

A black and white photograph of a large, complex industrial machine, possibly a steam engine or a large pump. The machine features a large, circular central opening. The interior of this opening is divided into several segments, each with a grid of small holes. The machine is surrounded by various mechanical components, including pipes, valves, and a large flywheel on the right side. The overall scene is industrial and somewhat dark, with the machine's components appearing metallic and weathered.

LIBER IGNIS



INVERSION, 1

1890: *All day long*

the smoke arises from the works

stretches across the valley

no higher than the town

a still, calm sea, deep, murky

Carriages have to be driven slowly

trolley cars have to creep

workers lose their way

many people bleed from their noses

some vomit in the streets

inversion layer

invisible hand

godlike transparent

palm fingers thumb heavy with value

holding the smoke down

on the flayed valley

ORESCAPE

In the copper area

slopes gridironed by railway tracks

steel hoist frames mark

the course of the greater veins

monotonous slopes

occasional shaft houses

innumerable pits and trenches

heaps of waste everywhere

Only by digging through the veneer

of gravel-like debris

can the limits of the intrusive masses

be established

MODERNITY

Like the hand guiding enlarging
demand for copper wire

1882: Edison installed his first electrical
generating and distribution system

27-ton “Jumbo” dynamo

heavy copper bars and brass disks

spinning around a magnetic core

nearly 20 miles of thick copper wires

threaded through underground conduits

clean modern metal

extruded into arteries

of Power and Light

1902: 21,920 miles of electrified streetcars

with copper-coiled electric motors

fed by copper wires

1925: Bell Telephone had bought more
than seven hundred million pounds of copper
for its nationwide phone network

vast horizontal ever spreading

voltage tree whose roots are here

copper bound with sulfur

iron and arsenic

the veins nearly vertical

a depth of over one mile

ascending to be purified

in airborne drifts of filth





RAILROADS, 1

Steel shadows
of the hand's long arm
extended from Boston
oak-chambered cranium on Beacon Hill
OFFICERS OF THE COPPER MINING CO.
H. H. Rogers [*Standard Oil*]
John D. Ryan
F. P. Addicks
C. F. Kelley
money-muscled
and along rights of way
thousands of miles
of strung-wire ganglia
the telegraph
clean modern copper

DIRECTORS OF THE COPPER MINING CO.
William Rockefeller [*Standard Oil*]
J. E. Judson
E. C. Bogert
George H. Church
William. L. Bull
dash-dot synapses
transmit back and forth
capital's instructions
extraction's hungers

and fulfillments
MANAGERS OF THE COPPER MINING CO. 1883-1920
Marcus Daly [*Owner*]
William Scallon
John D. Ryan
Cornelius F. Kelley

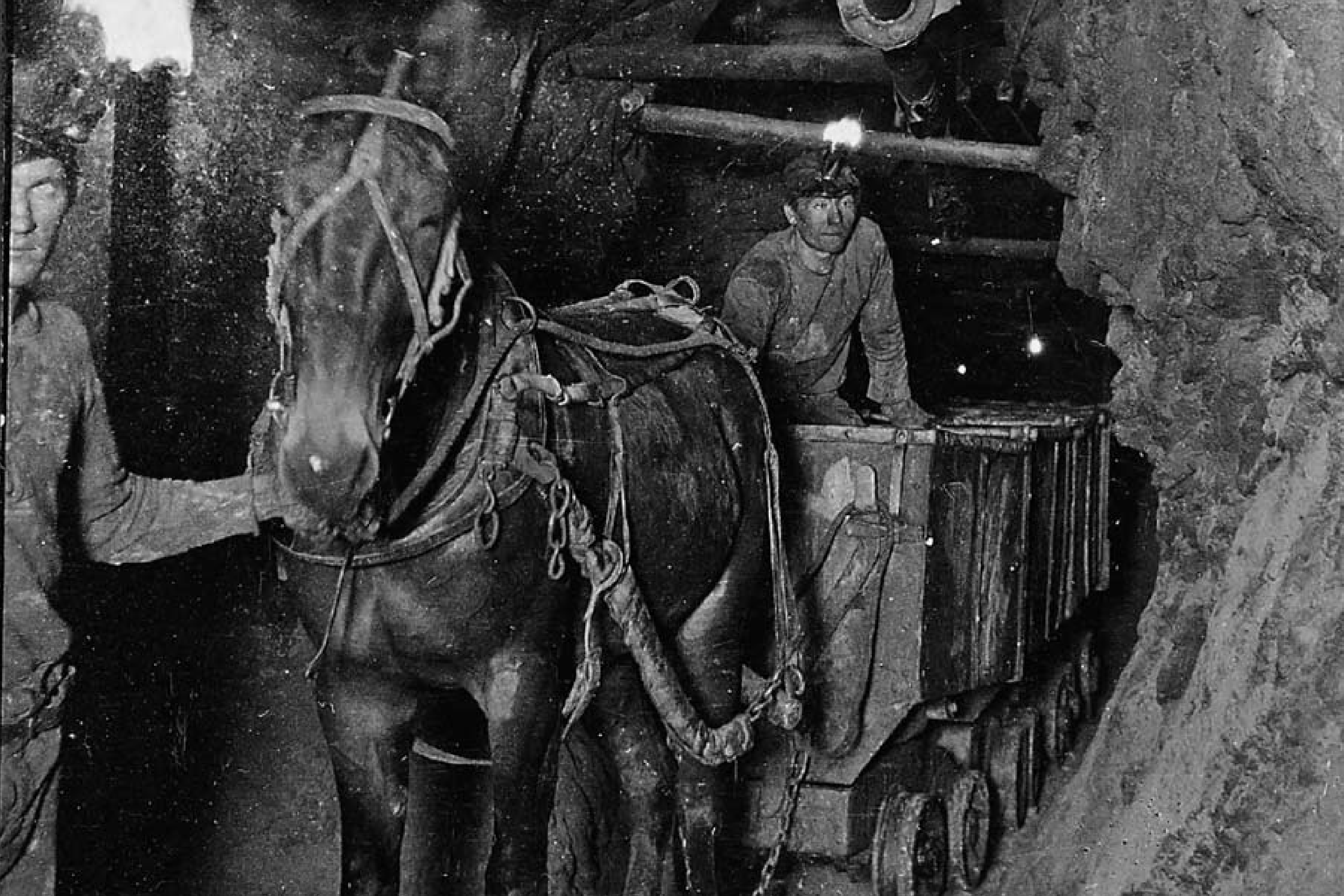
LABOR, 1

The visible hands
accounted over decades
grimed oiled and bruised
bone tendon muscle
whose grips and motions
thousands a second
on power-drill pick shovel
lever pulley knurled wheel
are melted together fused
in the banks' cold converters
become platonic
equivalent fungible
as particles of light
or fine soot
a bloodstream of numbers
in the financial firmament
value nimbus
flowing always east

LABOR, 2

Hard-rock miners first
drawn organized positioned
raised or flattened
like grimy filings
by profit's magnetic field
from *Canada and Mexico*
Cornwall, Ireland, Wales
Austria, Italy, Norway
Croatia, Montenegro, Serbia
Lebanon, Syria
and China [these then
expelled, boycotted, abused]
go deeper year by year
becoming *helmet men*
goggled, cylinders on their backs
in their *Draeger breathers*
mile-down divers in rock
follow veins and outcrops
swimming through poison gas





to repair tunnels and shafts
or maskless working rock drills
they breathe freely
surface air pushed down
by gigantic pumps
thudding like hearts
machine wind branches
through hollow arteries
circulating also
the silica microgrit
that wears their lungs away

LABOR, 3

crushed
asphyxiated
poisoned
drowned
roasted
incinerated
buried alive
to die of thirst
brought up
unrecognizable

LABOR, 4

Venus Alley
behind the Dumas Brothel
with its *three stories*
skylights and large parlor rooms
the alley lined with "cribs"
thin wooden walls
just large enough for a bed
a white light bulb
over each entrance
The women
in *brightly colored*
short-skirted dresses
working at their stations
at times under smoke weight
pressed helpless heaving
down on sweaty sheets
gasping in more fouled
spiritus clenching breath
into rasped exorcism

RAILROADS, 2

Shadows of the hand's fingers
rail spurs and branch lines
lumber cars from the northern hills
stacked and tied
with amputated forests
ore cars from the pit heads
piled with metal shatter
ready for combustion
roll to the smelters
on steel and grassless mud
through stolen air

INVERSION, 2

From up the first brick stacks
or from "heap roasting"
brimstone smoke
hell's heavy atmosphere
pushed down on the living
from above
by the invisible hand

as the ore smolders
like dragon intestines
in open heaps
layered between timber
whole city blocks long

*1891, January to March:
out of 246 deaths
about 71 percent pulmonary
lung abscess, chronic bronchitis
asthma, croup, pneumonia
miners 25% of male dead
average age at death: 38*

arsenic, fluorides
penetrate the eyes
sulfur dioxide
burns away the lungs
the heart's furled wings
in the innocent
the old the exhausted
the underground men





*—died late at night or in the early hours
—had complained for some time
about ‘feeling poorly’
—had been diagnosed with a cold
or ‘consumption’*

while the damnable in mansions
above the smoke-sea
breathe air as clean as lace

GAGGED

*Seeping through windowsills
floorboards ventilators
even keyholes
sulfur- and fluoride-laden
filling the schoolhouse
The children hide
their heads in their arms
tie handkerchiefs over their faces
try to take refuge under desks*

hands over their mouths
their questions their fear
every cough a raw shack
door slammed against choking
lost village of children’s breath
*Peering through the gloom
a rancher’s grandson
points at the roaring
smokestack
in the distance
“You think it’ll do that
until it makes us all die?”*

SMOKE FARM

Deer Lodge Valley

Bielenberg Ranch

autumn 1902

more than 1,000 head of cattle

800 sheep, 20 horses

grazing under

a steady stream

of stinking yellow smoke

sulfur centipedes

bristling with wire feet

crawl down their long throats

claws tearing their alveoli

with each breath

gray metal white metal

static disrupting

their cells' converse

nerves transmit spasm

hearts falter and seize

bodies founder

in dusted fall grass

INVERSION, 3

the mines of Butte somehow

carved out of the surrounding rock

as a single block

lifted up inverted and set back down

a mile high at its tallest point

the resulting structure of

stone steel and wood

twice as big as the world's

largest skyscrapers

nearly two miles thick at its base

forest-maze of hollow branches

ghost world-tree

empty necropolis

inside a vast grave marker

for the smoke-strangled

and rock-crushed dead





REDUCTION

Replacing the heaps
reverberatory furnaces
cobra-hooded
feed *molten mattes*
to the ranked converters
where fiery air forced through
burns off impurities
as exhaled breath
iron eggs hooped and bolted
mounted like cannons or mortars
alembics of modernity
dwarfing the workmen
sweaty in rag masks
who serve them

STACKS

fingers of black brick
two hundred feet high
gravers with hollow tines
in parallel
incise the flat sky
etch chiaroscuro
with sulfuric acid

Each new set
reaches taller
300 feet
manifesting the faith
that sin will dissipate
on the wind
as we escape upward
from a soiled world
into the heavens

while down-plume the corn
goes on shriveling
the cattle bloating on their sides
the pasture turning brown
the old lungs drowning

Finally the great Washoe stack
steel and brick 585 feet high
surrounded by
a twenty-unit bank
of electrical precipitators
each a mere ten stories
capture the metal-soot
drop it into hoppers
tracks right under the units
railcars loaded with dust
rich in copper, gold, and silver

RESIDUE

left when the Washoe
shut down in 1980
185 million cubic yards
of toxic tailings
250 thousand cubic yards
of captured metal dust
soon after
children in nearby Mill Creek
found to have dangerous
levels of arsenic in their urine
all Mill Creek residents
evacuated and relocated
houses bulldozed
soil leveled and stripped off
transported
hidden

—Adam Cornford



