

**Pharmacopoeia of the Glasgow Royal Infirmary Ophthalmic Institution :
based on the British pharmacopoeia of 1898 / arranged with notes by A.
Maitland Ramsay.**

Contributors

Glasgow Royal Infirmary Ophthalmic Institution.
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PHARMACOPOEIA

OF

The Glasgow Royal Infirmary
Ophthalmic Institution

BASED ON THE BRITISH PHARMACOPOEIA
OF 1895

ARRANGED WITH NOTES

BY

A. MAITLAND RAMSAY, M.D.

OPHTHALMIC SURGEON, GLASGOW ROYAL INFIRMARY

GLASGOW

JAMES MACLEHOSE & SONS

Publishers to the University

1899

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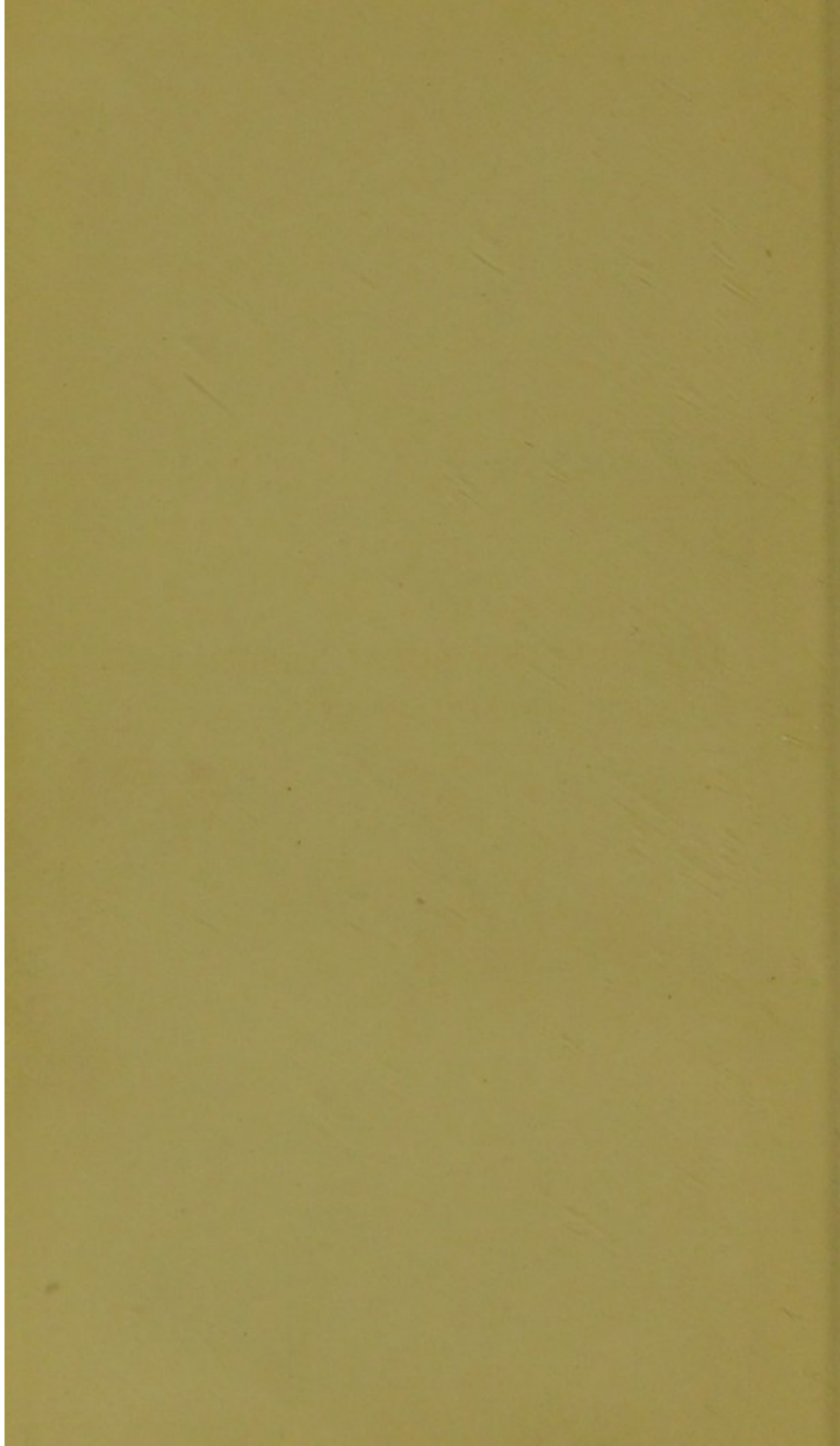
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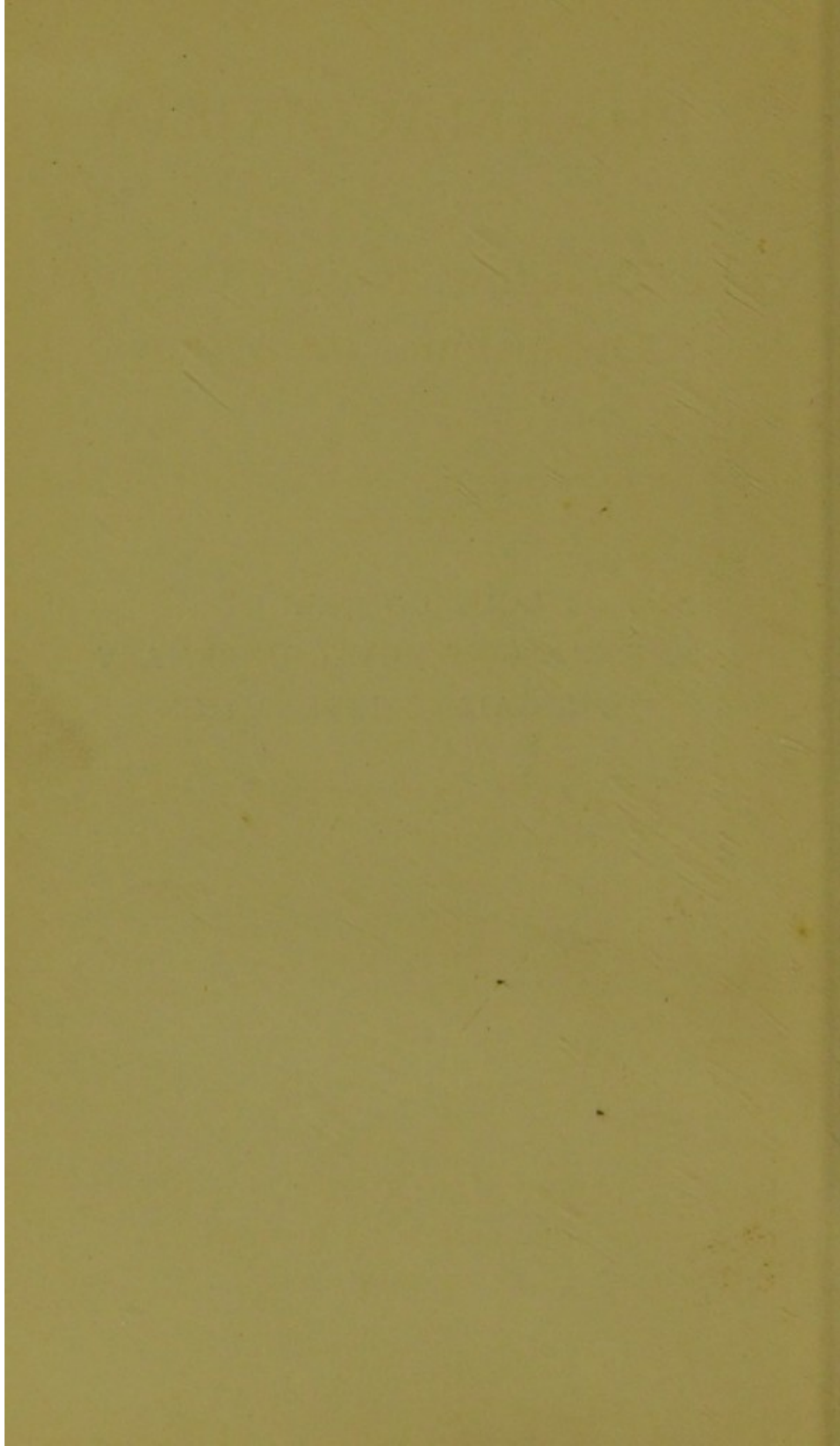
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THE GLASGOW ROYAL INFIRMARY
OPHTHALMIC INSTITUTION



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PREFACE

THIS Pharmacopoeia has been printed for the convenience of the students attending the Clinique of the Glasgow Ophthalmic Institution.

It is hoped that the brief notes which accompany the formulae, and the appendices, will increase the usefulness of the book.

I have to thank Mr. John M'Millan, who has charge of the dispensing department of the hospital, for revising the proofs of the prescriptions.

A. M. R.

15 WOODSIDE PLACE,
GLASGOW, *June*, 1899.



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BLANK PAGES FOR NOTES.

FORMULAE.

I. LOCAL APPLICATIONS.

A. COLLYRIA—EYE LOTIONS.

Used for the most part in cases of inflammation of the conjunctiva. Appended to Formula 1 is a general direction for the use of all collyria. Instead of ordinary distilled water, any of the aromatic waters, *e.g.*, rose water, fennel water, elder-flower water, camphor water, etc., may be used as a vehicle; and when there is pain or itching, cherry-laurel water is specially recommended.

The eyes should be carefully dried after being bathed with the lotion, and, for a short time, the patient ought not to expose himself to the open air. As the conjunctiva soon becomes accustomed to the use of a remedy, it is necessary, in order to obtain the best therapeutic results, to vary the lotions from time to time.

Pharmaceutically, collyria should be prepared with great care, and, with the one or two exceptions noted, filtered through paper.

I. ALKALINE LOTIONS.

Used for softening and facilitating the removal of encrusted discharge in blepharitis marginalis, lachrymal catarrh, etc. Before any definite treatment can be begun, all crusts must be removed.

1. Alkaline Lotion (Simple).

R	Liquoris Potassae,	-	-	-	℥j
	Tincturae Catechu,	-	-	-	℥ij
	Aquae Laurocerasi,	-	-	-	℥ij
	Aquae Rosae,	-	-	-	ad ℥viiij
	Misce.				

Sig.—Equal parts of the lotion and boiling water to be mixed in a tea-cup previously warmed. With a piece of old linen, or soft sponge, bathe the eyelids with the mixture for a few minutes; and then lean back the head to allow a little to flow in upon the eye. Repeat this thrice a day.

2. Salicylic and Borax Lotion.

R	Sodii Salicylatis,	-	-	-	gr. xx
	Pulveris Boracis,	-	-	-	gr. lx
	Glycerini Purissimi,	-	-	-	℥ss
	Aquae Foeniculi,	-	-	-	ad ℥viiij
	Solve et cola per chartam.				

Note.—Both of these lotions are useful in “watery eye,” and Formula 2 is recommended in follicular conjunctivitis. If the lotions have to be injected into the tear passages, care must be taken not to employ too much force, as the lachrymal sac may be ruptured and the fluid extravasated into the surrounding tissues.

3. Sulphate of Soda and Hyoscyamus Lotion.

R	Sodii Sulphatis,	-	-	-	gr. xvj
	Tincturae Hyoscyami,	-	-	-	$\frac{3}{4}$ ss
	Liquoris Potassae,	-	-	-	$\frac{3}{4}$ j
	Aquae Destillatae,	-	-	-	ad $\frac{3}{4}$ viiij
	Misce.				

Note.—Used as a mild stimulant in opacities of the cornea.

4. Bicarbonate of Soda Lotion.

R	Sodii Bicarbonatis,	-	-	-	gr. lx
	Aquae Destillatae,	-	-	-	$\frac{3}{4}$ viiij
	Solve et cola per chartam.				

Note.—Useful where the eye has been injured by an acid.

5. Soda and Tar Lotion.

R	Sodii Bicarbonatis,	-	-	-	gr. lx
	Liquoris Carbonis Detergentis,				$\frac{3}{4}$ j
	Aquae Destillatae,	-	-	-	ad $\frac{3}{4}$ viiij
	Misce et cola per gossypium.				

Note.—Used in gouty and eczematous inflammations of the eyelids.

II. ANTISEPTIC LOTIONS.

Used for cleansing the conjunctiva, eyelids, and surrounding skin, before operations on the eye; and in all inflammations accompanied by purulent discharge. The patient's friends ought to be informed that eye diseases accompanied by discharge are con-

tagious, and that cleanliness is the most important factor in the treatment. It is necessary, therefore, that the patient should have his own towels and washing utensils. In adults suffering from purulent ophthalmia the healthy eye should be protected by a Buller's Shield. Every patient suffering from severe inflammation of the eye ought to be kept in bed, and, while there is profuse purulent discharge, a nurse ought to be in constant attendance.

6. Boracic Lotion.

R Acidi Borici, - - - - gr. lx
 Aquae Destillatae, - - - - ℥viii
 Solve et cola per chartam.

Note.—The safest and most generally useful of all eye lotions. Barff's Boroglyceride in 5 per cent. solution forms a convenient vehicle for many collyria.

7. Calomel Lotion.

R Hydrargyri Subchloridi, - - gr. xxiv
 Glycerini Purissimi, - - ℥iij
 Mucilaginis Tragacanthi, - - ℥j
 Liquoris Calcis, - - - - ad ℥viii
 Misce.

Note.—Commonly known as "Black Wash"; useful application for syphilitic sores, and foul ulcers of the eyelids.

8. Carbolic Acid Lotion.

R Phenol Purissimi,
 (5 per cent. solution in water).

Note.—It is important to use pure phenol for all lotions to be applied to the conjunctiva. Ordinary preparations of commercial carbolic acid often cause considerable irritation.

9. Chinosol Lotion.

R Liquoris Chinosol, - - (1 in 4000).

Note.—Chinosol, a bright yellow powder soluble in water, is a powerful antiseptic, and has been strongly recommended for use in cases of serpigenuous ulceration of the cornea.

10. Chlorine Lotion (Labarraque).

R Liquoris Sodae Chlorinatae, - ℥j
 Aquae Destillatae, - - - ad ℥viij
 Misce.

Note.—Berry recommends the injection of chlorine water into the vitreous in purulent inflammation of the globe. It ought always to be prepared immediately before it is to be used.

11. Formalin Lotion.

R Liquoris Opii Sedativi (Battley), ℥vj
 Liquoris Formalin (1 in 2000), - ad ℥viij
 Misce.

Note.—Causes considerable irritation even in weak solution, but is sometimes of great value in hypopyon ulcers, septic wounds of the cornea, and ophthalmia neonatorum.

12. Peroxide of Hydrogen Lotion.

R Liquoris Hydrogenii Peroxidi,
 (3 per cent. solution of B.P. liquor in water).

Note.—Occasionally of service in purulent inflammations of the conjunctiva, and in sloughy ulcers of the cornea.

13. Mercurial Lotions.

- (a) R Solutionis Hydrargyri Perchloridi,
(1 in 5000).
- (b) R Solutionis Hydrargyri Biniodidi,
(1 in 20,000).

Note.—The former is the solution most commonly employed, but the latter is strongly recommended by Panas. The following is a convenient approximate formula :

R Hydrargyri Biniodidi,	-	-	gr. $\frac{1}{4}$
Potassii Iodidi,	-	-	gr. j
Spiritus Rectificati,	-	-	$\bar{3}$ ij
Aquae Destillatae,	-	-	ad $\bar{3}$ xij
Solve et cola per chartam.			

14. Phenosalyl Lotion.

- R Phenosalyl (B. W. & Co.),
(1 per cent. solution in water).

Note.—Phenosalyl is a mixture of carbolic acid, salicylic acid, lactic acid, menthol, and oil of eucalyptus. It is a more powerful antiseptic than phenol, and in 1 per cent. solution does not irritate the conjunctiva. Its application frequently prevents the recurrence of styes.

15. Permanganate of Potash Lotion.

- R Potassii Permanganatis, - - gr. iv
Aquae Destillatae, - - - $\bar{3}$ viiij
Solve.

Note.—Should always be freshly prepared, and never used after it has changed colour.

16. Quinine Lotion.

R	Quininae Sulphatis, -	-	-	gr. xxiv
	Acidi Sulphurici Diluti, -	-	-	q.s.
	Aquae Destillatae, -	-	-	ad ℥viij
	Solve et cola per chartam.			

Note.—Used in diphtheritic and croupous conjunctivitis.

17. Chloride of Zinc Lotion.

R	Zinci Chloridi, -	-	-	gr. vj
	Aquae Destillatae, -	-	-	℥viij
	Solve.			

Note.—Used in purulent ophthalmia; but, as it is a powerful irritant, it ought to be employed with caution.

III. ASTRINGENT LOTIONS.

Used in inflammations of the conjunctiva, but never employed when the deeper structures of the eyeball are involved. Such a mistake might be attended with disastrous results, and may be easily avoided if it be remembered that, in deep-seated inflammation, the conjunctival injection is, for the most part, circumcorneal, that the pupil does not re-act readily to the stimulus of light, and that the pain complained of is characteristically throbbing, markedly nocturnal, and usually circumorbital.

18. Alum and Boracic Lotion.

R	Pulveris Aluminis,	-	-	-	gr. xx
	Acidi Borici,	-	-	-	gr. lx
	Glycerini Croci (Squire),	-	-	-	ʒij
	Aquae Rosae,	-	-	-	ad ʒviiij

Solve et cola per chartam.

Note.—When used too freely, or in too concentrated solution, alum causes the conjunctival discharge to coagulate and adhere to the inner surface of the eyelids, thus giving rise to appearances suggestive of croupous conjunctivitis. In ulcer of the cornea, alum is contra-indicated, as it tends, by dissolving the cement substance, to cause the ulceration to increase.

19. Chrome Alum Lotion.

R	Chrome Alum,	-	-	-	gr. xvj
	Aquae Destillatae,	-	-	-	ʒviiij

Solve et cola per chartam.

Note.—Used in chronic conjunctivitis.

20. Lapis Divinus Lotion.

R	Lapidis Divini,	-	-	-	gr. xxx
	Vini Opii (sine Aromat.),	-	-	-	ʒij
	Aquae Destillatae,	-	-	-	ad ʒviiij

Solve et cola per chartam.

Note.—Used in follicular and in granular conjunctivitis.

21. Lead Lotion.

R	Plumbi Acetatis,	-	-	-	gr. xx
	Spiritus Rectificati,	-	-	-	ʒij
	Aquae Sambuci,	-	-	-	ad ʒviiij

Solve et cola per chartam.

Note.—Can only be used if the cornea is sound, as the lead is readily deposited on any abraded surface, and leaves a permanent opacity (*white lead*).

22. Lead and Opium Lotion.

R	Plumbi Acetatis,	-	-	-	gr. xxxvj
	Pulveris Opii Puri,	-	-	-	gr. xlviij
	Aquae Bullientis,	-	-	-	℥viij

Misce—not to be strained.

Note.—Used in contusions of the eyelids.

23. Bichloride of Mercury Lotion (Simple).

R	Hydrargyri Perchloridi,	-	-	gr. j
	Ammonii Chloridi,	-	-	gr. vj
	Pulveris Cocci Cacti,	-	-	gr. ij
	Spiritus Rectificati,	-	-	℥j
	Aquae Destillatae,	-	-	ad ℥viij

Solve et cola per chartam.

Note.—This is generally known as Mackenzie's Eye Lotion.

24. Bichloride of Mercury and Belladonna Lotion (Compound).

Same as 23, with ℥ij of Tincture of Belladonna added to the formula, the Cochineal being omitted.

Note.—Used in all forms of conjunctivitis, but as the perchloride of mercury sometimes irritates, Formula 24 is to be preferred. If, however, the belladonna causes inconvenience by dilating the pupil, it may be reduced in quantity, or omitted altogether, and Battley's Sedative Solution of Opium substituted.

25. Pulsatilla Lotion.

R	Tincturae Pulsatillae,	-	-	℥j
	Aquae Rosae,	-	-	ad ℥viij

Misce et cola per chartam.

Note.—Used in catarrhal conjunctivitis.

26. Tannin Lotion.

R	Glycerini Acidi Tannici, - - -	ʒj
	Pulveris Boracis, - - -	gr. lxxx
	Glycerini Purissimi, - - -	ʒij
	Aquae Camphorae, - - -	ad ʒviiij

Solve et cola per chartam.

Note.—Used in chronic conjunctivitis, more especially in the later stages of the follicular and granular forms.

27. Zinc Lotion (Simple).

R	Zinci Sulphatis, - - -	gr. xvj
	Vini Opii (sine Aromat.), - - -	ʒss
	Aquae Destillatae, - - -	ad ʒviiij

Solve et cola per chartam.

28. Zinc Lotion (Compound).

R	Zinci Sulphatis, - - -	gr. xij
	Ammonii Chloridi, - - -	gr. vj
	Spiritus Rectificati, - - -	ʒiij
	Glycerini Croci (Squire), - - -	ʒij
	Solutionis Boroglyceridi in Aquâ Camphorae (5 per cent.), - - -	ad ʒviiij

Solve et cola per chartam.

Note.—Formulae 27 and 28 are favourite lotions in simple catarrhal conjunctivitis.

IV. EVAPORANT LOTIONS.

Cold applications are of much service in relieving pain after operations upon the eye, or immediately after injuries involving its deeper structures. Ice-cold compresses should only be applied for ten or fifteen minutes every hour, as their continuous use tends to lower the vitality of the part.

29. Arnica Lotion.

℞	Tincturae Arnicae, - - -	℥ijj
	Liquoris Ammonii Acetatis, -	℥j
	Aquae Sambuci, - - -	ad ℥viiij
	Misce.	

Note.—Arnica is a favourite application in contusions of the eye.

Recently Da Costa has suggested the following paint to prevent ecchymosis of the eyelid after injuries :

℞	Mucilaginis Acaciae, - - -	℥ss
	Tincturae Capsici, - - -	℥j
	Glycerini Purissimi, - - -	ad ℥j

Note.—In applying either of these, care must be taken not to allow them to come in contact with any part over which the skin is abraded.

30. Evaporant Lotion (Simple).

℞	Acidi Acetici, - - -	℥ xxiv
	Spiritus Etheris Nitrosi, - -	℥iss
	Aquae Rosae, - - -	ad ℥viiij
	Misce.	

Note.—Pour out half a wine-glassful of this fluid : with a small piece of clean soft sponge dipped into it, and gently wrung, bathe the eyelids, side of the nose, eyebrow, forehead,

and temple for a few minutes, and then allow these parts to dry of themselves. Repeat this three or four times daily, or as often as the eyes feel painful, hot, or weak on exposure to light. The fluid does not require to go into the eye. May also be used as a spray.

31. Lead and Spirit Lotion.

R	Liquoris Plumbi Subacetatis,	-	-	℥j
	Spiritus Rectificati,	-	-	℥ij
	Aquae Destillatae,	-	-	ad ℥viij
	Misce et cola per chartam.			

Note.—Used with a compress after contusion injuries and in chronic blepharitis marginalis, but to be avoided if there be any ulceration of the cornea.

V. VARIOUS LOTIONS.

The uses of these collyria are indicated by notes appended to the formulae.

32. Alumol Lotion.

R	Alumol,	-	-	gr. xx
	Boroglyceridi (Barff),	-	-	℥ij
	Aquae Rosae,	-	-	ad ℥viij
	Solve et cola per chartam.			

Note.—Antiseptic and astringent. Used in chronic conjunctivitis complicated by blennorrhoea of the lachrymal sac.

33. Belladonna Lotion.

R	Extracti Belladonnae,	-	-	gr. cxx
	Aquae Bullientis,	-	-	℥viij
	Solve.			

Note.—Used with a fomentation to relieve pain.

34. Chlorate of Potash Lotion.

R Solutionis Potassii Chloratis Saturati, ℥viii

Note.—Recommended by Bergeon in the treatment of rodent ulcer.

35. Saline Lotion (Physiological).

R Sodii Chloridi, - - - gr. lx
Aquae Bullientis, - - - Oj

Note.—Used as a sterile saline solution to wash the eye before and during operations, and in the irrigation of the anterior chamber to facilitate the removal of pus, lenticular matter, etc. Saline solution is even less irritating to the conjunctiva than sterilised water, and in ophthalmic operations is much to be preferred to the mercurial and other antiseptic solutions in ordinary use.

36. Physostigmine Lotion.

R Extracti Physostigmatis, - - - gr. xxx
Spiritus Rectificati, - - - ℥ij
Aquae Destillatae, - - - ad ℥viii
Misce et cola per chartam.

Note.—Used in cases where the intra-ocular tension is increased, but inferior in its action to Eserin eye drops (*see* Formula 2, page 19). Also a valuable stimulant when applied with a fomentation in indolent ulcer of the cornea.

B. GUTTAE—EYE DROPS.

Eye drops contain the remedy in more concentrated solution than collyria, and are generally instilled into the conjunctival sac by means of a pipette, which, when not in use, ought to be kept in an antiseptic solution. As these solutions rapidly decompose, they should always be freshly prepared with sterilised water; or a mild antiseptic may be added. Camphor water is a favourite vehicle.

I. ANAESTHETICS.

Except in dealing with young children, chloroform or ether is seldom used for operations upon the eye, as, with the exception of enucleation, extensive plastic operations on the lids, and iridectomy in acute glaucoma, it is unnecessary to induce general anaesthesia. For minor operations on the lids and tear passages in children, or in nervous adults, bromide of ethyl is a safe and reliable anaesthetic. Its effects pass off in about two minutes, and, as a rule, there are no disagreeable after-results. In ophthalmic surgery cocaine is the anaesthetic *par excellence*. It may be applied locally to the conjunctiva as a 2 per cent. aqueous solution of the hydrochlorate, or from a quarter to half of a grain may be injected subcutaneously. When it is necessary to open an abscess of the lid or of the lachrymal sac, the overlying skin may be frozen by spraying it with anesthetic, care being taken to protect the eye from the irritating effects of the vapour.

1. Solution of Cocaine.

R	Cocainae Hydrochloridi,	-	-	gr. viij
	Acidi Borici,	-	-	gr xvj
	Aquae Destillatae,	-	-	ʒi
	Solve et cola per chartam.			

Note.—Used chiefly to induce local anaesthesia before operations upon the eyeball and palpebral conjunctiva. The solution should be freshly prepared, as a fungus is always present when it is too long kept. If used too freely it is apt to cause dryness of the corneal epithelium, and even slight keratitis. If the conjunctiva be inflamed, the anaesthetic action of cocaine is much less perfect. When employed to deaden the palpebral conjunctiva previous to the application of a caustic, a 20 per cent. solution should be used.

2. Solution of Cocaine and Morphine.

R	Cocainae Hydrochloridi, -	-	gr. xxv
	Morphinae Hydrochloridi,	-	gr. xij
	Aquae Destillatae, -	-	ʒj
	Solve et cola per chartam.		

Note.—Used to relieve pain—a good dressing after a blister.

3. Solution of Eucaine.

R	Eucainae Hydrochloridi (β), -	-	gr. x
	Aquae Destillatae, -	-	ʒj
	Solve et cola per chartam.		

Note.—Eucaine solutions may be sterilised by boiling, as, unlike cocaine solutions, they are not decomposed in the process. Eucaine (β) must always be used, as eucaine (α) causes far too much irritation to be of any service in ophthalmic work.

4. Solution of Holocaine.

R	Holocainae Hydrochloridi,	-	gr. v
	Aquae Destillatae, -	-	ʒj
	Solve et cola per chartam.		

Note.—Produces anaesthesia of the eye without dilating the pupil or paralysing the accommodation.

Great care is necessary in the preparation and storing of this solution. Freshly distilled water must be slightly warmed and gradually added to the salt in a glass mortar. Both the mortar and glass-stoppered bottle in which it is to be kept must be thoroughly dealkalised by being boiled in dilute hydrochloric acid before commencing operations. The presence of an alkali appears to throw down the base.

II. MYDRIATICS.

The dilators of the pupil are used to improve vision when obstructed by a central opacity of the media—*e.g.* nuclear cataract—to prevent the iris from becoming adherent to an ulcer or a wound near the centre of the cornea, to relieve spasm of the ciliary muscle, and to subdue pain. Their use is contra-indicated in glaucoma, and they should always be employed with caution in treating old persons and young children.

5. Solution of Atropine (Wolfe).

R	Atropinae Sulphatis,	-	-	gr. iv
	Glycerini Purissimi,	-	-	ʒij
	Aquae Destillatae,	-	-	ad ʒj
	Solve et cola per chartam.			

Note.—Atropine must be avoided in glaucoma, and ought never to be used for the purpose of making an ophthalmoscopic examination in patients over forty years of age until it has been first ascertained that the tension of the eyeball is normal. It is the chief remedy in iritis, keratitis, and scleritis; but it must be remembered that in some few persons the drug acts as an irritant, producing redness and swelling of the eyelids, accompanied by an eczematous eruption of the skin in the neighbourhood of the eye. When this occurs, the use of the drug must be stopped, and one of the other mydriatics substituted for it.

6. Solution of Atropine (Strong).

R	Atropinae Sulphatis,	-	-	gr. x
	Aquae Destillatae,	-	-	ʒj
	Solve et cola per chartam.			

Note.—Strong solutions of atropine are necessary to break down iritic adhesions; but if they require to be instilled repeatedly, care must be taken to watch for the first symptoms of general intoxication due to absorption of the drug. In elderly persons its use may cause acute mania.

7. Solution of Daturine.

R	Daturinae Sulphatis,	-	-	gr. j
	Aquae Destillatae,	-	-	$\frac{3}{5}$ j
	Solve et cola per chartam.			

Note.—Daturine is almost identical with atropine.

8. Solution of Duboisine.

R	Duboisinae Sulphatis,	-	-	gr. j
	Aquae Destillatae,	-	-	$\frac{3}{5}$ j
	Solve et cola per chartam.			

Note.—Daturine and duboisine are useful in those cases where atropine produces irritation. It must, however, be remembered that, although duboisine rarely produces any local irritation, it requires to be used with caution, as it possesses markedly toxic properties. The following combination of mydriatics is highly recommended :

R	Duboisinae Sulphatis,	-	-	gr. j
	Atropinae Sulphatis,	-	-	gr. j
	Cocainae Hydrochloridi,	-	-	gr. j
	Aquae Destillatae,	-	-	℥ c
	Solve et cola per chartam.			

9. Solution of Euphthalmine.

R	Euphthalminae,	-	-	gr. xij
	Aquae Destillatae,	-	-	$\frac{3}{5}$ j
	Solve et cola per chartam.			

Note.—Dilates the pupil, but does not disturb the power of accommodation.

10. Solution of Homatropine.

R	Homatropinae Hydrobromidi, -	
	Acidi Borici, - - - -	āā gr. iv
	Aquae Destillatae, - - -	ōj
	Solve et cola per chartam.	

Note.—Dilates the pupil more quickly, and the dilatation passes off sooner than when atropine is used; hence it is frequently employed to facilitate ophthalmoscopic examination, and to paralyse the ciliary muscle previous to the estimation of errors of refraction. It acts more powerfully when combined with cocaine (see Formula 11).

11. Solution of Homatropine and Cocaine.

R	Homatropinae Hydrobromidi, -	gr. v
	Cocainae Hydrochloridi, - .	gr. x
	Acidi Borici, - - - -	gr. viij
	Aquae Destillatae, - - -	ōj
	Solve et cola per chartam.	

12. Solution of Hyoscine or Scopolamine.

R	Hyoscinae Hydrobromidi vel	
	Scopolaminae, - - - -	gr. ij
	Aquae Destillatae, - - -	ōj
	Solve et cola per chartam.	

Note.—Acts more powerfully than atropine upon old iritic adhesions; but, being very poisonous, it must be cautiously employed, and the lachrymal passages should be compressed for a few minutes after instillation. The patient ought to be kept at rest in the recumbent position for a short time after the use of the remedy.

13. Solution of Mydrine.

R	Ephedrinae Hydrochloridi,	-	gr. xv
	Homatropinae Hydrobromidi,	-	gr. j
	Aquae Destillatae,	-	$\frac{3}{j}$
	Solve et cola per chartam.		

Note.—Dilates the pupil without affecting the accommodation, and its effects pass away in a few hours. It is a convenient drug to use for diagnostic purposes.

III. MYOTICS.

The contractors of the pupil are used in glaucomatous states of the eye, in mydriasis, in ulceration of the cornea due to malnutrition, and in wounds and ulcers situated at the margin of the cornea. They act more rapidly than the mydriatics, but their effects pass off more speedily.

14. Solution of Arecoline.

R	Arecolinae Hydrobromidi,	-	gr. iv
	Aquae Destillatae,	-	$\frac{3}{j}$
	Solve et cola per chartam.		

Note.—Contracts the pupil more quickly than eserine, but its action passes off within a few hours.

15. Solution of Eserine.

R	Physostigminae Sulphatis,	-	gr. $\frac{1}{2}$ - iv
	Acidi Borici,	-	gr. iv
	Aquae Destillatae,	-	$\frac{3}{j}$
	Solve et cola per chartam.		

Note.—The myotic most commonly employed to reduce intra-ocular tension in glaucoma; to contract the pupil and

restore the power of accommodation after the use of atropine, or in paralysis due to disease, *e.g.* diphtheria; to prevent or reduce the prolapse of the iris after wounds of the cornea; to prevent perforation and promote the healing of marginal ulcers of the cornea. When the iris is inflamed, the use of eserine will aggravate the iritis.

As a general rule, eserine is to be preferred when a wound or an ulcer of the cornea is peripheral, and atropine when it is central.

The long continued use of either atropine or eserine is apt to set up acute follicular conjunctivitis.

16. Solution of Eserine and Cocaine.

℞	Physostigminae Sulphatis,	-	gr. $\frac{1}{2}$
	Cocainae Hydrochloridi,	-	gr. x
	Aquae Destillatae,	-	$\overline{3j}$
	Solve.		

Note.—The combination of cocaine with eserine prevents the occurrence of the pain in the eye and brow so common after the instillation of the latter drug in simple solution. The dilatation of the pupil produced by cocaine can readily be overcome by eserine; and the combination of eserine with cocaine is often most efficacious in subduing pain in glaucomatous affections.

17. Solution of Pilocarpine.

℞	Pilocarpinae Nitratis,	-	gr. iv
	Aquae Destillatae,	-	$\overline{3j}$
	Solve.		

Note.—Contracts the pupil like eserine, but its action is much weaker. It is useful in those cases where eserine causes acute pain.

IV. STIMULANTS.

Useful in many forms of conjunctival inflammation, but only after the acute stage has passed. They promote the absorption of the products of the inflammation, and hasten the healing of phlyctenulae and indolent ulcers of the cornea. They ought always to be avoided when photophobia, lachrymation, and circumcorneal injection are pronounced. They are employed for the most part as ointments (see pages 26 *et seqq.*).

18. Alcohol.

℞ Alcohol Absoluti, - - - ʒj

Note.—Used as an instillation in herpes of the cornea.

19. Jequirity Seeds.

Take Jequirity Seeds, - - - 3 parts
Cold Water, - - - 500 parts
Macerate for 24 hours, then add
Boiling Water, - - - 500 parts
Filter when cold.

Note.—In obstinate cases of granular ophthalmia with pannus, paint the everted eyelids with above solution; and, after two or three applications, a purulent ophthalmia is set up which cures the granular condition and clears the cornea.

20. Solution of Fluoresceïn.

℞ Fluoresceïn, - - - gr. x
Sodii Bicarbonatis, - - - gr. xv
Aquae Destillatae, - - - ʒj
Solve.

Note.—Used in the diagnosis of ulceration of the cornea, which it stains green wherever the epithelium is absent. Aesorcin in a 10 to 20 per cent. solution stains an abrasion of the cornea red immediately after instillation.

21. Solution of Opium with Atropine (Argyll Robertson).

R	Vini Opii (sine Aromat.),	-	-	℥j
	Atropinae Sulphatis,	-	-	gr. j
	Acidi Borici,	-	-	gr. iv
	Glycerini Purissimi,	-	-	℥ij
	Aquae Destillatae,	-	-	ad ℥j
	Solve.			

Note.—Useful in opacities of the cornea, the result of phlyctenular keratitis. If it be undesirable to produce dilatation of the pupil, the atropine may be omitted.

22. Solution of Protargol.

R	Protargol,	-	-	gr. xxv
	Aquae Destillatae,	-	-	℥j
	Solve.			

Note.—Protargol is a combination of silver with protein, containing 8·3 per cent. of silver. It is a powerful germicide, and penetrates more deeply into the tissues than nitrate of silver. It is non-irritating, and causes very slight discomfort when instilled into the eye. It is very useful in ophthalmia neonatorum, blennorrhoea of the tear sac, and sloughy ulcer of the cornea.

23. Solution of Pyoctanin.

R	“Methylene Violet,”	-	-	gr. xv
	Spiritus Rectificati,	-	-	℥ij
	Aquae Destillatae,	-	-	ad ℥j
	Solve et cola per chartam.			

Note.—Used in ulceration of the cornea and as an anti-septic in injuries of the eyeball.

24. Solution of Nitrate of Silver.

R Argenti Nitratis, - - - gr. x
 Aquae Destillatae, - - - $\bar{3}j$
 Solve.

Note.—Used to paint the everted eyelids in conjunctivitis with discharge. Any excess must be washed away with a solution of table salt and water. The solution should be applied thoroughly with a brush to the palpebral conjunctiva and the retrotarsal folds, the frequency of the applications depending upon the amount of the discharge. If possible, nitrate of silver should not be used shortly before going to bed, as the pain to which it gives rise may interfere with sleep.

25. Solution of Nitrate of Silver and Atropine.

R Argenti Nitratis, - - - gr. x
 Liquoris Atropinae Sulphatis, - $\bar{3}ss$
 Aquae Destillatae, - - - ad $\bar{3}j$
 Solve.

Note.—Used to subdue pain and promote the healing of corneal ulcers accompanied by muco-purulent or purulent discharge from the conjunctiva.

Solutions containing nitrate of silver ought to be kept in actinic bottles.

Nitrate of silver should not be employed continuously over a long period of time, since it produces a discoloration of the conjunctiva (*Argyria*), due to a deposit of oxide in its substance.

26. Solution of Suprarenal Substance.

R Liquoris "Suprarenal Capsules"
 (Oppenheimer).

Note.—Used as an adjuvant to cocaine where there is much congestion of the eyeball.

C. OLEA—OILY SOLUTIONS.

The following advantages are claimed for oily solutions of drugs used in ophthalmic practice: (1) they can be readily rendered aseptic; (2) their instillation causes very little irritation to the eye; (3) when the drug is employed in an oily vehicle its action is more prompt and powerful than in an aqueous solution.

1. Atropine Oil.

R Atropinae, - - - - gr. ij
 Olei Ricini Purissimi, - - - - ℥j
 Solve.

Note.—Used in abrasions of the cornea—a valuable lubricating and sedative application in granular inflammation and xerosis of the conjunctiva.

2. Cajuput Oil (Cleland).

R Olei Cajuputi, - - - - ℥vj
 Olei Olivae Optimi, - - - - ad ℥j
 Misce.

Note.—Useful in chronic blepharitis and in hyperaemia of the eyelids due to eye-strain.

3. Cocaine Oil.

R Cocainae, - - - - gr. x
 Olei Ricini Purissimi, - - - - ℥iv
 Olei Amygdalae, - - - - ad ℥j
 Solve.

Note.—Used to subdue pain in burns of the eyeball and in inflammations of the cornea, the sedative action of the drug being much increased by the lubricating effects of the oil.

4. Eserine Oil.

R	Physostigminae,	-	-	-	gr. $\frac{1}{2}$
	Cocainae,	-	-	-	gr. x
	Olei Ricini Purissimi,	-	-	-	$\bar{3}$ iv
	Olei Amygdalae,	-	-	-	ad $\bar{3}$ j
	Solve.				

Note.—This, unlike the watery solution, does not become red (*rubreserine*) on exposure to the air.

5. Biniodide of Mercury Oil (Panas).

R	Hydrargyri Biniodidi,	-	-	gr. ij
	Olei Olivae Optimi,	-	-	$\bar{3}$ j
	Solve.			

Note.—Used as a dressing for the eye before operations to disinfect the skin of the lids and the roots of the eyelashes.

D. GLYCEROLES.

Some cases of granular ophthalmia with much congestion of the palpebral conjunctiva are benefited by the application, twice a day, of one or other of the *four* following glyceroles.

1. Glycerole of Copper.

R	Cupri Sulphatis,	-	-	-	$\bar{3}$ ij
	Glycerini Purissimi,	-	-	-	ad $\bar{3}$ j
	Solve.				

2. Glycerole of Iodine.

R	Iodi,	-	-	-	gr. v
	Glycerini Purissimi,	-	-	-	$\bar{3}$ ij
	Vaselini Albi Purissimi,	-	-	-	ad $\bar{3}$ j

3. Glycerole of Lead.

R	Glycerini Plumbi Subacetatis, -	-	-	℥j
	Glycerini Purissimi, -	-	-	ad ℥j
	Misce.			

Note.—Must never be employed if the cornea be ulcerated.

4. Glycerole of Tannin.

R	Acidi Tannici, -	-	-	℥ij
	Glycerini Purissimi,	-	-	℥iv
	Syrupi Simplicis, -	-	-	ad ℥j
	Solve.			

For suppurations of the tear passages, complicated by extensive necrosis of the bones, the following is a useful injection.

5. Glycerole of Iodoform.

R	Iodoformi Praecipitati, -	-	-	℥iss
	Pulveris Amyli, -	-	-	℥ss
	Glycerini Purissimi, -	-	-	℥x
	Aquae Destillatae, -	-	-	℥vj

Note.—Mix the glycerine and water together and add to the powders previously mixed. Heat gradually to 240° Fahr.

E. UNGUENTA—OINTMENTS.

Vaseline or lanoline forms the best basis for the ointments employed in ophthalmic practice, but, before mixing, all alkaloid salts must be dissolved in a few minims of water. Ointments are preferable to “drops”

in the case of children and where there is profuse lachrymation, as watery solutions are liable to be washed out of the eye before they have time to take effect. Ointments made solid by the addition of oil of theobroma and cast into the shape of crayons are of great service in the treatment of chronic forms of conjunctivitis.

1. Aristol Ointment.

℞ Aristol, - - - - - gr. viij
 Olei Olivae Optimi, - - - - - ℥ij
 Lanolini Purissimi, - - - - - ad ℥j
 Misce secundum artem.

Note.—Useful in burns of the eyelids and conjunctiva, and, if pain be severe, may be combined with cocaine and atropine.

2. Atropine Ointment.

℞ Atropinae Sulphatis, - - - gr. iv
 Vaselini Albi Purissimi, - - - ℥j
 Misce secundum artem.

Note.—As to the use of atropine, see page 16.

3. Atropine and Boric Acid Ointment.

℞ Atropinae Sulphatis, - - - gr. iv
 Pulveris Acidi Borici, - - - ℥j
 Vaselini Albi Purissimi, - - - ad ℥j
 Misce secundum artem.

Note.—Used in phlyctenular keratitis when the symptoms of irritation are pronounced.

4. Atropine and Cocaine Ointment.

✓ R	Atropinae Sulphatis,	-	-	gr. iv
	Cocainae Hydrochloridi,	-	-	gr. x
	Vaselini Albi Purissimi,	-	-	ʒj
	Misce secundum artem.			

Note.—Useful in strumous ophthalmia for the relief of intolerance of light. Children suffering from photophobia due to phlyctenular keratitis should have their eyes protected by a shade, not bandaged. The hands and face ought to be washed several times a day, and, as far as possible, the patient should be prevented from rubbing the eyes and burying the face in a pillow. Attention must also be given to keeping the nasal cavities free from discharge.

5. Atropine Ointment (Compound).

R	Atropinae Sulphatis,	-	-	gr. ij
	Hydrargyri Oxidi Rubri,	-	-	gr. viij
	Olei Amygdalae,	-	-	℥ x
	Vaselini Albi Purissimi,	-	-	ʒj
	Misce secundum artem.			

Note.—Useful in strumous ophthalmia after the most acute symptoms of irritation have subsided.

6. Atropine and Quinine Ointment.

R	Atropinae Sulphatis,	-	-	gr. ij
	Quininae Sulphatis,	-	-	gr. viij
	Aquae Destillatae,	-	-	ʒij
	Lanolini Purissimi,	-	-	ʒij
	Vaselini Albi Purissimi,	-	-	ad ʒj
	Misce.			

Note.—Useful in strumous ophthalmia complicated by sloughy ulceration of the cornea.

7. Boric Acid Ointment (Martindale's No. 2).

R	Acidi Borici, - - -	partes iij
	Paraffin (56 C.), - - -	partes v
	Vaselini Albi Purissimi, - -	partes x
	Misce secundum artem.	

Note.—Used in blepharitis and conjunctivitis and as a dressing for the eye after operation. Carefully prepared and thoroughly sterilised, this ointment causes no irritation.

8. Iodide of Cadmium Ointment.

R	Cadmii Iodidi, - - -	gr. iv
	Vaselini Albi Purissimi, - -	ʒj
	Misce.	

Note.—Used in opacities of the cornea.

9. Oil of Cade Ointment.

R	Hydrargyri Oxidi Rubri, - -	gr. viij
	Olei Cadini, - - -	℥ xl
	Pulveris Camphorae, - - -	gr. xl
	Vaselini Purissimi, - - -	ad ʒj
	Misce.	

Note.—Useful in eczema of the eyelids.

10. Calomel Ointment.

R	Hydrargyri Subchloridi, - -	gr. x
	Vaselini Albi Purissimi, - -	ʒj
	Misce.	

Note.—Used to promote the absorption of opacities of the cornea. The bulk of a barley corn of the ointment having been introduced into the conjunctival sac, the cornea should be gently massaged through the closed eyelids with the thumb and index finger.

11. Cocaine Ointment.

R	Cocainae Hydrochloridi,	-	-	gr. x
	Vaselini Albi Purissimi,	-	-	ʒj
	Misce secundum artem.			

Note.—Useful application after the removal of foreign bodies from the cornea, and in superficial ulcerations and injuries. The eye ought always to be protected by a bandage until the epithelium has been restored.

12. Creolin Ointment.

R	Acidi Cresylici,	-	-	℥ ij
	Aquae Destillatae,	-	-	ʒij
	Lanolini Purissimi,	-	-	ad ʒj
	Misce.			

Note.—Used occasionally in ulcerative blepharitis.

13. Eserine and Cocaine Ointment.

R	Physostigminae Sulphatis,	-	gr. $\frac{1}{5}$
	Unguenti Cocainae (Formula 11),	-	ʒj
	Misce.		

Note.—Used in ulcers situated at the margin of the cornea. Must not be employed if the iris is inflamed. For note on the use of eserine, see pages 19, 20.

14. Gallic Acid Ointment.

R	Acidi Gallici,	-	-	gr. xxx
	Olei Lavandulae,	-	-	℥ ij
	Olei Ricini Purissimi,	-	-	ʒij
	Vaselini Albi Purissimi,	-	-	ad ʒj
	Misce.			

Note.—Used in blepharitis marginalis after loss of the eyelashes.

15. Ichthyol Ointment.

R	Ichthyol, -	-	-	-	gr. v
	Olei Olivae Optimi, -	-	-	-	ʒij
	Glycerini Purissimi, -	-	-	-	ʒij
	Lanolini Purissimi, -	-	-	-	ad ʒj
	Misce.				

Note.—Useful in eczema of the eyelids and for conjunctivitis with fissures of the external canthus.

16. Iodoform Ointment.

R	Iodoformi Precipitati, -	-	-	gr. xx
	Olei Amygdalae, -	-	-	ʒj
	Lanolini Purissimi, -	-	-	ad ʒj
	Misce.			

Note.—Used in follicular conjunctivitis, ulcers, and burns. Iodol, which is odourless, may be substituted for iodoform. Atropine may be added to the mercurial or iodoform ointments in those cases where it is necessary to cause dilatation of the pupil, and in cases of strumous ulcer accompanied by distressing photophobia, or in burns of the conjunctiva. Cocaine may be added to relieve pain (see Formula 17).

17. Iodoform, Atropine, and Cocaine Ointment.

R	Iodoformi Precipitati, -	-	ʒj
	Atropinae Sulphatis, -	-	gr. ij
	Cocainae Hydrochloridi, -	-	gr. x
	Vasellini Albi Purissimi, -	-	ad ʒj
	Misce secundum artem.		

Note.—Useful application in burns of the conjunctiva.

18. Iodol Ointment.

R	Iodol,	-	-	-	gr. xv
	Acidi Tannici,	-	-	-	gr. xxx
	Olei Olivae Optimi,	-	-	-	ʒij
	Lanolini Purissimi,	-	-	-	ad ʒj
	Misce.				

Note.—Used as an application to the nasal mucous membrane when inflamed and ulcerated in connection with strumous ophthalmia. The crusts must first be removed by means of a nasal douche (see pages 37, 38).

19. Acetate of Lead Ointment.

R	Plumbi Acetatis,	-	-	-	gr. viij
	Cocainae Hydrochloridi,	-	-	-	gr. x
	Vaselini Albi Purissimi,	-	-	-	ʒj
	Misce.				

Note.—Useful to relieve the itching in blepharitis marginalis.

20. Lead Ointment.

R	Emplastri Plumbi,	-	-	-	
	Olei Lini,	-	-	-	āā partes xx
	Balsami Peruviani,	-	-	-	partem j
	Misce.				

Note.—This is the pommade anti-blépharatique of De Wecker. It should always be freshly prepared, and is applied to the eyes at bedtime, smeared upon discs of old linen. The application ought to be repeated every night for several weeks. Very efficacious in blepharitis hypertrophica.

21. Menthol and Cocaine Ointment.

R	Menthol, - - - -	gr. ij
	Cocainae Hydrochloridi, - -	gr. x
	Dermatol, - - - -	gr. viij
	Olei Eucalypti, - - - -	℥ xxx
	Vaselini Albi Purissimi, - -	ʒvj
	Lanolini Purissimi, - - -	ad ʒj
	Misce.	

Note.—Used to anoint the nostrils in cases of “watery eye” accompanied by swelling of the nasal mucous membrane.

22. Mercurial Ointment.

R	Unguenti Hydrargyri, - -	ʒj
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Note.—Used as an inunction—one drachm to be rubbed into the skin below the armpit, one night on one side of the body and the next on the other. The ointment should not be washed off till morning. The patient should be clad in flannel and kept indoors during the course of the treatment.

23. Oleate of Mercury Ointment.

R	Unguenti Hydrargyri Oleatis, -	ʒj
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Note.—A cleaner and more active preparation than the ordinary mercurial ointment: a good application for killing pediculi.

24. Oleate of Mercury and Morphine Ointment.

R	Morphinae, - - - -	gr. viij
	Unguenti Hydrargyri Oleatis, -	ʒj
	Misce.	

Note.—Used to relieve pain round about the orbit. Forms a good dressing after the epidermis has been removed by a fly blister.

25. Mercury and Lead Ointment (De Wecker).

R	Hydrargyri Oxidi Rubri, -	-	gr. iv
	Liquoris Plumbi Subacetatis, -	-	℥ lx
	Unguenti Cetacei, -	-	ʒj
	Misce.		

Note.—Useful in ophthalmia tarsi associated with acne and seborrhoea of the face generally.

26. Mercury and Belladonna Ointment.

R	Extracti Belladonnae, -	-	gr. xx
	Hydrargyri Ammoniati, -	-	gr. xl
	Unguenti Cetacei, -	-	ad ʒj
	Misce.		

Note.—Smear on the brow in cases of neuralgia due to intra-orbital disease. In addition to the above, leeches, blisters, and the application of heat are all employed to subdue pain. Hot fomentations may be applied either with water alone, or with water medicated with poppy heads or chamomile flowers. In very severe cases Leiter's Apparatus (see Appendix A) ought to be employed with boiling water, and the apparatus should be applied to the eye frequently for ten or fifteen minutes at a time, the lids being protected by folds of moist flannel.

27. Mercurial Ointments (Various).*(a) Ammoniated Mercury Ointment.*

R	Hydrargyri Ammoniati, -	-	gr. viij
	Vaselini Albi Purissimi, -	-	ʒi
	Misce.		

(b) Red Oxide of Mercury Ointment.

R	Hydrargyri Oxidi Rubri, -	-	gr. viij
	Olei Amygdalae, -	-	℥ xxx
	Trite bene. Deinde adde		
	Vaselini Albi Purissimi, -	-	ad ʒj
	Misce.		

(c) *Yellow Oxide of Mercury Ointment (Pagenstecher).*

R Hydrargyri Oxidi Flavi, - - gr. xvj
 Vaselini Albi Purissimi, - - ʒj
 Misce.

Note.—The mercurial ointments are favourite applications in all forms of inflammation of the conjunctiva, and of the edge of the eyelids. The salve containing the white precipitate is the mildest, and is useful in those cases when the others cause undue irritation. Children are more tolerant of the use of those ointments than are adults. The salve containing the yellow precipitate, commonly known as Pagenstecher's Ointment, is the strongest, and is specially recommended in pustular ophthalmia, and when massage is applied to the cornea for the purpose of clearing up old opacities. The red oxide is the active ingredient of the popular remedy, "Singleton's Golden Eye Ointment."

28. Orthoform Ointment.

R Orthoformi, - - - - gr. lx
 Unguenti Acidi Borici, - - ad ʒj
 Misce.

Note.—Orthoform is a substitute for cocaine, but it has little action on healthy mucous membrane. It is non-toxic and powerfully antiseptic. Useful in superficial ulceration of the cornea, as, on account of its sparing solubility, its action is maintained for a considerable time.

29. Iodide of Potassium Ointment.

R Potassii Iodidi, - - - gr. viij
 Vaselini Albi Purissimi, - - ʒj
 Misce secundum artem.

Note.—This ointment, as well as those containing calomel and iodide of cadmium (*see* page 29), are used to promote absorption of opacities of the cornea after ulceration.

30. Protargol Ointment.

R	Protargol,	-	-	-	-	gr. xxx
	Acidi Borici,	-	-	-	-	gr. lx
	Aquae Destillatae,	-	-	-	-	ʒij
	Lanolini Purissimi,	-	-	-	-	ad ʒj

Note.—Useful in ophthalmia neonatorum, granular conjunctivitis, and serpigenous ulcer of the cornea.

31. Resorcin Ointment.

✓ R	Resorcin,	-	-	-	-	gr. xxx
	Zinci Oxidi,	-	-	-	-	gr. lx
	Acidi Salicylici,	-	-	-	-	gr. x
	Vaselini Albi Purissimi,	-	-	-	-	ad ʒj
	Misce.					

Note.—Useful in eczema of the eyelids.

32. Salol Ointment.

✓ R	Salol,	-	-	-	-	gr. xx
	Cocainae Hydrochloridi,	-	-	-	-	gr. x
	Vaselini Albi Purissimi,	-	-	-	-	ad ʒj
	Misce.					

Note.—Useful in burns of the eyelid and conjunctiva.

33. Sulphur Ointment.

R	Sulphuris Precipitati,	-	-	-	-	gr. xxx
	Vaselini Albi Purissimi,	-	-	-	-	ad ʒj
	Misce.					

Note.—Used in phtheiriasis ciliarum and blepharitis marginalis.

34. Stavesacre Ointment.

✕ R Olei Staphisagriae, - - - ʒj
 Adipis, - - - - - ʒj
 Misce.

Note.—Used to destroy pediculi.

35. Veratrine Ointment.

R Veratrinae, - - - - - gr. xx
 Adipis, - - - - - ʒij
 Misce.

Note.—Applied to the forehead to relieve pain in iritis and other deep-seated inflammations of the eye.

This ointment is much stronger than that of the B.P., but it may be safely used when there is no abrasion of the skin.

F. COLLUNARIA—NASAL DOUCHES.

Ten ounces of fluid are generally sufficient for a nasal douche, which ought to be used at a temperature of 95° Fahrenheit, and injected into the nostrils, care being taken not to employ too much force. In ophthalmic practice these douches are of service in strumous conjunctivitis when there is much discharge from the nasal mucous membranes.

1. Simple Alkaline Douche.

R Sodii Bicarbonatis, - - -
 Pulveris Boracis, - - - āā gr. xl
 Aquae Destillatae, - - - ʒx
 Misce et solve.

Note.—Cleansing alkaline douche.

2. Compound Alkaline Douche.

R	Sodii Bicarbonatis,	-	-	-	} āā gr. xl
	Pulveris Boracis,	-	-	-	
	Sodii Chloridi,	-	-	-	
	Sacchari Albi,	-	-	-	
	Aquae Destillatae,	-	-	-	ad ʒx
	Misce et solve.				

Note.—Cleansing alkaline douche.

3. Alkaline Antiseptic Douche.

R	Sodii Bicarbonatis,	-	-	-	} āā gr. lx.
	Pulveris Boracis,	-	-	-	
	Glycerini Acidi Carbolici,	-	-	ʒij	
	Aquae Destillatae,	-	-	-	
	Aquae Destillatae,	-	-	-	ad ʒx
	Misce et solve.				

Note.—Cleansing alkaline douche in acrid, foul-smelling discharges from the nostrils.

G. CAUSTICAE—CAUSTICS.

These are substances which destroy the parts to which they are applied.

1. Alum.

R	Aluminis Crystallini,	-	-	q.v.
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Note.—Used as a crayon in many forms of chronic hyperaemia of the palpebral conjunctiva. May be safely employed by the patient.

2. Chromic Acid.

R	Acidi Chromici,	-	-	q.v.
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Note.—Used in the treatment of morbid growths of the eyelids. The pure acid fused on the point of a probe is applied to the part to be destroyed.

3. Copper.

R Cupri Sulphatis, - - - q.v.

Note.—Crystal ground down to pencil shape on a stone, polished with emery paper, and mounted in a quill.

4. Lapis Divinus.

R Cupri Sulphatis, - - }
 Aluminis, - - } partes aequales.
 Potassii Nitratis, - - }

Fuse together, and then add camphor equal to one-thirtieth of the whole.

Note.—In using the sulphate of copper, or the lapis divinus, care should be taken to touch only the retrotarsal fold. The lapis divinus seems to give the patient more pain than the pure sulphate of copper. Employed in the treatment of granular ophthalmia.

5. Nitrate of Silver.

R Crayon Argenti Nitratis.

Note.—May be used pure or mitigated by dilution with nitrate of potash. Nitrate of silver is to be preferred to sulphate of copper when there is much discharge from the conjunctiva. Before applying the nitrate of silver, the parts should be carefully dried, so that the action of the caustic may be limited as far as possible to the part touched. Any excess should be washed away at once with a solution of salt and water. Forms a convenient mode of blistering the skin of the eyelids in interstitial keratitis.

6. Ethylate of Sodium.

R Liquoris Sodii Ethylatis, - - q.v.

Note.—Used in the treatment of naevi. It may be applied by means of a glass rod, the skin surrounding the naevus being carefully protected.

7. Chloride of Zinc Paste.

℞ Liquoris Zinci Chloridi c̄ Opio, ʒj
Farinae Tritici, - - - gr. cxx

Sig.—Mix smoothly in a mortar, and heat over a water-bath until of a proper consistence. The following is a formula for the chloride of zinc and opium liquor.

℞ Zinci Chloridi, - - - ʒxvj
Extracti Opii, - - - ʒiss
Acidi Hydrochlorici Diluti, - ʒvj
Aquae Bullientis, - - - ad Oj

Triturate the extract of opium with twelve ounces of hot water, add the acid, and filter. In this dissolve the chloride of zinc, and make up the filtrate to twenty ounces with distilled water.

Note.—Used to destroy those portions of a malignant tumour of the orbit which has escaped excision by the knife. The paste should be spread on pieces of lint, which are to be smoothly applied to the walls of the orbit, care being taken to prevent sloughing of the eyelids.

H. LINIMENTA—LINIMENTS.

These are not applied to the eye, but to the surrounding skin, and are commonly employed to relieve circumorbital pain.

1. A.B.C. Liniment.

℞ Linimenti Aconiti, - }
Linimenti Belladonnae, } partes aequales.
Linimenti Chloroformi, }
Misce.

Note.—Used to relieve circumorbital pain.

2. Liniment of Ammonia.

✕ R Liquoris Ammoniae Fortis, - - - *ʒij*
 Olei Lavandulae, - - - *ʒij*
 Spiritus Rectificati, - - - ad *ʒiv*
 Misce.

Note.—Useful to relieve pain after bites or stings of insects.

3. Liniment of Extract of Belladonnae.

R Extracti Belladonnae, }
 Glycerini Purissimi, } partes aequales.
 Lanolini Purissimi, }
 Misce.

Note.—When applied to the brow affords great relief in purulent ulcers of the cornea, iritis, etc. This method of treatment sometimes causes the pupil to dilate when atropine instillations have failed.

4. Liniment of Belladonna with Chloroform.

R Linimenti Belladonnae, - - - *ʒij*
 Chloroformi Belladonnae, - - - ad *ʒiv*
 Misce.

Note.—Used to relieve circumorbital pain.

5. Liniment of Iodine.

R Liquoris Iodi Fortis, - - - q.v.

Note.—Used as a counter-irritant.

6. Liniment of Lime.

R Liquoris Calcis, - - - *ʒij*
 Olei Olivae Optimi, - - - ad *ʒiv*
 Misce.

Note.—Used as a dressing in burns and scalds of the eyelids.

7. Liniment of Soap and Carbolic Acid.

R Saponis Mollis, - - -
 Saponis Duri, - - - āā ̄viiij
 Acidi Carbolicæ Liquefacti, - ̄xvj
 Misce secundum artem.

Note.—A valuable cleansing agent; used to disinfect the skin of the face previous to operations. Known as carbosapol.

J. OPHTHALMIC TABLOIDS.

All the drugs usually employed in ophthalmic practice are now to be had in the form of minute tabloids or gelatine discs readily soluble in the lachrymal secretion. In this form they are very convenient, as they can be easily carried about, and the dose administered with great accuracy. The following is a list of those in ordinary use, as prepared by Burroughs, Wellcome, & Co. :—

Atropine Sulphate, - - - gr. 1/200

Note.—Mydriatic.

Atropine Sulphate, - - - gr. 1/200

Cocaine Hydrochloride, - - - gr. 1/200

Note.—The cocaine aids the atropine, and tends to prevent conjunctivitis.

Cocaine Hydrochloride, - - - gr. 1/20

Note.—Local anaesthetic, and slight mydriatic.

Duboisine Sulphate, - - - gr. 1/250

Note.—Mydriatic; more powerful, but less prolonged in action, than atropine.

Eserine Salicylate, *see* Physostigmine.

Fluoresceïn, - - - - - gr. 1/2000

Note.—Used to diagnose corneal lesions.

Homatropine Hydrochloride, - gr. 1/600

Homatropine Hydrochloride, - gr. 1/400

Homatropine Hydrochloride, - gr. 1/40

Note.—Homatropine is a more rapid mydriatic than atropine, but more transient.

{ Homatropine Hydrochloride, - gr. 1/240

{ Cocaine Hydrochloride, - - gr. 1/24

{ Homatropine Hydrochloride, - gr. 1/50

{ Cocaine Hydrochloride, - - gr. 1/50

Note.—These combinations of homatropine and cocaine dilate the pupil and relieve pain.

Hyoscine Hydrobromide (Scopolamine Hydrobromide), - gr. 1/600

Note.—Mydriatic; more rapid than atropine, and effects last longer.

Mydrine, - - - - gr. 1/50

Note.—Rapid mydriatic. A combination of the alkaloids ephedrine and homatropine.

Physostigmine Salicylate, - gr. 1/600

Note.—Myotic; increases glandular secretions; neutralises effect of atropine.

{ Physostigmine Salicylate, - gr. 1/500

{ Tropacocaine Hydrochloride, - gr. 1/100

Note.—Myotic; relieves pain of distension.

Pilocarpine Nitrate, - - gr. 1/400

Note.—Myotic; less active than physostigmine.

{ Pilocarpine Nitrate, - - gr. 1/500

{ Cocaine Hydrochloride, - - gr. 1/200

Note.—Absorbs opacities. The cocaine acts as an anodyne.

Suprarenal Extract.

Note.—Used as an adjuvant to cocaine where there is much congestion of the eyeball.

Tropacocaine Hydrochloride, - gr. 1/30

Note.—Anaesthetic; more rapid and transitory than cocaine. Does not affect pupil.

Zinc Sulphate, - - - gr. 1/250

Note.—Astringent; used in acute and chronic ophthalmia.

K. DUSTING POWDERS.

Dusting powders are flicked into the eye from a dry camel-hair brush.

1. Calomel.

℞ Hydrargyri Subchloridi, - - q.v.

Note.—Useful in strumous ophthalmia and in all cases of passive congestion of the conjunctiva; ought not to be used when iodides or bromides are being administered internally. It must be thoroughly dried.

2. Boracic Acid.

℞ Acidi Borici, - - - q.v.

Note.—Must be thoroughly triturated before being used.

3. Iodoform.

℞ Iodoformi Praecipitati, - q.v.

Note.—Useful in sloughy corneal ulcers (the surface of which should be carefully dusted with the powder), and in massage of the conjunctiva in granular ophthalmia. Crystalline iodoform should never be used in ophthalmic practice.

4. Iodoform and Sugar of Milk.

℞ Iodoformi Praecipitati, - - partem j
Sacchari Lactis, - - - partes ij

Note.—Useful in the fleshy condition of the conjunctiva which frequently follows purulent ophthalmia.

5. Orthoform.

℞ Orthoformi, - - - - q. v.

Note.—Local anaesthetic as well as a powerful antiseptic; it acts better when diluted with boric acid. It may also be combined with dried calomel, which intensifies its antiseptic properties.

6. Borotannic Powder.

℞ Pulveris Acidi Borici Calendulati, partes iij
Pulveris Acidi Tannici, - - partem j
Misce.

Note.—Useful in chronic conjunctivitis.

II. CONSTITUTIONAL REMEDIES.

ON account of their special application, local remedies naturally occupy the foremost place in ocular therapeutics, but as in most instances diseases of the eye are related to some constitutional condition, the general treatment of the patient must never be neglected. Indeed, in syphilis, tubercle, rheumatism, or gout, constitutional are of equal importance with local remedies.

A. MISTURAE—MIXTURES.

(a) *Alteratives*.—This group includes such remedies as arsenic, calcium, mercury, and the iodides.

1. Iodide of Ammonium and Iodide of Iron Mixture.

Rx	Ammonii Iodidi,	-	-	-	gr. lxxx
	Syrupi Ferri Iodidi,	-	-	-	ʒij
	Spiritus Chloroformi,	-	-	-	ʒ clx
	Aquae Destillatae,	-	-	-	ad ʒviij
	Misce et solve.				

Dose.—A tablespoonful in water three times a day after meals.

Note.—Useful in diseases of the uveal tract in old and anaemic subjects.

2. Arsenic Mixture.

R	Liquoris Sodii Arsenatis,	-	-	℥j
	Glycerini Purissimi,	-	-	℥iij
	Aquae Destillatae,	-	-	ad ℥viiij
	Misce.			

Dose.—A tablespoonful in water three times a day after meals.

Note.—Useful in many diseases of the cornea.

3. Chloride of Calcium Mixture.

R	Calcii Chloridi,	-	-	-	gr. cxx
	Syrupi Aurantii,	-	-	-	℥ij
	Aquae Destillatae,	-	-	-	ad ℥viiij
	Misce et solve.				

Dose.—A tablespoonful in water three times a day after meals.

Note.—Useful in strumous ophthalmia with enlargement of the lymphatic glands. Tincture of perchloride of iron can be added to the calcium chloride in those cases where there is much anaemia (*see* Formula 4).

4. Chloride of Calcium and Iron Mixture.

R	Calcii Chloridi,	-	-	-	gr. clx
	Tincturae Ferri Perchloridi,	-	-	-	℥lxxx
	Glycerini Purissimi,	-	-	-	℥iv
	Aquae Chloroformi,	-	-	-	ad ℥viiij
	Misce et solve.				

Dose.—A tablespoonful in water three times a day after meals.

5. Syrup of Iodide of Iron.

R Syrapi Ferri Iodidi, - - q.v.

Dose.—A teaspoonful or less, according to age.

Note.—A convenient form of administering an iodide to children.

6. Iodide of Potassium Mixture.

R Potassii Iodidi, - - - ℥ij
 Spiritus Chloroformi, - - ℥clx
 Aquae Menthae Piperitae, - ad ℥viiij
 Misce et solve.

Dose.—A tablespoonful in water three times a day between meals.

Note.—Useful in the late stages of syphilis.

7. Biniodide of Mercury Mixture.

R Hydrargyri Perchloridi, - - gr. j
 Potassii Iodidi, - - - gr. xlviij
 Infusi Gentianae Compositi, - ad ℥viiij
 Misce et solve secundum artem.

Dose.—A tablespoonful in water three times a day between meals.

Note.—A valuable combination in all chronic affections of the uveal tract, more especially when of syphilitic origin.

8. Perchloride of Mercury Mixture.

R Liquoris Hydrargyri Perchloridi P.B., ℥ij
 Infusi Gentianae Compositi, - ad ℥viiij
 Misce.

Dose.—A tablespoonful in water three times a day after meals.

Note.—Useful in syphilitic diseases of the eye.

(b) *Alterative and Sedative.*

9. Iodide and Bromide of Potassium Mixture.

R	Potassii Iodidi,	-	-	-	gr. xlviij
	Potassii Bromidi,	-	.	-	gr. clx
	Spiritus Chloroformi,	-	-	-	ʒiij
	Decocti Sarsae Compositi,	-	-	-	ad ʒviij
	Misce et solve.				

Dose.—A tablespoonful in water three times a day after meals (*see* Note under No. 10).

(c) *Alterative and Tonic.*

10. Perchloride of Mercury, Quinine, and Iron Mixture.

R	Liquoris Hydrargyri Perchloridi, B.P.,	ʒij
	Quininae Sulphatis,	gr. viij
	Tincturae Ferri Perchloridi,	℥ lxxx
	Glycerini Purissimi,	ʒiij
	Aquae Chloroformi,	ad ʒviij
	Misce et solve.	

Dose.—A tablespoonful in water three times a day after meals.

Note.—Valuable combination in the late stages of interstitial keratitis, and in chronic diseases of the deep structures of the eye, especially when these are due to syphilis.

11. Iodide of Potassium with Nux Vomica Mixture.

R	Potassii Iodidi,	-	-	gr. xlviij
	Tincturae Nucis Vomicae,			℥ lxxx

Spiritus Chloroformi, - ℥ clx
 Decocti Sarsae Compositi, ad ℥ viij
 Misce et solve.

Dose.—A tablespoonful in water three times a day after meals.

Note.—This mixture and Formula No. 9 are of use in inflammations of the deep structures of the eyeball, especially when due to syphilis.

(d) *Antiseptic.*

+ 12. Sulphocarbolate of Soda Mixture.

℞ Sodii Sulphocarbolatis, - - ℥iv
 Tincturae Zingiberis, - - ℥iij
 Syrupi Zingiberis, - - ℥ij
 Aquae Menthae Piperitae, - ad ℥ viij
 Misce et solve.

Dose.—A tablespoonful in water three or four times a day as required.

Note.—Used to relieve flatulence.

(e) *Diuretic.*

13. Potash and Caffeine Mixture.

℞ Potassii Citratis, . - - ℥v
 Potassii Acetatis, - - gr. clx
 Caffeinae Citratis, - - gr. xlviij
 Glycerini Purissimi, - - ℥iij
 Aquae Destillatae, - - ad ℥ viij
 Misce et solve.

Dose.—A tablespoonful in water three times a day.

Note.—Promotes elimination. Useful in cases of toxic amblyopia.

(f) *Saline*.—This group includes the salts of magnesium and sodium, and their chief physiological action is to unload the portal circulation.

14. Sulphate of Magnesia Mixture.

R̄	Magnesii Sulphatis, -	-	-	℥j
	Sodii Sulphatis, -	-	-	℥iv
	Acidi Sulphurici Aromatici, -	-	-	℥iij
	Glycerini Purissimi, -	-	-	℥iv
	Aquae Menthae Piperitae, -	-	-	ad ℥viij
	Misce et solve.			

Dose.—A tablespoonful in water two or three times a day before food.

Note.—Mild aperient.

15. Sulphate of Magnesia and Quinine Mixture.

R̄	Magnesii Sulphatis, -	-	-	℥j
	Quininae Sulphatis, -	-	-	gr. xvj
	Acidi Sulphurici Aromatici, -	-	-	℥iij
	Syrupi Aurantii, -	-	-	℥j
	Aquae Chloroformi, -	-	-	ad ℥viij
	Misce et solve.			

Dose.—A tablespoonful in water two or three times a day before food.

Note.—Tonic and aperient.

16. Sulphate of Magnesia, Quinine, and Iron Mixture

R̄	Magnesii Sulphatis, -	-	-	℥j
	Quininae Sulphatis, -	-	-	gr. xvj
	Ferri Sulphatis, -	-	-	gr. lxxx
	Acidi Sulphurici Diluti, -	-	-	℥ij
	Glycerini Purissimi, -	-	-	℥iij
	Aquae Menthae Piperitae, -	-	-	ad ℥viij
	Misce et solve.			

Dose.—A tablespoonful in water three times a day before food.

Note.—Useful in chronic conjunctivitis, and in asthenopia associated with anaemia.

17. Sulphate of Magnesia and Bicarbonate of Soda.

R	Magnesii Sulphatis, -	-	-	℥j
	Sodii Bicarbonatis, -	-	-	℥iiss
	Spiritus Chloroformi, -	-	-	℥iij
	Aquae Menthae Piperitae, -	-	-	ad ℥viiij
	Misce et solve.			

Dose.—A tablespoonful in water three times a day before food.

Note.—Saline and antacid.

18. Sulphate of Soda and Iron Mixture.

R	Sodii Sulphatis, -	-	-	℥vj
	Tincturae Ferri Perchloridi, -	-	-	℥iij
	Glycerini Purissimi, -	-	-	℥iv
	Aquae Destillatae, -	-	-	ad ℥viiij
	Misce et solve.			

Dose.—A tablespoonful in water three times a day between meals.

Note.—Saline and chalybeate.

(g) *Sedative*.—This group of remedies is of great service in ophthalmic practice, in overcoming nervousness, in subduing pain, and in promoting sleep.

19. Bromide Mixture.

R	Potassii Bromidi, -	-	-	℥iv
	Sodii Bromidi, -	-	-	gr. clx
	Ammonii Bromidi, -	-	-	gr. lxxx

Spiritus Chloroformi,	-	-	℥iij
Aquae Destillatae,	-	-	ad ℥viiij
Misce et solve.			

Dose.—A tablespoonful in water as directed.

Note.—Sedative; useful as a soothing draught previous to operations.

20. Bromidia (Battle).

℞ Bromidiae,	-	-	-	q.v.
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Dose.—A teaspoonful as required, and repeated as directed.

Note.—Useful as a sedative after operations.

21. Chloral Mixture.

℞ Syrupi Chloral Hydratis,	-	-	℥j
Sodii Bromidi,	-	-	gr. xxx
Tincturae Chloroformi Compositi,	℥	x	
Nepenthe (Ferris),	-	-	℥v
Aquae Destillatae,	-	-	ad ℥j
Misce et solve, fiat haustus.			

Note.—A sleeping draught.

22. Gelsemium and Butyl-Chloral Hydrate Mixture.

℞ Tincturae Gelsemii,	-	-	℥iiss
Butyl-Chloral Hydratis,	-	-	gr. clx
Spiritus Rectificati,	-	-	℥j
Syrupi Tolutani,	-	-	℥ij
Aquae Chloroformi,	-	-	ad ℥viiij

Dose.—A tablespoonful in water, and repeated in an hour if pain is not relieved. If a third dose be required this mixture is not likely to prove serviceable.

Note.—Valuable combination in cases where pain radiates from the eye along the branches of the fifth cranial nerve, and more especially when the supramaxillary branches are affected.

(*h*) *Tonic*.—This group, including such important remedies as iron, quinine, and strychnine, should be employed in the case of anaemic and debilitated patients.

23. Syrup of the Lactophosphate of Lime (Dusart).

℞ Syrupi Calcii Lactophosphatis, - q.v.

Dose.—A teaspoonful in water three times a day after food.

Note.—Valuable tonic in many cases of strumous ophthalmia in children.

24. Syrup of Phosphate of Iron with Quinine and Strychnine (Easton).

℞ Syrupi Ferri Phosphatis cum Quininâ
et Strychninâ, - - - q.v.

Dose.—A half to one teaspoonful in water three times a day before meals.

25. Compound Syrup of the Phosphate of Iron (Parrish).

℞ Syrupi Ferri Phosphatis Compositi, q.v.

Dose.—A teaspoonful in water three times a day after meals.

26. Compound Syrup of the Hypophosphites.

℞ Syrupi Hypophosphitum Compositi, q.v.

Dose.—A teaspoonful in water three times a day before food.

Note.—When combined in equal parts, the last three syrups form a valuable tonic.

27. Trinitrin and Strychnine Mixture.

R	Liquoris Trinitrini, -	-	-	℥ xvj
	Liquoris Strychninae,	-	-	℥ lxxx
	Spiritus Rectificati, -	-	-	ʒj
	Syrupi Simplicis, -	-	-	ʒij
	Aquae Destillatae, -	-	-	ad ʒviij
	Misce.			

Dose.—A tablespoonful in water three times a day before food.

Note.—Used in embolism and thrombosis of the retinal vessels and in atrophy of the optic nerve.

28. Quinine Mixture.

R	Quininae Sulphatis, -	-	-	gr. viij
	Acidi Hydrochlorici Diluti,	-	-	ʒij
	Spiritus Rectificati, -	-	-	ʒj
	Syrupi Aurantii, -	-	-	ʒij
	Aquae Destillatae, -	-	-	ad ʒviij
	Misce et solve.			

Dose.—A tablespoonful in water three times a day before food.

Note.—Quinine is useful not only as a general tonic, but when administered at regular intervals in doses of from one to three grains, it appears to have a specific influence in overcoming suppurative processes.

29. Quinine and Iron Mixture.

R	Ferri et Quininae Citratis,	-	-	gr. clx
	Aquae Chloroformi, -	-	-	ʒviij
	Solve.			

Dose.—A tablespoonful in water three times a day before food.

Note.—General tonic.

30. Quinine, Iron, and Strychnine Mixture.

R	Quininae Sulphatis, -	-	-	gr. xvj
	Tincturae Ferri Perchloridi,	-	-	ʒiiss
	Liquoris Strychninae,	-	-	℥ xlviij
	Glycerini Purissimi,	-	-	ʒss
	Aquae Destillatae,	-	-	ad ʒviij
	Misce et solve.			

Dose.—A tablespoonful in water three times a day before food.

Note.—General tonic.

(i) *Tonic and Sedative.*

31. Aconite and Quinine Mixture.

R	Tincturae Aconiti, -	-	-	℥ xvj
	Quininae Hydrobromidi,	-	-	gr. xvj
	Acidi Hydrobromici Diluti,	-	-	ʒvj
	Aquae Chloroformi,	-	-	ad ʒviij
	Misce et solve.			

Dose.—A tablespoonful in water three times a day between meals.

Note.—Useful in averting inflammation after injuries or operations.

32. Bromide and Nux Vomica Mixture.

R	Potassii Bromidi, -	-	-	ʒiiss
	Tincturae Nucis Vomicae,	-	-	ʒij
	Spiritus Chloroformi,	-	-	ʒiiss
	Infusi Calumbae,	-	-	ad ʒviij
	Misce et solve.			

Dose.—A tablespoonful in water three times a day between meals.

Note.—Useful in painful conditions of the eyeball associated with chronic inflammation of its deeper structures.

33. Quinine and Bromide of Potassium Mixture.

R	Quininae Hydrobromidi, -	-	gr. xvj
	Potassii Bromidi, -	-	ʒiiss
	Acidi Hydrobromici Diluti, -	-	ʒiv
	Aquae Anethi, -	-	ad ʒviiij
	Misce et solve.		

Dose.—A tablespoonful in water three times a day after food.

Note.—Valuable sedative, prescribed in many cases of chronic glaucoma.

34. Valerian and Henbane Mixture.

R	Tincturae Valerianae Ammoniatae,	ʒiiss
	Tincturae Hyoscyami,	ʒij
	Tincturae Cardamomi Compositae,	ʒij
	Aquae Carui, - - - -	ad ʒviiij
	Misce et solve.	

Dose.—A tablespoonful in water three times a day between meals.

Note.—Valuable sedative in nervous and hysterical cases.

B. PURGATIVES.

In ophthalmic practice, castor oil, black draught, Gregory's powder, and calomel are the best purgatives.

C. HYPODERMIC INJECTIONS.

It is sometimes advisable, in order to influence the system rapidly, to administer remedies by means of hypodermic injections. The following are the chief drugs thus employed in ophthalmic practice :

1. Hypodermic Injection of Antipyrine.

R	Phenazoni,	-	-	-	gr. iiiss
	Cocainae Hydrochloridi,	-	-	-	gr. $\frac{1}{8}$
	Aquae Destillatae,	-	-	-	℥x
	Solve.				

Note.—Relieves pain rapidly, but produces diffuse swelling around the site of puncture.

2. Hypodermic Injection of Gold and Potassium.

R	Auri et Potassii Cyanidi,	-	-	gr. iv
	Aquae Destillatae,	-	-	℥ss
	Solve.			

Note.—At first inject five minims daily, and gradually increase the dose to fifteen minims. To relieve the burning pain caused by the injection, apply an ice-cold compress to the site of puncture.

Recommended by Galezowski in cases of atrophy of optic nerve, especially when associated with tabes dorsalis.

3. Hypodermic Injection of Mercury.

R	Hydrargyri Bicyanidi,	-	-	gr. j
	Aquae Destillatae,	-	-	℥ij
	Solve.			

Note.—Contains one-sixteenth of a grain in seven and a half minims. A fleshy part, such as the buttock, ought to be chosen for the puncture, and the needle ought to be plunged deeply into the muscle. If the operation be performed carefully, the discomfort to the patient is slight. Is also used as a subconjunctival injection.

4. Hypodermic Injection of Soziodol of Mercury.

R	Hydrargyri Soziodol,	-	-	gr. v
	Sodii Iodidi,	-	-	gr. x
	Aquae Destillatae,	-	-	℥ 200
	Solve.			

Note.—Ten to fifteen minims for an injection. Produces very slight local reaction.

5. Hypodermic Injection of Morphine.

R	Morphinae Hydrochloridi,	-	gr. iv
	Aquae Chloroformi,	-	ʒij
	Solve.		

Note.—Five minims contain one-sixth of a grain. Sometimes it is advisable to combine from $\frac{1}{100}$ to $\frac{1}{80}$ gr. of atropine with each morphine injection.

6. Hypodermic Injection of Pilocarpine.

R	Pilocarpinae Nitratis,	-	gr. vj
	Aquae Destillatae,	-	ʒij
	Solve.		

Note.—Inject from two to six minims. Used to produce profuse diaphoresis in cases of separation of the retina, of choroiditis and retinitis. It is well to begin with a small dose once a day, and, if larger doses are indicated, to repeat the small dose night and morning.

7. Hypodermic Injection of Strychnine.

R	Liquoris Strychninae Hydro-		
	chloridi,	-	ʒij

Note.—Begin with two minims, and gradually increase the dose. Recommended in cases of atrophy of the optic nerve.

D. TABLOID HYPODERMIC DRUGS.

The following list of hypodermic tabloids, prepared by Messrs. Burroughs, Wellcome & Co., will be found convenient :

Aconite Nitrate, - - - - -	gr. 1/260
Apomorphine Hydrochloride, - - - - -	{ gr. 1/15 gr. 1/10
Atropine Sulphate, - - - - -	{ gr. 1/150 gr. 1/100 gr. 1/60
Caffeine Sodio-Salicylate, - - - - -	gr. 1/2
Cocaine Compound (weak, normal, and strong).	
Cocaine Hydrochloride, - - - - -	{ gr. 1/10 gr. 1/6 gr. 1/4 gr. 1/2
Codeine Phosphate, - - - - -	gr. 1/4
Cornutine Citrate, - - - - -	gr. 1/60
Cotarnine Hydrochloride (Stypticin), - - - - -	gr. 1/4
Curare, - - - - -	gr. 1/12
Digitalin, - - - - -	gr. 1/100
Ergotinine Citrate, - - - - -	{ gr. 1/200 gr. 1/100
Ergotinine Citrate and Strychnine Sulphate :	
{ Ergotinine Citrate, - - - - -	gr. 1/100
{ Strychnine Sulphate, - - - - -	gr. 1/20
Eserine Salicylate, - - - - -	gr. 1/100
Eucaïne Hydrochloride, - - - - -	{ gr. 1/3 gr. 1
Homatropine Hydrochloride, - - - - -	gr. 1/250
Hyoscine Hydrobromate, - - - - -	{ gr. 1/200 gr. 1/75

Hyoscyamine Sulphate,	-	-	-	-	-	{	gr. 1/80
						}	gr. 1/20
Mercury Perchloride,	-	-	-	-	-	{	gr. 1/60
						}	gr. 1/30
Morphine Bimeconate,	-	-	-	-	-	{	gr. 1/8
						}	gr. 1/6
						{	gr. 1/4
						}	gr. 1/3
Morphine Hydrochloride,	-	-	-	-	-	{	gr. 1/6
						}	gr. 1/4
Morphine Hydrochloride and Atropine Sulphate :							
{ Morphine Hydrochloride,	-	-	-	-	-		gr. 1/6
{ Atropine Sulphate,	-	-	-	-	-		gr. 1/70
						{	gr. 1/8
						}	gr. 1/6
						{	gr. 1/4
Morphine Sulphate,	-	-	-	-	-	}	gr. 1/3
						{	gr. 1/2
						}	gr. 1
{ Morphine Sulphate,	-	-	-	-	-		gr. 1/8
{ Atropine Sulphate,	-	-	-	-	-		gr. 1/200
{ Morphine Sulphate,	-	-	-	-	-		gr. 1/6
{ Atropine Sulphate,	-	-	-	-	-		gr. 1/180
{ Morphine Sulphate,	-	-	-	-	-		gr. 1/4
{ Atropine Sulphate,	-	-	-	-	-		gr. 1/150
{ Morphine Sulphate,	-	-	-	-	-		gr. 1/3
{ Atropine Sulphate,	-	-	-	-	-		gr. 1/120
{ Morphine Sulphate,	-	-	-	-	-		gr. 1/3
{ Atropine Sulphate,	-	-	-	-	-		gr. 1/60
{ Morphine Sulphate,	-	-	-	-	-		gr. 1/2
{ Atropine Sulphate,	-	-	-	-	-		gr. 1/100
Nitroglycerine (Trinitrin),	-	-	-	-	-		gr. 1/250
Physostigmine Salicylate (Eserine Salicylate),	-	-	-	-	-		gr. 1/100
Picrotoxin,	-	-	-	-	-		gr. 1/60

Pilocarpine Nitrate, - - - - -	-	{	gr. 1/10
			gr. 1/6
			gr. 1/3
			gr. 1/2
Potassium Permanganate, - - - - -	-		gr. 2
Quinine Bi-Hydrochloride, - - - - -	-	{	gr. 1
			gr. 3
Quinine Hydrobromate, - - - - -	-		gr. 1/2
Sparteine Sulphate, - - - - -	-		gr. 1/2
Strophanthine, - - - - -	-		gr. 1/500
Strychnine Nitrate, - - - - -	-	{	gr. 1/15
			gr. 1/10
			gr. 1/150
			gr. 1/100
Strychnine Sulphate, - - - - -	-		gr. 1/60
			gr. 1/30
Stypticin (<i>see</i> Cotarnine Hydrochloride).			
Trinitrin (Nitroglycerine), - - - - -	-		gr. 1/250

E. PULVERES—POWDERS.

1. Calomel and Dover's Powder.

℞ Hydrargyri Subchloridi, - - gr. iiij
 Pulveris Ipecacuanhae Comp., - gr. x
 Misce, fiat pulvis.

Sig.—One at bedtime.

Note.—Useful in rheumatic iritis.

2. Phenacetin and Trional Powder.

℞ Phenacetini, - - - - - gr. x
 Trional, - - - - - gr. xv
 Misce, fiat pulvis.

Sig.—One every eight hours.

Note.—Useful for subduing pain and promoting sleep after operations upon the eye.

3. Quinine and Grey Powder.

℞ Quininae Sulphatis, - - - } āā gr. j
 Hydrargyri c̄ Cretâ, - - - }
 Misce, fiat pulvis.

Sig.—One three times a day.

Note.—Useful in cases where an alterative and tonic are both indicated, *e.g.* in interstitial keratitis and in sympathetic inflammation.

4. Rhubarb and Antimony Powder.

℞ Pulveris Rhei Optimi, - - gr. v.
 Antimonii Tartarati, - - gr. $\frac{1}{6}$
 Misce, fiat pulvis.

Sig.—One at bedtime *after a hot bath.*

Note.—Useful in strumous ophthalmia with great intolerance of light. Must always be given in nauseating doses. When the tongue is very foul, a little grey powder may be added to each dose as in the next formula.

5. Rhubarb, Antimony, and Grey Powder.

✕ ℞ Pulveris Rhei Optimi, - - gr. v
 Antimonii Tartarati, - - gr. $\frac{1}{6}$
 Hydrargyri c̄ Cretâ, - - gr. j
 Misce, fiat pulvis.

6. Salicylate of Soda Powder.

℞ Sodii Salicylatis, - - - gr. xx
 Trita, fiat pulvis.

Sig.—One at bedtime.

Note.—As a diaphoretic administered in hot tea. Useful in choroidal and retinal inflammations.

7. Salicylate of Soda and Dover's Powder.

R	Sodii Salicylatis,	-	-	-	gr. xv
	Pulveris Ipecacuanhae Compositi,				gr. xij
	Potassii Nitratis,	-	-	-	gr. v
	Misce, fiat pulvis.				

Sig.—Repeat as required.

Note.—Useful to relieve pain in rheumatic affections of the eye.

F. PILULAE—PILLS.

1. Aconite and Quinine Pill.

R	Aconitinae Crystallinae,	-	-	gr. $\frac{1}{130}$	
	Quininae Hydrobromidi,	-	-	gr. iss	
	Pulveris Sacchari Lactis,	-	-	gr. ss	
	Confectionis Rosae,	-	-	q.s.	
	Misce secundum artem, fiat pilula.				

Sig.—One every four or six hours, as required.

Note.—Used in supra-orbital neuralgia.

2. Compound Aconite and Quinine Pill.

R	Extracti Aconiti,	-	-	gr. $\frac{1}{4}$	
	Quininae Sulphatis,	-	-	gr. j	
	Extracti Belladonnae,	-	-	gr. ss	
	Extracti Nucis Vomicae,	-	-	gr. ss	
	Morphinae Hydrochloridi,	-	-	gr. $\frac{1}{8}$	
	Misce, fiat pilula.				

Sig.—One every six or eight hours, as required.

Note.—Used to relieve pain in the brow due to irritation of the fifth cranial nerve.

3. Alterative Pill.

R	Aloes Barbadosis, - - -	gr. iij
	Ferri Sulphatis Exsiccati, - -	gr. $\frac{1}{3}$
	Pulveris Saponis Duri, - - -	gr. $\frac{1}{2}$
	Hydrargyri Subchloridi, - - -	gr. $\frac{1}{8}$
	Ebor Usti, - - - -	gr. $\frac{1}{12}$
	Misce, fiat pilula.	

Sig.—One every night at bedtime.

Note.—A mild mercurial pill, used in disease of the deeper structures of the eye, especially when due to syphilis. Commonly known as Anderson's Pill.

4. Calomel and Opium Pill.

R	Hydrargyri Subchloridi, - - -	gr. ij
	Extracti Opii, - - - -	gr. j
	Misce, fiat pilula.	

Sig.—One every night at bedtime, as directed.

Note.—In iritis continue the pills until the gums become slightly tender, and then gradually diminish the dose. Four to six pills are usually sufficient.

5. Camphor and Opium Pill.

R	Pulveris Camphorae, - - -	gr. ij
	Opii Mollis, - - - -	gr. $\frac{1}{2}$
	Pulveris Capsici, - - - -	gr. $\frac{1}{2}$
	Extracti Hyoscyami, - - -	gr. ij
	Misce, fiat pilula.	

Sig.—One every three hours as required.

Note.—Used to relieve pain.

6. Colocynth and Henbane Pill.

R	Pilulae Colocynthidis et Hyoscyami,	gr. v
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Sig.—One at bedtime.

Note.—A mild laxative.

7. Digitalis and Squill Pill.

℞	Pulveris Digitalis,	-	-	-	} āā gr. j
	Pulveris Scillae,	-	-	-	
	Pilulae Hydrargyri,	-	-	-	
	Extracti Hyoscyami,	-	-	-	
	Misce, fiat pilula.				

Sig.—One thrice daily.

Note.—Useful as a diuretic in some forms of retinitis associated with cardiac disease.

8. Digitalis, Blue, and Squill Pill (Bailey).

℞	Pulveris Digitalis,	-	-	-	gr. ss
	Pilulae Hydrargyri,	-	-	-	gr. iij
	Pulveris Scillae,	-	-	-	gr. iss
	Syrupi Glucosi,	-	-	-	q.s.
	Misce, fiat pilula.				

Sig.—One three times a day.

Note.—Diuretic pill. Useful in some forms of toxic amblyopia, and in retinal and choroidal affections associated with cardiac disease.

9. Donovan Pill.

℞	Hydrargyri Iodidi Rubri,	-	-	-	gr. $\frac{1}{20}$
	Arsenii Iodidi,	-	-	-	gr. $\frac{1}{20}$
	Potassii Iodidi,	-	-	-	gr. j
	Pulveris Glycyrrhizae,	-	-	-	gr. ss
	Aquae,	-	-	-	q.s.
	Misce, fiat pilula.				

Sig.—One three times a day.

Note.—Used in chronic inflammation of the eyeball, especially when due to syphilis.

10. Compound Gelsemium Pill.

R	Gelsemin (resinoid),	-	-	gr. ss
	Butyl-Chloral Hydratis,	-	-	gr. j
	Camphorae Monobromatae,	-	-	gr. j
	Extracti Cannabis Indicae,	-	-	gr. $\frac{1}{4}$
	Glycerini Tragacanthae,	-	-	q.s.
	Misce, fiat pilula.			

Sig.—One every two or three hours until three doses have been taken.

Note.—To relieve pain in the head.

11. Iron Pill.

R	Pilulae Ferri, P.B. 1898,	-	-	gr. v
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Sig.—One three times a day.

Note.—Useful in anaemia.

12. Iron Pill with Arsenic.

R	Pilulae Ferri, P.B. 1898,	-	-	gr. v
	Ferri Arsenatis,	-	-	gr. $\frac{1}{20}$
	Misce, fiat pilula.			

Sig.—One three times a day.

Note.—Useful in anaemia.

13. Mercurial Pill.

R	Pilulae Hydrargyri,	-	-	gr. v
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Sig.—One three times a day, as directed.

Note.—Used in diseases of the eye due to syphilis. Should be continued until the physiological effects of the drug begin to manifest themselves.

14. Mercury, Arsenic, and Iron Pill.

R	Hydrargyri Iodidi Rubri,	-	}	āā gr. $\frac{1}{32}$
	Acidi Arseniosi,	-		
	Ferri Iodidi,	-		gr. iij
	Pulveris Glycyrrhizae et Syrupi,			q.s.
	Misce, fiat pilula.			

Sig.—One three times a day after food.

Note.—Used in syphilis when a tonic effect is desired.

15. Mercury and Quinine Pill.

R	Pilulae Hydrargyri,	-	-	gr j
	Quininae Sulphatis,	-	-	gr. j
	Misce, fiat pilula.			

Sig.—One three times a day.

Note.—Used as a tonic and alterative in syphilis.

16. Phosphorus Pills.

R	Phosphori,	-	-	}	gr. j
	Pulveris Tragacanthae,	-	-		
	Pulveris Acaciae,	-	-		āā gr. vj
	Pulveris Glycyrrhizae,	-	-		gr. vij
	Carbonis Bisulphidi,	-	-		℥ iij
	Confectionis Rosae Gallicae,				gr. xxxiv or q.s.

Mix the powders in a mortar; dissolve the phosphorus in the bisulphide of carbon in a test tube; add to the mixed powders, and with the confection of roses make into a mass which is to be divided into thirty pills.

Sig.—One three times a day.

Note.—The strength of the phosphorus may be altered to suit individual cases, but it is advisable to adhere to the other quantities of the formula.

Used in degenerations of the optic nerve.

17. Phosphorus and Nux Vomica Pill.

Prepare as No. 16, adding

Extracti Nucis Vomicae, - - gr. $\frac{1}{4}$

to each pill.

Sig.—One three times a day.

Note.—Used in optic atrophy.

18. Plummer's Pill.

℞ Pilulae Hydrargyri Subchloridi

Compositae, - - - - gr. v

Sig.—One at bedtime.

Note.—Useful in chronic iritis and in affections of the uveal tract generally. Can be borne where stronger mercurials disagree.

19. Quinine and Iron Pill.

℞	Quininae Sulphatis, -	-	-	} āā gr. j
	Ferri Sulphatis Exsiccati, -	-	-	
	Extracti Aloes Socotrinae,	-	-	gr. j
	Pulveris Capsici Subtilissimi,	-	-	gr. $\frac{1}{8}$
	Extracti Hyoscyami,	-	-	gr. j
	Syrupi Simplicis,	-	-	q.s.
	Misce, fiat pilula.			

Sig.—One three times a day.

Note.—Useful in weak atonic conditions, e.g. retinitis pigmentosa.

20. Compound Rhubarb Pill.

℞ Pilulae Rhei Compositae, - - gr. v

Sig.—One or two as required.

Note.—A mild laxative.

21. Phosphide of Zinc Pill.

R	Zinci Phosphidi,	-	-	-	gr. $\frac{1}{12}$
	Sacchari Lactis,	-	-	-	gr. ij
	Extracti Gentianae,	-	-	-	gr. j
	Misce, fiat pilula.				

Sig.—One three times a day.

Note.—Used in optic atrophy.

22. Valerianate of Zinc Pill.

R	Zinci Valerianatis,	-	-	-	} āā gr. ij
	Pilulae Galbani Compositae,	-	-	-	
	Syrupi Glucosi,	-	-	-	q.s.
	Misce, fiat pilula.				

Sig.—One three times a day.

Note.—Used in head pain associated with hysteria.

APPENDIX A.

1. **The Application of Heat.** This is of great value in all inflammations of the cornea, sclerotic, iris, ciliary body, etc. The effects vary according as the heat employed is dry or moist.

(a) **Dry Heat.** This is applied to the eye by means of masses of heated cotton wool, frequently changed. The action is directly stimulant, and consequently of great service in cases where the vitality is low, *e.g.* rapidly progressive ulceration of the cornea, and the later stages of purulent cyclitis.

(b) **Moist Heat.** This diminishes the engorgement of the blood-vessels, and so, by reducing tension, relieves pain in all acute inflammations and suppurations. Unless the case be a very severe one, moist heat should not be applied continuously, but three or four times daily for periods of from half an hour to an hour. Between the applications the eye must be protected by a pad of cotton wool kept in position by a bandage. In very acute and deep-seated inflammations, *e.g.* subacute glaucoma, the heat must be as great as can be borne by the patient, and the periodic application kept up unremittingly. Moist heat is usually applied by means of fomentations.

Boracic Acid Fomentations. A double layer of

sterilised boracic lint, $3\frac{1}{2}$ in. by $3\frac{1}{2}$ in., is laid on a sterilised towel in a basin, and boiling water, to which a solution of carbolic acid (1 in 20) has been added in the proportion of about four to six drachms to the pint—just sufficient to give an odour of phenol to the fomentation—is poured over it. The lint is then squeezed as dry as possible by wringing it in the towel, applied over the closed eyelids, and covered by a piece of jaconet or oiled silk $3\frac{3}{4}$ in. by $3\frac{3}{4}$ in. Over this is next placed a thick layer of absorbent cotton wool, which is kept in position by a roller bandage applied as lightly as possible. When pain is very severe, fomentations are used every two or three hours, day and night; but as soon as the pain begins to abate, they are applied only morning, noon, and evening, and during the night and early morning if the pain be sufficiently severe to prevent the patient from sleeping.

Corrosive Sublimate Fomentations are used of the strength of 1 in 5000, and are prepared and applied in the manner just described. They are used to allay pain, and render the eyelids and surrounding parts as clean and aseptic as possible in cases of accident and sloughy ulcer previous to operation.

Chamomile Fomentations. These are prepared by boiling the flowers for a quarter of an hour in a saturated solution of boracic acid. The infusion is then strained through sterilised muslin, and a fomentation prepared and applied to the eye in the manner previously described.

2. **The Application of Cold.** This is of great value in subduing pain immediately after accidental injuries to, or surgical operations upon, the eye; at the outset of all acute inflammations of the conjunctiva; and in some cases of iritis, when the pain is deep-

seated, throbbing, and markedly nocturnal in character. The applications are generally made three or four times daily for periods varying from a quarter of an hour to half an hour, the methods most frequently employed being as follows :

(*a*) **An Ice Bag.** A small bag is made of jaconet or gutta-percha tissue, filled with small chips of ice, sealed carefully, and laid over the dressing, care being taken that the patient experiences no discomfort from the weight of the application.

(*β*) **Iced Compresses.** A lump of ice is allowed to float in a solution of boracic acid, and cotton wool sponges are dipped in this and applied directly to the closed eyelids, or the dressing is kept constantly wet by the iced water. Care must be taken that, in thus applying an iced compress, no septic material comes into contact with the eye.

(*γ*) **Leiter's Tubes.** These consist of a flat spiral lead coil made to fit over the eye, and connected with two india-rubber tubes. They may be used either for cold or for hot applications. The eye is protected by a moist compress, over which the lead coil is accurately adjusted. One of the rubber tubes is then placed in a jugful of water raised above the patient's head, when a stream of water runs through the apparatus, and is conveyed by the other rubber tube into a basin placed below the bed.

3. **Blood-letting.** General blood-letting is very rarely employed, but the local abstraction of blood is of great service in relieving pain in all acute inflammations of the uveal tract, *e.g.* iritis, cyclitis, choroiditis, etc. Local blood-letting is usually carried out either by natural leeches or by Heurteloup's Artificial Leech. Leeches are best applied around the external canthus, or over the mastoid region. Cleanse the part thoroughly,

then take the leech in a narrow tube and place it over the spot, which may require to be moistened with a drop of milk to induce the leech to suck. Leave the leech on till it quits its hold of its own accord. If the bleeding afterwards be excessive, it may be checked by pressure over a pad of absorbent cotton-wool dusted with powdered alum. The amount of blood which should be withdrawn will vary according to the individual case, but, generally speaking, the bleeding should be continued until the pain is relieved. The patient, for some hours after the leeching, should be kept in bed in a dark room, and, if necessary, the bleeding encouraged by the application of warm fomentations. In acute iritis the pupil will often yield to the influence of atropine immediately after blood-letting, though previously the drug had been inefficacious, or had even caused increased irritation.

4. Counter-Irritation. Counter-irritants are useful in many eye diseases, but must always be employed with caution, especially in dealing with children or elderly persons, lest they give rise to severe inflammation of the skin, or to a sore which may prove very difficult to heal. They may be used as liniments or ointments, as blisters or setons. The liniments and ointments (*see* formulae) are useful in relieving photophobia due to inflammation of the cornea, sclerotic, or iris; but in the treatment of deep-seated inflammatory diseases of the eye, more especially when due to syphilis, better results are obtained from the use of an open blister or a seton. Should a blister be employed, it is usually applied to the temporal region, or over the mastoid process. The ordinary cantharidis plaster may be used, but Smith's Blistering Fluid will generally be found more convenient. If the object of the blister be to relieve

pain, its efficacy is greatly increased by dressing the raw surface with a solution of cocaine and morphine (*see* Formula 2, page 15); but if continuous counter-irritation be desired, the best dressing is D'Albespeyre's No. 2 Papier Epispastique. A seton is even a more powerful counter-irritant than an open blister. It is usually applied to the temporal region or to the nape, and consists of a silk thread or a strand of lamp wick, which ought always to be introduced with anti-septic precautions. It is usually left in for weeks; but if proper care to be taken to dress the wound night and morning, the patient suffers comparatively little discomfort.

APPENDIX B.

General Instructions with regard to Operations. The following is a description of the methods in use at the Ophthalmic Institution. As far as possible, patients are admitted to the hospital at least forty-eight hours before the time fixed for the operation; and in all cases in which the cornea requires to be cut, the adequacy of the tear-passages and the condition of the conjunctiva and margin of the eyelids is carefully observed, and fully reported in the ward journal. If any septic discharge be found in the nostrils, lachrymal apparatus, conjunctiva, or edge of the eyelids, the operation is postponed, and the patient at once placed under appropriate treatment.

General Preparation of the Patient. On admission to the hospital each patient gets a warm bath, puts on clean underclothing, and is sent to bed, instructions being given to the nurse on night duty to observe and report if there be any cough, sickness, or unusual restlessness or nervousness. Early the following morning a purgative, generally a half to one ounce of castor oil, is administered, to make sure that the bowels will be freely evacuated. The heart, lungs, and urine are examined in all cases of cataract, or when there is any intention of administering a general

anaesthetic. In the case of female patients the hair is divided and put into two plaits in order to prevent it from becoming matted or entangled in the bandage.

Preparation of the Skin in the Region of Operation. Twenty-four hours before the operation, the face, surface of the closed lids, the eyelashes and eyebrows are washed with hot water, in which one per cent. of carbosapol (*see* Formula 7, page 42) has been dissolved, and thoroughly scrubbed with a moderately hard nail-brush. While this is being done, the eyelids must be kept tightly closed to prevent any irritation of the conjunctiva. After all the soap has been washed away with hot sterilised water, the conjunctival sac is douched with warm saturated solution of boracic acid, special attention being given to the outer and inner canthus and the edges of the eyelids. On the morning of the day of operation, the patient gets a hot bath and another change of clean under-clothing, and the eyelids and surrounding skin are again thoroughly washed, and the conjunctival sac douched, every detail of the process, except the scrubbing with the nail-brush, being as carefully attended to as on the previous day. The patient is not allowed to eat too heartily, and the food is light and easy of digestion. For at least an hour before the operation the eyes are kept covered by a compress soaked in solution of perchloride of mercury, (1 in 5000), which remains in place until it is removed by the surgeon. Half an hour before the time fixed for operating, a dose of bromide mixture (*see* Formula 19, page 52) is administered.

The Operating Room. This is thoroughly washed, carefully dusted, and well ventilated, some hours before it is to be used, and all tables, lamps, etc., are at the same time arranged in proper position.

The Preparation of the Instruments. All coarse instruments, such as scissors, hooks, forceps, etc., are placed in the instrument steriliser and boiled from ten to fifteen minutes in a two per cent. solution of bicarbonate of soda. They are afterwards put in a bath of one per cent. carbolic solution, where they are kept submerged until required. Immediately before being used, they are dipped in sterilised water. The more delicate instruments, such as iridectomy forceps, iris scissors, etc., are boiled for a shorter time. All cutting instruments, more especially the cataract and the iridectomy knives, are fresh from the cutler's; and, after the edge and point have been carefully examined, are, immediately before being handed to the surgeon, dipped for a moment in boiling water, and then cooled in the bath of sterilised water. When the operation is over, the instruments are never left in solution trays, but at once dried and replaced in the instrument cabinet, after all blood, etc., has been, if necessary, removed by brushing with soap and water.

The Preparation of the Dressings. The special kind of dressing employed is modified according to circumstances, but all are sterilised by exposure to steam for thirty minutes. When dry, they are removed from the steriliser and placed in the dressing-trolley, no one except the staff-nurse being allowed to touch them. All towels for use in the operating room are also sterilised.

Preparation of the Hands of the Surgeon and his Assistants. The hands are thoroughly washed with hot water, an antiseptic soap and a nail-brush being used. Any antiseptic which causes roughness of the skin is, however, to be avoided.

The Operation. When several operations are to be performed one after the other, the patients are, in

order to prevent any unnecessary delay, brought from their wards to a room adjacent to the operating theatre. After the patient is on the operating table, the perchloride dressing is removed, a towel is adjusted like a turban round the head, and a mackintosh covered by a towel is spread over the chest and tucked closely round the neck. The eye is now bathed with a solution of boracic acid which has been thoroughly boiled and cooled to the proper temperature, and anaesthesia is induced by instilling a few drops of a two per cent. solution of cocaine, which is prepared immediately before the operation by dissolving the hydrochloride in sterilised water. When the operation is completed, the eye is again bathed with the boracic solution, the eyelids wiped dry with a pledget of absorbent cotton-wool, and covered by an oval-shaped gauze dressing spread with Martindale's No. 2 Boric Ointment, which before use is sterilised by boiling. Over this are laid several layers of absorbent wool, care being taken to fill up the hollow at the inner canthus, so that there will be no unequal pressure upon the eye. The dressings are retained in position by a bandage, and in all cases in which the lens has been interfered with both eyes are covered. The patient, after being warned to make no exertion or quick movements on leaving the operating table, is assisted by a nurse to walk to bed. Those, however, who have been operated on for cataract are not allowed to walk, but are carried, the bed having been previously warmed by hot bottles. The ward for these cases is kept at a temperature of 60° Fahrenheit, and is quite dark. The patient is laid on his back, and enjoined to keep the head as still as possible, and not to rise or get out of bed *for any purpose whatever.*

Nursing after Cataract Operations. For at

least forty-eight hours after the operation the nurses keep the patient under continuous observation, and see that he lies still, and are particularly watchful that the bandages are not disturbed. They report to the house-surgeon at once if there be any restlessness, coughing, delirium, retention of urine, or complaint of pain or discomfort, but never under any circumstances administer either stimulants or narcotics unless these have been specially ordered. If all goes well the eyes are dressed on the second day after the operation, every care being taken to keep the parts aseptic. The lids are wiped by a piece of dry gauze, and then gently separated so that the wound may be examined. A single drop of a solution of one per cent. atropine and two per cent. cocaine is instilled, and a dressing, similar to the one removed, applied, the eyes thereafter being bound up for twenty-four hours. More light is now allowed to enter the ward. On the third day the dressings are again removed, the eye examined, and if the pupil be not dilated another drop of atropine and cocaine solution is instilled. The eye which has not been operated upon may now be left unbandaged, but is protected from the light by a large brown-paper shade. On the fourth day the patient is allowed to sit up in bed for meals, and, if there be no sign of inflammation, to leave bed on the ninth day.

Food after Cataract Operations. For the first three days the patient is fed by a nurse, and the following is the time-table and scale of diet, which is adhered to as far as possible. If, however, the patient be asleep, he is on no account to be disturbed.

5 p.m. On day of operation—the hour of operation at the Ophthalmic Institution is 2 p.m.—tea with bread and butter.

- 9 p.m. Basin of gruel and milk.
4 a.m. Tea with bread and butter.
8 a.m. Porridge and milk. Tea with bread and butter.
12 noon. Strong hough soup, rice pudding with milk.
4 p.m. Tea with bread and butter.
9 p.m. Basin of gruel and milk.

On the fourth day the morning meals are similar to those just mentioned, but the mid-day meal consists of hough soup and minced meat and potatoes. If there be no unfavourable symptoms, the patient is allowed to sit up in bed, and to feed himself from this time onwards.

If the bowels have not acted, a laxative is given early in the morning of the fourth day after operation.

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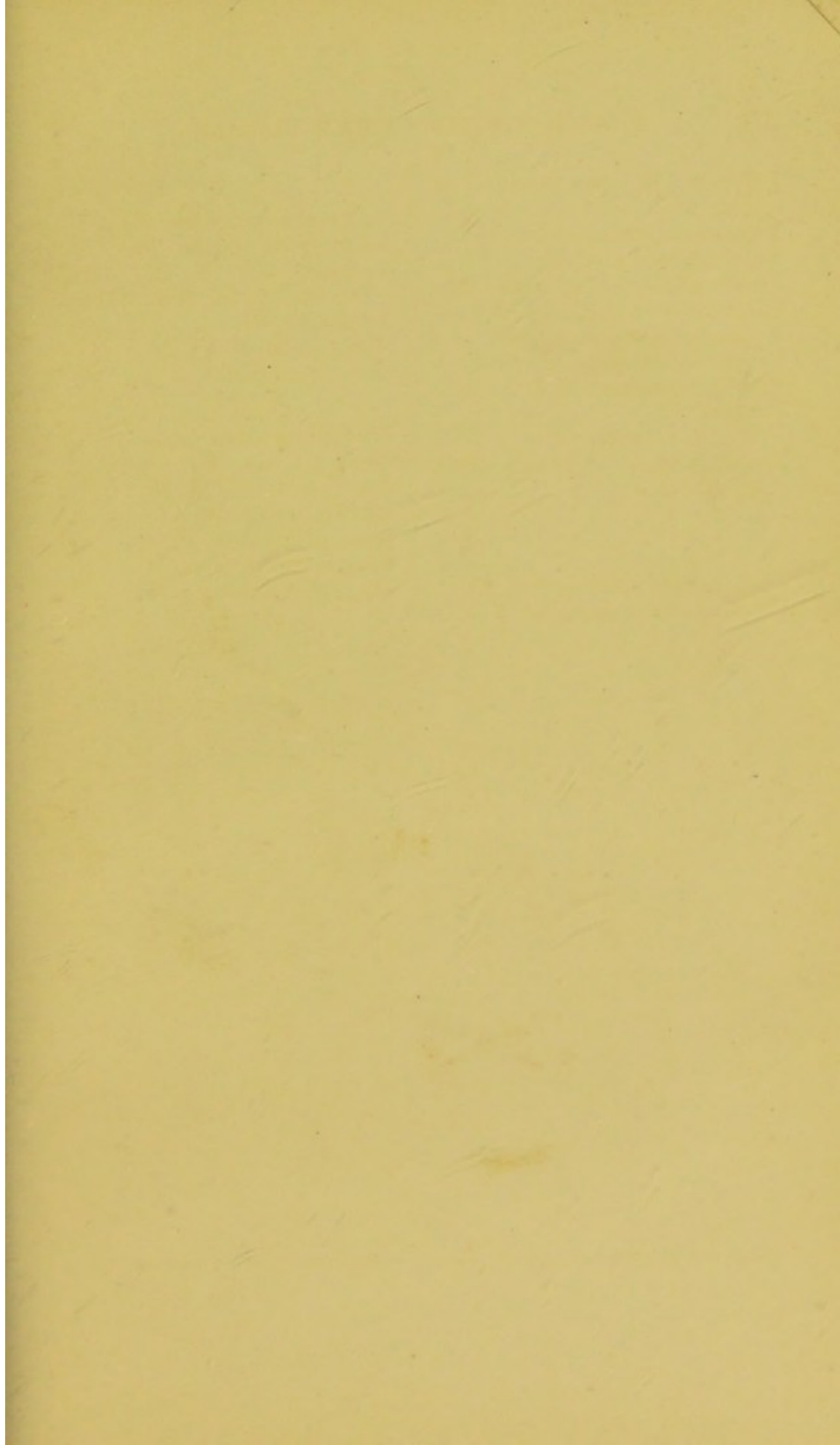
Unguentum acidi borici, 35.
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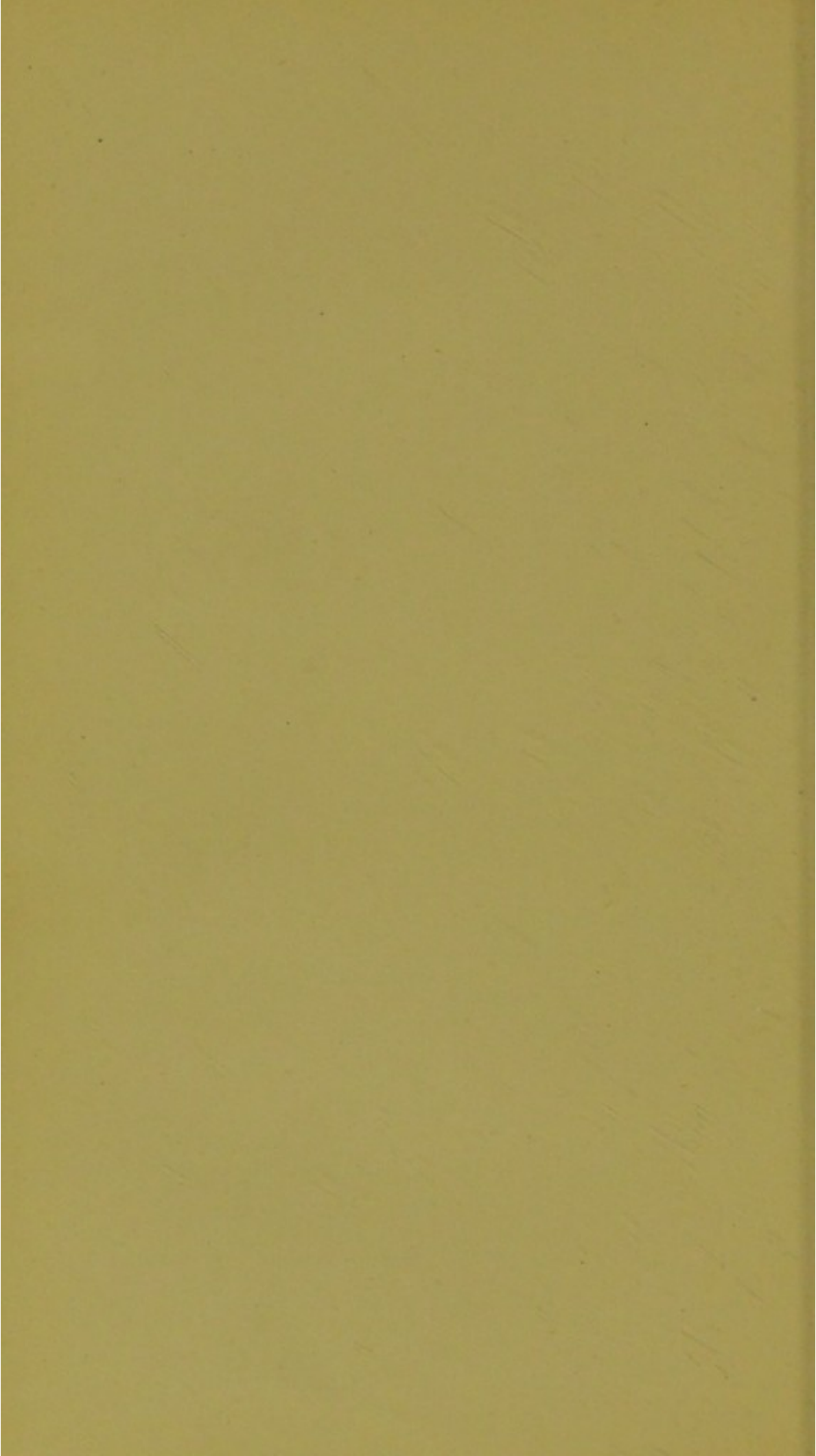
Z.

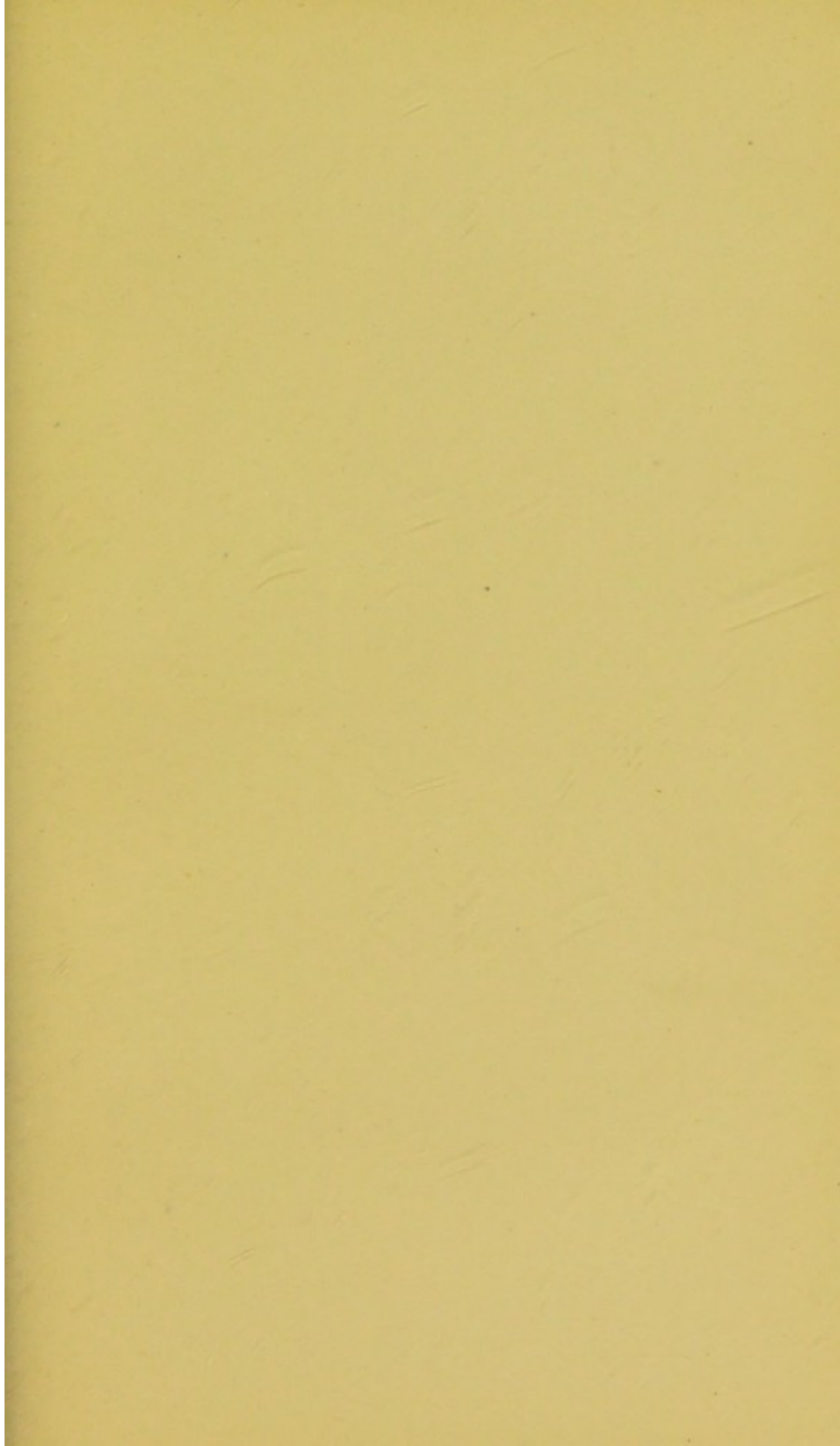
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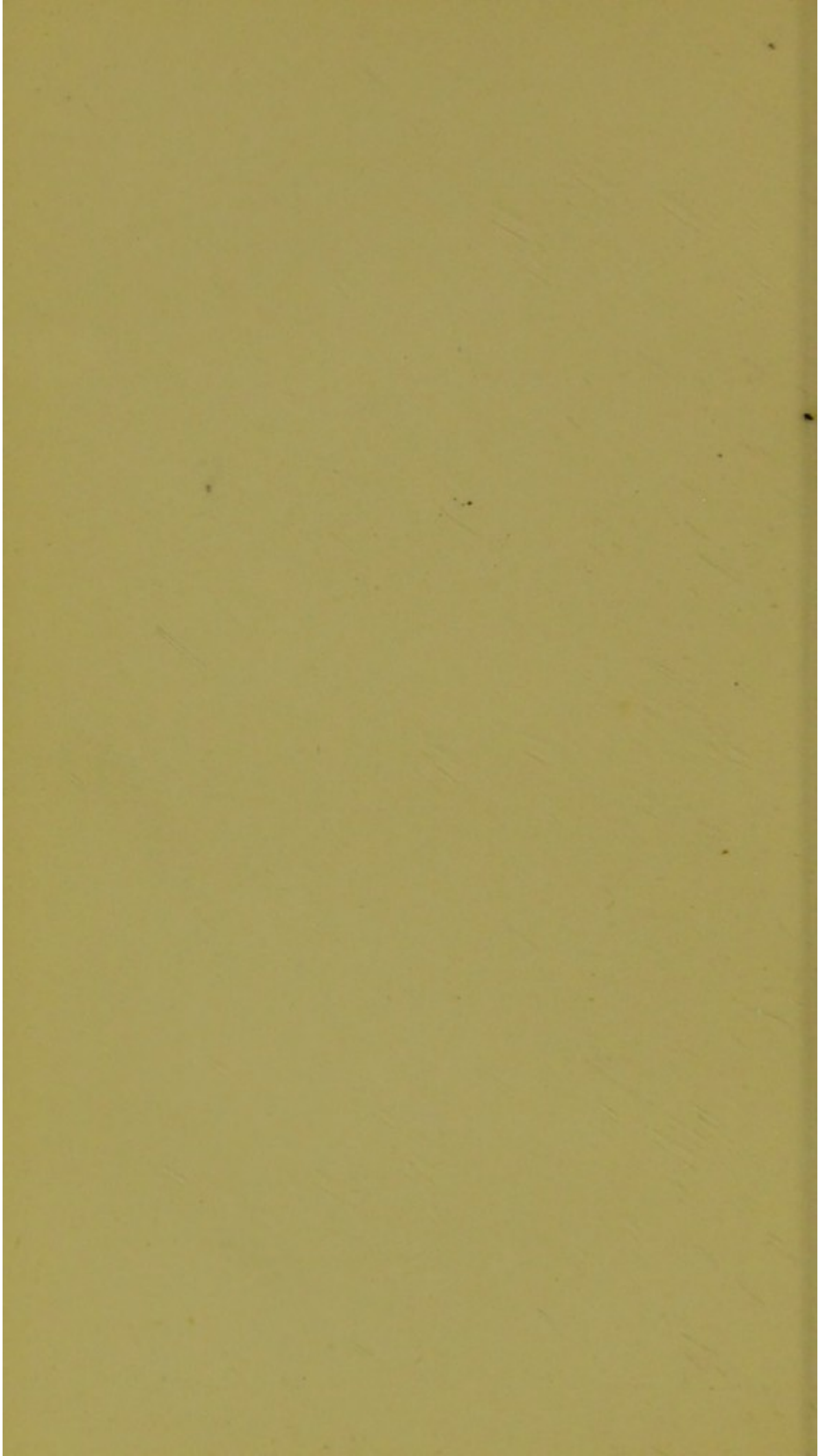




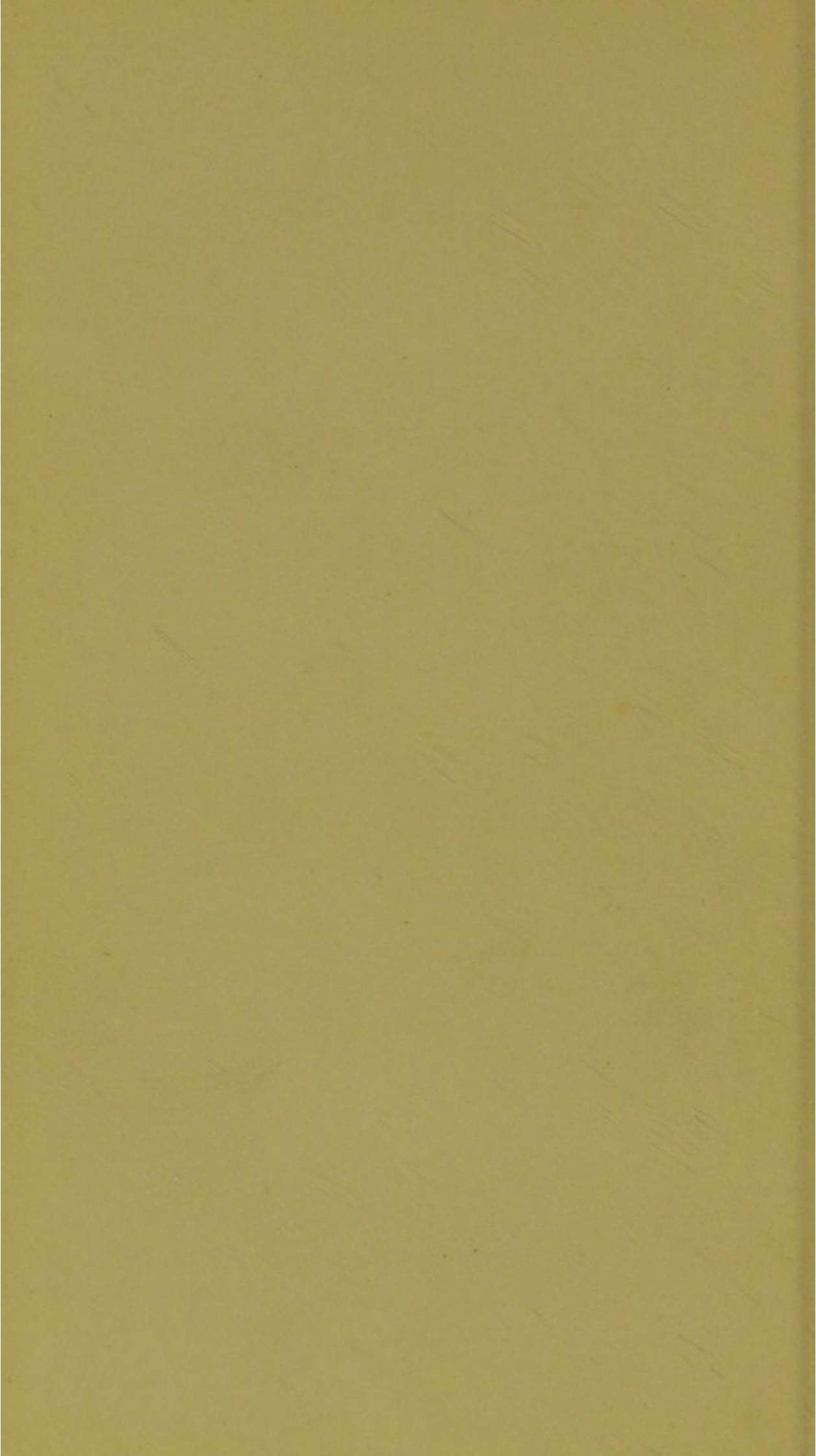


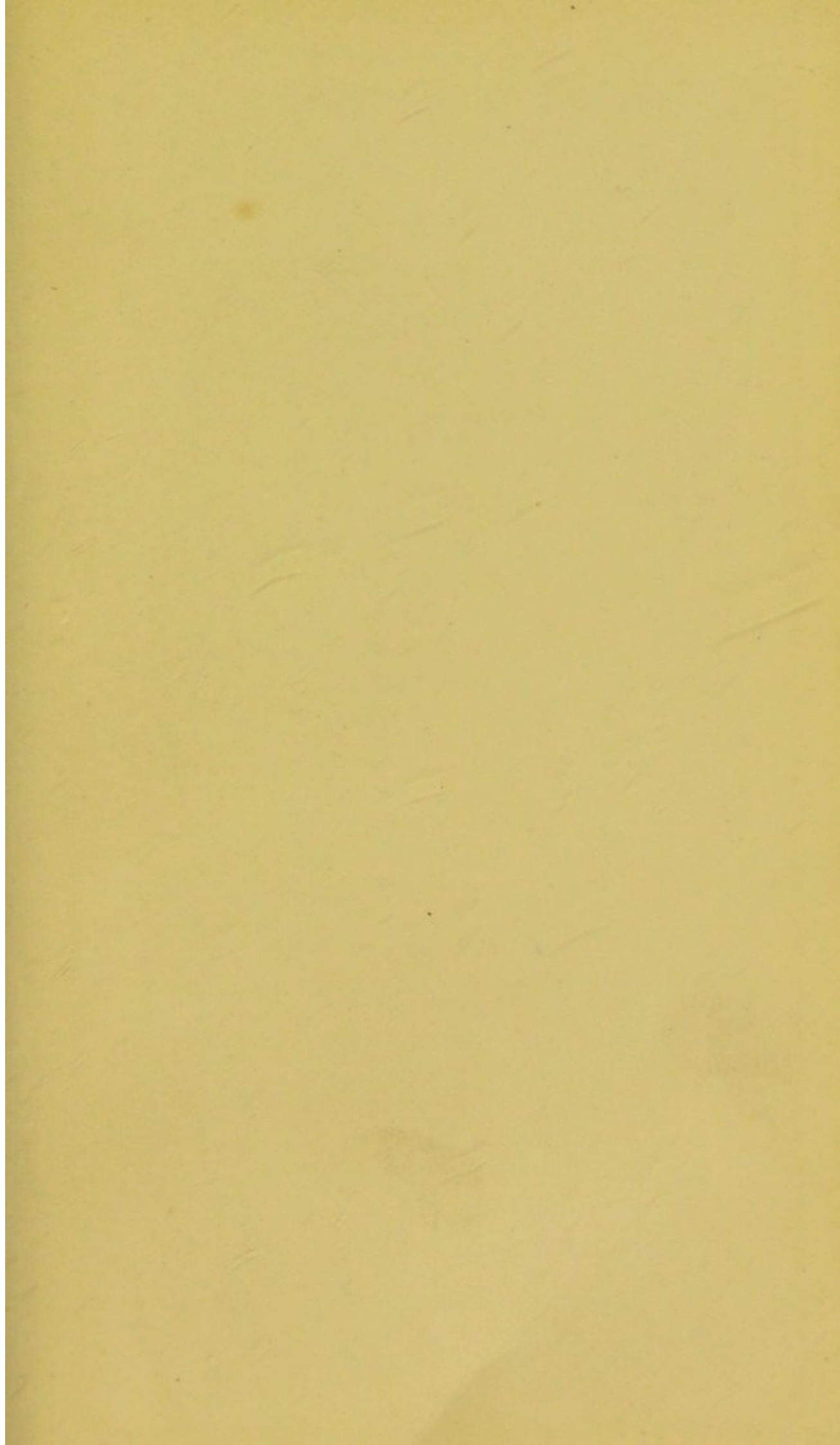


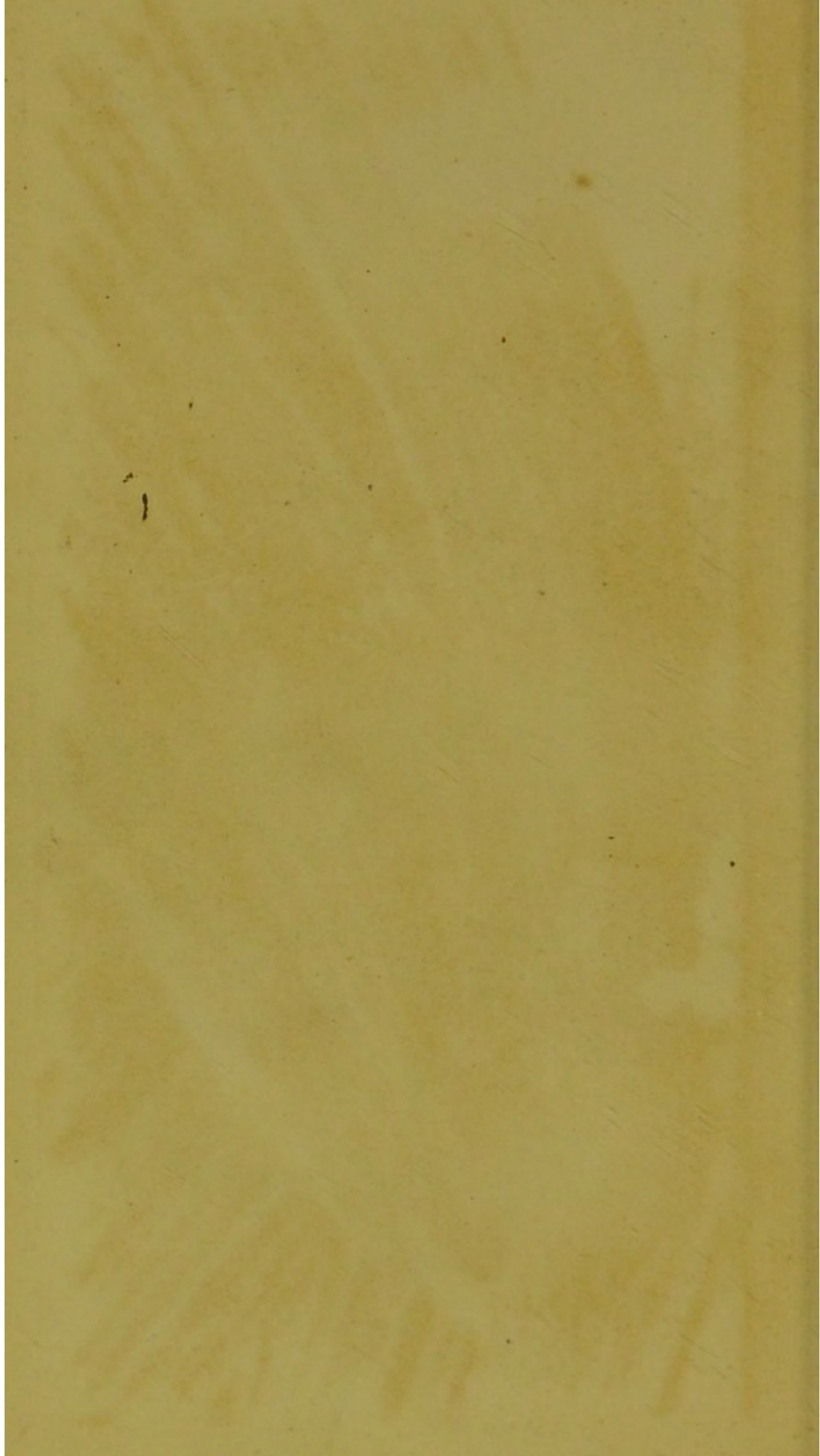












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