which this year has been Lixi-
vated, attracts rapidly a new
portion of Salt petre, and yield
next year as much again, especially
if cattle be permitted to remain
for some time upon it. An interesting
Observation of the Nature is, that
in years when the rains are abun-
dant a greater share of Salt petre
may be expected than in others, a
circumstance which should persuade
us to labour to believe that rain
water conveys along with it some
particles which promote the forma-
tion of Salt petre; perhaps Nitric
ones, as it is known that by passing
an electric shock thro' a mixture
of Vitriol and Phosphate acid, N. Ca-
bonic converted it into Nitric acid.

Another circumstance which
will probably not be thought trivial
or uninteresting, is that the Nature

on the same kind of earth that
contains salt pits for a good ma-
nure for sugar fields, Chilly gardens,
and those lands which they want to
cultivate with the grain called
Natchenny

The mode in which the natives
manufacture salt pits is simple
but by no means the best, if we
advent to the profits - The pits are
cheap, are subject to constant breakage,
Improvement - Evapⁿ in large vessels
of thin sheet copper, and the Lixivⁿ
in Vats of Brick and Chumam lined
with copper. The copper is necessary
to prevent the unsaturated acid from
attacking the Chumam - by which
the salt pits would be debased and
the work destroyed

By this mode the product would
be more abundant and by the first
boiling salt pits would be produced
equal in quality to that of the second

boiling of the natives - For by
experiments I find that the earth con-
tains no heterogeneous, Saline por-
tions. A further considerable
fact is that furnaces properly
constructed consume proportionally
a less quantity of fuel than many
of a smaller size, and that also
fewer hands are required in them
large works - expense reduced -

- No great quantity can be
made on the present footing -
- Consumption is first made with
the Rajah's permission for liberty to
make salt pits and for the
delivery to the Rajah of from 6
to 8 Candies of Gun powder, and
when they make more they employ
about 70 men to collect the earth,
the expense of which is about 150
Rags upon which footing they

They generally make 80 Candies
and have still to encounter the
heavy expense of pots and fire wood
which with other smaller articles
make the sum for manufacturing
and refining amount from 10 to 11
per cent. of Candy, by which they gene-
rally are losers, altho' it is to be
remembered that this is only the
renters own report —

The quality very important
altho' I understand that trials have
been made by some gentlemen, I think
it incumbent on me to examine
into it

First. That the Salt Juice of the
first boiling is rendered impure by
the great quantity of earthy particles
which are admixed; for its Crystals,
tho' small are pretty regular.
Whether I have been able to discover
by a slow evaporation that any other

salt Crystals require either
a greater proportion of water to
hold them in solution, or that
they are equally soluble in hot
as in cold water (the common Salt
and with these Crystals, and
precipitate them below. Whether the
Salt Juice by one of its essential
properties is held in solution
by the heat of the water —

2 A solution of this Salt Juice
taken, in common, the clear vege-
table Juice reddish, and afterwards
destroys the colour totally, a sign
that the Juice and is not quite
saturated with alkali enough
to turn which circumstance to
advantage a quantity of Ashes
may be added to the solution
of the first boiling, this will render

The solution clear and increases
the quantity -

3. When thrown on burning
coals, it detonates without a
crackling noise a sign of its being
immediately united with common
Salt

4. It is equally serviceable for
making Gun powder, with this
difference only, that the powder
with the Gun immediately, and
this I believe is to be ascribed
to the great quantity of water
of Crystallization which it
contains having been allowed
rather slowly to evaporate and
to take its proper Crystalline
form. Gun powder on the con-
trary requires Salt peter that
has the form of large masses

of an irregular figure, and which
of course does not contain so
much water of Crystallization. The
Gun powder fabricated by the
is a mixture of $4\frac{1}{2}$ parts of Saltpetre
1 part of Sulphur and 1 of Char
of the "Asclepias Gigantica"

5. It is not allowed by exposure
to the air, even not that of the
fast looking which shows that
it is unadulterated with the
Calcareous Salt -

6. It cooks water as well if
not better than the Royal
Saltpetre.

7. The Vit. acid does ^{not} precipitate
for a solution of this Salt peter,
and in fact I do not know
how calcareous earths could be

contained in it, as no trace of
thin earth on the surface or
upper stratum of the earth here-
about can be observed.

If more convincing proofs
however should be required to
show its ^{being} free from all heterogeneous
salts and especially of those which
contain the Muriatic acid, as
the Common Salt, Salt of Sulphur
and the Calcareous muriatic salt,
it ought to be distilled from a
retort with the acid of Vett. — If
the Nitric acid which comes over
should dissolve it, it is a sure
sign of its containing Muriatic
acid and it will of course be an
aqueous regia, but if it only corrodes
that metal it may be depended
upon as perfectly pure —

— Proofs of manufacturing Salt put

with new merrin at any degree
of perfection or respectability while
in the hands of the Nation —
— want of culture — Indus-try
knowledge — State of infantile
insignificance

— In the Kingdom great expense
present price should be con-
sidered for two years at least, as
the best encouragement from Gov^{ty} —
It may then be lowered provided
the Government do not require
more rent than what has been
since immemorial has existed
on this article — This proposal —

— The present Salt rent has
this year engaged for 100 and
would with a little pecuniary
assist^{ance} engage next year for
500 Candles —

2 Mode of manufacturing
Salt pike in Bengal &c
Salt pike is produced on
the east side of the Ganges
in the Districts of Bellah
Tuproot, Saran and Bag-
pore. Bahar is only here
spoken of. Purneah is the
only considerable place of
manufacture in Bengal.
Directly after the rains, about
the month of October, the
rungsads, people employed
to collect the pike earth,
scrape old walls and places
that cattle are kept in; si-
tuations on which the Nchans
have formerly crecked their

but are particularly sought for, as they generally contain a great quantity of this earth, it is called by the natives *Moony mallee* (saline earth) and when a sufficient quantity is scraped it is put into well water & worked for some time here or there. Days, after which it is boiled and the water drawn off produces the Abbe, and the next boiling water makes it culme. There are various modes of producing pitch earth, but the one mentioned is the most common and simple in Baker. The other modes are by collecting a quantity of good earth and throwing salt pitch earth into it, but this is only done when

pitch earth is formerly mentioned, or not to be procured. It is the abbe pitch that is brought into the factory by the *Aspanner*, and it is there manufactured ^{by boiling} into culme. The *Aspanner* will deliver it culme, but it is more advantageous to receive Abbe, as you get a larger weight and boil it better than they can. 7. 37 of Abbe will produce about 1.20 of the culme, and besides this it leaves about 5 cun of salt, which is sold on the spot for 1 or 1.4 of *Pr* - Another advantage attending the boiling is your own *Roole*, the water and dust left after the boiling produces pitch earth, so that the

The price of the article by the
selling of the salt, and the re-
volving the earth is much reduced
Produce of Bahar about 150, to
170,000 M^2 of annum, the price of
Kutchu (in its first state)
as delivered by the Assamers is
1 M^2 for 3, or 4 M^2 = 0156
in its second state 1:6 and of
the culm in its superior state
1:2
1-12 -

— From a letter of Presb. Perry
to John Brister Esq

3. — Churnam of Madras
is said to be the best
in the world —

— Method of making it

4 Observations on the Diamond
mines near Mallevilly, a village
eight leagues S. W. from Ellore.
— The mine of it may be so
called lies half a mile to the
west of the Village, near a
ruin of an old construction
The lie consists in a kind
of semicircular basin, extending
from N. W. to S. on the opening
of which to the East is situated
the Village of Mallevilly. The
transverse section of the semi-
circle here may be about $\frac{1}{2}$
miles.

The Stones of the mine were
taken I had not time to examine
but as in other parts of this coun-
try it is probable they consist of
a coarse kind of Granite of a recent

in Secondary formations.

The stones scattered in the open fields, roads &c are the same as those in the mines, and have probably been dug up from the mines.

Nothing particular appears in the Vegetable Kingdoms —

— Mine about 15 to 20 feet broad from 25 to 30 deep, the sides being cut like walls perpendicular and smooth — People for 12 years of age, both sexes work here and are allowed 3 annas of Jonicolas (Nolens speculatus Linn.) every day for each man, besides $1\frac{1}{2}$ Rupies of monthly. The men dig the ground with large iron Crow, and the women and children carry in Baskets on their heads the several strata of earth to the places allotted for each sort, which

grow there works at a distance the appearance of small fortifications. The earth of the stratum in which the Diamonds are found they keep in a place inclosed with stone, half way up, reckoned from the bottom of the mine, to the surface of the little hill which grows up from whence they carry it to another, in common on the highest and most fertile place when they have enough to command watching and searching any part. At these places one or two of the Nizam's servants are constantly attending — In consequence hereof an account hitherto given of the strata - mixture of Diamonds — Nizam's mode proposed to place and station them to cut the best

(1) M. Thomas Proctor's Act. for
the 2^d Act. of the Asiatic Mission
Taverner - Roman

1st Stratum composed of a red
sandy gravel, worn probably by
wind from the granite rocks in
the neighbourhood - washed down
by rains - undisturbed by the plow

2^d Stratum - Black loamy earth,
with a mixture of a little gravel
formed at a period perhaps
when the Nation were more cul-
tivators, and impregnated with
the treasures beneath them -
here no deep plow. Stratum
about three feet thick -

3^d Stratum is about the same
thickness as the last but very

different in its composition.
It is a Clayish earth loosely mixed
together with half indurated cal-
careous earth, both in small lumps.
The Clay more in quantity. This
covers the

4th Stratum the thickest of all
with which it agrees in its in-
gredients, being composed also
of Clay and Chalk but in various
parts in different proportions.
Its component parts are more
intimately mixed than that
of the former, and it partakes
more of the Chalk. The veins
divide it into three different
strata, chiefly from the differ-
ence in colour, to me very little -
From the middle of this Stratum
downwards I observed many

Dispersed Stones of a rounded form
from half to one foot in Diam.
some covered with an adreous crust
I cannot venture a conjecture of
mode of form. &c. - No shells or
traces of any other sea products -

Calcareous earth and Stones found
in many parts of this country at a
certain Depth, but without the least
sign of being Artediluvian. Great
Pore Stone Calcareous Shale conti-
nues their course under the Grande
hills, if so the formation of Calcareous
must be prior to all others -

Walls of the Northern Circles - few
specimens of Calcareous Stones -
Incrust. - Crystals &c. - Micro-
scopic Specimens

5 Nature is that in which

The Diamond ends are joined, like
the former, but more yellow clay
- for 3 to 4 feet thick and con-
stantly moist from the water of
ledge in it - water is necessary
for the Chrysalis state of the
precious gem. Fresh water is
collected at the bottom of the
quarries. A great number of
small rounded stones with the
texture of the other ingredients
of the Stratum. These the miners
call the Mother (matrea) of the
diamond end, because they find
that in general the Diamonds
are attached to them. These
stones are not discoverable in
any other Shale, and as above
mentioned, larger stones are not
to be met with here - They
are however, what might have

been expected not of one kind
or form, some being little else
than an undulated lamellate
ochraceous clay, others a color
of the finest sort, others again a
compound of silicious ^{particles} earth and
oxide which seem to be cemented
together with clay. In one of the
latter sort I found some minute
particles, that had quite the ap-
pearance of Gold leaf

— Given a hint of these materials
or earths is the proper material of
the Diamond? All except the oxide
and even this the not in so great a
quantity seem to exist in all other
States. My opinion is that the
carbonaceous part of the Stratum & the
phosphorescent part ^{of the vein} or
rather sediments, are the true most
essential ingredients of the Diamond

— Lomonosoff supposed that this Gem
is composed chiefly of Calcareous
earth and the phosphorescent prin-
ciple — My observations tend to
confirm his — I must ultimately
be determined by Analysis —
Experiment —

— Bergman says in the presence
of the Diamond there is present an
earth soluble in acids, the nature
of which remains to be discovered
The Defflagration the soot and the
black particles show the presence
of an essential earth

— The Shanks that Gems in gene-
ral belong to the tribe of Compound
Organic Substances, but admit
of siliceous earth entering their
composition

— ~~My~~ weighty conjecture this Gem
to be composed of silicious earth
and phosphoric acid

There being apparently little
or no difference between the com-
ponent parts of the two latter strata,
it may be asked whence their steri-
lity? The want of water I conceive
and with some degree of probability,
the Diamond particles, as is conversely
known of the properties of many other
mineral substances, it being found in
general in a regular form & a 12
angles.

Dissolution always prevails Chrysolite
and water, if it should appear, can be
the only fluid that is the solvent here,
of any other, at least, we find no
traces thereof and the cause may
be indeed the evaporation of the water
themselves, more especially if the aperture
of the veins may be believed to
not so to be quite so goodly.
They expressly say that Diamonds
this of ~~the~~ inferior sort might be

found in the ~~upper~~ under part of
the upper stratum. Further, but
very remote periods. Therefore
must determine whether Diamond
regards time to come to perfection
what if it should be the case
would even agree with the rules
of Chrysolite, as it may be proved
that too great a quantity of water does
not admit of a perfect solution of
the essential ingredients of that Gem.

For the above reasons I cannot but
depend upon the opinion of those who
believe this Gem to be formed by the
interference of fire - It is proved that
the Diamond, even in open fire may
be volatilized and even when
placed in balls of porcelain clay
or crucibles of the same substance
It burns with the most brilliant
flame, forming a Globule round the
Stone, and is consumed like other combustibles

It does not therefore appear
credible that the same agent
should both cause and destroy
the same thing.

The heat of Volcanos certainly
occurs both in all its stages that
of our furnaces in which the
diamond may be destroyed. The
air seems not to be excluded by
any impediment, how difficult
would it therefore not be to grow
them generally in that ^{country} place
which in the moment it produces
must certainly annihilate
again - Besides in all the
countries where diamonds are
found no traces of Volcanos are
to be met with; and on the
contrary where traces of Vol-
canos exist no gems are found -

Separator of the Diamond
In the working plan: as al-
ready described is shown the
highest place of the mine where
light may be had from all
sides. To this they carry the earth and
put it into a square vat. got up
in haste with some stones spread
each other. This place itself is some-
ly 10 feet square and three feet deep
and is the most elevated part of
the mine. water is put in the
earth and the large pieces are
reduced by beating them with
stones. From hence the earth is
carried to a lower square place
where it is spread somewhat
thin. The labourers are then or-
dered to proceed in one line, and
in a direction to raise the stones
shown in these faces, two feet apart
in four each other. where they

turn every Stone, hold it up to
their eyes, when it has a white
clear colour, and when pressed
with their feet they are able to dis-
tinguish the diamonds from other
stones and particularly by their
rounded form. The diamonds are
to be delivered immediately to the
attending Jew who has to send
them to the Tammadar and who in
order to encourage the people to
be attentive seldom fails to give
them small presents of a little
piece of cloth worth a rupee, or
a gold ring about their hands
from 5 to 10 Pagodas value. The
letter is the premium for bringing
a clear Stone without spots equal
to a pagoda weight -

Another found in the same place
with the diamonds. Analysis gives
a high proportion of calcareous earth

in the Ruby than Diamonds -
Recommendation on Mineralogical
Survey -

Extract from Dr. Meyers
translation of a treatise on Physic
from the

1st Chapter

Advice to Physicians

Section 1st

The three different principal disorders, and dispositions known with man viz. Madum, Bittum and Phlegm form his temper and Nature or constitution. The Physician therefore by long application ought to become perfectly acquainted with their nature

Section 2.

To form a just Diagnosis of a disorder the Physⁿ should attend chiefly to the following objects 1st The pulse
2nd The temperature of the body which

he must explore by feeling it with his hands. 3rd The colour of pale yellowish or blackish &c
4th The speech if it be weak or loud
5th The Eyes. 6th The colour of the excrements, if black green or yellow
7th The urine and its colour. 8th The tongue - All which are attentively examined by an experienced Physⁿ, he will soon point out the nature of the present disorder

3

Before the Physⁿ gives any medicine he ought to instruct the patient to observe the following rules without which the medicines cannot have their effects 1st That he is to sleep on one side, with the hand of the same part under his head
2nd To avoid all connections with the other sex
3rd To observe the prescribed diet rigorously. 4th Not be angry

3 Not to be melancholy. 6
Not to be afraid and 7 To keep
the feet constantly clean -

4

Great care and Attention in
the preparation of the Medicines
corresponding to the nature of the
disease -

5

Not to disturb the operation of
nature by respecting the administration
of the Physic too often. The first
rule is that in Disorders of all descrip-
tions, Medicines are to be given only
twice a day once in the Morn.
after Six o'clk. and once in the Evg
at 6 o'clk. or at Ten o'clk. and
then not, unless on extraordinary
Occasions

7

To explore the Nature of the pulse
the Phyⁿ is to lay hold with his
left hand of the thumb first and
second fingers of the patient &
then to lay the first 2 or 3
fingers of the right hand on the
pulse. Under the 1st he will per-
ceive beating the pulse weakens
under the 2^d the pulse bottoms
and under the third ~~the~~ ^{the} ~~Chamber~~

If the pulse appears to extend
further than the breadth of three
fingers the patient may be sup-
posed dangerously ill

9

The pulse weakens when freedom
is not. Such is the nature of a frog
jumps, as the motion of the creeping
can worm, as the progress of the snake

as the motion of a Child's cradle
hung in chains and like the blood
sucker. In the prevalence of Siltum
the pulch imitates the foot when
running she beats the earth with her
wings, like the walk of a Peacock's
like the rope which is contorted,
forcibly return by it self. like the
hopping of a Sparrow. For
Ostrich the pulch goes as slow as
the foot walks, as the turtle dove
and as the female Crow -

Extract from Mr. B's Letter
to Mr. Harrington

The Company's three estab-
lished manufactures in
in Bahar are Chupra, Jengia
and Mew - Prices at Calcutta
including wastage and all Charge
14/6 An H Factory maund of
74 $\frac{2}{3}$ Lib Avon. The Quality this
year is rather inferior owing
to the press for the article

The Salt petre consumers
in England tell the Directors of
that the London market can
take of 200,000 Maunds ann.
in time of peace, but I distrust
this assumption for peace, for
for war there is no reckoning

with any degree of certainty
The Company's Factories
in Bahar produce generally
150,000 Maunds annually and
it is more than probable some
is not brought to account. The
produce of the provinces west
of Bahar I suppose to be not
less than 80,000 F. Maunds ann.
and capable of being extended

In Beronia there is a
small manufacture belonging
formerly to the Company but
given up on account of the
indifferent quality of the
Salt Petre of that District -

The French have made
astonishing exertions to
manufacture at Ache this war

and are said greatly to have
improved the process - Some
accounts from France state
the annual produce at 285000
Mounds in France - About
a million of people employed
in the manufacture - Said to
be of an inferior quality -

The customs of the French Min
was conform'd all conjecture

From Motives of Oeconomy
they will never give up the
manufacture

- Extracts from Dr. Meyn's
Letters to Mr. Ross - on
St Peter's Gc -

- From 40 Lib of Earth, 6 Lib
of Crude St Peter may sometimes
be had

- Dr. Meyn thinks he could
deliver the St Peter of the first
boiling at 3 pag. of Candy
= 500 lib, and the 2^d boiling
at ~~7~~^{to} 8 pag. of Candy -

- Price of Salt Peter in Sep. 96
according to Mr. Ross. in
Bengal from $4\frac{1}{2}$ to $5\frac{1}{2}$ Rupees
per Factory Mound of 75 lib (it should
be $74\frac{3}{4}$) = 10 pag. of Candy of 500 lib
and it is sold here for about
13 pagodas - In time of war the Exp.
both by Land and Water is prohibited

Extract for Mr. Sam: Lucknow
report on the mode of making A P^{re}
in the Ganjam District.

The same process nearly, over the
whole east.

In the Ganjam District all the
salt p^{re} is made in the cold season
- produced from a black soft clay
which is generally flooded during the
monsoon. No vegetable will grow
on this soil, the earth is in some
places so rich ⁱⁿ A P^{re}, that in dry
weather it appears quite white in
some places to a considerable distance
owing to the S. P^{re} crystallizing
on the surface. Besides this they
procure A P^{re} from ground where
Cord dung other putrid animal mat-
ter has lain for some time. A con-
siderable quantity is also got
from the ruins of old houses, especially

such as have been employed for
keeping cattle - All the sources
from which A P^{re} is procured in the
District - The average produce is
1 Vep of 8 Sur = $9\frac{3}{4}$ Lib of Salt p^{re}
from 1 Bursum = 144 Lib of Earth.

Process of Manufact^{ure}

The salt p^{re} earth is collected
into one great heap, and generally
several villages join in contributing
to this heap - Just into a
number of large earthen pots
with a hole in the bottom of each
ranged in a wooden frame at
some distance from the ground
water is then poured into the pots
and filtering thro' the earth is run
into smaller pots placed under the
large, water is continued to be
poured on till it comes thro' saltless
The washed earth is then removed
and the pots replenished with fresh
Earth, and water filtered is returned thro'

This last earth. This process is
continued several times until the
water becomes so highly impreg-
nated with the salt petre that it
will take up no more. It is then
evaporated and Crystallized in the
usual manner. It is in this state
brought to market - The washed earth
on standing till next year is again
found impregnated with H. O. but
not in so great a quantity as at
first. For three or four years they
continue to extract H. O. from it, after
which the quantity obtained becomes
too small to be an object

All the Sal. P. manufactured
here is consumed in the district
amount about 10 or 15,000 Ropes
worth - sold to the Government for
G. Powder and fire works which
are consumed at all their ceremonies

Price varies much - Before the
famine it usually sold at 3 Ropes
per Maund of 24 lbs - Since that time
it has been as high as 5 Ropes
per Maund - Encouragement would re-
duce the price -

The salt petre No 1 as it
comes from the manufacturer seems
very little inferior to that of Bengal
It is afterwards adulterated by the
Merchant who adds common salt
and sand to increase the weight.
By redissolving and Cryst. again
it becomes as good as the purified
Nitre of the Shops (see N. 2)
And as this is both an easy &
simple process, salt petre may
be always procured in the greatest
purity, and then it will equal
if not exceed the generality of
Sal. P. exported to Europe

- Times a London news
 paper 5th August - 1794
 - In Paris only 600 new ma-
 nufacturers of salt petre furnished
 800 lbs each, every ten days
 - In the whole extent of the
 republic there are near
 6000 manufactur^{ories}
 - More than 20 millions of
 pounds of salt petre a year
 - The powder mills of Grenade
 now manufacture 25,000 lbs
 p^{er} day
 - French were in want of
 pot ash, one answer was taken
 to diminish the consumption
 of it in other articles and
 to provide an abundant sub-
 stitute by the extraction of
 alkali from sea salt -

Copy of a letter from
 M. Wille Military Store-
 keeper to addressed to Major
 Genl. Muriel Clarke President of
 the members of the Military
 board -
 Gentl^{man}.

The bad quality of the
 salt petre received from Calcutta
 this season may have a very
 sensible effect on the quality of
 the gun powder made from it.
 I therefore think it my duty to
 relate this to you, and that you
 may be convinced of its impurity
 by actual inspections, I take the
 liberty to send you a sample
 of it, with two parcels of finer,
 the one in the usual way

marked A. The other double
refined marked B. The latter is
as pure as need be, but to make
it so will increase the expense of
the Gun powder about one payson
of Candy. I therefore request your
order on the subject. I have
to remark that I find by the
proof made daily at the mills
with my small mortar, the
strength of the powder is consi-
derably less than it was last
year. But if the nitre is
doubly refined, I can answer for
its strength being as usual
I am with respect &c

Signed Wm. Webb

W. More Esq

I was refused to write regard
to the Salt petre, and requested to
give a private opinion to the
military board by Major Hall -
My report.

Dear Sir

The more the Salt petre
is refined the stronger most un-
doubtedly will be the G. Powd.
The specimen marked A is what
is called Salt petre of the second
washing and that marked B
of the third washing. The latter
is most certainly purer than
the former, tho' the difference
is greater in appearance than
in reality - Proved the other

Two minerals be genuine
and of opinion that good powder
may be made of Salt petre of
the quality of Specimen A.

Brad G. P. is of the result of
want of trituration than want
purity in the materials. For

Let the constituents parts be
care to form in the ^{best} propor-
tion be ever so accurately ob-
served, yet if a most intimate
union among them is not
effected by long trituration the
powder must be bad.

Jan 21 -

Regno J. Comendin

Some account of the Corundum
in Diamond Spite with the
place and mode of digging for -
from a Letter of Mr. Garrison to
Mr. Ross dated Freshborough
Nov 10th 1792 -

- Indifference of the Nation on
every subject in which they are
not immediately concerned -

- Steps men are working be-
neath and pass, without mo-
lestation into all parts of India
are the Lapidaries of this coun-
try, and almost by proscription
right the only persons who bring
this stone (corundum) from the
place where it is found -

- The only leading fact obtained
from the set of men was the

Place where the Stone is found
very a little beyond a Village
called Durnally, at the foot of
the Barramant -

- Dispatched a servant with a
Glasgow man in quest of the ^{place} ~~stone~~.
When they arrived at Durnally
the Glasgow man, his motive not
known, told my servant that
his information went no fur-
ther.

- Servant sent word that he had
discovered the place - I set out
and arrived at Durnally, where
I learned that the place was
14 miles farther. - On the
spot next morning at sun-
rise -

- A continuous excavation from
6 to 16 feet ^{depth} ~~was~~ in appearance
like a prodigious large water course

running, I and went ^{over} along the
bow of a very rising ground about
a mile and a half in length.

- From this water course, which is
much overgrown in many places,
are branches struck off, which de-
scend again into pits, where the
stone is likely to be found -

- I saw three workmen - They
said they had never seen European
and asked my servant how they
were to make their subsistence -

The little village from which they
came consists of about thirty ^{houses} ~~houses~~.

- Five families have an exclu-
sive right for time immemorial
to work at the mines -

Must be a work of great Con-
tinuity -

- Followed the miners along the
line of excavation to a pit 14 or 15
feet deep below the ground level.

When they judged it probable
the stone might be found.

Instruments very heavy iron
crowns about $2\frac{1}{2}$ feet in length
with or thought upright wooden
handles fixed thro' with an iron
pin -

Granite rock formed a sort
of pavement, on this the men
struck hard with their crowns,
downward, crowns much blunted.

After obtaining a number of
pieces of 15 or 20 lbs weight they
are carried to the upper part
of the mine and broken into
smaller pieces and the coarse
is generally found in the breast
of these pieces - It is at least
to know the specific gravity of
the matrix and very hard.

The soil they previously cut
thru to get to this depth consists
chiefly of a gummy kind of ground
and at the depth of seven feet
one layer of stuff not unlike
Orid pitls, which crumbles into
small flakes when taken out.

It runs horizontally and in
lines of the size of a range of
cards stuck close together
(Difficult to procure the stone
with the crust (matrix).

- Sale on the spot confirmed to
the Glasgow vendors - he has carry
it on asses, Bullocks &c to the
Trancon Country -

Weight is remarkable and
hardness equal to any thing but
the Diamond, and when reduced

to powder it with equal concave
cuts and polishes every all other
stones, the Ruby not excepted.
It cuts glass like a Diamond
- Found in no other place in
India - says we only in any
part of the country - On par-
ticular occasions it is offered at
the shrines of their Churches.

The roots found in some colour
and dark purple in the propor-
tion of 20 to 1 of the last - But
there is no distinction in use.

Extract for Dr. Meysen
correspondence with Mr. Kops
From Estimate of expense -
Nov 15 -

As I would propose to
build the works of mine