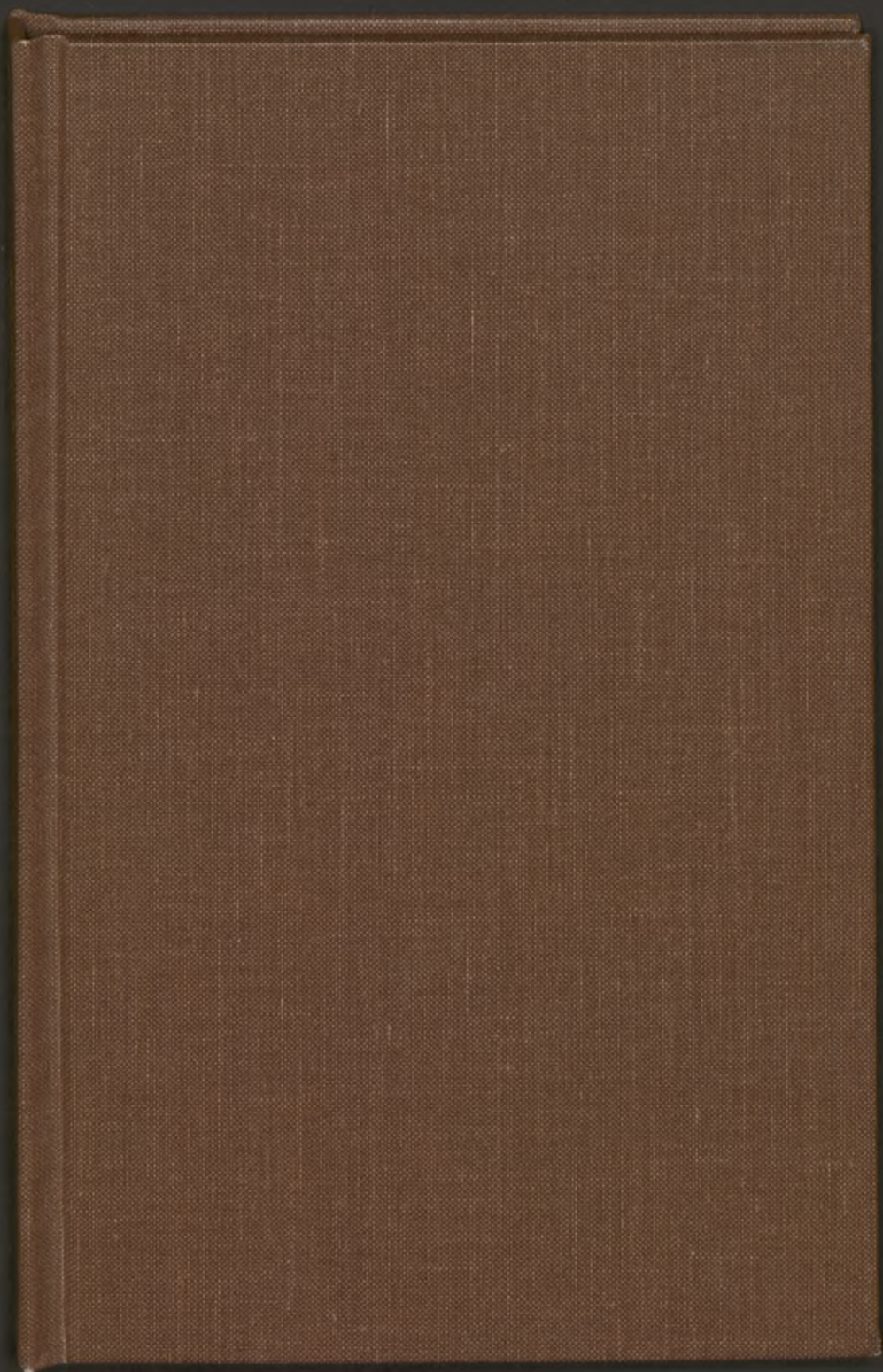
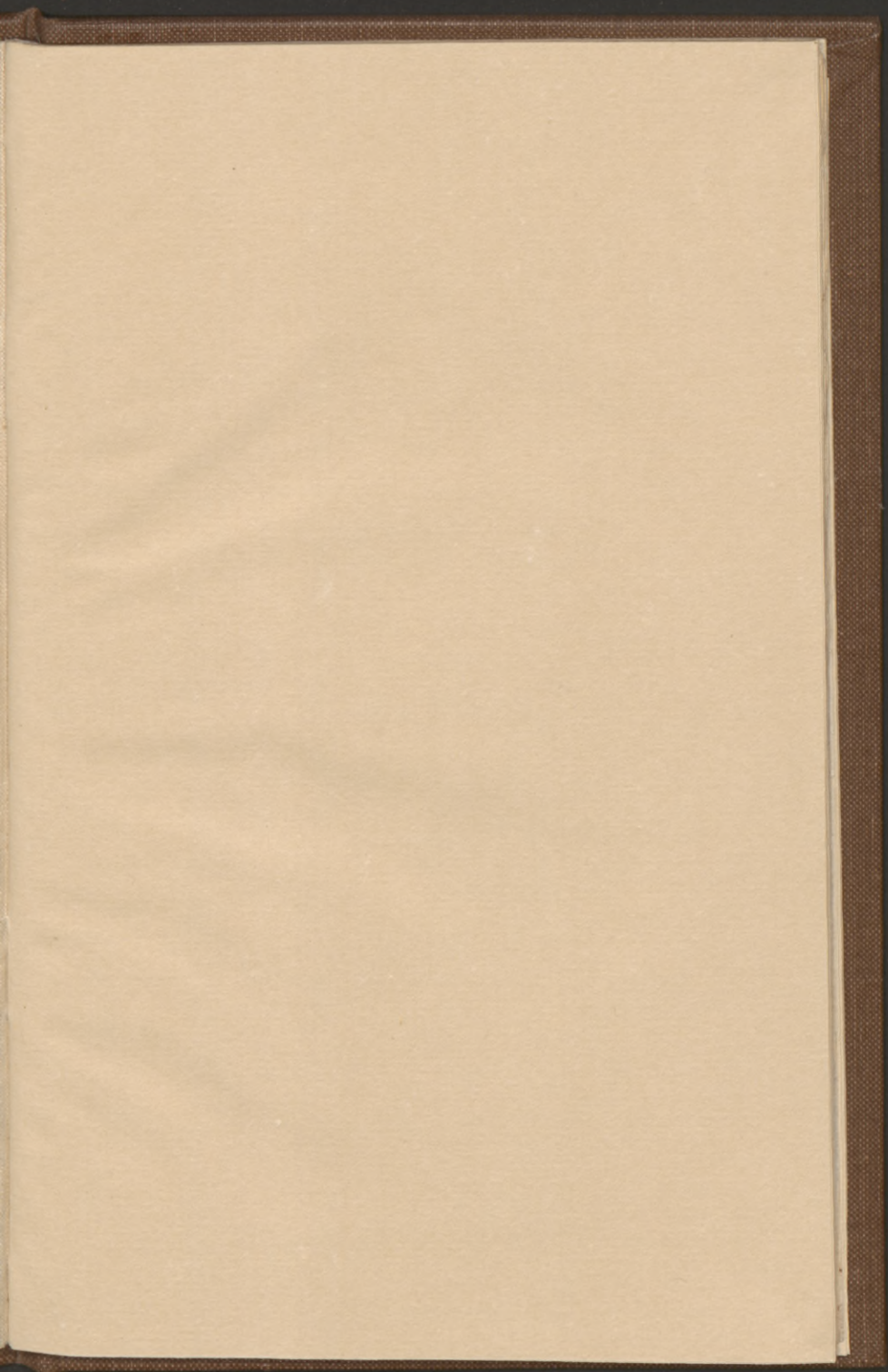
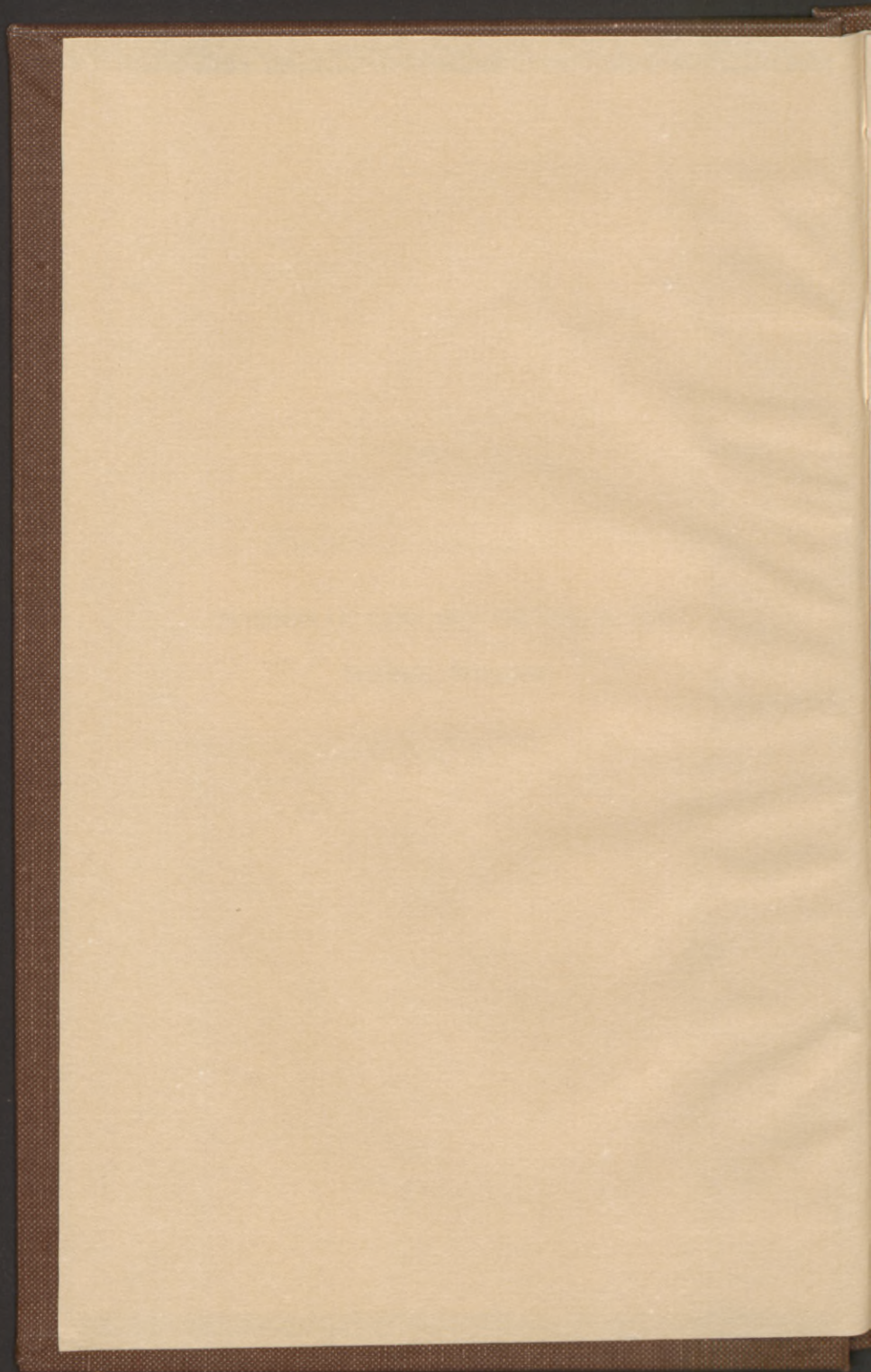


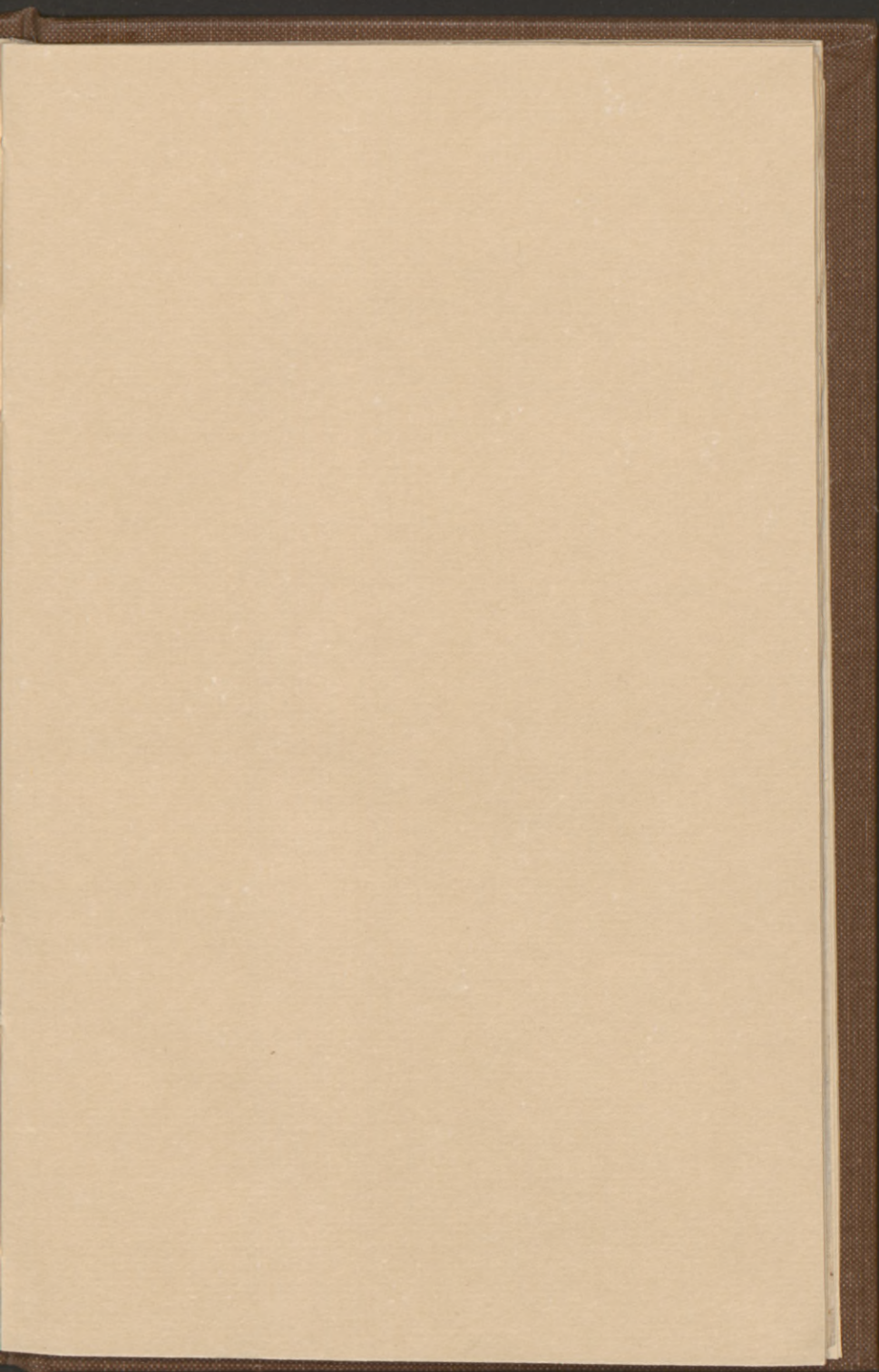


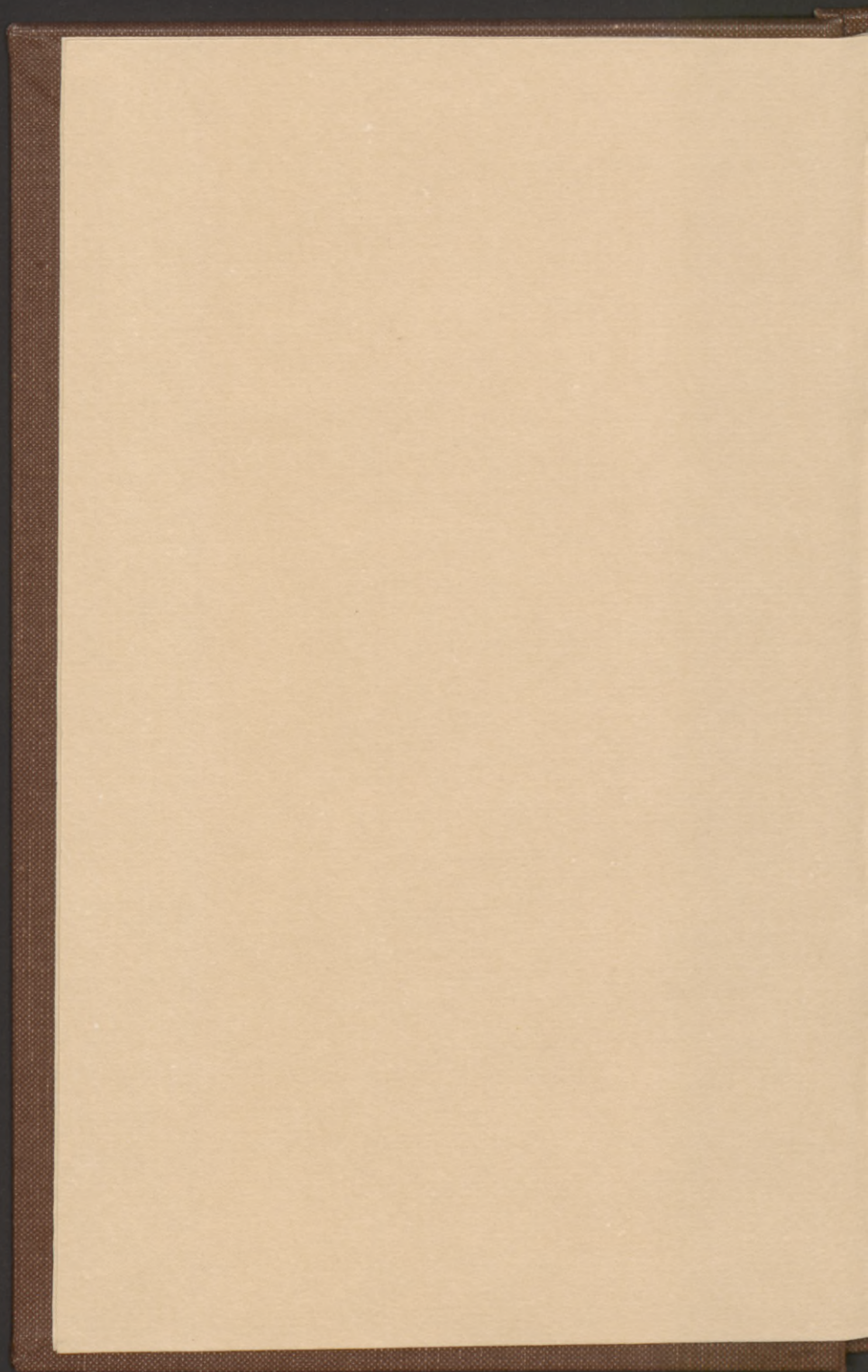
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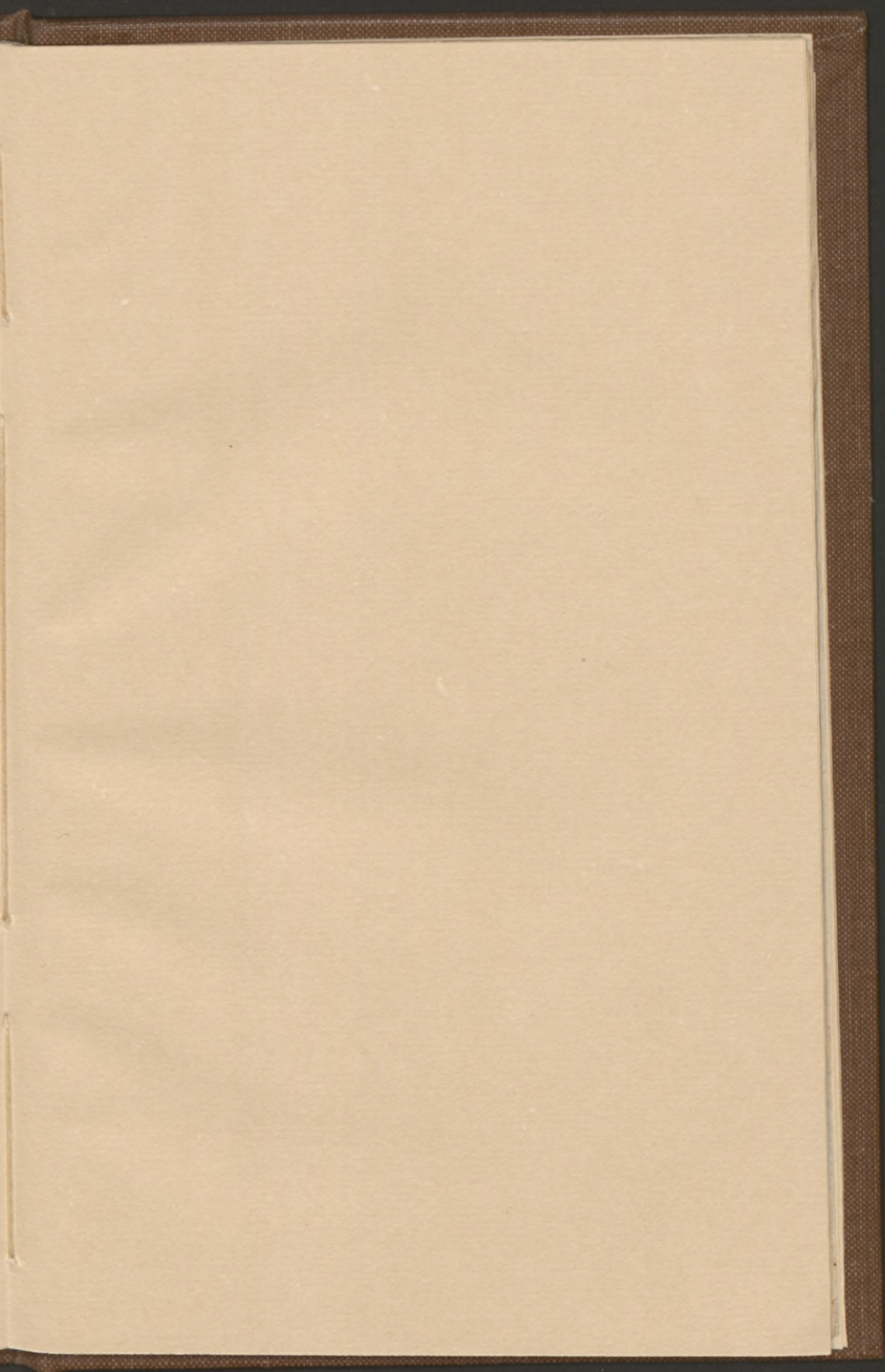
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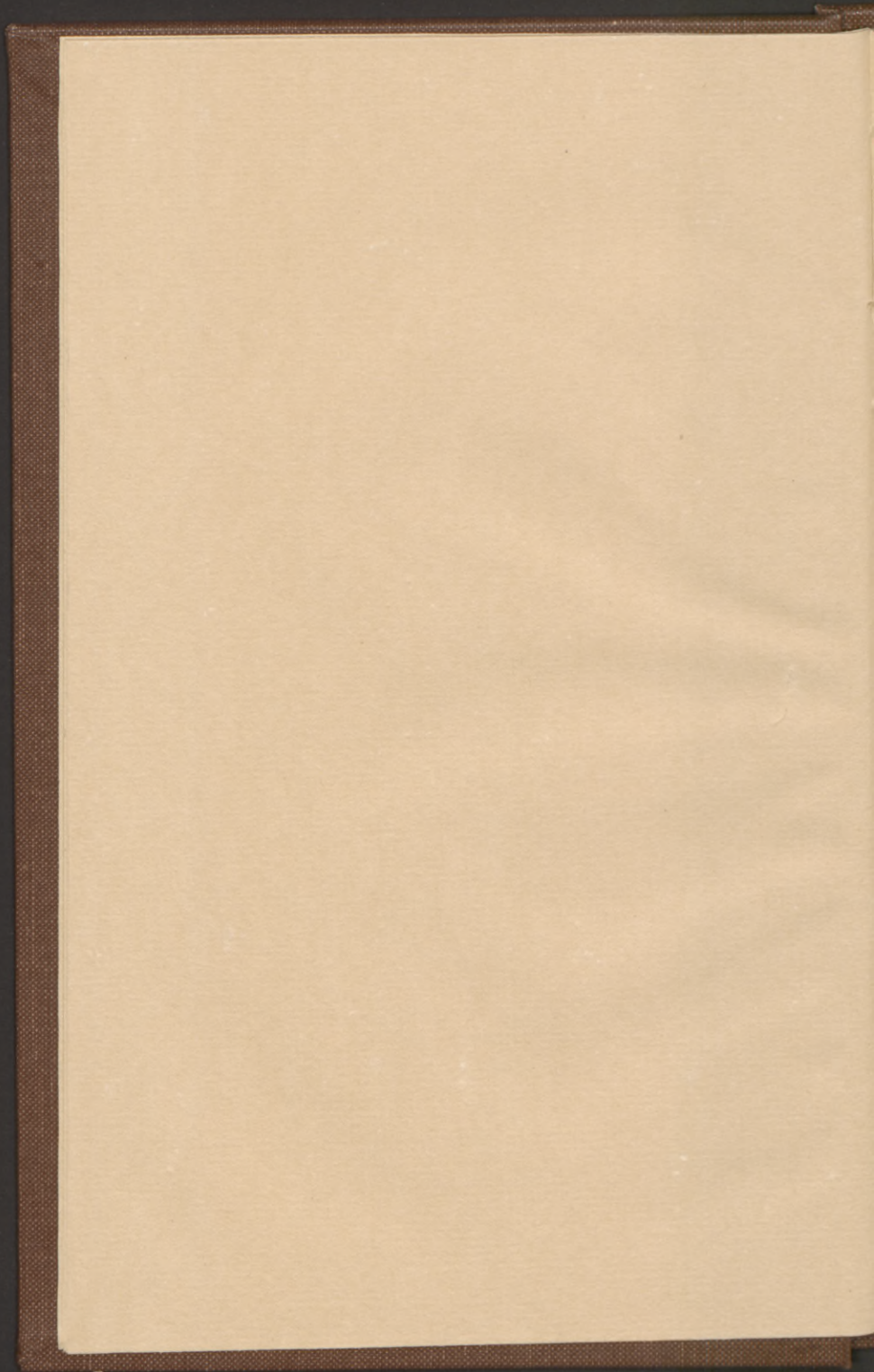


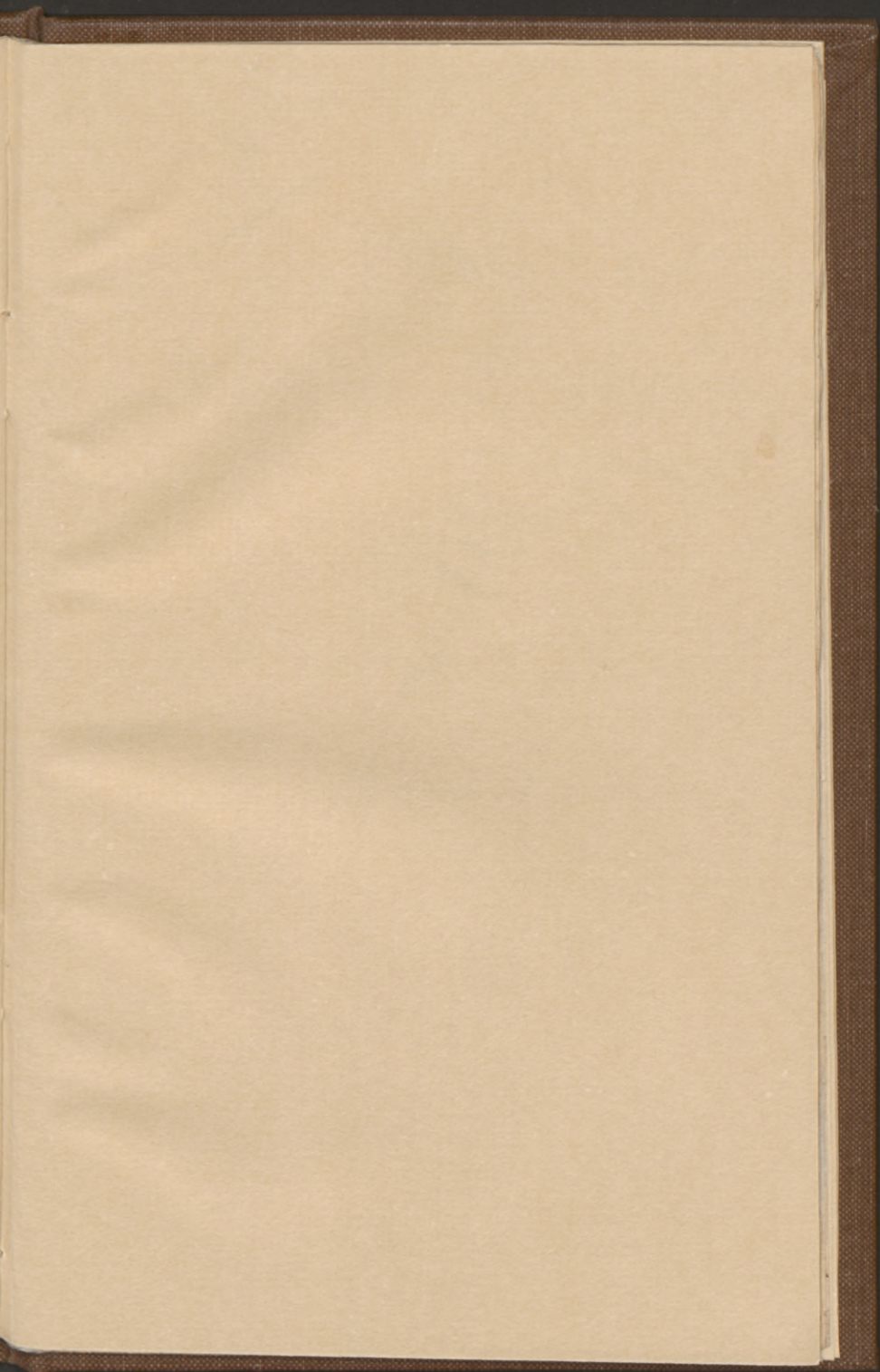


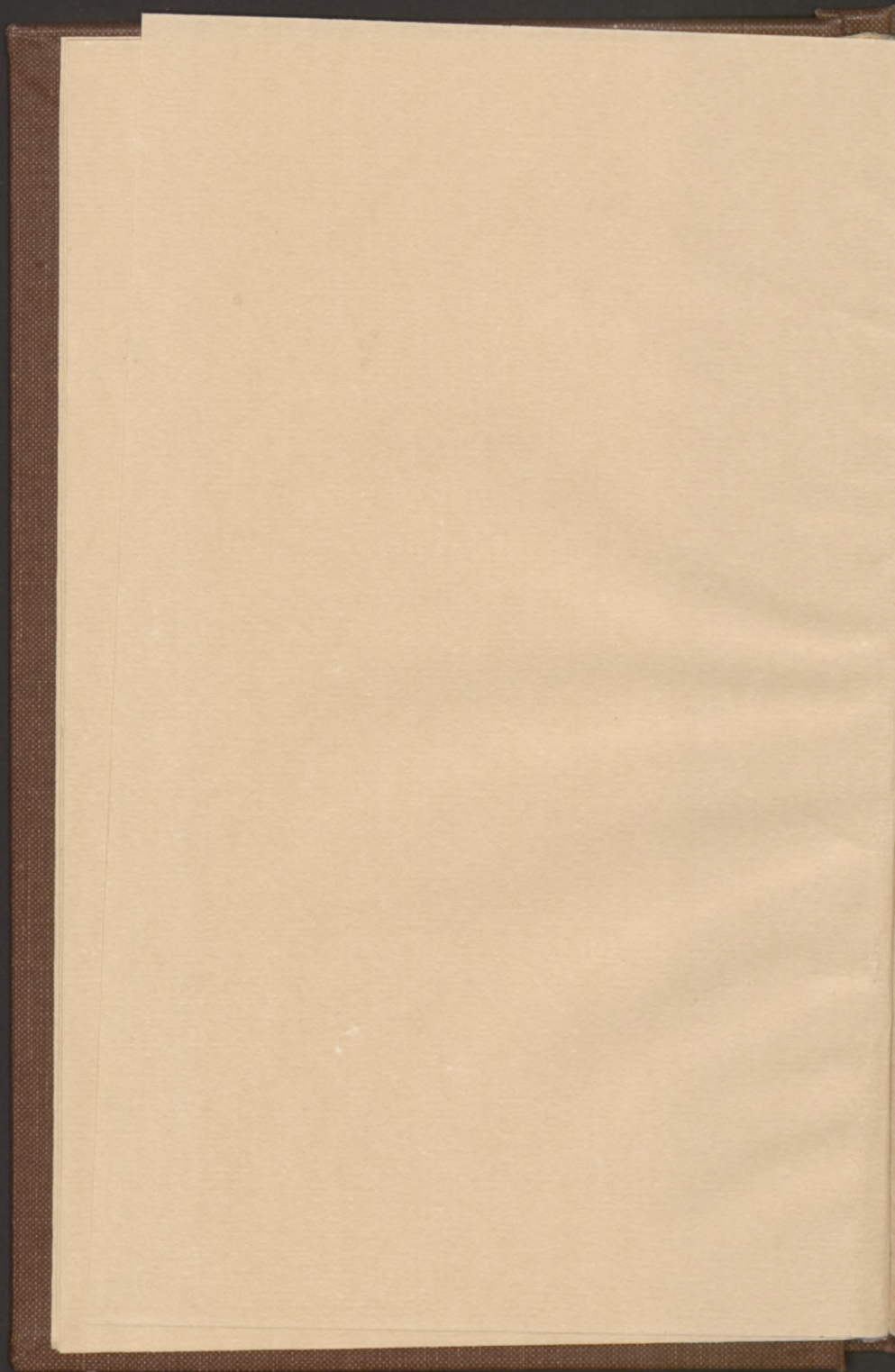












Notes on

I = 28

Durton's
Lectures on Botany.

1809.

William Durton

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Monday April 17th 1809. ²

Lecture 1st

Of the difference between
Animals and Plants.

A plant is defined to be a living organized body, fixed to a certain spot, where it propagates its species.

Some plants have locomotion. The *Valleriana spiralis* of Linnaeus & some others have locomotion. In these plants the male and female flowers are separate from each other. The male flowers detach themselves from the stalk, and pursue the females & in this manner propagate their species.

The power of Locomotion cannot be considered a characteristic mark between Animals & Plants.

For I say some animals are not capable of spontaneous motion. The *Pennatula Cynosurus* (*Pennatula Setacea*) of Linnaeus are animals that are not possessed of spontaneous

motion. Some animals as well as plants have no sexual organs. The *Tamara* / *Tape Worm* is certainly produced in the Intestines of the *Loetus*.

Irritability exists in nearly all the parts of Plants.

The brain is wanting in some animals as the polyp, tenia Cuttlefish &c.

Plants have both brain & nerves. Some animals have no hearing as the fresh water polyp - the Hydra &c.

Some flowers have the property of doubling themselves.

The Almond tree in its wild state bears single flowers, when brought into a Garden, and nursed the flowers become double.

The smell of the *Glaucus* / *Magnolia* proves fatal to some animals.

Lecture 2^d April 18th 1809.

3

The natural heat of Man
is 98° of Fahrenheit's Thermometer.
The heat of the Rattlesnake
is 61° -

Plants have a peculiar heat
of their own, different from that
of the Atmosphere in which they live.
The Maple Birch, English
Walnut &c. have a Specific
heat.

Both animals and plants
are able to support for a
considerable time a greater
heat than is natural.

Hermaprodites are those
plants in which the male and
female organs are blended
together.

Monococious are those plants
in which the male & female
organs are upon the same root
but in different parts of it. —

Dioecious are those plants
in which the male & female
organs are upon distinct roots
as in the Lombard Poplar. —
In this Country the Lombard
Poplars are all Males.

Megallus

Lecture 3.^d April 24th 1809
Absent.

Whitpore

Lecture 4th April 25th 1809

The branches of Natural
History are six in Number.
viz: Zoology, Botany, Mine-
-ralogy, including Geology, Mete-
orology and Hydrology.

That part of Natural
History which is called Botany
is the subject of our present
course of Lectures.

Botany is of vast extent it
composes seven eighths of the

Materials in the Materia
Medica.

4

Anatomists divide the human body into Head, Trunk & Extremities. In like manner Linnaeus divides plants into three parts viz: radix, herba and fructificatio.

By the radix I mean the root or that part of the plant which lies buried in the ground.

By the herba, I mean the stem, leaves, and its appendages.

By the fructificatio, I mean the flower or properly speaking the fruit.

The radix, is that part which supports the herba & fructificatio. It is divided into two parts viz: the caudex, and radicula. The latter act as absorbing vessels.

The caudex, is that part of the root ~~from~~ which supports the tree and from which it proceeds.

The radicula are fibres which proceed from the caudex, and nourishes both it and the plant.

Linnaeus also subdivides into Caudex Ascendens and Caudex
Descendens. This division I then
is altogether needless.

Every part of a plant contains
the germ of every other part.

Externum Refer

I. Of the Radix.

This I shall consider in the
following manner viz. 1. With
respect to its form. 2. Its
growth, and 3. Its duration.

1. With respect to its form.

They are 1. Radix Fibrosa. 2. Ra-
dix Fusiformis. 3. Rad. Tuberosa
4. Rad. Granulata. 5. Rad.
Bulbosa. 6. Rad. Premorsa.

1. Of the Radix Fibrosa, or Fibrous
Root. This kind may be seen
in all the Grasses, and in wheat
rye, oats, barley &c.

2. Radix Fusiformis, or Spindle-
shaped Root. This is very com-
mon & known to all. examples of
it are seen in the Carrot, Pars-
nip, Hemlock. &c.

3. *Radix Tuberosa* or *Tuberosa Root*

It is a hard solid & fleshy root and has sometimes one knot, & sometimes more, according to the different kinds of plants. - as in the turnip, & potatoe which have but one knot - in the paeony, which has several.

4. *Radix Tremorsa*. It is a species of root which does not taper off but ends very abruptly, and appears as if it had been eaten off. It is called by the Country People Devil's Bit.

5. *Radix Granulata*. This is exceedingly rare. An example of it may be seen in the White Pasifrage

6. *Radix Bulbosa* or *Bulbous Root*. This is very common & familiar to all, as the Onion, Tulip &c.

The bulb consists of two parts the bulb properly so called, and the radicula. These fasciculi consist of exhaling and absorbing vessels. The business of Nutrition is carried on in them.

Linnaeus also divides the bulbous

into Squamosus, Solidus,
Tunicatus, Articulatus and
Duplicatus.

Squamosus as in the Lily,
Solidus, there is none.

Tunicatus, as in the Onion, Tulip.

Articulatus, is very rare.

Duplicatus, two bulbs connected
together this plant is called by
the Country people Adam & Eve.

When this plant is put into
water one of the bulbs swims, &
the other sinks. The reason of
this is obvious, the bulb that
swims is the one that has put
forth its germ; and the other
retains its germ untill the
next year, for this reason it
is heavier & of course sinks.

Lecture 5th 21st April 1809.

Delineatio Plantæ.

A plant is divided into the
Radix, Herba & the Fructificatio.

The Triflorus Imperialis or
Crown Imperial of Persia, is a
true specimen of this division
viz: radix, herba, fructificatio
& the small twigs on the top of it
are called the bractea or bracteæ.

Of roots with respect to their⁶ Growth.

1. Some roots run perpendicularly into the ground. the fusiforme roots are all of this kind viz: the parsnip, carrot, radishes.
 2. Some run in an horizontal direction, as the *Polygonum peltatum*, or Many Apple.
 3. Some pass off in every direction as in the *Rubia Repens* or creeping root, and the Mint.
- Roots are divided into simplex
raroosa, & ramosissima.

Duration.

Some roots subsist for one year and are called annual as the wheat, rye, barley &c.

Some for two years they are called biennials, as the Clover.

Some for many years they are called perennials, as the *radices fruticosa*.

Climate and cultivation affects perennial plants, and changes them into annual. The moving of a perennial plant from a warm climate to a cold changes it into an annual.

Culture prolongs the life of plants. The Dodder is very pernicious to the flax.

The Mistletoe clings to the Apple tree and receives its nourishment from it. These are called parasitic plants.

Some roots penetrate through wood and other hard substances.

Dr. Barton shewed an instance in which the root of a small Orange tree had penetrated through a piece of wood.

II. Of the Herbae.

By Linnæus it is defined to be "that part which arises from the root, and is composed of the trunk, leaves &c."

1. Of the Trunk. It is divided into six kinds. viz. caules, culmus, scapus, peduncululus, petiolus and frons.

The Caulis or Stem is the body of a tree or herb, supporting the branches, leaves & the fructification, as the Crown Imperial.

Culmus, is the proper trunk of the Grasses Indian Corn &c. it is generally tubular or hollow

and jointed. All those plants
of this have the Culmus trunk
are innocent.

Scapus is a stem which pro-
ceeds from the roots and sup-
ports the fructification only as
in the Blue Bottle, narcissus, &
primrose.

Thrombus is that kind of stem
which terminates in a leaf
as in the ferns.

Stipes is that stem which
supports the plant as in the
mushroom.

Pedunculus is that which
supports the flower.

Petiolus is the stem which
supports the leaf.

Lecture 6th 28th April
We come now to speak of the
folium or leaf.

Organ: motus plantae.

I shall speak of them under ^{Linnaeus}
three general heads.

1. The Simple. 2. Compound. 3.
As to their Determination.

1. Folium Simplex is that kind
which consists of one undivided

expansion, proceeding from
the rib.

2. Compounds.

3. Determination. They are
either opposite or alternate.

There is a material difference be-
tween the colour of the sides of the
leaves, the upper surface being
of a much deeper green than the
under, owing to its receiving a
greater quantity of light.

Linnaeus calls these surfaces,

discus, supine & prone, but I
think, Pagina Superior & Inferior
are much better names.

The chief vegetable principles
of plants are the following.

1. Caloric, it is present in all
plants.
2. Light it is found in the Oils
3. Electric fluid - in the Muriogold
4. Carbon it forms the chief part
of plants.
5. Hydrogen.
- 6 Oxygen
7. Azote it is exhaled by plants

Lecture 7.th May 1st 1809⁸

Of the Folium.

They are divided into Simple and Compound.

The folium simplex is that kind of leaf which consists of one undivided portion situated on its petiole; as in the folium populi.

The folium compositum is that kind of leaf which is divided into several smaller leaves or folioles situated upon a single petiole; as in the Goat's Rue, Parsnip.

The leaves of the Rose are opposite excepting the terminating one which is called a "folium pennata cum impari."

The horse chestnut is a folium digitatum. The Ceringa or Sea-lock is a folium oppositum.

Some have their leaves both opposite & alternate. They are called "fol: alternis oppositisque."

Structure of the Leaves.

The Cortex is the outer green part.

or covering of the leaf. Underneath that is the Net-like work. Underneath the cortical net is the parenchyma or pulpy substance. The leaves of Plants are not the only organs of perspiration.

Lecture 8th May 3^o 1809.

Of the Green Colour of the Leaves.

It is by far the most grateful to the sight of all Colours.

Dr. Stahl supposes it to arise from the phlogiston which is contained in the Atmosphere.

There are at least 28.000 or 30.000 different Species of Plants. In the hottest parts of the Globe we find the largest leaves.

The Tallipot (a kind of Palm) which is found in the Island of Ceylon bears the largest leaves.

Beyond the Southern boundary of Virginia, the leaves of the plant begin to increase in size.

Lecture 9th
Took no Note

Lecture 10th May 8th 1809

Of the Hybernacula

The Gemma or bud are of three kinds viz the Gemma floralis or flower bud, the Gemma foliis or leaf bud, & the Gemma foliis floralisque, or the leaf & flower bud united.

Of the Fructification

It is divided into Calix
Corolla & Stamen.

1. Calix - perianthium - involu-
-crum, as the Cornus Florida (Dogwood),
Armentum, Spatha, (Sarcifus)

Lecture 11th May 15th 1809

Fructification Continued:

As I said in my former Lecture
that the Calix is divided into
the perianthium (as in the Laracenia)
the involucrem as the Cornus Florida
the armentum as the grapes, also wheat, &c.
the spatha, as in the Sarcifus
the gemma as the bud of Indian Corn
the Calyptra as in the Mosses &
the volva as in the Mushroom.

Lecture 12th May 12th 1809

Of the Corolla.

It is that part of the plant which is coloured & encloses the organs of generation, as in the Tulip.

Arthur Napier

Lecture 13th May 13th 1809

The Narcissus & Tulip according to Linnæus has no calyx, but the Corolla & nectary only,

M^r. De Jussieu. says they have both calyx & corolla & no nectary, therefore what Linnæus calls the corolla, Jussieu calls the calyx, & what Linnæus calls the nectary, Jussieu calls the corolla.

Of the Genitalia

These organs are two in number viz the Stamen & Pistillum.

The Stamen is the Male Organ & the Pistillum the female.

The Stamen is by Linnæus divided into 2 parts the filamentum anthera & the Pollen. I say but

two, the filament & anther. 10

The filaments are the thread like parts of the stamen

The anther is the summit or top of the filament stamen which contains the Pollen.

The Pollen is the prolific seed of the plant it is most commonly of a yellow colour.

The Pistillum is divided into the Gern, the Stylus & Stigma.

The Gern or Ovary is the bottom of the Pistillum which is contained in the Receptacle, & produces the flower.

The Stylus is a tube thro which the Pollen passes into the Gern.

The Stigma is the top of the Pistillum which collect the Pollen

Botany.

A plant is an organized & living body, enclosed with the attributes of irritability - doubted whether possessed of sensibility - many facts render it probable that it is possessed of feeling. The organic parts are nearly of the same structure in the root, branches or trunk. In the trunks of trees six species are found. 1. Epidermis or Leaf Skin. 2. Cortex or Outer Bark. 3. Liber or Inner Bark. 4. Alburnus or Sap. 5. Lignum the wood. 6. Medulla or Pith. There are several different Vessels of Plants. 1. Sap Vessels. 2. Proper Vessels containing the proper juice or blood. 3. Air Vessels. 4. Medullary Vessels. 5. Absorbents. 6. Excretory. 7. Secretory.

Sexes of Plants.

All plants are known and distributed into different classes, Orders, Genera, Species & Varieties. The Classes are 24 in number, formed from the number, place of insertion, probable connection, disposition, or absence of the stamens or male organs of generation. Orders are founded upon the number of styles & female organs chiefly. 1. Class Monandria or male from monos one and and a male has 2 Orders. Monogynia one male & female & Polygynia two males & females.

Hoya carnosa - Wax Plant - "
Colchicum autumnale - Meadow Saffron
Chrysanthemum leucanthemum - May weed
 - White Daisy, a Butcher's Eye, Ox Eye, white weed
Nastagora - Turkey Cap Lily
Lilium - *Aquaticum*, Canadian a Wild Riv.
Lilium - Mahimonia's Bones -
Helianthus tuberosus - Jerusalem Artichoke
Viburnum Opzoceros, (Bush Cranberry) -
Spinea Filipendula - Common Dropwort
Saxifraga cernuosa - (London Pride)
Minulus turea (Menther Flower)
Lychnis calceolaria (Doubt red Ragged Robin)
Achillea Egyptiaca (Egyptian Milfoil)
Veronica gentianoides - Gent. leaved Speedwell
Anagallis hornemannii (Lamb's Ear)
Shepherdia Elaeagnoides (Buffalo berry tree)
Rubus rosafolius - (rose flowering Bramble)
Scutellaria - (Skull Cap, blue flower)
Dionaea Muscipula (Venus Fly Trap, a sensitive plant)
Polygala lutea - (Milkwort)

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Botanical Names of Plant —

- Fragaria* — Strawberry
Punica — Pomegranate
Spirea Trifoliata — Indian Physic
Thalictrum — Meadow Rue
Anonitum — Flaggen Weed — (a Delphinium)
Cynarhodon — Wild Rose
Cleome — Bastard Mustard
Ladamin Palensis — Ladies Smack —
~~*Platanus*~~ ~~*Gercanum*~~
Podalaria Tinctoria — Madder Indigo
Mimosa — Sensitive Plant
Triticum Repens — Common Grass
Primula — Primrose
Cistus — Rock Rose
Symphytum — Comfrey
Nyssa Integrifolia — Gum Tree
Citrus Aurantium — Orange Tree
Citrus Medica — Lemon
Siriodendron — Sugar Tree
Rosa — Butcher's Broom
Anthyllis — Ladies Finger
Camilla Pulegioides — Penny Royal
Agave Americana — American Aloe
Rhamnus — Buckthorn
Broussonetia — Paper Mulberry
Cerasus Double-flowering Cherry
Salix Babylonica — Weeping Willow
Symphoricarpos Racemosa — Snow Berry
Rosa Rubiginosa — Sweet Briar
Convallaria — Solomon's Seal
Asium Tryptocladum — White Robin
Arcia Racemosa — Spikenard
Euphorbia Hypericifolia — Milk weed
Lotelia Inflata — Red-top weed — 3. Shrub in flower.

Botanical Names of Plants on 12

- Aralia* - ^{viscose, weed} Honey Suckle. *Celastrus*
Bignonia catalpa - *Catalpa* Tree
Cactus - Indian Fig -
Asarum canadense - *Coltsfoot* or
Antirrhinum. *Linaria* - ^{weed} *Gringer* ^{has orange} *Panicle* ^{flower} *Thred*
Polygonum Lycopodium. *Deschampsia*
Cochechia Amaracia. *More Reddish*
Morus Rubra - *Mulberry Tree*
Myrica Cerifera. ^{Berry} *Caroleberry* ^{fruit bearing} *Myrica*
Platanus occidentalis. *American Plane* or
Button Wood Tree
Brassica Rapa - *Turnip* -
Lactuca Sativa - *Lettuce* -
Fupilago Tanfarum. *Coltsfoot*.
Asteriscia *Thymus* *Thymum* *Thymum*
Pyrola. *Winter Green*
Pyrola Umbellata, called by the Indian
Dipsosaurus
Rhododendron - *Rose Bay*
Rhod. Maximum. *Penae Mount. Laurel*.
Draculium Feticum *Skunk Cabbage*
Humulus Lupulus. *Common Hop*
Comptonia Asplenifolia. *Sweet Fern*
Panax Quinquifolium - *Ginseng*
Sanila Maritima - *Bittern*
Rhus glabra - *Sassafras*
Rhus Toxicodendron radicans. *Poison Vine*
Populus *Poplar*

Thuja Occidentalis, Amer. Arbor Vita
Cheiranthus Incanus, Stock Lily, Flower
Syringa. Lilac — *Syringa* —
Ribes — Currant. *Tomat Tree*
Robinia Pseud. Acacia. White flowering
Chionanthus, Snow Drop or Fringe Tree
Juglans nigra. Walnut
Jugl. alba. Scutimata — Hickory, Nut
Jugl. A. Minerva — Pig Nut
Jugl. A. ovata — Shell Bark
Juglans Pecan, Illinois Hickory, or Pecan
Kalmia Latifolia — Laurel
Fagus Castanea *dentata*. Chestnut tree
F. — C. — *Pernula* Dwarf C. *oraking*
Deodryas *Perseimmon* Tree
Euonymus *temperans* ^{*sp. nov. parva*} or *Evergreen*
or Indian Arrow Wood — *Spindle Tree* *Darning Bush* —
Lonicera — *Woodburn* — *Coriaria*
Magnolia Glauca. Swamp *Sapapras*
Ilex Aquifolium. American Holly
Gleditsia Spirosa. Honey Locust
Hypericum St. John's Wort. *Meise*
Scorus Bendoir *Spin Wood*
Scorus Sapapas *Sapapas Tree*
Verbascum. *Mullein*
Scorvius — *Water Lily* (or *Swamp Lily*)
Rubus hispidus *Scutering Bush*
Rubus fruticosus. *Blackberry*
Rubus Occidentalis — *Raspberry*.

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Lilium Americanum - Lilies a Lime Tree
Vaccinium corymbosum - Huckleberry
Vac - ^{*Myrica*} ~~*Maeris*~~ *Maeris* - Cranberry
Oryza Sativa - Rice
Podophyllum peltatum - ^{Medicine} ~~May~~ Apple
Veronica - Speedwell
Nasturtium - Leaf Everlasting
Hedera Linguiifolia - American Ivy
Hydrangea - Virginia shrub
Oxalis Acetosella - Sorrel, Rumex &
Flemulus lupulus - Hop
Astragalus - ~~Wagon~~ - ^{Wormwood}
Tristemon - Burdock
Atropa belladonna - Nightshade
Brassica - Cabbage
Spigelia Marylandica - Indian Pink
Leontodon Taraxacum - Dandelion
Paeonia officinalis - Pines
Papaver - Poppy
Potentilla reptans - cinquefoil five finger
Portulaca - Purslane
Calendula officinalis - Marigold
Cannabis - Hemp
Anthemis nobilis - Chamomile
Cheiranthus - Wall flower
Chelidonium - Chelidone
Cynara scolymus - Artichoke
Fragaria - Strawberry
Rumex Aquaticus - Water dock
Iris Pseudacorus - Water flag Yellow
Convallaria Majalis - Lily of the Valley
Hyacinthus Orientalis - Garden Hyacinth

Pelargonium - Geranium
Viburnum Opulus - Snow Ball
Dianthus barbatus - Sweet William
Gemphura globosa - Botchula's Buttons
Marrubium Vulgare - Horehound
Lea Mays - Indian Corn -
Aquilegia Canadensis - Columbine -
Fritillaria - Crown Imperial
Helianthus - Sunflower
Nymphaea or *Nelumbium* - Water Lily
Linaria ^{biennis} / *Honesty* or *Satin Flower*
Poterium Sanguisorba - Garden Burnet -
Citrus Decuriana - Shadblow
Ligustrum - Privet -
Delphinium - Larkspur -
Carduus - Thistle
Typha - Cat-tail -
Thlaspi - Shepherd's Purse -
Cynoglossum - Hounds-tongue -
Homardica - Balsam Apple
Phaseolus - Kidney Bean -
Physalis Viscaria - Ground Cherry
Phytolacca alexandria - Common Pokeweed
Rumex - Dock
Onopordium - Cotton Thistle
Loxilecarina officinalis - Secury Grass
Galtha Palliatrix - Marsh Marigold
Vinca - Periwinkle
Euphorbia - Spurge
Datura Stramonium - Jamestown Weed
Crocus Sativus - Saffron -
Cuscuta Americana - American Dodder
Scrophularia Americana - Foxglove
Antennaria - Flowering Quince
Menyanthes - Mountain or Bluebird Tree

- Convolvulus Batatas* - Sweet Potato
Catalpa bignonioides - Slipper Plant
Convolvulus hederifolius - Lily of the Valley
Yucca filamentosa - Palm-leaf plant. Adam's tree
Agapanthus umbellatus - African Blue Lily
Cactus tuna - Prickly Pear
Asclepias syriaca - Milkweed
Fraxinus ornus - Flowering Ash
Colicanthus - White Fringe Tree
Robinia viscosa - Purple Acacia
Pseuda alba - Common Locust
Ardisia - Red-Whortleberry
Hibiscus Esculentus - Okra
Solanum elaeagnifolium - Tomato
Solanum elaeagnifolium - Egg Plant
Leguminosae orientalis - Bean Plant
Maranthus albus - Dark Tuberosa
Apium petroselinum - Garden Parsley
Apium graveolens - Celery
Plantago lanceolata - Common Plantain
Pheasant's Eye - Lima Bean
Phlox muralis - Snowy Phlox
~~Phlox~~ *Periwinkle*
Hemerocallis flava - Yellow Day Lily
Lilium candidum - Dwarf Lily
Spirea tomentosa alba - White Elder
Styrax reginae - Box Elder
Staphylea trifolia - Bladder Nut
Asclepias tuberosa - Milkweed White Root
Gillenia trifoliata - Amer. Iperacanthia
Flos adonis - *(Herbaria Japonica)*
Coreopsis japonica - (very strong yellow)
Canna indica - Indian Shot
Tradescantia virginica
Cucurbita bitruncata - Water Melon
Gladiolus - Sword Lily & Corn Flag

New American Orchestralist

by ⁴⁷ Kopsch-Bacmeister

Baltimore June 1875

The Young Florists Manual

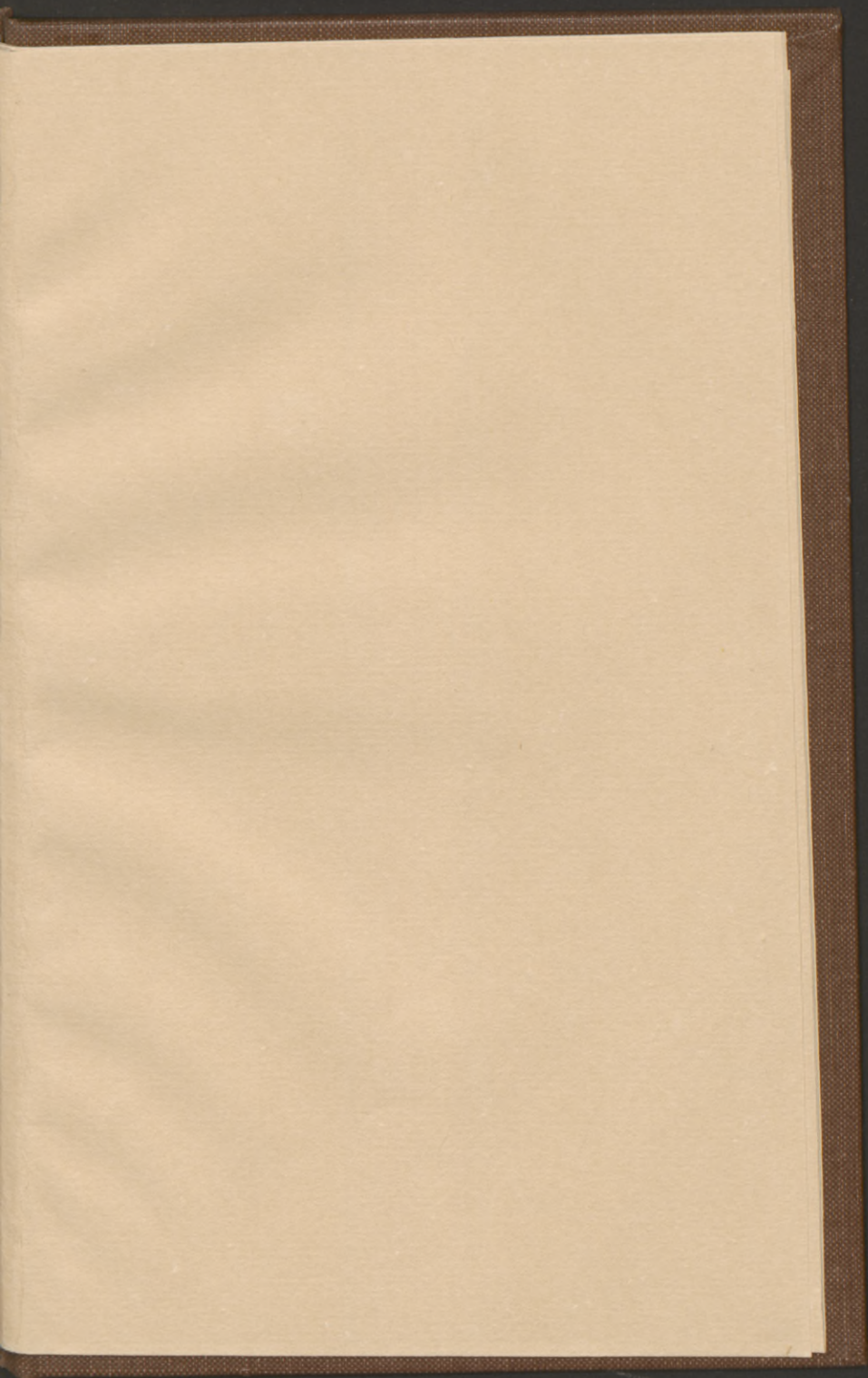
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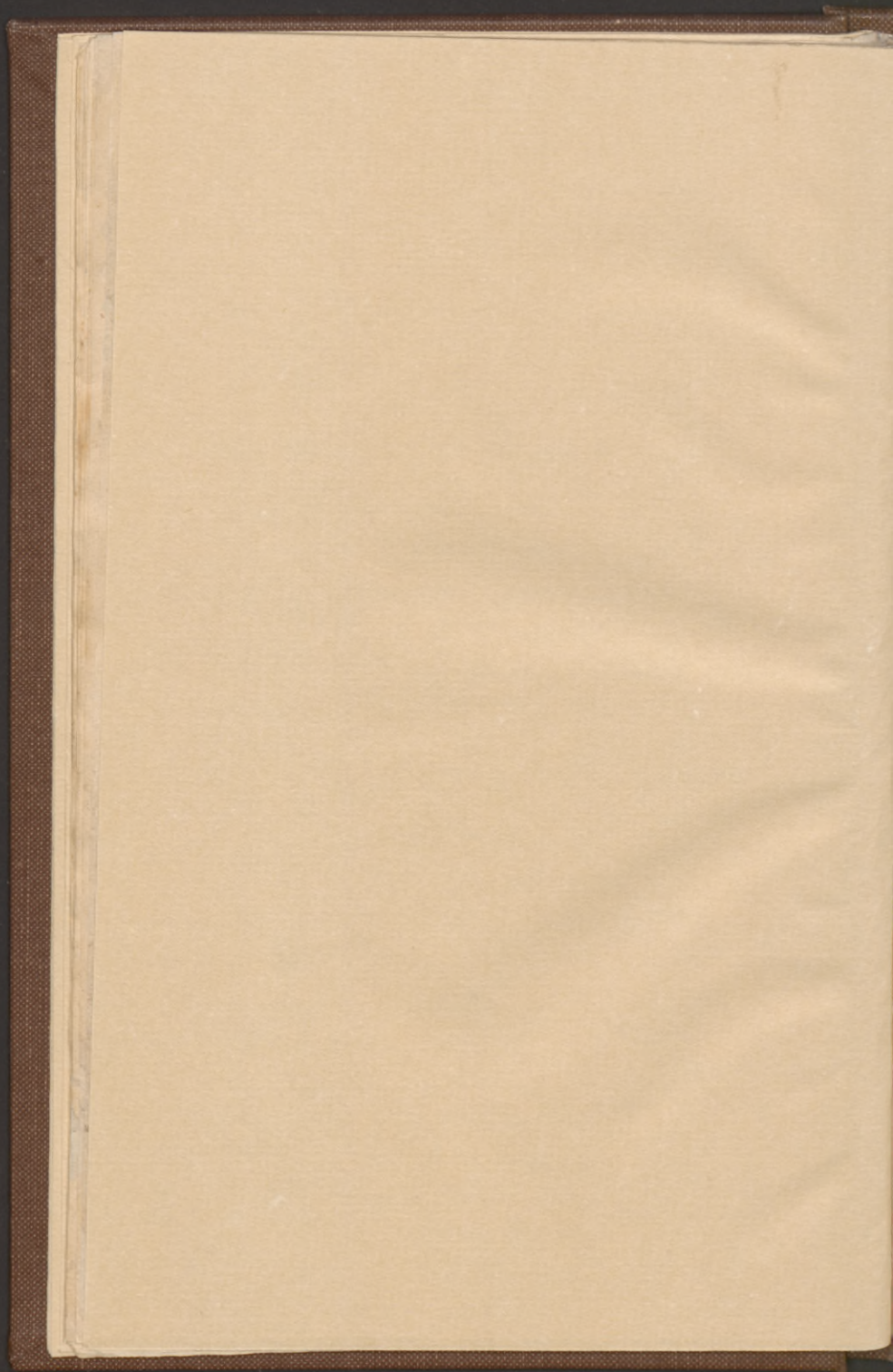
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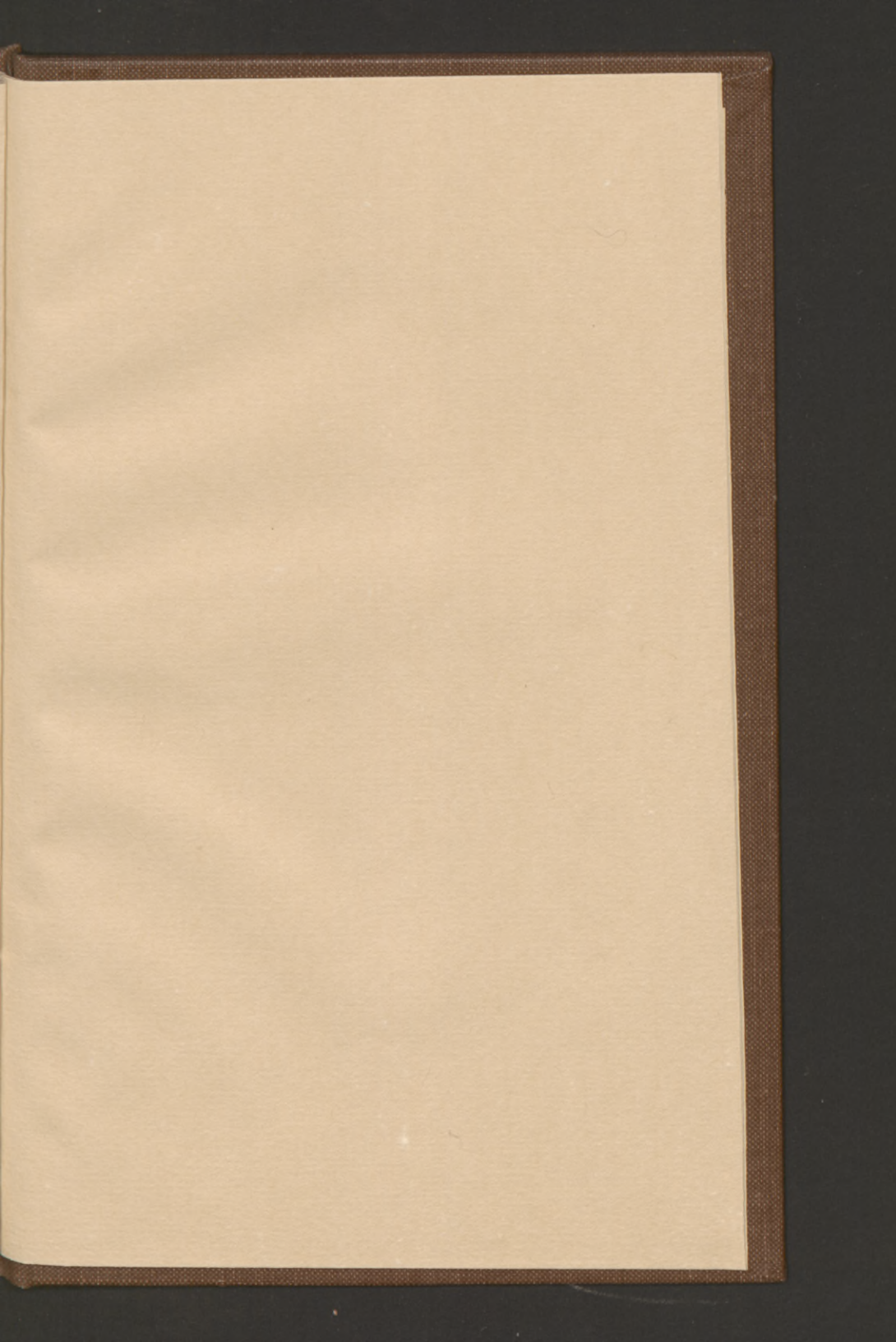
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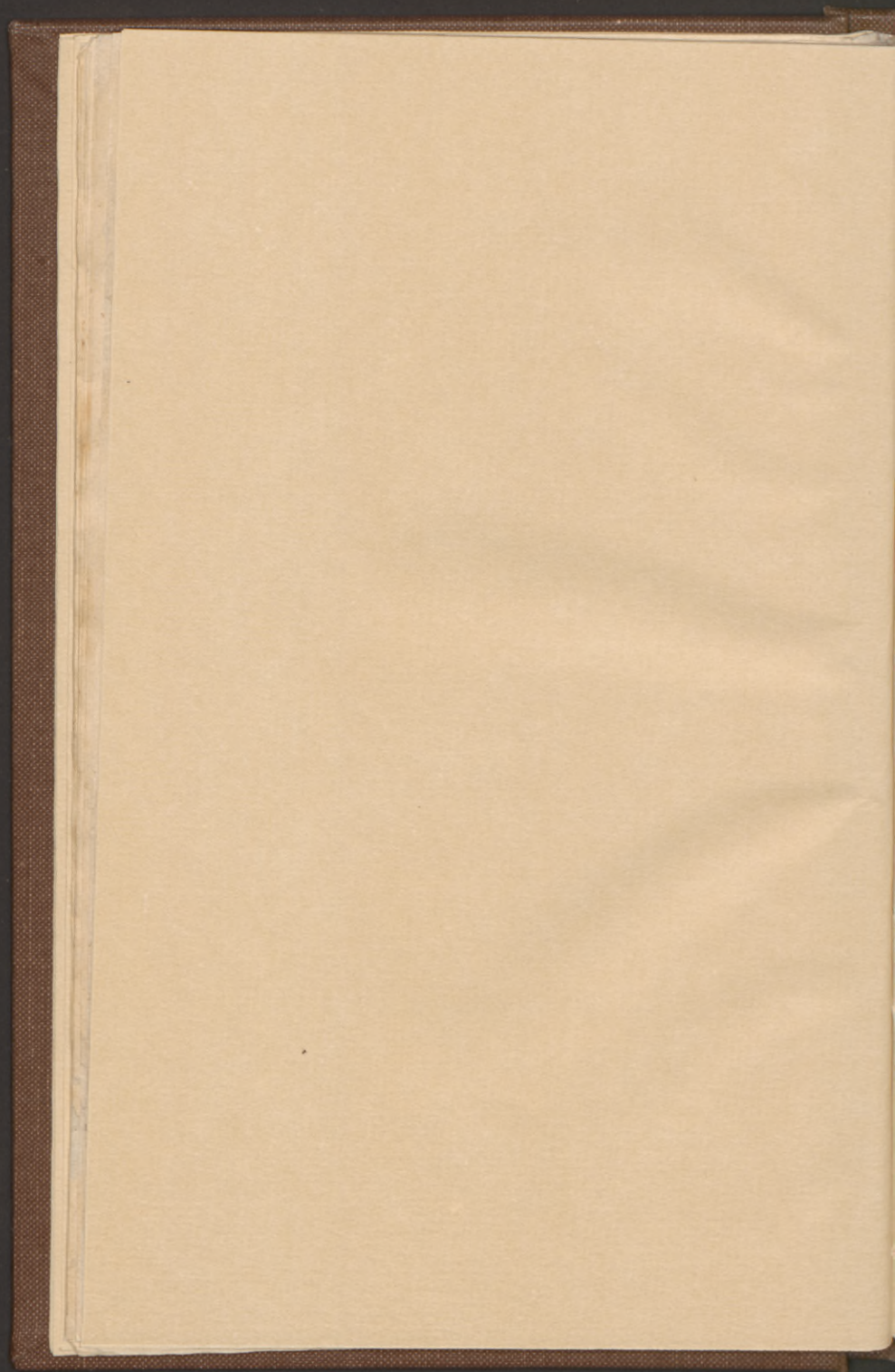
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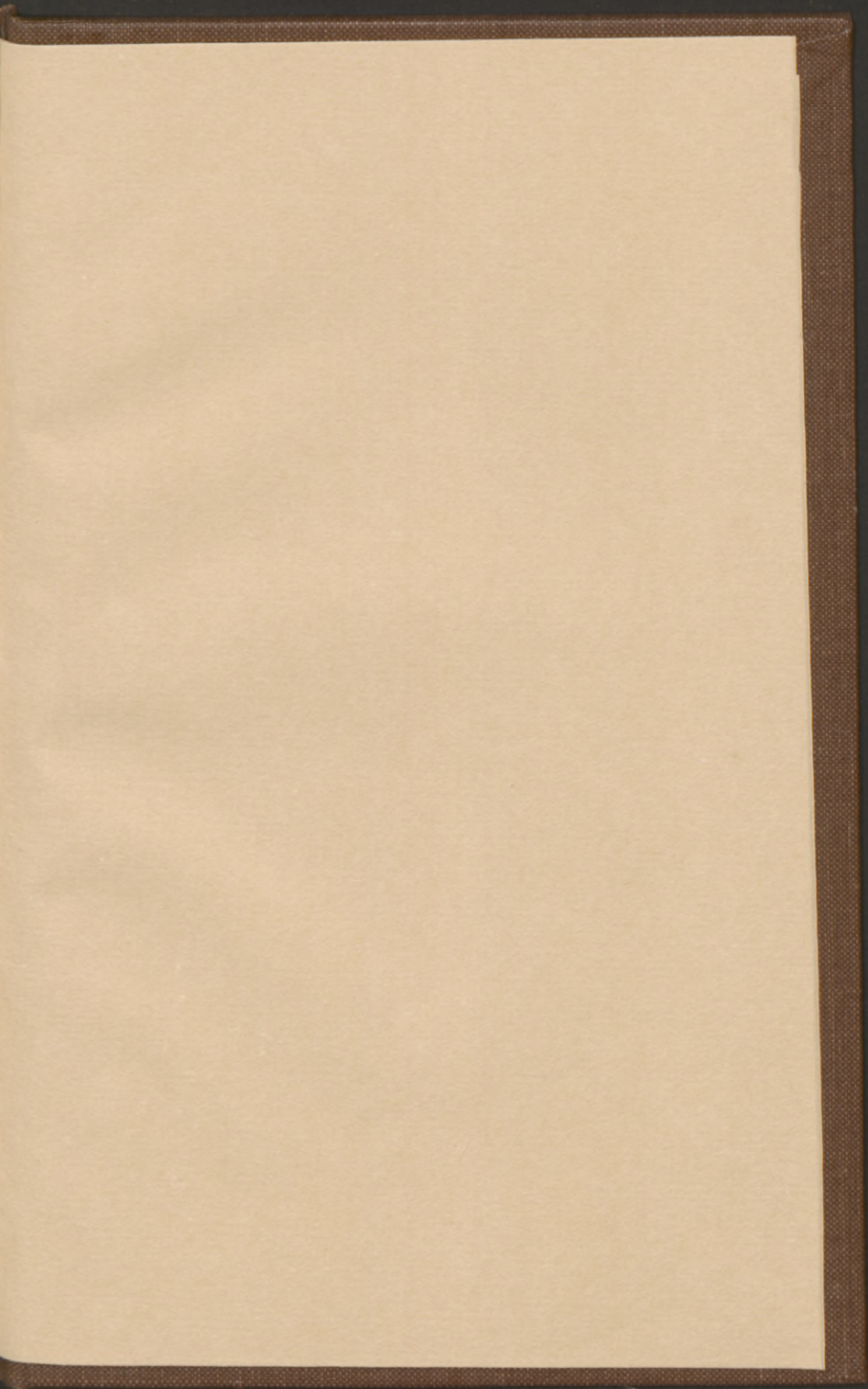
163

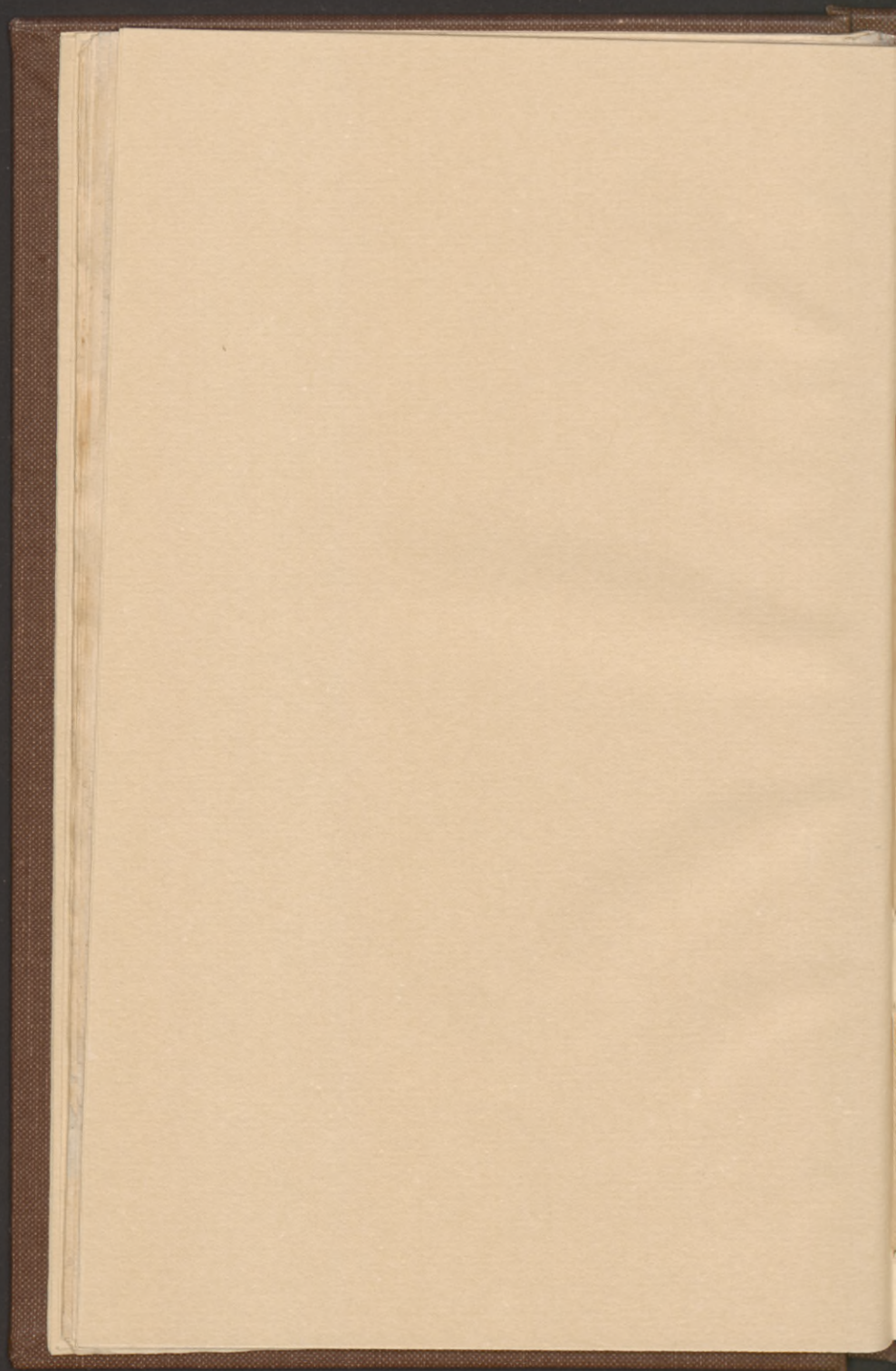




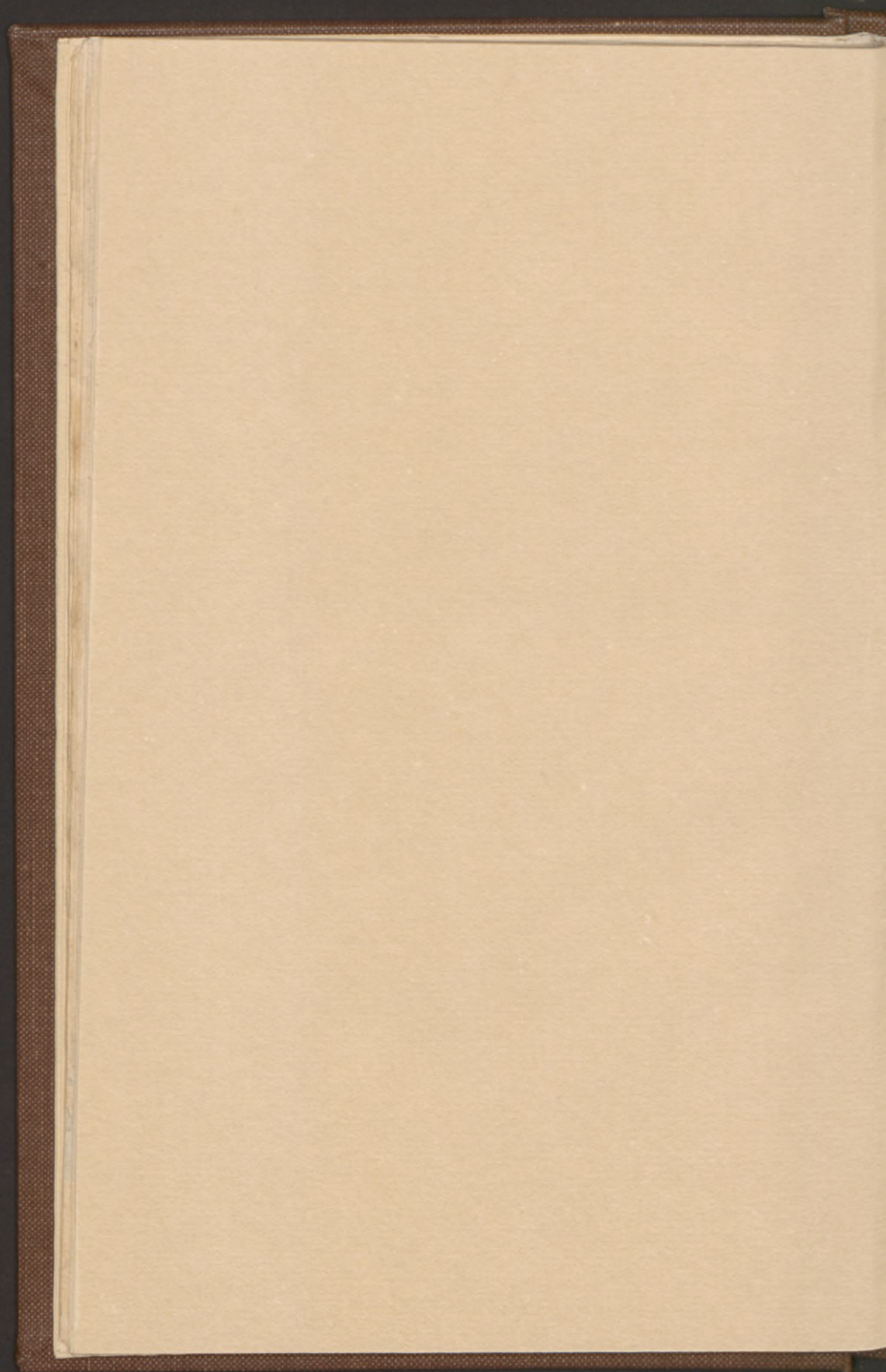


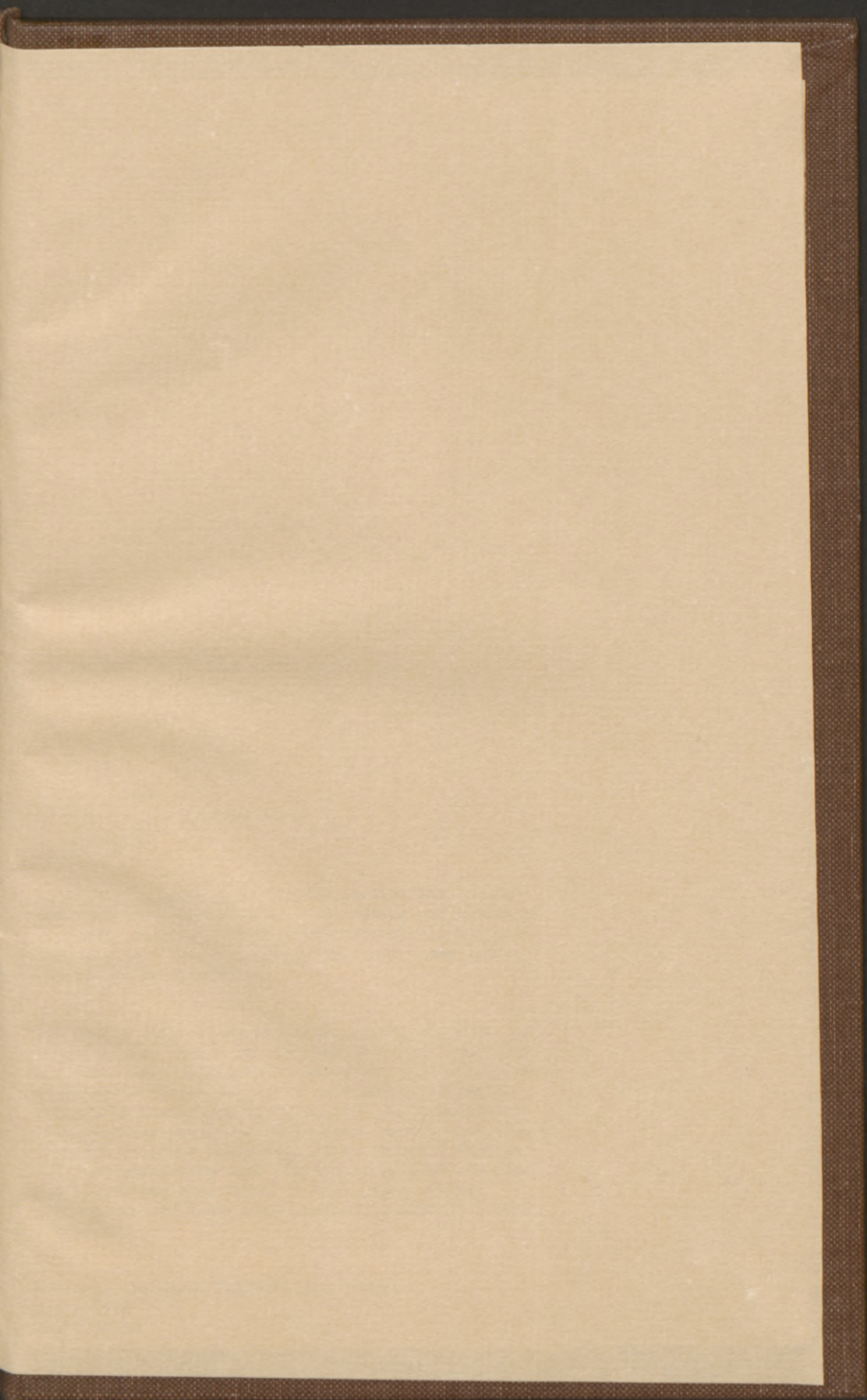


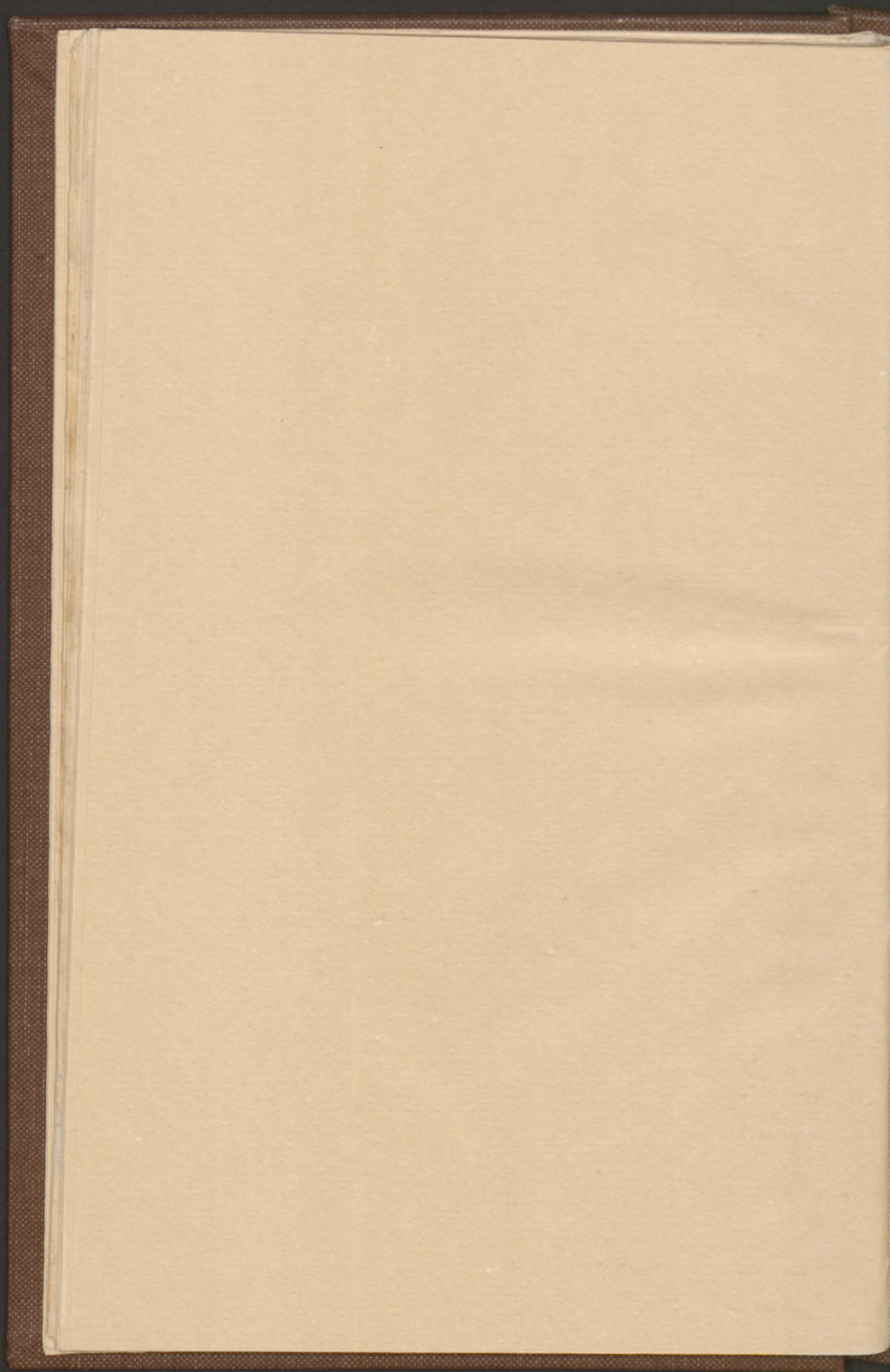












Barton. 1809.
National Library of Medicine
Bethesda, MD

Condition On Receipt: The sewn section was loosely inserted in a paper folder. The sewing was broken. The pages were torn, dirty, discolored, acidic, weak and brittle. The manuscript ink present was acidic and varied in intensity.

Treatment: The volume was collated and disbound. The inks were tested for solubility. The head, tail and pages were dry cleaned and washed and then buffered (deacidified) with magnesium bicarbonate solution. Tears were mended and folds guarded where necessary with Japanese paper and rice starch paste. The volume was sewn on linen tapes with linen thread. Windsor handmade paper ends with a linen hinge were attached. The volume was case bound in full cloth. Title information and lines were stamped in gold foil onto the spine.

Northeast Document Conservation Center
April 1986
SO:SO/JN/MW

