T. W. Hardison diary, 1947

Thomas William Hardison

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1947
WARNER'S
CALENDAR
of MEDICAL
HISTORY
FOR THE USE OF
THE MEDICAL
PROFESSION
Wednesday

4:30 Am 21; 30.26; cloudy, NE.

4:45 A.M. and began falling 6:45 A.M. Continued lightly until 11 a.m.

Bob & DeMaris March came 11 a.m. with Bob's father from H. Smith. Bob & DeMaris took charge of the lodge Nov. 16. They are clean, capable young people.

Highest temp. 29.

Hardly a man will you find who could live with his door open—Seneca
Thursday

5 a.m. 29; 29.99; cloudy; S.W.
Freezing rain last night. Ground, trees, wires covered with ice.

Friday

3:30 a.m. 20; 30.22; cloudy; N.W.
5:30 a.m. 18

I went to Cuba Rock for a meeting of the division chairman of the Business Development Commission to consider further the budget of the Commission. The Joint Legislative Budget Committee cut the Parks division budget to $57,000 a year. The meeting lasted most of the day, including lunch at Mariou Hotel. I left home by 6 p.m. got back 10:45 p.m.

Mother did not go, because of the cold.

Highest temp. 20.

Candor in some people may be compared to barley-sugar drops, in which the acid preponderates over the sweetness—Chatfield
PSYCHOLOGICAL MEDICINE AND PSYCHOTHERAPY
In historical retrospect, the field of psychological medicine and psychotherapy presents a kaleidoscopic view: endless in its variegated pattern and changing precepts. Only a small number of these forms can be pictured in the following sketches, and then but briefly. As has been pointed out, psychotherapy has been practiced since the beginning of recorded medical history, and the underlying principle of treating both the "mind and body"—the psychosomatic medicine of today—had its adherents among the earliest of judicious physicians. Almost completely lost in an age of materialism and specialization, psychosomatic medicine is now gaining a wider and greater application.
Jan 30; 30.07; Ph. cloudy; SE

Jan 31; 30.14; Ph. cloudy; SE

Mother and I went to Greenwood, leaving home
8:30 AM and getting back 4:15 PM. Grandmother
Hatto, 70 last Nov. 28, is about as when we saw her
last October.

Temp. 4:15 PM 31.

The prehistoric caveman’s physician, the shaman, has been called the earliest psychiatrist. His main province was the supernatural and he believed that the psychogenically afflicted were possessed of devils. At the same time, shamanistic theory logically implied brain involvement in melancholia and convulsions. ‘Repanation’ allowed the devil to escape.

Employment, which Galen calls “nature’s physician,” is so essential to human happiness, that Indolence is justly considered as the mother of Misery—Burton.
January 8, Wednesday

5 am 34; 30.20; H. cloudy; NW

I went to town 4:36 am to get Mr. Moore to help me with my income tax return, but he had gone to L. A. I expressed a hope containing just to Ron & Mary in Pasadena. Home at 11.

Dr. Jensen brought his wife for examination 3 pm. A cold.

Interestingly enough, Apollo, the father of Aesculapius, was also the god of music. Aesculapius (201 B.C.) recommended music in the mentally diseased to induce sleep. Harp music was used with medical intent to calm the seizures of madmen. It was advocated by Galen in place of brutality to help the insane...to "sooth their sadness by harmony, the sound of cymbals and other instruments."

Self-possession is another name for self-forgetfulness—LOUISE CHANDLER MOULTON

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JANUARY

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FEBRUARY

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William R. Warner & Co., Inc.—Serving Medicine Thru Research and Manufacture
5 Am 38; 30.30, blew; N
7 Am 31; F. cloudy

I went to town 8 Am to meet Dr. Moore
at his office. He helped me figure my
income tax. I paid him his fee,
five dollars, over his protest. Home at 11.

After Wallace, the judge, went to his
office at noon, doing very well.

Mrs. William Hubbard, his father,
Floyd Hubbard, brought the former's
girl, Youne, 5:30 P.M., suffering
from a skin eruption.

Henry Jones came 2:30 P.M. to
stop in home on a half.

5 Am 48: 29.99; N. rain; S

Joe Morris came for examination 9 A.M.

Better.

A letter came from Edmund Taylor today
saying that Elizabeth, a fine boy, died
by cerebral operation at Greenville by
Dr. Paul T. Harrell. 9:15 A.M. on the 9th.

Mark doing well.

Lord Jones brought his boy with a
nursed head 7:30 P.M.

New hat this afternoon: Dr. Reynolds' son
George, Jim Reynolds (3 times), the Acorns, Dr. Kemp
and George.

A weak mind sinks under prosperity, as well as under adversity—Hare.

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“Ripe for Ancyra,” was an ancient collo-
quialism which intimated that an indi-
vidual was ready for the asylum. It
derived its significance from the fact that
hellebore grew in Ancyra and that this
substance was popular for a time as a cure
in mental disturbances. Hellebore was, as
a matter of historical fact, a medical stand-
by in Hippocratic materia medica.
Hippocrates (460-377 B.C.) generally yielded to the traditional in psychotherapy. But his classifications of mental diseases were so rational that many of them retain their significance today, if not their original Hippocratic meaning. Descriptions were given for mania—abnormal excitement; puerperal insanity—postpartum psychoses; melancholia—abnormal depressive states.

Conceit may puff a man up, but never prop him up—Ruskin
On the whole, Plato (c.428-348 B.C.) embraced Hippocratic views on mental disease. He broke with the latter's empiricism to reassert that madness was caused by celestial divination, a theory that could not help but hinder the advancement of medical psychology. Like other early philosophers, Plato believed love, as well as excessive eating or drinking, factors in the causation of madness.

Men are tattooed with their special beliefs like so many South Sea Islanders—Holmes
An ancient vase (c. 400 B.C.) has as its motif the mental derangement of Hercules. He, in a fit of madness cast upon him by Hera, murdered his wife and children. The illustration shows him about to throw his child into a fire kindled from household effects. His staring eyes and the absurdity of his dress—cuirass, helmet and thin clothing—attest to his disturbed mental state.

A man that studieth revenge keepeth his own wounds green, which otherwise would heal and do well—Bacon
The son of a physician, a student of anatomy, last of the Hippocratic physicians... his name, Diokles from Karystos (c.350 B.C.). Only fragments of his works remain but they give indication of his clear professional thinking. His suggestion to subdue the wildly delirious by means of baths approaches the modern concept of hydrotherapy.

Reputation—oft got without merit, and lost without deserving—Shakespeare
20 January

Monday

Jan 30; 24.64; clear; NW

Rain yesterday. Last night 0.25 in.

Rosea Long, Rose Curtis, brought her boy with

a crushed finger. 10 A.M. Also got medicine for

his wife.

It's cloudy with high NW wind after 6 A.M.

My name appears in yesterday's Gazette as

having been reappointed a member of the

Arkansas Resources and Development Commission.

The rust rots the steel which use preserves—LYTTON

DECEMBER

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William R. Warner & Co., Inc.—Serving Medicine Thru Research and Manufacture

The Praxagorian disciple, Philotimus

gained mention in psychiatric history for his

treatment of a patient obsessed with the noti-
tion that he was decapitated. Philotimus

fashioned a head covering of lead. Then it

was set upon the patient who, because of

the weight and pressure of the object, be-
came convinced that his head was actually

upon his shoulders.
Wednesday

5 pm 26; 30.40; clear; NW
Joe Robinson, Rose Creek, came 3 PM with his son Leonard & wife & their sick girl. Long involvement.
Clarise J. Cutty & the Sacramento one
5 to 6 PM.

The psychological diagnosis of Erasistratus (died 280 B.C.) in the case of Antiochus is well-remembered because the story has been perpetuated by numerous artists. Erasistratus discovered the indefinable illness of Antiochus to be an "amorous melancholy" for his stepmother, Stratonika. He was quickly cured when his father, King Selenus, gave Stratonika to him.

It is always safe to learn, even from our enemies; seldom safe to instruct, even our friends—Colton

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Friday

January 24

Went with Mrs. Holt to be elected meeting at Mrs. Murphy's 11 AM. Mrs. Dorem also went with them.

Saturday

January 25

Went to Bloomer, leaving home 9:30 AM, getting back 5 PM. Found grandmother Nutton & others as well as usual.

In the first century B.C., Asclepiades of Bithynia showed an enlightened understanding of the causation and treatment of mental diseases, deeming them to be emotional disturbances — "passions of sensations." He was the first to release inmates from their unlit dungeons. Advocated the therapeutic value of sunlight, gentle care and baths, music and song to help recovery in the mentally afflicted.

The wind and waves are always on the side of the ablest navigators—GIBBON
Marcellus of Sidas, describing lycanthropy — those imitating wolves — ascribed the disease to be a form of melancholia. Treatment consisted of bloodletting to the point of death, feeding the patient with foods of good flavor, and baths of fresh water. Whey was given for three days after which the patient was purged repeatedly with colocynth.

He that wrestles with us strengthens our nerves and sharpens our skill. Our antagonist is our helper.—BURKE

Atlantic, 1847; 29.91; clear; NW
Joe Morris came 10:30 AM for examination.
Decidedly better.
Bill Ashcraft & Van Vleet came for medicine
for Mrs. Ashcraft 4 PM.
**Tuesday, January 28**

6 A.M. 43; 29.40; cloudy; E

Nothing in bed, about as yesterday.

**Wednesday, January 29**

5 A.M. 57; 29.64; cloudy; S

Light rain in night.

4 P.M. 70; 29.41; cloudy; S

5:30 a.m. 67; 29.33; rain; S

Joseph Hubbard, Rose Creek, brought his 2-year-old boy 6 P.M. for examination. Kidney disorder. He said Ruby expected to be confined in March & wanted me to take the case.

Thunderstorm as we go to bed at 8 P.M.

Nothing in bed most of day.

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In the fifth century A.D., Caelius Aurelianus, writing on "Epilepsy," made recommendations which give evidence of his experience and skill in handling these patients. They were to be lodged in light, quiet rooms and left to their own devices. Those who attempted to escape or were unruly were to be admonished rather than forcibly restrained. Physical restraint was to be used sparingly and judiciously.
"Melancholia" once covered a multitude of delusions. Alexander of Tralles (525-605) wrote of a woman who dared not bend her middle finger. She believed that she was carrying the world on it. Another woman was convinced that there was a snake in her stomach. She was administered an emetic and, unnoticed by her, a snake was slipped into the vessel in which she vomited.

What makes life dreary is the want of motive—George Eliot
FEBRUARY 28 DAYS

AQUARIUS (Jan. 22-Feb. 21)

He shall yearn for knowledge and be quick to take advantage of opportunities to improve his mind or fortune. Let him wear a Ruby talisman... Then will it preserve him bodily and mentally. (Excerpt—Quaint Astronomical Nativity Texts: Capricornus, Aquarius not extant.)

Things sweet to taste prove in digestion sour—SHAKESPEARE

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William R. Warner & Co., Inc.—Serving Medicine Thru Research and Manufacture
Monday

5 A.M. 33:30:05; clear; SE
6 A.M. 31; A.F. cloudy

I received a telegram in the mail 11:15 A.M. notifying me of a Commission meeting at the Capitol 2:30 P.M. today. Helene came a few minutes later to tell me of it. I drove my car to Morrison, went from there with Helene, reached the Capitol in time. The meeting was to hear the Governor explain his tax program and ask for support for it. The teachers are opposing it. Frank Hyde took me to the bus terminal and I caught a bus 7 P.M. for Morrison. Got home at 9. At 10 P.M. I had a call to PM. Rain Fall around the Labor Cure at Sillan, Hardekhind's. Very high wind and very cold.

Tuesday

6:30 A.M. 16; 30:25; clear; NW

A boy was born at Hardekhinds, in the Bend.

11:30 Last night, I got $30 and reached home 12:15. A very high wind from NW.

After Wallace came 1 PM to report his baby better & get more medicine for it.

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What a strange scene if the surge of conversation could suddenly ebb like the tide, and show us the real state of people's minds! — Scott

---

The concubine of Caliph Haroun Al Raschid (c. 786 A.D.) suffered from paralysis. To cure her, an Arabian physician, Gabriel Bakhtischwah, had the girl brought before the assembled court. Quickly advancing toward her, he feigned intent to lift her skirts. Fright and shame impelled the girl to bring her arms down over her skirt and her paralysis was overcome.
Albert von Bollstädt (c.1193-1280)—better known as Albertus Magnus—was a Dominican monk, a philosopher, a student of anatomy, physiology and botany. In one of the books of his highly popular "Philosophia Naturalis," he gives a detailed description of the mental and psychological faculties in the head. The illustration shows the faculties and how Albertus ascribed the three regions to judgment, imagination and memory.
Among the many “firsts” of Leonardo da Vinci (1452-1519) is that of making a cast of the large “lakes” of the cerebrum to study the natural structure. This he accomplished by injecting melted wax into the blood vessels and ventricles and then removing the hardened fluid from the brain. The drawing, one of many reproduced from da Vinci’s “Quaderni,” shows his conception of the shape of the brain.
9

Sunday

6 A.M. 10:30.21. clear. N.

Evel. Rattiner brought his wife for examination 2 P.M. She will probably be confined in March.

Mr. & Mrs. Moore came 3 P.M.

I went to the lodge 10 A.M. 6 found Bob getting ready to take nurse man back to fight the fire on the west end of the mountain, along the Benton road. Tonight it is still burning. A high wind all day.

Monday

5 A.M. 14:30, 25. clear; N.W.

The wind is down to less than gale velocity this morning, for the first time in a week.

When I get up, 5 A.M., I have no sign of fire in the west.

We discovered the old Bud Morris house afire. It burned down in half an hour.

10:30 A.M.

"Tom St. John lived in it."

Open your mouth and purse cautiously, and your stock of wealth and reputation shall, at least in repute, be great—ZIMMERMANN

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William R. Warner & Co., Inc.—Serving Medicine Thru Research and Manufacture
January 27; 30. 28; AMER O. SE
Light snow falling & ½ inch on ground when we got up. Stopped snowing 9 A.M. with an inch on the ground. Melted before night.

Joe Vining came for examination 8:20 A.M.
Not so well.

Albert Wagner & wife brought their 2-year-old boy of P.M. Pneumonia & probable pneumonia.

For the last two weeks we have seen many similar, more than ever before at this season. As many as 12 or 15 are almost constantly on the ground in the yard.

The enlightened Johann Weyer (1515-88) did not completely disbelieve in demoniacal possession in mental diseases but he rationalized that those illnesses could be attributed to natural causes. Above all, he stipulated humanistic treatment of patients at all times. His centralization of interest in mental diseases laid the groundwork for recognition of psychiatry as a medical specialty.
Felix Platter (1536-1614) gained his experience of mental disorders first-hand by living with the wretches in their dark dungeons. He propounded an acceptable classification of mental diseases which stressed idiots, morons, cretins and melancholics. It was Platter’s opinion that dryness of the brain was a causative factor in diseases of the mind.
5:15 A.M. 44:30.08; clear; NW

Gardenhirs's two boys from the Bend came this morning to pay balance on account, $5. to have an abscess on the neck of the younger boy drained ($2).

Dr. Kemp came for a long visit this afternoon, which we enjoyed.

As the title indicates, the theme of Robert Burton's (1577-1640) "Anatomy of Melancholy" is "melancholia" and nowhere else has the subject been analyzed so thoroughly as to its nature, cause and proper treatment. Etiologically, he regarded melancholy the result of heredity, lack of affection in childhood, or sexual frustration. There is the light of true medical science in the "Anatomy" but Burton was restricted by the thinking of his age.

Sunday

5:45 A.M. 49:29.91; clear; NW

Fire burning on west end of mountain this morning.

Clara Cody brought his wife 9:30 A.M.

Probably an infection from her teeth.

Mark Hubbard came for me 9:40 A.M. to go to see his mother at his home.

I took Dr. Kemp to Round Mountain. I took Mr. Kemp on Round Mountain. I took Dr. Kemp on Round Mountain. I took Dr. Kemp on Round Mountain. I took Dr. Kemp on Round Mountain.

I saw the patient is Mark E. Mendenhall's daughter. He stopped at Round Mountain Canyon on his way back.

Mrs. Hubbard came 1:30 P.M. for me to dress an injured hand.

Mrs. Lowery, wife & friends (L. D. C. Cowan & Kehr), Mrs. Vint, Mrs. Lillian Hubbard, Mrs. "Jenifer" & Miss Ida Smith.

What do we live for, if it is not to make life less difficult to others?—GEORGE ELIOT

I was called here to see Mr. Hubbard tonight in

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William R. Warner & Co., Inc.—Serving Medicine Thru Research and Manufacture
Monday

5:10 a.m. 34; 29.98; clear; E
Mother went with me to Mark Hubbell's on Round Mountain to see his mother 9:30 a.m. The patient was better. Home 11:15.

Called 3:30 P.M. to see Joseph Hubbell, at Marks on Round Mountain. He had two convulsions, the second one just before I got to him. I gave him hemlock & a hypodermic of morphine, & left him alseep.

Tuesday

5:45 a.m. 41; 29.93; clear; NE
To Round Mountain early to find Mrs. Hubbell & Joseph little better. Joseph had 3 more convulsions early last night.

I went to town 1 P.M. & called the Veterans Administration, & asked that Joseph Administration, 2 P.M. I asked that Joseph Hubbell be sent to Army Navy Hospital, Hot Springs. The medical officer, Dr. Clendinning, authorized me to send him. Home at 3 & found Margaret Myers wife in with their 4 yr. old boy with tonsilitis.

Light rain 5 P.M.
Thunderstorm as we go to bed tonight.

The quaint drawing depicts the manner in which René Descartes (1596-1650) saw the nervous system function if one's big toe were stuck into a fire. The heat motivated pulling of a string at that toe which set off a valve in the brain and permitted mixture of fluid in one section with other fluids. Pressure of these fluids pulled other threads and these in turn moved a muscle in the leg which made the person pull his leg out of the fire.

What is honor? 'Tis the finest sense
Of justice the human mind can frame—Wordsworth
Wednesday

4:15 A.M. 25; 32.03; Cloudy; N.
2 inches of snow on the ground this morning.
The snow was preceded by 0.10 in. rain.

To Rose Acker on Round Mountain 8:4 a.m.
I found Joseph at home. He consented to go to Army Navy Hospital that morning, after
I talked to him. Mark is going with him.

Risky Schimmel is taking them to Morristown,
where Rhea’s ambulance will take them.

Risky took me from Joseph to Round
Mountain, where I found Mrs. Hubbard thin
of four last evening. A bad heart.

Lusk Mink, one of Uncle Marion’s cows on there.

Thursday

4:15 A.M. 23; 29.44; Clear; NW
I broke my glasses going out the door before daylight.

I left home with Mother 8 a.m., left her at Mayo Hosp., telephoned
Mr. Calvert from town, took a bus for Littelton 9:30, reached
Mr. Calvert’s office at 11. Examinined my eyes. I went to the
Dr. Calvert’s office at 11. He examined my eyes. I went to the
American Optical Co., left prescription & got my old glasses
fixed as I can see them till I get the new ones.

Home at 10, found a note in the mail box calling
me to Round Mountain to see Mrs. Hubbard. Left
immediately, got home at 6.

Every man stamps his value upon himself. The price we challenge for ourselves is given us—SCHILLER

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WILLIAM R. WARNER & CO., INC.—Serving Medicine Thru Research and Manufacture
Friday

To reach Mount & 4 am & found Mrs. Hubbard
Still resting from the operation. I went home at 5 pm
yesterday.

Saturday

2:45 AM 37°; 30.05°; Clear; S.W.
H. cloudy after 8 A.M.
I went to see Mrs. Hubbard on Mount & 12 M.
From there I went on to see Horace Hubbard's wife.
Home at 3 & found Bradley & Billy within lady here.
They came at 1:30, slept at 3:30.

An acre of performance is worth the whole world of promise—HCOE.

From the pen of Voltaire (1694-1778)
came this modern observation: "A madman
is a sick person whose brain is suffering... as a gouty patient... suffers in his hands and
feet." He considered as "funny remedies... invented by the patients them-
selves," the prescription by Hippocrates of
asses' blood in madness and the "Ladies'
Manual" suggestion that madness could be
cured by contracting the itch.
23 FEBRUARY  Sunday

6 Am 22; 30.02; clear; NW

The Newells came at noon.

This afternoon: Mr. Kemp, Mr. Lane, Paul Faris; Earl Latimer & wife; Mrs. & Jess Hubbard, to report their mother's condition unchanged.

Monday  FEBRUARY  24

4:45 4 Am 18; 30.05; clear; NW

To Round Mountain 8:30 A.M. & found Mrs. Hubbard much weaker. It appears she can't last much longer.

Stopped on the way to see S of Albert Waring's children, and 2 at Susan Britton's home at 11:45.

Holmes & James came 2 P.M. for 1/2 visit.

Mrs. Betty Reynolds came 2 P.M. for a long visit.

Jake coming in season.

One of the true apostles of the humane treatment for the mentally ill was the English layman, William Tuke (1732-1822). He undertook their cause at the age of sixty. His York Retreat, founded in 1792, became a model institution where abuse and restraint were ousted by kindness and tolerance. Tuke's crusading spirit and zeal inspired his family for generations to follow in his path.

Physicians always cherish a sneaking kindness for cooks, as more certain and regular purveyors of patients than plague and pestilence—CHATFIELD

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WILLIAM H. WARNER & CO., INC.—SERVING MEDICINE THRU RESEARCH AND MANUFACTURE
Tuesday

4:45 Am 20:30:16; H. cloudy; NW
To Round Mountain 8 Am; found Mrs. Hubbard about as gristy. Stopped on way home to see J. D. Moore's wife & Joseph Hubbard, who came home from army NCO hospital last night. Home at 11 o'clock & called to see Bill Yarbrough in the valley. Bill has been told by Dr. Hubbell that he needs a kidney operation & he should see Dr. Hite to Mr. M. about it. I drove on to Dr. polio, talked to Dr. M. v got gasoline. Home at 2.

Wednesday

4:15 Am 21:30:25; H. cloudy; NW
To Round Mountain 7:30 Am; found Mrs. Hubbard slightly stronger than yesterday. She was much improved. Stopped to see Joseph. Hill & Lee Mitchell came in at 8th with the former boy, Billy, suffering with his left shoulder.

Even the ant has bile—Lucian

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William R. Warner & Co., Inc.—Serving Medicine Thru Research and Manufacture
Thursday

To Round Mountain T 4 or 5 pm I found Mrs. Hubbard about as yesterday. Stepped on my home to see one of Albert Hubbard’s boys.

Bill Hubbard here 1 to 3:30 PM for consultation.

Friday

The fog soon became a drizzle, by 10 A.M. a freezing rain.

Mother went with Mrs. Hall to her club meeting at Ruth Hubbard’s noon to 4 P.M.

For moving came for examination 1 P.M.

Charlie Hubbard & Leunard Crouse came for me 2:45 to 10 to see Mrs. Hubbard.

They took me in their truck. Home at 5.

0:15 in rain today.

To Benjamin Rush (1746-1813) falls the honor of being the first American physician to write a systematic treatise on insanity and to initiate psychiatry as a medical specialty. Perverseley, he was an advocate of emetics, purgatives and blood-letting; of “ducking” and a barbarous “tranquilising chair.” But it cannot be overlooked that by his personal and unremitting efforts, humane, judicious treatment for the mentally ill received its first impetus.
Saturday

4:25 A.M. 32; 24.79; foggy; NW
The fog became a heavy drizzle by 6 A.M., stopped 9 A.M., thereafter partly cloudy.

Charlie Zohn came 9 A.M. to tell me that
Mrs. Sarah Ann Hubbard, 83, daughter of
Merion McCabe, died 4 A.M. I had
seen her every day except one since Feb. 16.

Sunday

5:45 A.M. 17; 30.01; clear; NW
Dorothy Clark came 1:35 P.M. for me to go to
see Dorothy Hubbard's baby at Mrs. Slack's
on to Fletcher's on the Hudson place to see
Joe Oake. Home 3:30. Found Gladys
Seward writing to us one. The Oakes
came while I was gone. Jim Spooner's
wife after I got back.

What most increases anger is the feeling that one is in the wrong—BIECHTER

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William R. Warner & Co., Inc.—Serving Medicine Thru Research and Manufacture
Monday

4:15 AM 22; 29.98; clear; SE
Ft. cloudy after 6 AM. Cloudy after 11 AM.

Staples, R. E. Walker's well-drill helper, came 12:15 PM for me to go to Mr. Dunwall's place to see the well tested. The well is 103 feet deep & has 60 feet of water. I saw 500 gallons of water drawn in half an hour without lowering it more than 8 or 10 feet. Walker came home with me & I wrote a letter to Mr. Dunwall to give it to him. I also wrote Sutphen.

Light snow began falling at 4:15 PM, soon turned into light rain.

"Ce bon Monsieur Pinel"... it was an affectionate and deserved appellation for the man who revolutionized the care and treatment of the mentally ill. Philippe Pinel (1745-1826) discredited bloodletting, "ducking" or the indiscriminate use of drugs, but he fought long and hard for humane treatment, hospitalization, and nonrestraint.

It is much easier to be critical than to be correct—Disraeli

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William R. Warner & Co., Inc.—Serving Medicine Thru Research and Manufacture
La Bicêtre... seventeenth century epitome of man's inhumanity to the mentally afflicted. They were shackled with iron collars and hoops, or chained hand and foot. The diet consisted of a mushy gruel-bread soaked in a weak soup. The box-like and dirty cells, unheated and unventilated, permitted light to enter only by means of a small grille.
Friday

4:15 AM 33.30; cloudy; N
Right rain began 6:30 AM, turned to snow 7:30, back to rain at 9, heavy snow 9:30 for an hour (most of it melting as it fell), then rain again, followed by snow in afternoon.
1 1/2 inches snow on ground 6 PM. Temp. 32.

Saturday

5:15 AM 24.7; 30.02; clear; N
Four inches of snow on the ground this morning, most of it melted before night. The heaviest snow of the winter.

JF Cady brought his wife here 3 PM.

Baptist, due to be confined the last of April.

Vale Addington Melby brought Billy Moore.

9 PM (after we had gone to bed), suffering from a severe case of conjunctivitis.

What wound did ever heal but by degrees?—SHAKESPEARE

With Pinel's liberation of the Bicêtre inmates in 1793, there began a movement to make hospitalized mental patients available for research. Half a century of this activity broadened the psychiatric field and sponsored the publication within 12 years of 7 psychiatric journals: 1843—France, 1844—Germany, 1848—England, 1853—Holland, 1854—Germany.
The "Rhapsodieen" of Johann Christian Reil (1759-1813) recommended housing of the insane on farms. He preferred the term "pension" or "hospital for nervous diseases" to "asylum". His greatest neurological contribution was on the cerebellum, one area being designated "the island of Reil". He advocated shock water therapy to restore reason.

Mingle a little folly with your wisdom—HORACE
Tuesday

5:15 A.M. 37° 30.18; cloudy; S.E.
I discovered fire at foot of Mountain, on King place.
2:15 P.M. When it spread into the woods on the Mountain, I went to CCC camp & got Rudy Graham, Reck, Holman & 2 others. When we got back to our place, we saw that the fire was under control. As I passed Carroll Johnston's place, this side of the Park, I found fire burning there. I sent the men back to fight it. It was stopped on the Bud Morris place at about 3:00 A.M.

Wednesday

5:15 A.M. 44° 30.06; cloudy; S.E.
Trace of rain 7 A.M. Drizzle & light shows all day. About 0.05 in.
President Truman addressed Congress at noon on the matter of aid to Greece & Turkey. It was the last address we have heard him make. It was practically a call for the extension of the Monroe Doctrine to all the world.

A lie is said to travel half round the world while the truth is getting ready to start.

Vincenzo Chiarugi (1759-1820) considered the case of Orestes proof that advanced psychic disease could be overcome by violent passions. Orestes, who desired the death of his mother to avenge that of his father, suffered the delusion of seeing the shade of his mother armed with torches and serpents. Travel in a hostile country with a rescue by his sister restored the reason of Orestes.
March 13

Thursday

5:45 am 45°; 29.67°; drizzle; 0.25 in. rain last night.

March 14

Friday

4:10 am 31°; 29.95°; clear; N

He went to town 8 am for water to house dental work done. He took "May Anne," Clementine's 10-day-old kid, to May House.

I bought 4 new 6-ply Firestone tires from Leon Redditt, trading in the old tires & paying $68.20. I had the car graded.

Gossip, like ennui, is born of idleness—Ninon de l'Enclos

The founder of the first mental hospital in Germany, St. Georg in Bayreuth, was Johann Gottfried Langermann (1768-1832). He was its director from 1805-1810. A psychiatric humanist to the nth degree, he waged against all restraint and abolished the strait jacket. Langermann was a disciple of Stahl and followed his precepts in the division of the functional and the organic in mental diseases.
S: 5:15 Am 28; 30.13; cloudy; N
Light snow on the ground—about 1/2 inch.
Dee above after 9 A.M. Snow melted before night.

Sunday
5:45 A.M 27; 30.04; A6 cloudy; N.W.
Sling, Thomas & Clinton Gibby came 2:30 P.M. No. Repulse a little later. At 7 O'clock Gibby & Melly Schimmel came—
-done with a badly cut wrist, which I repaired. Then
Hunsbel Robinson, from the Cove, with a 9-year-old girl
with an infected face & neck. Then J.G. Cady with
one who is slightly better than when he saw her.
Mr. and Mrs. Morgan came here.
A Mr. Mason & Nufus Morgan came here.
While all these patients were being treated
To talk about the Park.
Mrs. Young & wife came at 9 P.M. & stayed until

A student and successor of Pinel, J. E. D. Esquirol (1772-1840) earned a rightful place of his own in psychiatry. He was among the first to apply statistical methods to his clinical studies; introduced and defined the term "hallucinations"; described "monomania"; was the first to lecture on psychiatry (1817); founded ten asylums and spread the gospel of Pinel throughout France.

Not what I have, but what I do, is my kingdom—CARLYLE

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Differentiation between the sensory and motor nerves was expressed by an obscure Scot, Alexander Walker. Not until the truth of his theory was expounded by Charles Bell (1774-1842) did it find acceptance. The brilliant efforts of Bell, simultaneous with those of Francois Magendie (1783-1855), instituted a newer comprehension of the mind and the nervous system. (Portraits—Bell, Magendie)
Wednesday

5:15 AM 33° 29.98°; H. cloudy; N

Armed Nicol came 7 PM to talk about buying some of the furniture for the High Point No we went the Park.

J. F. Cody came 2:30 PM to ask for a park job. I would be glad to have him as

The plane flew over the house twice at 1 PM. We think it was piloted by

Charles Reid Moore.

Rossetti Bixby & wife brought their children.

1 PM for pertussis & diphtheria immunization.

"Miss Ashley" Reynolds spent most of the afternoon with mother. Mother walked across the pasture with her as she was leaving. Affairs seem to be improving a crisis in her life.

Joseph Hubbard came for medicine for Ruby.

10:30 PM. She was suffering pain.

With the work of Bell and Magendie on a firm basis, the distinguished English experimental neurologist, Marshall Hall (1790-1857) was able to make significant contributions. Study of the nervous system, a life-long professional interest of Hall, precipitated his discovery of four kinds of muscular action and the localization of these functions.

Thursday

5:15 AM 37° 30.03°; H. cloudy; N

Cline Cody came 6 AM for me to dress his wrist. Doing very well.

Lloyd Reid brought Berrie 8 PM suffering with a throat in fiction. She also has hyperthyroidism.

Do not read good books—life is too short for that—only read the best

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William R. Warner & Co., Inc.—Serving Medicine Thru Research and Manufacture
Friday

5:45 A.m. 4°; 29.9%. Clear; NW

I discovered a forest fire on the mountainside
under Hight Point at 1:15 P.M. I went to the Lodge
and got Bob March to get a crew to fight it. Bob came by 9:15 P.M. and they
had the fire under control.

Saturday

5:15 A.m. 42°; 30.13; clear (except dense smoke). SE

Fire still burning in two places at foot of mountain
under Hight Point—but those places may have been burned
around. It began spreading at noon, so I started to
move. I telephoned the Great Range, Tom Fisk said he would
undertake to telephone the Great Range. So I came back and
undertook to get some men to
take the Great Range to assist to get some men to
fight the fire with him. Have sate 1:30. They went
up and came by 7:00. They couldn’t get
any help. They’ll do everything with the fire themselves.

Tonight it is burning just under Hight Point.

Mr. and Mrs. Mays came to 6 P.M. with Jack and his
Girl. Mr. Kemp and George took a box, came
here.

There are only two sorts of doctors: those who practice with their brains, and those
who practice with their tongues—Sir William Osler

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Sunday

6:15 am 55; 29.84; cloudy. The fire is 2½ miles up High Point. Thunder at 6:30 am. Nothing that rain ever prevented a disastrous fire on High Point & in the Park. Light rain began falling 8:43 am—just as Alonzo R. Hume got in my car, with fire pump & hose, to go to High Point. The rain continued until 2 PM. 1 inch fell—the most we have had in more than two months. It put the fire out.

I started to Mr. Bunralls 10:15 am with our oil heater & 5 gallons coal oil (the Bunralls came up yesterday), but got stuck in at Bunrall's drive just off the highway. Loyd Vint pulled my car out 3:30 PM.

Monday

5:18 am 49.24.51; clear; W

Sewanee Valley. Cloudy with high NW wind by 9 am. Ellen Colby (tall girl) came 6:30 am for me to remove the stitches from his mouth. Being all right.

Boo & Oliver March came 10 am & told me that the fire Saturday night had come out on top of High Point & that Bob, Kee, Morehead & 20 White County school boys who were at the Lodge, with their County Superintendent, W. C. Orr, had fought it from 9:30 to 1, putting it out on top of the mountain.


The law of health is the law of life. This is not a truism, but a law—Sir William Gull

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84

The originator of the term "nonrestraint" and lifelong promulgator of the nonrestraint system was John Conolly (1796-1866). This system, violently opposed at its inception, eventually gained world-wide acceptance. His successful campaigning for clinically instructed medical men and improved hospital administration, manifested itself in numerous reforms. Conolly’s "Annual Reports" aided a wide dissemination of knowledge concerning insanity.

85
Tuesday

5:15 A.M. 38:30:10; clear; NW

Found out: little rock, bought me a lawn mower 8:30 A.M.

He took them a few days ago to repair them. Trying to

drive the car out of the garage, I found the battery
down. Dave pushed the car with his outside tire
gate, so I could start down the hill. I started
town 10:30, bought a battery (7/18:95), belt ears (1/6:38)

Other things got home 12:30.

Joe Worthing was here with his boys, Roy & Howard.
When I got home. Joe is not doing well.

Wednesday

4:15 A.M. 37:30:19; clear; N

Got cleaned by 7:45

From Lewis Martin Farm, brought his wife.

4:15 A.M. Threat infection.

He went to the standard 9:30. But they

had gone to town. On my home, we met them at

our mail box.

Who keeps his promise punctually, and promises nothing but what he had the power

and the will to keep, is as prudent as just—JOHANN CASPAR LAVATER

She was fearless and persistent and efficient, qualities

which enabled Dorothea Lynde Dix (1802-1881)

to conquer repeatedly in her quest for proper shelter

and humane treatment for the mentally sick. The

New Jersey State Asylum at Trenton (1848), the

first of her many philanthropic endeavors, was suc-

ceeded by no less than thirty others throughout the

United States, as well as some in Great Britain,
Among the earnest students of American psychiatry was Isaac Ray (1807-1881). His "A treatise on the medical jurisprudence of insanity" (1838) was a noteworthy contribution to the field of criminal psychology. Though one of the greatest sponsors of humane treatment, he was another who could not accept Conolly's doctrine of nonrestraint.
Wilhelm Griesinger (1817-1868) was a reformer who, in the path of Conolly, instituted freedom from restraint, the open door, and the psychiatric clinic. He accomplished a vast amount of work on the brain. His "Pathology and Therapy of Psychic Disorders" (1845) gave clinical syndromes based on pathological studies and rational psychological analyses. Griesinger's efforts led to recognition of the relationship of insanity to the causative physical disorder.
Monday

31 MARCH

Sun 43; 29.49; clear; SE.

Robert Payne, my pal, came 8:30 with a particle in his eye, which I could not remove.

Charlie Jones came for me 5 PM to go to hotel to see his mother. Influenza.

Tuesday

5 Am 55; 29.98; cloudy; S.

Mother and I went to town 8 AM for dental work.

While there we bought a Simmons sofa-bed from the Womble Furniture & Carpet Co. for $100.93. It was delivered 1:30 PM & put in Mother's room.

Mother and I were guests of Mrs. Moore at a Rotary meeting at the Lodge tonight. Mr. Moore came by with May Heape 6:15. Mr. J. H. Grant, of Carleton College, was the speaker. A good man.

Home 10:30. This is the first invitation we've been invited to in about 3 years.

The outstanding French neurologist, Jean-Martin Charcot (1825-93), left masterly descriptions of hysteria, muscular atrophy, amyotrophic lateral sclerosis, multiple sclerosis, and paralysis agitans. He was the creator of personality studies and of the modern, neurological clinic, Salpêtrière. Charcot's flare for the dramatic gave a stage-like quality to his clinical demonstrations.

Bind your mouth from uttering prophecies and dogmatic decrees. Let most of your statements be conditional—ISAAC JUDAEUS

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WILLIAM R. WARNER & CO., INC.—Serving Medicine Thru Research and Manufacture
Wednesday

5:15 AM 4° 49', 29.96; clear; N. Right flow 6° 40'.

This is my 63rd birthday.

Called 7:15 AM to the Holman place to see for Peter, his wife &
2 children. Influenza. The woman may have tuberculosis. Home
10:30 - after spending an hour in the Park with Holman & Bob

Letter today from Mr. Taylor & Jim. Jim has
infectious mononucleosis, a serious condition. Mr. T wants
a load of Silt from Spring Water.

I stepped in the Park on my way home from my call
this morning & found Thomas A. Chapmson, Honolulu,
Hawaii, there with his car & trailer.

After Holman's wife bought their baby 6:30 PM.
I gave it another dose of penicillin antigen. Charlie Simmons
came in, then brought Bloodstone, who has
thyroiditis (136 pps). Possible thyroid origin.

Thursday

5:45 AM 48° 29.98; cloudy; E.

We should not impute the faults of the physician to his art—CELSUS

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ARIES (March 21-April 20)
Be he of the first part of the signe, let his
amulet be Bloodstone to give him Daring,
and it hath Magic to staunch wounds. Be he
of the second part, let him wear an six cor-
nered Diamond . . . (Excerpt—Quaint Astro-
nomical Nativity Texts)
In the four generations of his family that devoted their professional lives to the improvement of conditions for the mentally afflicted, Daniel Hack Tuke (1827-1895) was the only physician. His interest centered on proper institutional care and aftercare of mental patients. Though rather conservative in his general psychiatric views, he evoked keen interest in hypnosis as revealed by his article, "Hypnosis Redivivus."
Sunday

5:30 A.M. 50; 30-07; clear; NW.
Joe Norsin came 10 A.M. with letters.
John Totten & the Long, representatives in the
Legislature, came 2:30 P.M. with Graham Beagls
& wife (Helene Montgomery) to see me to give
Graham the ranger's job in the Park. I promised
To do so.

Monday

5:15 A.M. 50; 30-29; clear; N.W.
I went down to the mountainside 9 A.M., with Mrs.
Kemp & Rachel Pegg. To investigate a case where
Kemp found yesterday. Found that the fire came
up to the cliff near our trust line. There
is no indication of land, & therefore no steps are
necessary to have it removed.

In today's mail a rose plant—the Rose Etoile de Hollande—
came from the Armstrong Nurseries, Ontario, California, in
a gift of Mrs. Taylor. I planted it this afternoon
at the northeast corner of the house. It is to take
the place of the beautiful red rose that was lost last
year when the work on the house was done.

Also in today's mail came James Bowell's Rip of
Samuel Johnson, Bond's birthday gift to me. A box
of candy from Bond, from Bond and Mary. I quickly
appreciate the book.

Adrian here 11 A.M. to noon.

The art of medicine is to be properly learned only from its practice and
exercise—SYDENHAM.

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William R. Warner & Co., Inc.—Serving Medicine Thru Research and Manufacture

98

Besides the recognition given him as a
founder of American neurology, Silas
Weir Mitchell (1828-1914) has also
been acknowledged as a mentor of
American psychiatry. He advocated sci-
entifically trained physicians and nurses,
institutions without barred windows,
quarters on a cottage plan, occupational
therapy, humane treatment and thor-
ough study of each case.
Tuesday

5:45 A.M. 59; 30.03; cloudy; NE
Grace of rain in the night. Heat Rain 9:45
To 10:30 A.M. 0.25 inch.

Rudy Graham, Gifford, Munition, & others came
from Boston came 9:45 to talk about building
of Episcopal Church on High Point.

After Wallace's wife brought their baby 35 P.M. Better.

Wednesday

5:30 A.M. 58; 30.04; cloudy; NE

Cloudy after 9 A.M.
Rose Long came from Rose Creek 9 A.M. for
operation of baby of 5-6 year old boy. Also got
medicines for his wife.

Paradoxes are useful to attract attention to ideas—Mandell Creighton

Experimental psychology began with Wilhelm Wundt (1832-1920). He supplied
the answers to such elementary questions as—"how quickly do we adjust ourselves
to a position of danger?"—with reaction-time testing. The device consisted of
light and telegraph key, and the subject
pressed the key as quickly as possible after
the light went on.
Thursday

5:30 A.M. 62; 29.79; cloudy; S

Eleven B 29s flew from west to east, directly over the house, 1:25 P.M., in a very high wind. The planes were flying very low.

A very hard rain 4:15 P.M., lasting only a few minutes. This is part of the storm that killed more than 100 in Texas and Oklahoma early this morning. 0.25 in. rain.

Bob & Osterman March came 3 2/3

stayed until 4:15.

Friday

5:45 A.M. 48; 29.82; cloudy; W

Pt. cloudy after 7 A.M.

I went to town 9:15 A.M. to have a new muffler put on the car, pay taxes & stand to other matters. Mother did not go.

Home 12:45 & found Ethel Wallace's wife waiting with her baby, who is still improving.

Cler after 4 P.M.

Science and common sense differ as cultivated fruits differ from wild fruits—Sir William Gull

John Hughlings Jackson (1834-1911) pioneered in the diagnosis and treatment of diseases of the nervous system. One of his earliest discoveries ascertained the relationship of certain diseases of the brain to movement in certain parts of the body. His studies opened new pathways in the understanding of epilepsy. He established the use of the ophthalmoscope in diagnosis of diseases of the brain.
It was with Joseph Breuer (1842-1925) that Freud began his studies on psychoanalysis. Freud had been impressed with Breuer’s results with hysterical patients under hypnosis. They found that hypnotized patients, encouraged to talk freely, reproduced memories of the past that explained the disease condition. This was called the “cathartic method,” findings of which were published in a joint work in 1895.
From an early date in his medical career, Emil Kraepelin (1856-1926) showed an interest and an aptness for diseases of the mind. He pioneered in experimental psychiatry, introduced a simplification of psychopathological diseases, designated involutorial melancholia, and delineated the major psychoses, dementia praecox and manic-depressive insanity. All these innovations have left an indelible imprint upon the whole field of psychiatry.
Sigmund Freud (1856-1939) evolved the concept of psychoanalysis. As Castiglioni wrote, "This doctrine is based on the assumptions, first that memory of previous events stored in the subconscious mind plays an important part in the mental life of the individual, and secondly that the mental conflicts often produced by such memories can be removed when they are brought to the surface and properly comprehended by a long process of search into the subconscious zone."

Marriage is a feast where the grace is sometimes better than the dinner—COLTON

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William R. Warner & Co., Inc.—Serving Medicine Thru Research and Manufacture
64° in 48°; 30.11; clear; S

You want leased his truck with 125

tons of water for Greenville this afternoon.

I will start tonight.

My poverty, but not my will, consents—SHAKESPEARE

The contributions of the internationally known Gustav Aschaffenburg (1866-1944) covered every phase of psychiatry, but of most permanent historical significance were his efforts in the field of forensic psychiatry. Of this field he may justly be called the founder. His “Handbook of Psychiatry” is a monumental work; his “Crime and Its Repression,” a classic. Aschaffenburg was a collaborator of Kraepelin.
6 A.M. 46; 29.79; Cloudy; W
Thunderstorm in the night. 0.01 in. rain.

Lonnie & Carrie Ashcraft came 9 A.M.

Jesse Mitchell letter. J. C. Cody

& J. D. More came 9:30 A.M. I reported

their wives doing felicity. I am uneasy

about these, however. She is due to be

confined about the first of May.

Jr. Kemp came 9:30 A.M. for a long visit

which we enjoyed.

Mrs. Ruth Evans came for examination 3:30 P.M.

The newspapers here 6 to 7 P.M.

In the history of psychiatry, Abraham A. Brill (born
1874) has found a niche as the translator of most of
Freud’s works, thus bringing his text to the English-
speaking world. It was through the concerted efforts
of Brill that psychoanalysis was practised in the United
States. He published a number of original contribu-
tions on the subject and founded the N. Y. Psycho-
analytical Society in 1911.

Conscience is harder than our enemies; knows more, accuses with more
nicety—GEORGE ELIOT
It has been said that the aches and pains in the world would be minimized if people worried less about the state of their health. True enough, the point at which objective fears manifest themselves as indefinite anxieties or bodily complaints differs with each individual. A person of "coon-dog" temperament would react slowly to situations that would bring untold misery to the individual with the temperament of a "fox-terrier."

---

We doctors have always been a simple trusting folk. Did we not believe Galen implicitly for 1500 years and Hippocrates more than 2000?—SIR WILLIAM OSLER
Thursday

5:30 A.M. 65°; 30.01. cloudy. S

I finished mowing the yard this morning, 7:15 to 8:45—the first mowing this spring.

Friday

5:15 A.M. 49°; 29.95; cloudy. NW

Rain 2 to 3 A.M. About 0.25 in.

Mrs. Mary Hall came 10:10 A.M. and stayed only an hour with Mother, who was in bed in her room.

A letter came from Edmund Taylor saying that Jim is not able to make the trip to the mountain yet. He has mononucleosis. He hopes to return there in a few months.

The greatest tonics for will-power are truth and justice—Ramón y Cajal

When the mind plays an exclusive role in illness, as it does in conversion hysteria, one can ordinarily look for well-recognized "gain through illness." A youngster, contemplating a mathematics test, develops a headache just before going to school; a girl, disliking the attentions of a suitor, alleges physical complaints; a laborer, disinclined to steady work, becomes a prolonged compensation case.
Saturday

5:15 AM 41; 30.34; clear; NW

I went to town 9 AM to get an express package, which proved to be a 4-lb. can of maple syrup from Vermont (A. M. Northby, East Smith), the gift of an anonymous friend.

Stopped on way back to see Mrs. Ashcraft. Home 11:45 to find a call to see Charlie Simmons, wife at the Point. Influenza. Home 1:30.

Sunday

5:30 AM 41; 30.20; clear; NW

Mother has been in bed most of the time for a week. Rubella is the principal trouble.

Mr. & Mrs. Morse came 3:40 AM. Stayed until 5. Mr. M. told me that James has been given a promotion in the State Department; will spend about 6 months a year in Washington and the remainder in the Near East, India, & the remaining in the Near East. James was born 1905 & entered the Foreign Service 1928.

There are but three classes of men—the retrograde, the stationary, the progressive—JOHANN CASPAR LAVATER

The manner in which a person reacts to his emotion determines the physical manifestations it will take. This is the "theory of specificity" of Franz Alexander which involves personality and the nature of emotional disturbance. Thus, high blood pressure is most likely to develop in those of calm exterior but seething inside while the hard-hitting business man is prone to stomach ulcers.
Monday

5:15 AM 61; 30.12; cloudy; S
Light rain began falling 6 A.M. Showed harder later & continued most of day. 0.30 inch.

Bob March & Rudy Graham came late this afternoon saying rice has been ordered to drain the lake preparatory to putting in the concrete docks.

Tuesday

5:15 AM 58; 29.93; cloudy; S
Thunderstorm 1:30 last night. Little rain.
Mother & I went to town 12:30 PM & got back at 3.

William Jones, Mobile, Alabama, & Husein Jones Pahlke, Silver, Alabama, came to see us 10 A.M. They are en route to Ogala, Nebraska, to attend a wedding. William is a fine boy.

When in town, I sent a telegram to Hendrix giving the report that the lake is to be drained & removing reconsideration.

Intuition is given only to him who has undergone long preparation for receiving it—PASTEUR

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William R. Warner & Co., Inc.—Serving Medicine Thru Research and Manufacture
Wednesday

6:25 a.m. 57°, 29.8%. Cloudy. SW.

Called 9:15 last night to see Ollie Robinson, 61, Rose Ave. Influenza & possible tuberculosis. Home 11:30 in a thunderstorm & light rain. Rain fell later in night 0.20 in. The lights of the car went out several times on very dark road.

Calvin Cody brought his 11-year-old brother 7:30 a.m. with a serious scalp infection.

Anthony Simmons brought his girl 8:30 a.m. with mild infection.

Nicollet's wife came 10:40 a.m. — Nicollet to explain plan for putting in the concrete doors. I went with him to the Park. The work is to be covered only 2 feet or a soppaform used.

He that climbs the tall tree has a right to the fruit — Scott

By illustrating mind and body reciprocity, Carl Binger has brought new understanding to psychiatry and psychoanalysis. Asthma was aroused by a paper rose in a man sensitive to this flower. Often enough, stomach ulcers have their origin in the psyche. What Binger calls "a splinter in your soul" may lead to alcoholism, high blood pressure, eczema, even tuberculosis.
Friday

5:30 a.m. 50; 30; clear; NW
Mother not able to be up.

Mrs. Taylor & Jim arrived from Greensville
& P.M. Mr. Taylor & Robert will come
tonight.

A high wind from NW blew all day.
This afternoon a forest fire is burning on
the flank of Taquitz Mountain, north of
Perry.

Saturday

5:30 a.m. 49; 29.88; clear; NW
Collins body brought his brother, James, 94 yr.
Head infection spreading.

Mother & I had supper with Mr. & Mrs.
Taylor, Robert & Jim.

I mowed the yard this morning.

Thought makes everything fit for use—EMERSON
Sunday

5:45 a.m. 61; 29.88; clear; W

Vance Bealey, vocational agriculture teacher of Lindsay, Yavapai County Schools, came down with two patients (his 8-year-old daughter for camp, v. 17-year-old Charles Lee, appendix, & several other school children. Good people.

Dr. Kemp came this morning.

Mr. Myers returned to Greenville this afternoon. Mrs. Myers, Robert & Jim will remain a few days more. Jim has mono-nucleosis & looks bad. Robert has athlete's foot disease.

Monday

5:20 a.m. 62; 29.96; H. cloudy; N

Robert & Jim spent several hours with us today. Mr. & Mrs. Witham played pool v. chess with them.

---

It is better to avert a malady with care than to use physic after it has appeared—

POEMS OF SHAO YZI

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William R. Warner & Co., Inc.—Serving Medicine Thru Research and Manufacture
Tuesday

5:30 AM 58°; 29.97°; cloudy; W
A bed cloud came up from W to A, with thunder.
Light rain most of morning, 0.05 inch.
Mother went with Mr. Taylor & Robert
out on hunt end of machine this afternoon.
Jim stayed with me & we played chess.


Wednesday

5:45 AM 54°; 38.05°; cloudy; NW
Charles Reid Morse flew over 3:50 PM in
a Lockheed Lodestar—according to Robert
Jim, who watched the beautiful flying with
us. Jim was playing chess with Mother when the
plane first came over.

Clear after 10 AM.

Cathie Ladd brought Joyce this morning for

Although the eighteenth century psy-
chiatrist believed music could be ap-
plied to stimulate the depressed or quiet
the excited, there was little conception
of what good or harm music could do.
What kind of music . . . rhythm, har-
mony, melody? . . . these must be
known for therapeutic administration.
"Musical treatments" are collaborated
upon by psychiatrist and musician.
The Role of Chemotherapy in Medicine

Ever since the recognition of microorganisms as a causative factor in disease, it has been the endeavor of medical science to destroy such organisms or at least render them harmless to human tissue. For this purpose, the body defenses have either been fortified with protective inoculations to resist the invader or, once they have gained access, to attempt destruction of the germs by the introduction of chemotherapeutic agents. In the latter classification, the modern chemotherapeutics, the sulphonamides and penicillin, have demonstrated remarkable success in hastening recovery from illness, eliminating complications, and reducing costs of treatment.
5:30 A.M. 53; 30.23; Clear; E

Myers, District Fourth, Medelson, 60 yrs, ranger, came 9 A.M. to talk with me about fire protection for the Mountain. Medelson is the ranger at Fortville. All good men.

Hugh L. Johnson, little fellow, applicant for place of Park Director, came 9:30 A.M. Stayed until 11.

J. Paul Thompson, P. R., applicant for same job, came with another man & 3 women. 3 P.M. Stayed over an hour—the women overrunning the house including the bathroom.

Mother was out at the Alcorn place.

Reece Long came for medicine for his wife 10:30 A.M. Bob Marsh came for medicine for Christine McElroy's baby 11 A.M.

The far beginnings of chemotherapy may be said to have originated in the turbulent thinking of Paracelsus (1493-1541). His discoveries were few but he inaugurated the age of iatrochemistry. He urged upon the alchemists of his time that the purpose of chemistry was not to make gold but to make good medicines.

The reduction of the universe to a single being, the expansion of a single being even to God, this is love—Voltaire
Tuesday

4:30 A.M. 62, 29.9.3, Cloudy, 5
1.50 rain last night accompanied by thunderstorm.
Mrs. T. went to Little Rock, where I had a
meeting of the Park Committee at 9 a.m. of the
entire Commission at 10 A.M. He left home
6:45 A.M. 0.90 back 5 P.M.
J. J. Cody came for me 11:30 last night to
attend Anne in labor, but I did not
feel able to make the call. He lives
in Milledge, v. I told him to go
Mr. Mobley or Mr. Cateridge.

No men despise physic so much as physicians, because no men so thoroughly
understand how little it can perform—Colton

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The name of Robert Boyle (1627-1691) is associated with many scientific discoveries but he is
most outstanding as a recognized leader in revolu-
tionizing the science of chemistry. In his master-
ful "The Sceptical Chymist," 1661, he clearly
defined the modern conception of an element
while exploding the theories of alchemy.
A Scotch millwright, William Murdoch (1754-1839), obtained a patent in 1791 for a process of the distillation of coal to produce illuminating gas. He suspected the potential yields of coal tar for he claimed "the art or method of making from the same material (coal) ...dyeing stuffs, paints, colors..." but it remained for others to extract these from coal tar.
Friday

5:30 A.M. 64°; 29.9° H. Cloudy; S.

I started to town 8:45 A.M. to have the
water hose on the engine of the car replaced
with a new hose, the lights worked on the
headlights fixed. A mile or half a mile beyond
the foot of the mountain, I had to stop and have
a mechanic but out from town with the hose.
On to town, had the repairs made, 5 hours
at 12:30.

Rain later in the evening.

Saturday

5:30 A.M. 64°; 29.9°; Cloudy

If there is any possible means of increasing the common wisdom and ability
of mankind, it must be sought in medicine—Descartes

The success of the young professor of chemistry,
Friedrich Wöhler (1800-1882), in obtaining urea
from ammonium cyanate in 1828 laid the foundation
for synthetic chemistry. As Garrison pointed out,
"This was the first time that an organic substance
had ever been built up artificially from the con-
stituents of an inorganic substance, without any in-
tervention of vital processes..."
5:30 AM 61°; 39.5%; cloudy. Mr. Norman (Bud) Robinson & wife brought their 11-year-old girl from Rome Area 11:30 am for examination. She had jaundice.

After William & wife brought their baby at noon. It had a high fever.

Kerlin & Bob Moore came by 2:30 PM on their bicycles in the rain which began at 2, with a thunderstorm. 0.05 in. rain.

Carl Harris, wife & son came 5 PM.

Carbolic acid, a coal-tar derivative, was isolated by Ferdinand Runge in 1834. Its toxicity was established by Justus von Liebig (1803-1873) in 1844 while L. Parisel, Sr. recommended it to physicians and surgeons in 1860. As early as 1813, coal tar was used for its antiseptic properties in healing ulcerations in both humans and animals. (Portrait—Liebig)
May 20

Tuesday

5:15 a.m. 61°; 29.81; foggy; 5

I took Matthew to town & he saw dentist
work done, but Dr. Caruthers was in St. R.
I got a telegram with the mail (in edge of Minn.)
from Fred. Keny asking for an appointment in
Edward Breer Ballard, Massachusetts, as an
apprentice for place of Park Director. I found
Ballard in town at Reno Hotel & brought
him home with us. He & I had lunch
at the Lodge. Cotton Jones took him back
to town 3 p.m. A fine man. I hope
we can secure him. He also has an
offer in Oklahoma that he is considering.
Several showers today. 0.10 in. rain.

It was during an Easter vacation in 1856 that the
English boy-chemist, William Henry Perkin
(1838-1907), discovered the first aniline dye in
his crude home laboratory. It was named "mauve" or
aniline purple. Oddly enough, his search was
for an artificial equivalent of quinine while sul-
fanilamide was first patented and sold as an ex-
cellent dye, not as a drug.

May 21

Wednesday

5:15 a.m. 49°; 29.82; clear; NW

With Thomas, May Hope came 10:45 a.m. &
stayed until 12:15.

"You amount to very little if your death is not desired by many persons--"

RAMÓN Y CAJAL

April 20

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William R. Warner & Co., Inc.—Serving Medicine Thru Research and Manufacture
Closely related to the history of chemotherapy has been that of dyes. Not royal purple, indigo blue, red madder—the ancient dyes—but the modern coal-tar derivatives. The once ill-smelling waste product of coal has become a rich provider of dyes and drugs as well as many other precious substances.

The old man falls asleep at the sermon through excessive attention which brings on brain fog, not through inattention—L. L. Nascher
Saturday

5:45 A.M. 6:1 2:9:95; foggy; SW

Electric storm all last night. 0.60 in. rain.

Verna Meyers, wife of John came to 10 A.M. to 11:30.

Meyers is District Forester. A good man.

Carl Gauss came 11:15 to stay 45 minutes.

Thunder showed in afternoon. 0.10 in. rain.

---

Robert Koch's (1843-1910) contribution to chemotherapy was this: he approached it on an experimental plane rather than therapeutically. His efforts, though limited, were significant. He experimented with bichloride of mercury in "inner disinfection," and he observed, although he did not fully comprehend, that not all disinfectants are equally effective against every type of bacterium.
26 MAY

Monday

5:30 4 in 52; 30.07; clear; NW
I went & pulled up the fence along the creek
this morning; I & moved the girl this afternoon.

27 MAY

Tuesday

5:30 4 in 62; 30.03; Pt. cloudy; S
Mother & I went to town & were to keep an
appointment with Dr. Lenuth for dental work.
After that, we went to Dore Tenettes studio &
had Mother's picture taken. We also selected
the proof of one he made of me 2 or 3 weeks ago.
Stopped to see Mr. Ashcroft on our way home & got
home 11:30.

We left Son's diploma from Andrus at Tenettes
To be framed.

The bacteriologist's most important ally—the art of
staining bacteria with aniline dyes—was the scientific
gift of Carl Weigert (1845-1904). Without its indis-
putable evidence of the causative role played by germs
in infectious diseases, modern chemotherapy could
not have advanced. The many years that Weigert spent
in perfecting his tissue and bacterial staining tech-
nique have not gone unrewarded.

Objection, evasion, distrust and irony are signs of health. Everything absolute belongs
to pathology—F. W. Nietzsche
The scientific ingenuity of Paul Ehrlich (1854–1915) sponsored many noteworthy discoveries and justly entitled him to being called "the father of modern chemotherapy." Trypan red, on which he worked for many years, fulfilled all expectations and was a perfect chemotherapeutic agent. With it was established a brilliant future for this field of science.

No man has lived to much purpose unless he has built a house, begotten a son, or written a book—ITALIAN PROVERB
Among the early antecedents of the coal-tar derivative, carbolic acid, was creosote. The substance, used in the treatment of wood, helped to prevent timber decay. A substitute for turpentine in varnish was produced from a "coal-tar spirit"—naphtha. The solubility of rubber in this "spirit" was discovered by the renowned Edinburgh surgeon, James Syme.

'Tis a lamentable thing that one has not the liberty of choosing one's acquaintance as one does one's clothes—William Congreve.
Bill & Walter Montgomery came 8:30 AM to have Walter examined. Hernia. Operation indicated. Farrell Montgomery came with them & paid $40 on his 19 28 account.

M. & Mrs. Wm. McFall, 603 E 2nd St., Stuttgart came 4:30 AM to inquire about land. I showed them Dr. Bumstead's lines on the highway (in a shower).

Van Vint came 8 AM for medicine for Mrs. Ashcraft. "Cotton Jones" a group of Ben Seabrook came 10:15 AM.

A small plane, probably piloted by Charles Reed, flew over 3 times 12:25 to 12:30 PM in a high wind. Mother was unable to get out in yard. Called to Fodge 3 PM to see Edna Couden Bivins, Ruston, Louisiana. Painful menstruation. While there, came from Mr. Coleman, Atlanta, was brought in with arm injury. Sent her to Dr. Molloy for X-ray. While still at the Fodge, Andy Arden came for me to go to the house to attend Jack.

All the beautiful sentiments in the world weigh less than a single lovely action—
J. R. LOWELL.

SUN. MON. TUE. WED. THU. FRI. SAT.
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William R. Warner & Co., Inc.—Serving Medicine Thru Research and Manufacture
Tuesday

5:10 A.M. 58; 30.5°F; Clear; SE
Pt. cloudy by 6:30 a.m.
I took Mother to town 8 a.m. for dental
work. Stopped to see Mrs. Ashcraft
G ot home 12:30.

C.K. ("Bubie") George, prosecuting
attorney, Howard Stobough, deputy attorney,
Robert Harris, Coronor, Hank Dean,
deputy prosecuting attorney, came 2 p.m.
and I went with them to the Park to
look at the site of the death of the
first woman last Friday, to discuss
the case. Rudy Graham & Ray came
too for me to go to the house to
consider closing the dam which was
ordered 3 weeks ago to put in concrete
locks - on which no work has
been done. Home at 5:30.

In the same year that Lister made his initial at-
ttempt at antisepsic surgery, 1865, G. Déclat pub-
ished his results with carbolic acid. His interest
in its sterilization possibilities was first aroused in
1861 when he treated a man whose back had been
broken by a fall from a horse. The hospitalized
patient, paralyzed, developed ulcerations which
Déclat healed with applications of carbolic acid.

Wednesday

5:30 A.M. 61; 30.0°F; foggy; SE
Bryan ("Bill") Stevens, F.R., former project superintendent
of Bridal Veil & Park, came to see me 10 a.m. about the
position of director of Parks. I write a letter to the
Governor to give it to Bill. I think he would make
a good director. He stayed until 12:15.

He who has no adventure has neither horse nor mule—RABELAIS

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Thursday

5:15 A.M. 69°; 24.9%. Pt. cloudy; S

Leroy Robinson, Tom Ack, came with his
wife for examination at noon.

I vaccinated him against rabies 1:30 P.M.

Eulas Herdine, from New Bend, came
this afternoon with a bad throat infection.

Friday

5:32 A.M. 71°; 29.9%. Pt. cloudy; S

R. L. O'Byrant, Meridian plumber,
came 8 P.M. to see for work in the Park.

I showed him our pump, which has not been
working well for a year, & he fixed it.
He will later clean the pressure tank &
pump air into it. I also showed
him the Taylor water system, & he is
going to put that in order.

Mrs. Ann Harris & Mrs. Ethel Harris
came 6:30. The latter paid me for
removing the fishhook from her boy's
finger yesterday.

If thou faint in the day of adversity, thy strength is small—Proverbs XXIV, 10

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William R. Warner & Co., Inc.—Serving Medicine Thru Research and Manufacture
Steam inhalations, in fatty inunctions, orally in dilute form, rubbed into the skin, by hypodermic injections... these were the varied methods by which carbolic acid was administered. The hypodermic method, a genuine chemotherapeutic approach, was used by Hasper in 1873 purportedly to disinfect the blood.
JUNE

Monday

5:30 a.m. 71° 29.88; clear; S

Nathan Simmons came 5:15 a.m. with an infected throat.

Tuesday

JUNE

10

4:10 a.m. 70° 29.76; clear; S

I had a dark committee meeting at the Capitol today. I went with Bob March in his car. We then went to the Marro Mee, where we had a nice time with John going as far as Morro Mee. I spent the rest of the time with May Hope. The committee was in town the meeting from 10 a.m. to 2 p.m., including lunch.

We wanted Boney (Bill) Stearns as Director and John as assistant Director. We got home 5:30 P.M.

H. cloudy after 7 p.m.

Nathan Simmons came for short treatment.

6 p.m.

Affectation gives a vulgar flavor to everything—BALTASAR GRACIAN

Sulfanilamide (para-amino-benzene sulfonamide) was prepared by P. Gelmo in 1908. It was united with other chemical compounds to produce various commercial dyes. Experimentation disclosed some dyes useful as urinary antiseptics and in the treatment of protozoal infections.

William R. Warner & Co., Inc.—Serving Medicine Thru Research and Manufacture
The first azo dyes from the sulfanamide group were developed by Hoerlein, Dressel and Kotha in 1909. When investigated, it was noted that these dyes were uncommonly color-fast arising from a firm combination which the dyes of the sulfanamide group formed with the proteins of wool and silk. This property prompted the thinking that reaction with bacterial protoplasm was possible.

"Talk not of wasted affection; affection never was wasted"—Longfellow

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William R. Warner & Co., Inc.—Serving Medicine Thru Research and Manufacture
Friday

$20 A m. 70°, 29.84; cloudy; NW.
A few 9:30 to 10 A m. 0.10 in.
Lloyd & Bernice went 2 5 M. Lloyd is ill.
Myers, Myers wife & two boys came 3:30 P M. Mrs. Myers sick with a stomach trouble.
Sunday

5:45 A.M. 60, 30.04; clear; NW

Earl Montgomery came 6 A.M. and paid
$20 more on his 1928 account.

Ed Bill & wife & "Eck," came.

3 P.M. - Ed to talk with me
about bringing the Red Cross
staff conference here in September.

Monday

5:45 A.M. 60, 30.04; clear; NW

In demonstrating their protective influence
on puerperal fever, sulfonamides have
waged war against a prime factor in mat-
ternal mortality. Before 1870, and the
crusading efforts of Lister, it was a ver-i-
table scourge in the hospital wards. The
obstetrician and medical students abetted
this terror in coming from dissection room
or from cases of surgical sepsis not alone
unsterilized but often un Washed.

Old age is, so to speak, the sanctuary of ills: they all take refuge in it—Antiphanes

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5:30 A.M. 62°; 29.96; clear, S
I took mother to town & A.M. for dental work. While there I saw & talked with
Paul Knowles, a blind man from St. Louis, who has a Seeing Eye German Shepherd Dog.
He was selling crows, & I bought one for $10. The dog’s name is Tarzan. He is very
intelligent. 11 years old. Mother saw them from Dr. Carriat’s office window. Home 11:45.

Leonard Colebrook and Meave Kenny, whose report was published in the June 6, 1936 issue of “The Lancet,” tested prontosil in puerperal fever cases at Queen Charlotte’s Maternity Hospital. In the 64 cases where this drug was administered, the death rate was a surprisingly low 4.7%. With treatment such as this it is hoped that the lives of hundreds of mothers will be saved.
Thursday

5:30 A M 68; 29.96; clear; S

Mrs. Agnes Jones, husband, 2-year-old boy (who were spending a few days on the Jones place) came 3 PM and played until 6.

Jesse Brough Jr., bought Allen Brimmage 5 son Eugene 6 AM, to go with a cut foot which I referred.

Gulles Hardin, Rass Pors Bank, came 2 PM suffering from pneumonia. He drove his truck here, started back with it.

---

Friday

5:30 A M 70; 29.93; cloudy; S

Agnes Miller Greene, husband, children & mother (Mrs. Frank Miller) came at noon & stayed half an hour. Agnes & her family live in St. Louis. They were here a year ago. I treated Agnes when she had typhoid fever in 1949.

James 8 PM, about 0.10 in.

---

At the Pasteur Institute in Paris, Tréfouël, Nitti, and Bovet, suggested that the sulfanilamide portion of prontosil, liberated from the compound in the body, was the element responsible for its effectiveness. Experimentation of synthesized sulfanilamide proved this colorless crystalline substance comparable to the red dye, prontosil. The need for patent restrictions was eliminated.

---

My idea of an agreeable person is a person who agrees with me—Disraeli
Saturday

5:15 Am 66° 29.85° cloudy SE
Light rain before day.
Dr. L. C. Bryant & Helper worked all day on the Taylor water system.

Arthur Hardin, Tom Pope Band, came for me at 4 P.M. to go to see his sonfn
(1)""""(2)""""(3)""""(4)""""(5)"
(6).fn Eddis. I sent him to the hospital in an ambulance - pneumonia.
Thunderstorm from noon till 4 P.M. 0.10 in. rain.

Sunday

5:15 Am 65° 29.94° foggy S
Mother I went to the Entrance Bldg. in the Park, 7 A.M. for the wedding of Pearl
Newcomb & Meredith ("Cotton") Jones. Home at 8.

Wss H. McFall & wife & half-brother,
Porter, wife & 2 sons & 1 daughter, all
from Stuttgart, came 10:30 AM & asked
me to show them the Summerville place which
I did. McFall told me to write Dr.
Summerville to make the deal to the west
3/4 of the place at $60 an acre. Good
people.

Wilson & Clara Epphahn & children, E. B.,
with Mr. & Mrs. Nuttall, Nashville, spent
most of afternoon here. Also Son v Stille
movies.

The strongest man is the one who stands most alone—HENRIK IBSEN

In America, Perrin H. Long and Elea-
nor Bliss of Johns Hopkins pioneered in sulfanamide therapy. After their
successful experimentation with this
drug in mice, opportunities arose to test
it in humans. In erysipelas and other
conditions, the response was amazing,
a response that was to be obtained again
and again as sulfanilamide was admin-
istered in suitable cases.
Too large or too frequent doses of sulfanilamide can induce a condition similar to alcoholic intoxication. A taxi driver, having passed through a red light at an intersection, was questioned by the rider, Dr. Felton of the National Institute of Health. When Dr. Felton realized the man was feeling "funny" due to sulfanilamide medication for a cold, he himself took over driving of the cab.
Wednesday

1:15 A.M. 66° 20'; cloudy. S.


2 p.m. 0.10 in. He came glad.

I rode 3 p.m. for me to go to see Dr. Reynolds. I went 4 p.m. to find him tired from conversation. The last several days I have been feeling a tooth extracted at Conway Monday.

Called 4:30 p.m. to see Mrs. Atlin. I gave her a hypodermic of morphia. I did yesterday.

I got a cow from Everett Rogers this morning. Would like while Cordie is dry.

Thursday

5 A.M. 70°; 29.94; N.W.; cloudy. No. W. A letter from McCall, Stetson. They say he is not ready to buy the Summell land.

A thunderstorm with hard wind came up from N. W. 1 P.M. 0.25 in. rain.

The three natural anesthetics are... sleep, fainting, death—Holmes

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William R. Warner & Co., Inc.—Serving Medicine Thru Research and Manufacture
27 June Friday

5 A.M. 67°; 29.86; Pt. cloudy; S.

Mother went to Mrs. Allison for her club meeting at 11 A.M. with Kathryn Mitchell. Home at 4.

Mr. Hunter, John, Bert & his wife, Catherine Allison & Miss Hood (a relative) drove in at 3 P.M. & stayed until 5:30. They are staying at the Le Four cabin tonight.

Further illustrating the danger of taking sulfanilamide without careful medical supervision, U. S. Surgeon General Thomas Parran points to the numerous cases reported in medical journals. Fatal results ensued when a 22 year old girl took 540 grains over a period of two weeks to cure a menstrual disturbance and again when a 21 year old boy used the drug in self-treatment of gonorrhea.

28 June Saturday

5 A.M. 70°; 29.84; Pt. cloudy; S.

Mr. Hunter & party came 11 A.M. Catherine stayed with us while the others went to the Lodge for dinner. They returned at 2 P.M. left for the others. Mr. & Mrs. Hunter came to the others.

Sam & I established the Y.M.C.A. camp in 1920. They left Arkansas Jul. 1, 1937. Mr. Hunter conducted the camp here 17 years.

All the labor of man is for his mouth, and yet the appetite is not filled—
ECCELIASIIES VI, 7

William R. Warner & Co., Inc.—Serving Medicine Thru Research and Manufacture 181
In trachoma; prophylactically in surgery; in gonorrhea—the sulfonamides prove of great value. Its success, especially in the latter disease, has brought it to the attention of the general public. This knowledge has created a serious problem in many countries. Sufferers buy the sulfanilamide tablets at a druggist and treat themselves, thereby endangering their physical welfare.

He that rides behind another must not think to guide—THOMAS FULLER
Tuesday

5 am 69:30 N; cloudy; NW

A bed-looking cloud rising in NW when we got up. Began raining 7:50 am.
Continued lightly all morning.

I took Mother to town 8:45 am for dental work. Home 1:30, after stopping to see
Mrs. Ashcroft.

Lloyd Vincent brought his wife 5 pm.

Indigestion.

Wednesday

5 am 63:30 N; clear; NW

People lining all day, but I moved the quay.

Flew to Kemp's some of his kin from Detroit.

O'Bryant put in a new water heater which
I bought from Gerald Davis; Carl Horns; Bill Skoors came for an hour & a half, went.

Bill Horns came for an hour & a half. went.

Other came, among them C.M. Nicholas,
forest ranger.

A human body is composed of a large number of different entities, and each of them is itself a composite—Baruch Spinoza

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William R. Warner & Co., Inc.—Serving Medicine Thru Research and Manufacture
The Roman philosopher, Cato (200 B.C.), may have been right in suggesting the use of mashed cabbage in healing wounds. Recent investigations at the New York State Agricultural Experiment Station have proved the bactericidal action of cabbage juice. It was effective against the varied gram-negative organisms found on the surface of cabbage leaves, Escherichia coli and Staphylococcus aureus.

A healthy body is a guest-chamber for the soul; a sick body is a prison—
FRANCIS BACON

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WILLIAM R. WARNER & CO., INC.—Serving Medicine Thru Research and Manufacture
5 AM 66; 30.01; Pt. cloudy; S
bulled at 11 last night to m Albert Kingfield's
21-month-old heifer, automation; impacted Jews.
Home at 12:15.

Sledge sent up the new cow for which
we are trading Cordie at noon. Took
Cordie off. We never regretted to
give a cow up as much.

Tom Hardison (601 Stelling Ct)
Nashville, Tenn.
William Thomas Hardison Sr.

Mr. & Mrs. W. F. Hardison, Nashville, Tenn., came
3 PM for half an hour's visit. They are excellent
people. His signature appears above.

Lloyd & Bonnie Vint came 10:15 PM—after
we had gone to sleep. Bonnie was very nervous.
She talked of fearing the month's doings to
someone. I asked to be for an hour & a half.

The man who goes alone can start today, but he who travels with another must wait
till that other is ready—H. D. THOREAU

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William R. Warner & Co., Inc.—Serving Medicine Thru Research and Manufacture
Monday

5 Am 66° 30.06; clear; NW
I drove the two cows up without much trouble
this morning I milked her.

I went to the Park 2 PM to examine the
boys in the Fourth Camp. When I got home
4:30, the cow was gone. She had got out
of the pasture where a tree had fallen on
the fence. I got Leonard Simmons to help me
hunt her until night, but with no success.

When I got home from the Park the
McClurkins were here, surveying the place
— Irving, May, Irving Jr. & his wife &
children.

Tuesday

5:15 Am 61° 30.14; clear, NW
I got After Wallace to go to several places
on the mountain, & then to walk down to the
Valley, in search of the cow. He got back
just after noon. No results.

I went to town 11:30 AM to talk to Judge
Roy Shoney about the cow. I gave Hurley
an advertisement for his return. Hourst 2,
after stopping to see Mr. Ashcroft.

I tell the truth, not as much as I would but as much as I dare—and I dare more and
more as I grow older—MONTAIGNE

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William R. Warner & Co., Inc.—Serving Medicine Thru Research and Manufacture
Wednesday

4:45 A.M. 59° 30.11°: clear, NW
I looked for the cows in the Willy West field
6 to 7:30 A.M. Then I went to the Grove at 8
for the sick cows. Keck, Rudy, Earl Montgomery
and another man began looking for the cows 9:15 A.M.
Keck & Earl Montgomery found the cows at the
old Jones house & brought the home 11 A.M.
I got them to help me repair the pasture fence
& cut down a tree that might fall on it.
Then I milked the cows. The milk had been
moming for her tests & she had not
been frightened.
Henry, Howell & others came 5:15 P.M. with half
of the boys in the Forestry School.

Thursday

5 A.M. 60° 30.08°: clear, NW
I went to the Forestry School at the Park 8 A.M.
Henry, Howell & the other half of the boys came
to our place 5 P.M. Mr. White & wife & children,
Nickle & wife.

Next in the development of antibiotics—thirty years
prior to the accidental discovery of penicillin—came
the French scientist, Ch. Bouchard, who discovered
that the organism, Pseudomonas pyocyanea, was an-
tagonsistic to other bacterial species. This was in 1899.
While Bouchard is to be credited with the discovery of
this green pus-producing organism, he did not name it.

There is nothing certain but the unforeseen—Froude

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William R. Warner & Co., Inc.—Serving Medicine Thru Research and Manufacture
Friday

JULY 11

5:30 a.m. 65°; 30.02; Pt. cloudly, SW
To the Trinity Camp & a fun sick call.
Home at 9:00 with my & Kemp. George to
pick blueberries at the old Wiley But house. White
on our land. Made 2 pies. Took one to Mr. Kemp.
I went to the Park again 1:30 to listen to
the orchestra in the auditorium. lectures.
Home at 3:00 found Arthur Bird here to
pay me $10 on account.

An ounce of vanity spoils a hundred-weight of merit—FRENCH PROVERB

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Saturday

JULY 12

1:30 - 67°; 30.05; clear; 6
To the family school 8:45. This is the last day
of the school.

Recd Wallace come for me 4:45 a.m. to attend his
wife in labor in the valley. I was not able to go.

Lorin TNT brought his wife & children
6:00—all well.

Frank Montgomery came 7:00 & paid $30
more in his 1918 account.

The first investigators to make a significant experi-
ment with the use of an antibiotic agent in the treat-
ment of infections were Rudolf Emmerich and C. Loew
in 1899. They believed that an enzyme in pyocyanase
could cure experimental anthrax as well as be effec-
tive in the local treatment of diphtheria. It did not, however, prove clinically far-reaching. (Portrait—Emmerich)
Sunday

5 a.m. 70; 30.06; 14 cloudy; s
This morning: Dr. Rodgers (for month treatment)
Phone: More & Doyle went with Doyle's wife; Bill Doherty
This afternoon: Larry Hunt; others
Highest temp. 86.

Monday

5 a.m. 70; 30.05; clear, NW
William Whitfield, Rose Bush, came 6 a.m. for
medicine for his wife. Pain in the back.
Highest temp. 88.

Things out of hope are compassed off with venturing—SHAKESPEARE

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A purportedly effective agent against both gram-positive and gram-negative pathogens was described by Carl Lucas Alsb erg (1877-1940) and Black in 1913. It was called "penicilllic acid," a substance which the investigators indicated was produced by Penicillium puberulum. (Portrait—Alsb erg)
**Tuesday, July 15**

5 a.m. 71; 29.96; H. Coudy; N. Bob Hush came in last night to tell me that the administration building in the CCC Camp burned last night around 8:30. I went to the Park 7:30 am to investigate. N. H. and I went to town at 8:30. I telephoned Freedom Bakery. I stopped on my way home to see Boyd Vector before then. Do see Mrs. Lee Wright at 12. Highest temp. 90.

---

**Wednesday, July 16**

5 a.m. 72; 29.88; Cloudy, N. Thunderstorm 5:15 a.m., with trace of rain, lasted until daylight.

Sent with Bill to the Park 10 a.m., home 12:15.

Saw Hubert's wife, Pearl Mountain, brought their girl with a box of oranges and pears. Highest temp. 88.

---

*He who will warrant his virtue in every possible situation is either an imposter or a fool—C. A. Helvétius*
Thursday

5 am 73; 24.93; cloudy; N.

Highest temp. 88.

Bill & Mildred Hemmings & children came 8 am & went to the Spring for water. They brought us a dressed chicken, 2 live ones, 1/2 gal. Cerebrasins, tomatoes & etc.

I bathed Isle this morning - first time this year.

Dr. Reynolds came this afternoon to have his mouth treated.

Friday

5 am 72; 24.93; cloudy; NW.

Highest temp. 86.

Flora Jones Rehbein, husband, son, & friend.

Mr. Pollack came at 4:30 P.M. for a long visit.

Oyles Wallace came this morning with a small particle of wood in his eye.

Dr. Reynolds came to have his mouth treated 5:30 P.M.

Virtue consists in fleeing vice—HORACE

René J. Dubos theorized that if all organic matter in soil is decomposed by bacteria, why couldn't soil bacteria prey on the disease-causing microorganisms that kill men? Dubos had the answer in 1939 when he and Rollin D. Hotchkiss announced the isolation of a powerful antibacterial chemical from soil bacilli which was named gramicidin. (Portrait—Dubos)
Molds, humble members of the vegetable kingdom, are of many thousands of species and are divided into large groups. One of them is named "penicillin" and there are several hundred different kinds of penicillia. Fleming commented that, "it was my good fortune to show that one species, which botanists call Penicillium notatum, could produce a powerful antibacterial substance which I christened penicillin." Received Nobel Prize for Medicine, 1945.

Better is it that thou shouldest not vow, than that thou shouldest vow and not pay—ECCLESIASTES V, 5

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WILLIAM R. WARNER & CO., INC.—Serving Medicine Thru Research and Manufacture
21 JULY

Monday

July 15, 6:30 A.M.: 68°. Cloudy. NW.
Earl J. White brought his girl, Rosalee, with a large splinter in her foot. I removed it. Her more came with them for examination.

22 JULY

Tuesday

July 18, 5:30 P.M.: 30°. Cloudy. NW.
Dr. Robert Lee brought his girl, Blanche.
4:15 P.M.: Mau's injection with high fever.
Mr. and Mrs. Alcorn came over this evening. They leave tomorrow for a 2-week trip to the East.

Waste is not grandeur—WILLIAM MASON

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WILLIAM R. WARNER & CO., INC.—Serving Medicine Thru Research and Manufacture
Wednesday

5 A.M. 30.15; clear; SE
Ellis A. Rainey, Rose Creek, came for me 8:30 A.M. to go to see his wife. Hypertension with pain in back. I met from there to see Mr. Robinson's girl on High Mountain.
Lettie better than yesterday. On way home, stopped at several places on Rose Creek. Home 11:15 A.M. found Horfill
Bivins' wife waiting for examination. Blood pressure 210/180;
Nervous insufficiency. 60 yrs old.
This is the coolest July day we ever have.

Thursday

5 A.M. 61; 30.20; Ph. cloudy 5
We went to town 7:40 A.M. saw Dr. sims 2nd time in the hospital, where she underwent an appendectomy Monday, 17th.
Returned by way home. Home at 11.
Mrs. Barnett & Mrs. Christie, Grayson, came 4 P.M. Mrs. S.
has inveterate of the liver & came for intravenous injection of
mercaptopirine, which I gave.

Jim Beddor & Carroll Johnson, Jr. brought John Knight
5 p.m. with several cuts on his face resulting from
running into a tree. I took one stitch above right eye.

There is nothing more universally commended than a fine day; the reason is, that people can commend it without envy—WILLIAM SHEENSTONE

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Three investigators spurred on by Fleming's reports were Raistrick, Clutterbuck and Lovell. In an endeavor to extract the pure drug from the mold broth, they found it soluble in amyl acetate, ether or chloroform, and amazingly labile. All activity of the drug was destroyed when they attempted to evaporate the ether solvent away from penicillin.
Friday

5 A.M. 65; 30.22; Pt. cloudy; SE

I took Clementine, the goat, to the house 8 A.M. The price will be paid on by Mother or May Hope later. We have lost Clementine nearly 3 years, & she is the best goat we ever had.

The two cows, Daisy, is apparently afraid of any human, G & for this reason we decided to sell her.

The solicitor & Hayfield Bracey came 11 A.M.

The girl is better; Hayfield's wife about the same as when she was here two days ago.

Mother went with Mrs. Hall 11 A.M. to the Home Demonstration Club meeting at May Gottberg's.

Home at 4.

Cloudy, with light rain (about 0.02 in.), 3:30 P.M. The current went off the power line 3 to 3:40.

The wisest man sometimes acts weakly, and the weakest sometimes wisely—
LORD CHESTERFIELD

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William R. Warner & Co., Inc.—Serving Medicine Thru Research and Manufacture
Sunday

5 a.m. 72; 80.11; clear; S

Mr. Reynolds from Grange came 10:30 a.m.

No saw the two golden eagles flying over the mountainside for 15 minutes at 3 p.m. They are beautiful.

Highest temp. 89.

Monday

5 a.m. 73; 80.01; clear; S

Mr. Temple-Young came for typhoid vaccination. 7 p.m. Read print came 7:30 for me to go to see Mrs. Ashcraft. Home at 8:30.

Saw Mrs. Graham waiting for me to strap on fractured rib.

Highest temp. 91.

I shall ne'er be ware of mine own wit till I break my shins against it—SHAKESPEARE

Florey began his systematic study of penicillin in 1938 aided by the capable biochemist, Ernest Chain, who also won the Nobel Prize for Medicine in 1945. Others of the staff were N. A. Heatley and A. G. Sanders; E. P. Abraham; A. D. Gardner; M. A. Jennings; J. Orr-Ewing and C. M. Fletcher and Lady Florey. (Illustration shows development of penicillin culture.)
29 JULY

Tuesday

5 A.M. 73; 30.03; H. cloudy; N.
I went to town 8:15 A.M. & sent for
K. radio, records & one trunk by prepaid
express to #10, Tuscadel, San Gabriel, Calif.
Express charges were $19.26. Stopped to see Mrs.
K. returned home at 10.
At noon Dorothy Hubbard & Mrs. podróżi
came for me to go to see Miss Morris, who had
broken 2 ribs when he fell from a moving machine.

Without woman the beginning of our life would be helpless, the middle without
pleasure, and the end void of consolation—VICTOR DE JOUY

It was only after months of dogged
persistence that Heatley and Sanders
were rewarded with success in the ex-
traction of penicillin. Suitable cases for
clinical trial were not easily obtained.
From February to June, 1941, six pa-
tients had been administered the drug
intravenously. The response was en-
couraging but two died when the supply
of penicillin proved too limited.

Without woman the beginning of our life would be helpless, the middle without
pleasure, and the end void of consolation—VICTOR DE JOUY

29 JULY

Wednesday

5 A.M. 73; 30.02; clear; N.
Dorothy Hubbard brought their 2-month-
old baby 3:30 PM with high fever.
Highest temp. 94

William R. Warner & Co., Inc.—Serving Medicine Thru Research and Manufacture
American clinical research started in 1940 with Martin H. Dawson heading the New York group. Five gallons of broth a day were produced by a Brooklyn concern and delivered to Dawson's laboratory at the upper end of Manhattan. Despite a pell-mell taxi trip across Brooklyn Bridge and Manhattan, the stubborn penicillin often lost its microbe-killing ability somewhere along the way.

In the woods a man casts off his years, as the snake his slough, and at what period soever of life, is always a child—EMERSON
Saturday

5 A.M. 73; 30; clear; S
Called to the Lodge at noon to see one of theestines, Solomon Lazenby, Dymamone.

Highest temp. 94.

We saw three eagles flying over the mountainside 10 a.m., the parents and a young bird. Mother had seen the young bird before, but I had not.

Sunday

5 A.M. 75; 30; 11; clear; W
Jack Montgomery came 7 a.m. and paid $10, making $100 he has paid since June 1, clearing an account that has been on my books since 1928. Lloyd Virtue came 5 P.M. for medicine for Mrs. Ashcroft.

Highest temp. 95

Deliver your words not by number but by weight—H.C. Bohn

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William R. Warner & Co., Inc.—Serving Medicine Thru Research and Manufacture
5:30 A.M. 75; 30.16; clear; S

fell at 10 last night to Rose Creek to
see Abbie Tink. Hunt protection & malaria.
Instead of money, I 4th card was
pulled off me. I don’t know whether I
will collect anything for the bill or not. Am 12:15.

Mother & I went to town 8:30 A.M. Stopped
on way home to see Mrs. Ackerman. Home at
noon.

High temp. 95

The Alcorns returned from their trip to
the coast this afternoon & found they could
get no water from their well. We gave them
water.

Herschel Robinson’s wife bought their
4-year-old girl from the Cove 7 P.M.
with a bad cut on the knee, which
I dressed up.

Lichens, which Ruskin described as “cov-
ering with strange and tender honor the
scarred disgrace of time,” have been found
by Yale scientists to contain germicidal
substances. Sixty out of one hundred and
eighteen species were tested. Their anti-
bacterial powers have been compared to
those of penicillin. Natives of northern
countries, as well as Arctic animals, prize
the lichen for its food value.

Good work makes beautiful things, and good work lasts—LORD DUNSANY

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WILLIAM R. WARNER & CO., INC.—Serving Medicine Thru Research and Manufacture
Wednesday

5:30 a.m. 73; 24.47; clear; W

I went with Mr. Taylor to the spring.

9 a.m. got 3 bottles of water for the Taylors.

Bradley + Betty Thompson + baby +

Betty's mother came 3:15 p.m. + stayed until 5:15.

Highest temp. 94.

7:30 p.m. - 8:30 p.m. at Mr. Taylor's.

Thursday

5:30 a.m. 73; 24.96; P. cloudy; W

It rained 1/2 inch + a half rain + to 7 A.M., accompanied by a strong wind from the W.

Highest temp. 90.

The strain of Penicillia, discovered on a cantaloupe from a Peoria market, solved the problem of better mold growth. By growing in submerged culture, it enabled industrial production of penicillin on a vast scale. Better strains plus corn steep liquor and milk sugar transformed penicillin from a laboratory freak growing in one-liter bottles to a substance growing in 12,000 gallon fermenters.

It is one of the most difficult things in life to know when one has enough of the world—THOMAS WILSON
5:30 A.M. 70; 30.01; Pt. cloudy; S.E.
Typing of wife, started, came 9 A.M. for poison ivy

Treat.

Pete Evans came for me at noon to go to
see his grandmother, Mrs. Ackroyd.

I gave Robert a finely divided vaccine
(first dose) 1:30 P.M.

Temp. 4 P.M. 93

We had supper with the Taylors on
their place at 8 P.M.

Temp. 9 P.M. 98

This决定了 come for me 8 P.M. to
the home to see Arthur Brier's wife.

Appendicitis; I stayed an operation.

Home 10:30.

The heart is a triumphant and mighty emperor that ends at the breakfast of a silly little worm—Montaigne

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From a report made by E. H. Lucas and
R. W. Lewis of the Michigan State College
of Agriculture and Applied Sciences, antibi-
otics are to be found in the leaves of
Scotch thistle, mullein, and peony. This
was similarly true of fruits of blueberry,
currant, mountain ash, and honeysuckle.
One species of honeysuckle berry con-
tained two distinct antibiotic substances.
5:30 A.M. 71.29.93; clear. V.

The first was 8:30 A.M. for me to go to see Mrs. Ashurst.

Here this afternoon: Thos. Robertson and wife, Mrs. Briscoe, Mr. and Mrs. Ashurst; Mrs. Briscoe, and wife, with their 2 children, one who was injured last Monday; Loid. Beall and wife; Mr. and Mrs. Motley, Jack (Jack will be married Aug. 31); Mr. and Mrs. Aldana; several others.

Highest temp. 90.

10 A.M. 64.29.99; clear. S.E.

Mother left for Little Rock with Mrs. Taylor 8 A.M.

Home 6:45 P.M.

Dear Briscoe, Rose Court, came 9 A.M. P'table gastric ulcer.

Jim helped me tie the knot on their nightSec. with catgut 12:30 P.M. I hope this will cause the knot to dry up & come off.

called to townstone to see Mrs. Ashurst 3 P.M.

Af. cloudy after 8 A.M. Highest temp. 96.

And if a man reads very hard, as the old anecdote reminds us, he will have little time for thought—R. L. STEVENSON

The wart-like outbreak, verruga, which is one stage of oroya fever and which victimizes many Peruvians, may yield to treatment with penicillin. The Peruvian bacteriologist, Louis Aldana, reported complete success after injecting a verruga patient with 500,000 units of penicillin.
Tuesday

5:30 A.M. 68; 2009; Pt. cloudy; S
Matte Charles came 10 A.M. with a friend,
one of them Miss Wells, New York, who had
enjoyed the trip. They are staying at the Lodge.
Bill Stevens came 3 P.M. to
stay with until 5.

Thunderstorm with trace of rain 4:30 P.M.
Highest temp. 86.

Wednesday

5:15 A.M. 70; 2007; Pt. cloudy; S
Highest temp. 87.

Here this afternoon: Next Morris, Helene,
Carl York.

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In spite of the efficiency of modern medicine, our intellectual or intelligent people
do not live as long as antiquity—RAMÓN Y CAJAL

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Seven patients suffering from subacute bacterial endocarditis recovered from
their hopeless plight after administration of penicillin and heparin. Leo
Loewe of Brooklyn Jewish Hospital re-
ported the patients freed from the dis-
case-causing bacteria with temperature
returned to normal and the blood no
longer forming fatal clots.

William R. Warner & Co., Inc.—Serving Medicine Thru Research and Manufacture
Thursday August 14

5:30 a.m. 72.30; clear.

I bathed Elle 8 a.m. — her second bath this summer.

Theo & Vera Robertson brought their children 9 a.m. for typhoid vaccination.

Light shown 2 P.M.

I went to Woodstone to see Mrs. Archer 5:30 P.M.

Mr. & Mrs. Moore, with James, Eleanor & their 2 children, came 7:45 P.M. & stayed 45 minutes. James & his family have just arrived from Damascus, Syria, & will now have his headquarters in Washington.

Highest Temp. 88.

Friday August 15

5:30 a.m. 71.29.99; H. cloudy; S.W.

Miss Hill came over from the Lodge 10:45 a.m. to drive her injured toe again. With her were Mrs. Chiles, Mr. & Mrs. Down & children.

Highest Temp. 87.

We had supper with the Taylors on the porch at their place. Katherine's 21st birthday. Mr. Taylor & Will Kesten came from Greenville this afternoon.

At Bushnell General Hospital, it was proved again that even where penicillin had only an outside chance, the drug worked. Champs Lyons from the Massachusetts General Hospital and the Army physicians selected nineteen soldiers with bacteremia. They were hopeless cases but after injections of penicillin, dissolved in isotonic salt solution, twelve of the nineteen cases recovered.

When Charles XII played chess, he always moved the King — Voltaire
Saturday

9:30 A.M. 69; 20.0.4; H. Cloudy; S

A violent thunderstorm prevailed most of afternoon, beginning at 9 o'clock, but we got only a light shower. About 9:20 p.m.

Leonard & Dorothy Hubbard brought their son, 5 G.M. Tonicillin. Leonard paid his account, $17. E.G. Flaherty brought them in his truck & had me examine them. The T unemployed & the Alcorns were tonight.

Kings County Hospital physicians made blood tests upon four women in active labor to whom penicillin had been administered. They found the drug present in the unborn child's bloodstream. This finding was affirmed by tests made upon the umbilical cord blood immediately after birth. The penicillin was present in a concentration more than sufficient to inhibit bacterial growth.

Many books require no thought from those who read them, and for a very simple reason—they made no such demand upon those who wrote them—COLTON

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William R. Warner & Co., Inc.—Serving Medicine Thru Research and Manufacture
Monday

5:30 Am 70; 30.18; Clay; S

Mom & I went to town 8:15 a.m.

Home at 11. Stopped to see Mrs. Ashcraft

on way down.

Leonard, employee of Mountain Furniture

& Appliance Co. installed Venetian blinds in the two

rooms of the house 9 to 10:15 P.M. The cost

was $86.14.

Leonard & Dorothy Hubbard brought

their baby again this afternoon. This may

be a case of whooping cough. I cautioned

them to watch for secondary symptoms.

The benefits of penicillin therapy hold
out promise of being extended as effective-
ly to sick livestock as ailing humans. An
eighteen month old, 800 pounds

Guernsey bull, who would probably have
died from pneumonia, recovered after
receiving 2,500,000 units of penicillin.

In North Carolina, mastitis in cows was

successfully combatted with the drug.

Tuesday

5:30 Am 70; 30.13; Clay; N

I worked the yard 9 to 11 A.M.

Dame Patterson and wife came 5:15 P.M. &
stayed until 6. Sam is one of the finest

boys we ever knew.

He hath enough that hath bread enough—William Langland
An important development in penicillin administration occurred with the perfection of a method to give the drug orally. The problem had had the attention of biological and research laboratories since 1941. Raymond L. Libby was first to succeed with his solution of suspending penicillin in digestible cottonseed oil and then putting the suspension in a gelatine capsule. (Illustration shows spores of Penicillium notatum.)
Friday

5.30 a.m. 70; 30.18; Clear; N.

Lloyd Vint came for me to go to see Burnie 9 a.m.

Nervous symptoms.

Vesto Addington McBy came 9 a.m. (as was stated on 9th) for examination. Allergic condition.

Mother went with Mrs. Hall to the club picnic at the Boot Hospital 11:15 a.m.

Home at 2 with Mrs. Taylor.

Lloyd Vint came for me 6:30 p.m. to go to see Burnie again. Very nervous.

Saturday

5:30 a.m. 70; 30.08; F. Cloudy; NW

Nicholson, Hotel Range, Pineville, came 12:15 p.m. I said the townman, Nede, had telephoned him there was a fire near our place. We could find none.

Temp. 3 p.m. 90.

Boy Jaimie Smith came 5 p.m., stayed an hour. We went to the Lodge and had dinner with them at 7 p.m. They are going on to Pineville early tomorrow morning. We got home at 9:15.

My dear friend, clear your mind of cant. You may talk as other people do, but don't think foolishly—Samuel Johnson

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William R. Warner & Co., Inc.—Sensing Medicine Thru Research and Manufacture
Penicillin has been given with protective alkalis and in suspensions of beeswax and peanut oil. Penicillin creams and penicillin lozenges in a gelatine base have been used with good results. Drops of penicillin and lactose clear up infections of the eye. It has been found effective partially or wholly in acute or chronic infections of the lids, conjunctiva and cornea due to pyogenic organisms.
26  AUGUST  

Tuesday

5:45 A.M. 71° 30.04"  Clear. S
I went to the spring 4 a.m. & picked the violets.  
2 P.M. visited Mrs. Ashraft.  
T. Tyler & wife came 5 P.M. with a negative report on Hubbard baby.  
Trace of rain 5 to 6 P.M.  

6:15 A.M. 70° 30.04"  Pt. rapidly 5
Mrs. & Mr. B. 2 children & another woman, St. Augustine,  
Mrs. A. 9 to 10 A.M.  
Mrs. B. 11 A.M.  
Mrs. C. 2 P.M.  

T. Hunter, Bert, Chu Chu & Lee, husband, Frank T. 
Presley, arrived 2:40 P.M.  
Chu Chu & Frank have been in September for India, where they will be  

Wednesday

My daughter 7 P.M. for a picnic  
Mrs. P. comes for Mr. Hunter's family.  
T. Hunter, Mrs. A. & others present, Dr. Altamore & the Kemps.  

C. Dugan, doctor, 7 P.M. to talk with one  

T. Hunter came 7 P.M. to talk with one  

Character is higher than intellect. Thinking is the function. Living is the functionary—EMERSON

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240 241
The Development of Endocrinology

In the words of the eminent historian, Fielding H. Garrison, "Since the development of the bacterial theory of infection, there is probably no pathological concept that has latterly so dominated modern medicine as the doctrine of the internal secretions of the ductless glands. In virtue of this theory . . . we are what we are, bodily, mentally, sexually, emotionally, facially, largely through the balance or imbalance of certain secretions, discharged in minute quantities into the blood by a set of glands which have no excretory ducts communicating with the external world; and upon disturbance of function of one or more of these glands depends a large group of unusual and hitherto unclassified diseases."

William R. Warner & Co., Inc.—Serving Medicine Thru Research and Manufacture
Acromegaly or gigantism had its early recognition in legendary and biblical lore... Nephtno in Genesis; Og, the King of Bashan; Goliath of Gath; the Titans; Fafner and Fasolt, and others. Such accounts of excavated giant skeletal remains, of Irish, Chinese, Russian giants, were numerous and were consistently reported up to the time of John Hunter's famous Irish giant.
Monday:
5:30 A.M. 73; 30: Clear; NW
Temp. 4 P.M. 94. Pt. cloudy most of day.
Thunderstorm threat if at this evening;
John Jones, Mayflower, came to gather pears.
The heat was so intense that he gathered only 10 bushels.

Tuesday:
5:30 A.M. 73; 30:06; Pt. cloudy; N
Ervin Redfern came for examination 1 P.M.
I went to town 2 P.M. Home at 6.
Bob & DeMaris Walker were here & remained until 5:30.
Highest temp. 88.
Achondroplasics have their mythological representation in the satyrs, such as the Greek god Pan. These people, the supra-renal type, are short and swathy, often unusually strong and sexually precocious. In this classification, we find troglodytes — Iberians, Euskarians, the primitive inhabitants of Britain.
Endocrinology can be traced to antiquity. The phallic worshipers prescribed specific rites for those who desired to increase their libido, strength or fertility. Dioscorides suggested the testes of the cock as an aphrodisiac. For weakness, a Herbal of the Chinese Pharmacopeia, 1996, recommended the semen of young men.

Sleep not when others speak, sit not when others stand, speak not when you should hold your peace, walk not on when others stop—GEORGE WASHINGTON
Organotherapy, the predecessor of modern endocrinology, has a long past. It manifested itself among primitive races in eating of viscera, especially the heart, liver and brain. In gladiatorial contests, the victors drank the blood or ate the heart of the vanquished to acquire bravery. L. Landouzy (1845-1917) coined the word “opotherapy” (opos = juice, therapeia = treatment).

There is nothing more likely to betray a man into absurdity than condescension — SAMUEL JOHNSON

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WILLIAM R. WARNER & CO., INC.—Serving Medicine Thru Research and Manufacture
Tuesday
5:30 AM. 69°, 24.98; Clear; S
called to Van Sickle’s, on Rose Creek, to see his wife & baby. Heart disease & complications. Home 10:15.
ปกครอง to Joe Robinson’s, on Rose Creek, 5:15 PM. to see Joe & his wife. Food poisoning, probably caused by eating canned foods, & both very sick.
Home 7:30.
Bill Stearns here 3:30 to 4:30 PM.
Temp. 2 PM 88, when a cloud came up from S.W.
No rain.

Wednesday
5:30 AM. 70°, 29.95; Clear; S
called to Van Sickle’s, on Rose Creek, to see his wife & baby. Heart disease & complications. Home 10:15.
ปกครอง to Joe Robinson’s, on Rose Creek, 5:15 PM. to see Joe & his wife. Food poisoning, probably caused by eating canned foods, & both very sick.
Home 7:30.
Bill Stearns here 3:30 to 4:30 PM.
Temp. 2 PM 88, when a cloud came up from S.W.
No rain.

Confidence is a thing not to be produced by compulsion. Men cannot be forced into trust—Daniel Webster
7:30 A.M. 70° 30'; cloudy; S

Herschel Robinson brought his 2 girls to Amsdall. They were given tuberculin at noon.

Both showed positive reactions.

Leonard Robinson came at 8:15 last night for medicine for his mother. I sent him a morphine tablet. He came at 9 this morning and reported his mother better.

Rhee Robinson's brother, Rosco Brown, came at 10 a.m. and reported their mother better.

Temp. 4 P.M. 88.

Landmarks in endocrinological surgery are the monographs of Anton von Eiselsberg (1860-1939) on the thyroid glands (1901); Harvey Cushing on the pituitary body (1912); and W. S. Halsted on goiter surgery (1919). "Endocrinology" was established in 1917 as the bulletin of the then newly formed "Association for the Study of the Internal Secretions" in the United States. (Portrait—von Eiselsberg)

Concentration is the secret of strength in politics, in war, in trade, in short in all management of human affairs—EMERSON

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William R. Warner & Co., Inc.—Serving Medicine Thru Research and Manufacture
Saturday

5:30 a.m. 57° 24.99', clear, NW
I went down to Van Vliet's 5:30 a.m. to see him about going to Fort Smith for water bottles. I went to town at 9 to telephone Owens-Illinois Glass Co., Memphis, about my order for bottles but couldn't get them on the phone. Then had Charlie Bridwell try to get the Fort Smith Company—without success. Leon Bellott told me I had a cold and I hurried home. Found Louis Magee here with you to see his baby at Mrs. Clara Cady's, Rose Lane.

Home 12:45.

Mr. & Mrs. Garland back, Candace came.

2:30 P.M., we for examination.

---

An eminent figure in the field of endocrinology is that of Charles E. de Sauss (1853-1929). In 1903, his treatise on "The Internal Secretions and the Principles of Medicine" appeared—the first to be published on this subject. He was also first president of the Association for the Study of Internal Secretions and the first professor of endocrinology.

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Sunday

5:30 a.m. 68° 24.92', clear, S
Mrs. Newlin came 9 a.m.
Louis Magee came 11 a.m. repeated his baby better.
John Jones, Mayflower, came 11:15 a.m. I said he would wait another week or so before gathering more pine to let them grow.

3 P.M. Mrs. Robinson & family, with Floyd Sanders, came.

3 P.M. The children doing better.

3 P.M. Lucy Beck brought B. H. Williams & wife.

When conscience discovers nothing wrong, what is there to be uneasy about, what is there to fear?—Confucius
The doctrine of hormones by William Bayliss (1860-1924) and E. H. Starling (1866-1927) propounds that the chemical regulation of the body is effected by means of hormones, or chemical messengers. These are carried via the blood or lymphatic vessels to other parts of the body where they exert specific influences in the organism as a whole. (Portrait—Bayliss)
Since Bayliss and Starling did not believe “secretin” sufficiently descriptive for their chemical substance, they searched for a more suitable term. The suggestion of the word “hormone” was made by William B. Hardy (1864-1934) in consultation with W. T. Vesey (1854-1933). It is derived from the Greek “hormao”—I excite or arouse. (Portrait—Starling)
5:30 A.M. 70°; 30.13; Pt. cloudy, NE

Veg. Hunt bought up 200 used 5-gal. water bottles from town which I ordered from Owens-Illinois Glass Co. The bottles cost $276 for 200. The freight was $45.87, so I paid Veg. $321.87 for hauling. The total cost $331.87. 100 of the bottles have
states, the others have not.

Bob de Maris March came 1:30 P.M.
to talk about park affairs.

Tomorrow I will live, the fool does say; Today itself's too late; the wise lived yesterday—Abraham Cowley

The first description of the thyroid as a ductless gland was given by Holler in 1776. Caleb Hillier Parry (1756-1822) observed the relation of the thyroid to exophthalmic goiter in 1786. However, his description of the disease did not appear in print until 1825 in a posthumous presentation of his collected unpublished works. (Portrait—Parry)
21 SEPTEMBER

Sunday

5:15 AM 68; 29.63; E. Rain, S. Light rain in latter half of night. About 10:00 pm, wind shifted to SE 78; 29.62; calmer, temperature rising.

John Jones came for another look at plans 10 AM. Dr. Reynolds, Mr. Kemp and the Almans came this afternoon.

Mrs. Hubbard came at 7 PM for medicine for his wife.

Monday

5:30 AM 57; 30.16; clear; NW

Walter Potter, County Supt. of Education, came 9 PM to talk with me about the effort to annex the Mountain to the Marion Consolidated School District

Jim Irving and John J. Wade, M. S. School Conservation Service, came 9 PM to talk with me about forest conservation.

A. J. Wade and wife and baby, love, came 8 PM to get medicine for Wade and the baby. Also to get of Mr. Pearce.

All sorts of allowances are made for the illusions of youth; and none, or almost none, for the disenchantments of age—R. L. STEVENSON

Guiseppe Flaiani (1741-1808), describing a case of bronchocele or "gozzo" (Flaiani's disease, 1802), pointed out two cardinal symptoms—goiter and cardiac palpitation. The tremor, fourth cardinal symptom of exophthalmic goiter, was described by Charcot in 1865. The first excision of the thyroid for this condition was made in 1874 by P. H. Watson. (Portrait—Flaiani)
From Robert Graves' description of exophthalmic goiter in 1835, the following is quoted: "It was now observed that the eyes assumed a singular appearance, for the eyeballs were apparently enlarged... In a few months, the action of the heart continued with increasing violence, a tumor, of a horse-shoe shape, appeared on the front of throat and exactly in the situation of the thyroid gland."

"Writers seldom write the things they think. They simply write the things they think other folks think they think. —ELBERT HUBBARD"
Thursday

5:15 in. 57; 30. 18; clear; N
Mother & I went to town 8:30. 4 p.m. Home 11:30.

Very hot. Read under this afternoon to tone to Greenville, Miss. Tomorrow.

Wayne's new wife, Miss Smith, came 3 p.m.
1st week I've been there. We have been running the
lodge at Mount Maguire the last two summers.

Good people.

Friday

5:20 am. 62. 30. 29; cloudy; N;
Rains began falling 7 a.m. Stopped at 8.

John Jones, myние, came for a load of peat 9:30 a.m.
No pot of tea made.
Then went to Mrs. Westphal, with Mrs. Rule.

Then went to Mrs. Westphal, with Mrs. Rule.

For a meeting of the club, 10:15 to 3:45.

Who dares nothing, need hope for nothing—Schiller

It is of singular interest that articles by Carl A. von
Buchow (1799-1854) and Bernhard Mohr appeared
in the same volume of the identical journal (1840).
That of Baseclow gave his account of exophthalmic
goiter. That of Mohr described the fatal obesity of a
woman with the symptomatic indications attending
the condition now known as pituitary obesity—the
"dystrophy adiposogenitalis" of Fröhlich and Frankl-Hochwart (portrait).
27 September Saturday

6 a.m. 55; 30.33; clear; E
Lulu Hughes, minister, came 1 p.m. to talk to us about another cow, just想法, he had that he thought might suit us better than the one we have. He decided to keep going for the present at least.

Albert Wagner, baker, came 1 p.m. for 4 lb. peans.

28 September Sunday

5:15 a.m. 55; 30.25; clear; N
Dr. Reynolds, Mr. Hope were 9 a.m.; Mr. & Mrs. Oliver 9:30.

John Jones came 9:15 a.m. with 2 boys to help gather peas. They left with 30 bu. 2:15 p.m.

The Allens, mother, Jewell & her husband, Mr.

McCaffrey, came 1:30 p.m.

Bill Stevens, wife & son came 4 p.m. to 5:30.

The Briggs—several of them—brought their mother at 1:30 p.m. Little letter.

Rob & DeNevis March came 5 p.m.

He who does not fear death cares naught for threats—Corneille

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In Europe, exophthalmic goiter has been known as "Basedow’s disease" or "morbo di Fiaiani" after the German and Italian observers who are credited with original descriptions. Following the suggested nomenclature of Troussseau, English-speaking people call the disease "exophthalmic goiter" or "Grave’s disease." (Portrait—Basedow.)
29 SEPTEMBER

Monday

6 A.M. 62.5; 30.23; N.E. steady; SW
Leaving home 11:15 A.M., I went to S. R. in the 20,000 truck, back driving, for a meeting of the Park Committee of the Commission. Home in light rain. 7 P.M., I did not miss the crew tonight, because she was not up.

Tuesday

SEPTEMBER 30

5:30 A.M. 58; 30.32; cloudy; SW
Leaving home 7:15 A.M., I went to S. R. for a Commission meeting. Mother went as far as Chippewa, where she spent the day with Belle or Mrs. Alcorn. The Commission voted to construct a stone youth group building in Fort Jackson State Park (on the site of the club) at a cost of approximately $125,000, grouped. Home at 5 P.M.

As we went through Muncie this morning, we drove by C.R. Kellogg's home & looked at a new car he had. He told me Sweeney for her & gave $50 to boat. He found the new car in our lot, a "Sweeney" gone, when we got home. The new car's self was born September 20.

"Symmetrical swellings of fat tissue at the sides of the neck connected with defective cerebral development," (1850), by Thomas Blizard Curling was the first reference given to the condition known later as myxedema. William M. Ord (1834-1902), whose portrait is shown, called the condition "myxedema" in 1877.

An injury graves itself in metal, but a benefit writes itself in water—Jean Bertaut

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WILLIAM R. WARNER & CO., INC.—Serving Medicine Thru Research and Manufacture
Wednesday

5:10 A.M. 46:30.31; clear; N

She coming in season.

Thursday

6:41 A.M. 50:30.25; clear; SE

John Jones came for some 4:30 A.M.

The greatest difficulties lie where we are not looking for them—GOETHE

LIBRA (September 22-October 23)

Whosoever is born in this signe, shall be well-favored, painefull and learned. Men shall marvel at his knowledge of their hidden thoughts... Let him wear an Opal, Coral or Lapis-lazuli... favorable to this signe.

(Excerpt—Quaint Astronomical Texts.)
Friday

5:35 AM 62; 30:18; clear; S
After Walker's wife brought him holy water & cold.
Bishop Mitchell Jack Alva came 12:30 PM. The Bishop went to sell us his #16 Point area.
Will Stevens came 3 PM & stayed an hour.

Saturday

5:15 AM 63: 30:17; H. cloudy.
Kenneth Le Fleur's wife, L. R., came 5 PM.

It is a bitter disappointment when you have sown benefits, to reap injuries—Plautus
5:15 AM  60° 30.10; foggy; SE
Mrs. Reutter came 9 AM, wanting to know
if we would sell the spring.
Dr. Reynolds came over to listen to the
broadcast of the fifth game in the World Series
this afternoon. (New York Giants 6, Brooklyn
Dodgers 8.)

Kenneth Le Faro & wife came again 3:45 PM with Mr. & Mrs. Jones, L.R.
In the afternoon.

5:30 AM  60° 30.11; clear; SE
John Jones got 10 ton peans today.
Later Ashcraft, Atene, came & got 4 ton.
This afternoon, the last in the orchard.
He sold 171 bushels for $133.25.
Perhaps 200 bushels are stolen.

The best things beyond their measure cloys—Homer

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In 1882, J. L. Reverdin (1842-1929) and, in 1883, Theodor Kocher (1841-1917) reported cases of myxedema following the surgical removal of the thyroid in man. To this condition, Kocher applied the term "cachexia strumipriva" or "cachexia thyreopriva." Relationship of the thyroid to basal metabolism was shown by Levy in 1895. (Portraits—Reverdin—Kocher)
Who never doubted, never half believed. Where doubt there truth is—it is her shadow—Bailey

Monkeys, in which Sir Victor Horsley (1884) produced myxedema by removing the thyroid, survived longer than dogs. Experimental thyroidectomy in birds, rodents and herbivorous animals by Allara (1885) proved negative. Sir Felix Semon (1849-1918), in his collective investigation of 1888, contended that cretinism, myxedema and operative myxedema are etiologically identical. (Portrait—Semon)
Pliny ascribed the cause of goiter to impure water as did Paracelsus, an opinion currently accepted. Some attribute the disease to an infectious agent in the water, others to a lack of iodine. Iodine therapy, as advocated by Henry S. Plummer (1874-1937), finds its early counterpart in the recommendation of the Salernitan surgeon, Roger of Palermo (1180) to treat goiter with ground sponges and seaweed.
11 OCTOBER

Saturday

6 a.m. 60°. 29.97; clear; E.
The future gas tank truck came 9 a.m.
and had 300 gallons put in our tanks,
which filled them to their capacity of 600
gallons.

Ruth Thomas, with Charles Reid Moore
and Charles Jr., came 3:15 p.m. at 4:45.
until 6. Ruth went a place on the
Mountain.

Mrs. John Thiers (Miss Clara) came
5 p.m.

Dr. Kemp came 10 a.m. for an hour's
visit.

12 OCTOBER

Sunday

6 a.m. 62°; 30.04; clear; S.E.

Miss Newton, from the Publicity Division of the Commission,
came 10:30 a.m. with Bob Morris. Left at 12:30 p.m.

Mrs. V. D. Hill, Victor & George, with friends from
Hot Springs, came 3:30 p.m. Left at 5.

Theo & Miss Robertson brought Mr. Baisley 5:15 p.m.
Left the same.

Dr. Kemp came 7:30 a.m. for milk.

*Education makes a people easy to lead, but difficult to drive; easy to govern, but
impossible to enslave—attributed to Lord Brougham*

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*William R. Warner & Co., Inc.—Serving Medicine Thru Research and Manufacture*
After the observations of Basedow and Graves, many similar clinical cases were reported. Yet it was not until 1886 that Paul Julius Möbius (1853-1907) attributed the toxic manifestations of hyperthyroidism to an excessive production of the thyroid secretion. At the same time, he described “dysthyroidism.” (Portrait—Möbius)

What is an epigram? A dwarfish whole, its body brevity, and wit its soul.
Wednesday
5:30 a.m. 65; 24.95; clear; N
I mowed the yard with the power mower this morning. I have cut off the tall grass with the weed-cutter during the last two weeks. This is probably the latest I have ever mowed the yard.

Thursday
5:15 a.m. 55; 24.84; clear; N
74; 52
Mother & I went to town 9 a.m. Home at 2.
This is Mother's birthday—her 60th.

Men are made by nature unequal. It is vain, therefore, to treat them as if they were equal—Froude.

The parathyroids, because of their inconspicuous size, remained unrecognized until 1880 when Ivar Victor Sandström (1852-89) discovered them. Barber in England, made an almost simultaneous discovery. Both, working independently, described only the upper pair and, unaware of their function, believed them bits of undeveloped thyroid tissue. (Portrait—Sandström)
Leonard Simmons came to last night suffering from pain in his kidneys. Dr. Wallace also came at bedtime and said Mr. Ellison would me go to see him this morning.

Mother went with me to see Mr. Ellison at 8 this morning. He has appendicitis. The attack began Monday at Monetou, Dr. McLevy saw him there and advised an operation, which he does not want. He had Hallon give us a sack of apples when we left.

Thunderstorm with trace of rain 10:15 to 4:15 a.m.

Another thunderstorm at 5 p.m. with a light shower.

Bill Cobb's boy came 10:30 a.m. to report Leonard Simmons better.

The discoverers of the two parathyroids did not realize their significance and they were soon forgotten. Their true importance was first recognized in 1891 with their rediscovery by Eugène Gley (1857-1930). A. Kohn, in 1895, established the presence of four parathyroids and, in 1899, delineated their anatomic and physiologic independence. (Portrait—Gley)
Further proof of the independent functions of the parathyroids was presented by Giulio Vassalle (1862-1913) and Generali in 1900. They established that removal of all the parathyroids, even with an intact thyroid, caused tetanic convulsions and death. In complete thyroidectomy, retention of all parathyroids did not prevent occurrence of myxedema or cretinism. (Portrait—Vassalle)
6 A.M. 62: 30.02; clear; N

I went with Dr. Hobley to Jerusalem for dinner in honor of Dr. Cole, who has been in practice since 50 years. I left home 4:30 P.M. & got back at 10.

Tetany, the clinical phenomenon resulting from parathyroid hypofunction, was not known until the early nineteenth century. It was briefly described in 1815 by J. Clark (1788-1870) and in 1816 by Kelie. An accurate description was published by Dance in 1831. The term "tetany" was first used by Lucien Corvisart (born 1824) in 1852. (Portrait—Corvisart)

Thus shall know by experience how salt the savor is of other’s bread, and how sad a path it is to climb and descend another’s stairs—DANTE

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Thursday

24th 11:30; 24. 198; Clear; S
Mother & I went to Fitzhugh near Augusta, in Harding County to see Clara, Paul & Grandmother Hunt. We left home 4:00 p.m. & got back 7:30 p.m. We took the terrible roads in heavy rain, between Conway & Berbe. The worst road of all from Augusta to Fitzhugh. Coming home, we had a puncture between 4 & 5 a.m. I lost an hour at Augusta getting the tire repaired. At home there was no rain. No fresh Grandmother my week. I doubt she can survive much longer. She will be 91 on November 28.

In the study of the thymus gland, we find the following historical highlights: its mention by Rufus of Ephesus during the first century A.D.; recording of suffocation of a five month old infant with an enlarged thymus gland by Felix Platter (1536-1614); the first classical study of the gland and its disorders in 1858 by Alexander Friedleben. (Portrait—Platter)

Friday

5:10 a.m. 62; 30. 05; A; Cloudy; S.E.
I went to the spring 9 a.m., drained the bowels of our lead operated by Joe Hamilton for the lead surgeon's post time force. We are still on the lead.

C. R. Ayers, Janes, District Justice, 1:30 p.m. stopped at home. A good meal at home. 1:30 p.m. 1:30 p.m. stopped at home. A good meal. Rose was born this morning.

He saw the first flight of wild geese going south.

12:05 p.m.

The only faith that wears well and holds its color in all weathers is that which is woven of conviction and set with the sharp mordant of experience—Lowell.
A thymus-gonad relationship is suggested by the fact that involution of the thymus begins at the age of puberty when the gonads start to function. Gennaro Fiore and Franchetti in their experiments (1927) have concluded that substances with a depressor effect on the thymus circulate in the blood of sexually mature individuals and that they may originate from the mature gonads. (Portrait—Fiore)

Scarcely two hundred years back can Fame recollect articulately at all; and there she but maulders and mumbles—CARLYLE
6 A.M. 52°; 29.96°; P.H. cloudy; NW
0.35 in rain last night.
April rain came 2:30 today. Join me to go
to High Point & locate line between our land

Joe Hamilton, with Luther Work's mill, is
finishing cutting the timber on the tract. He
will probably get through this fall.

The remarkable increase in growth and
development with thymus extract injec-
tion in rats has been demonstrated by L.
G. Rowntree, J. H. Clark, and A. M. Han-
son (1934). "Karkinolyisin", a substance
prepared by Hanson, was used for the ex-
periments. Even after the second genera-
tion, the results obtained were unusual.
Further experiments with Hanson’s thymus extract by Rowntree and his co-workers gave evidence of continued growth increase and development through twelve successive generations of rats. Ears were open and teeth present at birth; hair appeared in six hours; eyes were open in 36 to 40 hours. These effects were confined to the first two months of the rat’s life.

Unless you bear with the faults of a friend, you betray your own—SYRUS
Friday

6:20 Am 58° 24.81; Rain; SW
Thunderstorm 4 Am, with 0.10 in. rain lasting 6:30.
Jess Drogan came 7:30 Am to tell me they took
Emily Frizzell to the hospital last night & Dr. Morley
was to operate last night on this morning.

Rose R. Arica came 8 Am for medicine
for her mother, who he thinks is better.

Jack Rhinehart’s wife brought her 2-year-old
by 2 Pm. Tonsilitis. Also got medicine for Jack.

Bill Worley, Martin Hearn, came with his
daughter & son-in-law, William Gregory, 2:15 Pm.
The girl expects to be confined between now & Nov. 10.
I told them I would try to take care of her.

Mr. & Mrs. Taylor, Katherine & Jim
arrived from Greenville 2:15 Pm. Also Pria.

We had supper with them tonight— which
turned out to be a birthday dinner for Mother.
We enjoyed it.

Saturday

5:05 Am 58° 29.81; Cloudy; N
Jim, Mr. Taylor & I went to the case 10:30 Am.
I took a picture there.

Jim & Mr. T. went to the case in the living
room, before the fire place in which we had a
fire all day, while Mr. J. & I talked.

It began raining lightly at noon & continued
until night. 0.07 in. rain.

Hatton, from Oregon, came 2 Pm & stayed on hour.

Talking about his problems bottling mineral water.

The thing in the world I am most afraid of is fear, and with good reason; that
passion alone, in the trouble of it, exceeding all other accidents—Montaigne

"Adrenographia" was published in 1656, the work
of Thomas Wharton (1614-1673). In his comments
on the pituitary he quoted Bauhin’s opinion "that the
use of this gland is to drain off the moisture of the
brain." A rather well-known anatomical description
of the pituitary gland was given by S. T. von Soemmerring (1755-1830) in 1778, who named it "hypophysis
cerebri." (Portrait—Wharton)
Sunday

5:15 a.m. 50°; 29.84; drizzle;

Ready Graham, who has been in charge of the lighthouse for the past three years, was leaving for Dallas, 6:15 a.m., where he has a job.

Bathroom to see Nathan Simmons' baby born 9 a.m. 5.77; probably developing pneumonia.

Jack Rhinehart's wife brought her baby to the house.

Rhinehart's wife brought her baby 10:30 a.m.

I was quite sick.

Jim came over 10:30 a.m. Mother went to the bank with him.

Mrs. Taylor 11 a.m. to bring wild flowers. Jim came back at 2 p.m. to play a game of chess, the winning.

The family left for Greenville 3 p.m.

Monday

6:45 a.m. 50°; 29.87; cloudy; E

Went to town 9 a.m. to home the car brakes repaired, pneumatic cable put in. Other work done.

Mother did not go. Home 2:15 p.m. The brake work took a long time.

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They who delight to be flattered, pay for their folly by a late repentance—Phaedrus

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The pituitary body, according to Galen's supposition, was considered the source of mucous nasal discharge. This theory was denied by the treatises of Conrad Victor Schneider (1614-1680) and by Richard Lower (1631-1690). P. F. O. Rayer (1793-1867) spoke of the pituitary gland as the supra-sphenoidal appendix. (Portrait—Schneider)

To stumble twice against the same stone, is a proverbial disgrace—Cicero
Thursday

6 A.M. of 7:39.94; clear; 8 E.
Pt. cleared by 6:30 A.M.

Vivian Hazen, his wife, from the cone, brought
their girl with a digestive disturbance 9 A.M.

L. Kemp came 1:30 P.M. - bed and no chance.

Maqueth May, Rose Ann, 2 p.m. pr
medicine for wife & boy (Billy). Tonsillitis.

Bill Starns & son Billy came 2:45 P.M.

We discussed contracts for the part concessions.

Back again at 5:15 to tell us that Bob &
Mrs. Maria Marshall signed the contract for the
Lodge, cabins, boat house & CCC facilities.

Thunderstorm came up at 4 P.M. with light rain.

Friday

5:40 A.M. 37; 29.78; clear; NW
The thunderstorm that began yesterday afternoon continued
until midnight. 1.35 inch rain:

10:35 A.M. Case of Wallace's baby. Tonsilitis &
some trouble in lungs.

9 P.M. Called again to see the Wallace baby.

A number of investigators, though they did not realize
the pituitary gland as a causative factor, did give a
good account of gigantism. Among them may be num-
bered Sauerotde (1772), Noel (1779), John Hunter
(1783), Alibert (1827), Friedrich (1868), Cesare
Lombroso (1868), Sir Samuel Wilks (1869). (Port-
trait—Lombroso)
Principally, knowledge of the pituitary has been gained from investigations made upon lower animals, mammals and vertebrates. H. Rathke (1793-1860) in 1838 described the evagination from the anterior end of the foregut, making it entodermal in origin. But evidence that Rathke's pouch came from the embryonic buccal cavity and, therefore, entodermal was given by F. M. Balfour (1851-1882) in 1874. (Portrait—Balfour.)
In 1884, Edwin Klebs (1834-1913) prepared a monograph on acromegaly based upon a case furnished by Gustav Fritsch (1838-1927). It antedated Pierre Marie’s case by two years. Klebs gave a remarkable diagram of the acromegalic skull and strongly emphasized the hypotrophic pituitary body with its consequent widening of the sella turcica. (Portrait—Klebs)
12 NOVEMBER Wednesday

5:20 A.M. 30; 30.05; clear; N

Killing front this morning.

Found the Wallace boy better 9 A.M.

8 A.M. Came to the Mill at about 41 years
ago today.

Albert Nash and Rose Cross bought his
3-year-old boy Frank, 12:30 P.M. with
Tonsillitis. Rose's Brine was with him
and told me that his mother's
brother I have
been treating a year for pulmonary tuberculosis,
has gone with Neston deer hunting in the Otero
National Forest, near Hector.

Maynard Moore and family, Rose Cross came
3:30 P.M., Mrs. Moore with Tonsillitis. Good people.

Thursday

5:10 A.M. 37; 20.15; Pt. cloudy; NE
10 to 11 A.M. Bill Stevens here.

Doing easily what others find it difficult is talent; doing what is impossible for talent is genius—HENRI-FREDERIC AMIEL

The first report, 1886, regarded as an authentic account of acromegaly or gigantism was that given by Charcot's ablest pupil, Pierre Marie (1853-1940). His original description named the disease, differentiated it from myxedema, osteitis deformans and Leonatois ossea, as well as mentioned five similar and prior cases in the literature.

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Oscar Minkowski (1858-1931) suspected that acromegaly might be caused by the pituitary gland, arguing that this could be possible since thyroid disease was caused by the thyroid glands. In 1887, he reported a case of acromegaly, a post-mortem of which revealed a remarkably enlarged pituitary gland.

In giving, a man receives more than he gives, and the more is in proportion to the worth of the thing given—George MacDonald

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William R. Warner & Co., Inc.—Serving Medicine Thru Research and Manufacture
5:30 Am 36; 30.06; chews: N
Bill & Myrtle Gnaewey & children came
12:15 we bought us a dressed chicken, turnips & greens. They went on after a short visit to the springs for water. Our wedding anniversaries are the same day (tomorrow).

5:30 Am 36; 30.30; Pt; cloudy; NE
We were married 40 years ago today. We went to town 8:45, where mother had her hair fixed; then went to Conway to see Melba at Ethiopia Smith's, where we bought three pieces of silver (a foot, teaspoon, a quay spoon), for mother's silver set; & some pieces of china to complete the set mother bought recently.
Home 12:15, in time to hear President Truman deliver his message to Congress on the opening of the special session called to deal with European relief & inflation at home. A good message.

The good, alas! are few: they are scarcely as many as the gates of Thebes or the mouths of the Nile—Juvenal

The operation devised by Nicholas Paulesco in 1908, making it possible to reach the hitherto inaccessible pituitary body, constitutes a genuine advance in the study of this gland. Paulesco found that removal of the anterior lobe is the same as total removal; excision of the posterior lobe proved negative.
18 NOVEMBER Tuesday

5:20 A.M. 37; 30.0°; cloudy; E. Light rain in night; 0.12 in. Began again 9 A.M., continued until 3 P.M. 0.10 in. Mode.

L. Roy Keel & Otto Wallace hauled over a load of used wire facing this morning. Yesterday they brought a load of used fence posts. I bought the lot from Keel for $105. It was bought to the park from Lake Catherine State Park.

Collins Cody, Rose Crut, came for me 1 P.M. to go to see his wife. Appendicitis. Admitted operation.

Home 2:30.

A piece of a Churchyard fits everybody—HERBERT

The Paulesco experiments were given further trial by Harvey Cushing and his associates. In 1909, together with S. J. Crowe and J. Homas, Cushing demonstrated that total removal of the anterior lobe was fatal in dogs; partial removal resulted in pronounced adiposity... briefly, an experimental exposition of Frohlich's "dystrophia adiposogenitalis" which the latter described in 1901. (Portrait—Cushing)
There was much fanciful theorizing done about the pineal gland. It was known to Galen as "conarium" because of its conical shape, and its resemblance to a pine cone was responsible for the designation "corpus pineale". René Descartes (1596-1650) regarded it as the seat of the soul, as did Hindu philosophers. The suggestion that it served as a tampon to stem the flow of cerebrospinal fluid was offered by Magendie. (Portrait—Descartes)
Description of precocious sexual and somatic development in a boy four and a half years old was given in 1898 by Otto Heubner (1843-1926). An autopsy revealed a teratoma of the pineal gland. In 1907 Marburg had noted forty such cases and upon this evidence attempted to establish the doctrine of "macro-genitosomia precoex" from pineal dysfunction. (Portrait—Heubner)

The only cure for grief is action—C. H. Lewes
November 24

5:30 AM 41; 29.90; Pt. Cloudy; NW

We saw the sun for the first time this morning since noon last Monday. Eight trains last night.

In the sunshine this morning, it seemed to us that the coloration of the mountain side & in the valley had never been so beautiful. The height of color is somewhat later than usual this fall.

Clear after 9 AM. A fine day.

Jock, when ye hae naething else to do, ye may be aye sticking in a tree; it will be growing, Jock, when ye're sleeping—Scott

November 25

5:30 AM 36; 24.99; clear; NW

Harry & Mrs. Harris came 3 PM & spent an hour. They have just returned to Australia after running a country club in Michigan this summer.
26 NOVEMBER

Wednesday

4:45 A.M. 38; 30.03; H. cloudy; NW
Linen done. 7 A.M., I went to P. & Co. to have
the old Remington No. 10 typewriter (which I bought
in 1928) repaired by the Remington shop. It was 3 1/4
new. A type bar was put in the typewriter. About
$1.50, ribbon put on it. The bill was only $1.20.

While waiting for the repair, I bought a blue day.
While waiting for the repair, I bought a blue day.

5:30 A.M. 38; 30.05; H. cloudy; NW

The car drove into the yard at 12:25 last night, tracked
in front of the garage door, drove out,
then after 3 P.M.
The mountain-side colour was more
beautiful than ever.

We are thankful for our blessings (Sept. 16).

Elen in afternoon.

Let guilty men remember, their black deeds
Do lean on crutches made of slender reeds—JOHN WEBSTER
The study of diabetes mellitus along modern, scientific lines was assured with the observations of Claude Bernard (1813-78) on the blood sugar and the glycogenic function of the liver. By 1857, this theory had been well established; the isolation of glycogen had been accomplished and it was known to be consumed by muscular activity. Bernard coined the term "internal secretions".

What is there given by the gods more desirable than a happy hour?—Catullus
By the use of phlorhizin, Joseph von Mering (1849-1908) produced diabetes experimentally in 1886. Three years later he and Minkowski obtained diabetes by removal of the pancreas experimentally. The source of the pancreatic glycosuria, according to histological, pathological, and clinical studies made by Opie, Sobolew and MacCallum, is in the island of Langerhans. (Portrait—von Mering)
Tuesday

5:20 A.M. 40; 30.23; Pt. cloudy; SE
I went to town 9 A.M. Home 11:30.
Mother did not go.

Leonard Robinson & wife brought
their girl, 5, from Rose Ave 3 P.M.
Some tonsilitis.

Bob & LeMarie Marsh went 2 P.M.
Arrived till 4. Mother taught them chess
while my patient was here.

Wednesday

5:20 A.M. 45; 30.24; Pt. sunny; SE.
10:15 A.M. Elsie Robinson & wife brought their
3-yr-old boy. Pneumonia appears to be developing.

1:30 P.M. Roscoe Rigby & wife brought their
3-yr-old boy. Tonsilitis.

3 P.M. Ammon Robinson came for medicine for
his mother, Mrs. Olive Robinson.

Wisely, and slow; they stumble that run fast—SHAKESPEARE

DECEMBER 31 DAYS

SAGITTARIUS (November 21-December 21)
Where note that whosoever is borne in this
signe, shall have a body comely to behold, long
and tall. He shall be nimble and swift, espe-
cially fond of outdoor living. Let him weare
a Topaz, to promote fidelity, friendship... (Ex-
cerpt—Quaint Astronomical Nativity Texts.)

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Thursday

5:20 A.M. 57:30 A.M.; rain; S.
0:25 in.; rain by 7 A.M.

Leaving home 8 A.M. I went to Rose Creek
to see Mrs. Eliza Robinson, whom I found
slowly improving. Cleo Robinson's boy, who
had pneumonia, is very sick. Also stopped
to see Leonard Robinson's girl. Went by
the Clyde Wells' wife to Bible. I took
Bob Morris with me. Home 12:30 P.M.

Rosea Brierly came 5:30 P.M. for medicine
for his mother.

Friday

5:20 A.M. 60; 30:12; clear; N.W.
Over to Little Rose Over 8 A.M. to see Cleo

Tams Brierly came for me to 8 P.M. to go to see his
father, E. A. Brierly on Rose Creek. Although he was
able to give him some relief. Home 8:15.

Many attempts had been made to isolate the pancreatic
substance that governed carbohydrate metabolism. Paul-
esco, Vassale and Murling were among the precursors who
investigated the islands of Langerhans. Finally, with the
isolation of its active principle—insulin—the treatment of
diabetes mellitus became revolutionized. This epochal dis-
covey was made by the Canadians, F. G. Banting and
Charles Best in 1921. (Portrait—Banting.)

It is always a poor way of reading the hearts of others to try to conceal
our own—BOUSSEAU
The adrenal glands were named "glandulae renibus incubentes" by Eustachius (1524-74) who is credited with the original report (1563) establishing their existence. Gross description of these glands, fairly accurate, was given by Riolanus (1577-1657) in 1607 who called them "capsulae suprarenales". The term "capsulae renales" was applied to them by Spigelius (1567-1625) in 1627. (Portrait—Eustachius)
Monday

5:15 A.M. 34. 29.98; clear; NW
Pt. cloudy by 9 A.M. Clear this afternoon.
Bill Stevens came 11:30 A.M. at 5 o'clock in your

Tuesday

5:15 A.M. 32. 29.16; clear; NNE
Wet. I went to town 8 A.M., home 11:20.
Light rain began falling 3 P.M. Stopped by night. 0.12 inch.
A pleasant (female) came up on the brow in
front of the house at noon, & stayed looking toward
the house while we watched it through the
window for 2 or 3 minutes, then disappeared
over the brow. The first we ever saw.
We have been from grain this fall than
in many years.

The house of every one is to him as his castle and fortress, as well for his defence
against injury and violence, as for his repose—Sir Edward Coke

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Thomas Addison's (1795-1860) monograph on the
disease of the suprarenal capsules is an important landmark in the history of the subject. It appeared in 1855
and advanced the idea that any lesion of the glands that
would interfere with their normal function would cause the
disease.
10 DECEMBER

Wednesday

5:15 A.M. 36:30; cloudy; NW
Rose, Henry. Rose, Clarissa. Rose, Colman. 5:30 P.M. with a precipitate plaque in left arm, which I set

An account of the microscopic structures of cortex and medulla of the suprarenals was given by Leydig in 1851 and Kölliker in 1854. They perceived the close relationship between the medulla and the sympathetic nervous system. The actuality of an adrenal secretion was disclosed in 1856 by Vulpiani and again in 1866 by Arnold. (Portrait—Leydig)

11 DECEMBER

Thursday

5:15 A.M. 30:18; cloudy; N
Dear Professor, Rose, Clarissa. Rose, Colman. 3:30 P.M.
The skies cleared just before sundown.

I hope I shall always possess firmness and virtue enough to maintain what I consider the most ensiable of all titles, the character of an "Honest Man"—George Washington
The account of Albrecht von Kölliker (1817-1907) on the microscopic structures of cortex and medulla of the suparenals was given in 1854. Of Kölliker it has been said that "there is no fragment of the body of man on which he did not leave his mark" and, to quote C. S. Minot, "he knew more by direct personal observation of the microscopic structure of animals than anyone else who has ever lived."
5:15 A.M. 27; 30.10; clear; N
Cloudy this afternoon.

14 December

The brilliant investigator, John Jacob Abel (1857-1938), did his most outstanding work in the field of endocrine extracts. He and his coworkers isolated epinephrin and insulin in pure crystalline form, and his studies on the adrenals and pituitary were valuable. The John Jacob Abel Endowment for Research, at Johns Hopkins, is a fitting memorial to Abel.

It is never right to consider that a man has been made happy by fate, until his life is absolutely finished, and he has ended his existence—Sophocles

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Tuesday

5:15 AM 24; 30.08; clear; N W

Roscoe Long, Rose Curtis, bought his hay with
brown corn 2 PM. Dying all night. He also bought
a bushel of sweet potatoes & paid his bill, $10.

Wednesday

5:15 AM 24; 30.97; clear; N

H. A. Hubbell (John James) came 10 a.m. to
report his girl improving. James (John Hubbell's
grandson) lost an eye in a farm mill accident 6
weeks ago. Being the Masonic stone on the porch,
he told me he joined the Masonic lodge 8 year
ago. R. J. Thompson's mother, Margie, brought
his baby 2 PM. I don't see how it lives.

J. G. B. had a baby born today 3 PM, with a skin infection. After nearly a
year in Morriston, they have just moved back to
Rose Hill.

There is nothing more frightful than an active ignorance—Goethe

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Jokichi Takamine (1854-1922) discovered adrenalin—the active principle of the adrenal medulla—in 1901. It was an outstanding achievement, for the first time presenting a hormone in pure form, and aided in the advancement of endocrinology.
Thursday

5 A.M. 35°; 30.21; clear; SW

So today, Hoyt is the only man of Charles J. Parker, Sr., Stephens. Too many outside my family, made a deeper or better impression on me when I was a young boy than Mr. Parker, who published the town newspaper.

Friday

5 A.M. 30°; 30.22; clear; S

P.M. cloudy by 1 A.M.

Mother's 80th birthday. Home. 11:15 A.M. A visit to Dr. Carroll Antu of N. A. Wagner with a case from his to go to Bill Nettie to see Edith Wagner. I made the run, almost impossible parts in Rowe West Bottom. A trip on round mountain to find Edith with pneumonia. Home 2:30.

Donald Bennett took his wife (Ethel Belle) 3 P.M. for examination. She is due to be confounded in April. More come with them.

With the isolation and crystallization of the medullary secretion of the adrenals by von Furth and Abel, the groundwork was laid for other attempts. During 1927 and 1930, Stewart and Rogoff, Hartman, Swingle and Pfiffner, each isolated a substance from the suprarenal cortex. Szent-Györgyi and Koehler each isolated a substance from the adrenals. (Portrait—Szent-Györgyi)

He who imitates what is evil always goes beyond the example that is set; on the contrary, he who imitates what is good always falls short—Guicciardini

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William R. Warner & Co., Inc. —Serving Medicine Thru Research and Manufacture
Saturday

5 A.M. 38°. 30.28. clear.

Due to Round Mountain to see Edith Wagner.

10 A.M. I found her little improved. Home at 12.

Keith Thomas & two of the Moore boys. John &
W. D. Williams — came 2:30 P.M. & stayed an hour.

Keith is living with the Moores.

Rain 3:30 P.M. Cloudy all afternoon.

Sunday

5 A.M. 38°. 30.28. clear.

Due to Round Mountain 8 A.M. to see Edith Wagner.

Much better. I gave her 30,000 units penicillin in
oil at 10 A.M. By 11 A.M. since I went to town for it.

12 P.M. I gave her another 20,000 units penicillin.

This is the first penicillin I have ever given.

The doctor came 3 P.M.

Leonard Hubbard came 1:30 P.M. to pay
his account. He brought a box of greens, turnips.

I learned paint from Mrs. Black.

Instinct is untaught ability—Bain

W. B. Cannon (1871-1945), widely known for his
work in endocrinology, described the adrenal medulla
as being the "reserve or emergency gland" or the so-
called "minute man" of the body. In 1931, Cannon
announced his results of research work with the dis-
covery of an unknown adrenalin-like hormone. He
named it "sympathin".
In the latter half of the sixteenth century, Volcher Coiter (c.1534-76) observed the presence of the corpus luteum, or yellow body, in the ovary of mammals. It was not named nor clearly defined until 1686 when Malphighi gave a description of it in virgin and pregnant animals.

At Earth's great market where joy is trafficked in,
Buy while thy purse yet swells with golden Youth—ALAN SEEGER

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WILLIAM R. WARNER & CO., INC.—Serving Medicine Thru Research and Manufacture
Wednesday

24 December

4:45 a.m. 27:30.20; clear; N

Annie Hubbard brought her boy, Bob, 11 A.M. with an abscess at side of eye, which I drained. Lucien Hubbard, who came with them, got medicine for Lutie Hubbard's baby.

7 p.m. phone after 10 a.m.

Thursday

25 December

23:30:35; clear; NW

Jeff and Elvira, Red Cross, Little Rock, came 1:30 P.M. with his wife, sister & friends. He is interested in getting the Red Cross schools back on the Mountain.

They walked out to the Alcoves, 2:10 P.M.

The Alcoves brought their horse in their car at 4.

Tis with our judgments as our watches, none
Go just alike, yet each believes his own—Pope

Excretion of normal ovaries for the relief of a neurotic condition was first performed by Robert Barlow in 1872. The physiological basis of this operation, a supposed internal secretion from a specialized set of interstitial ovarian cells, has been indicated in many ways.
In 1907, Jacques Loeb (1859-1925) demonstrated that the corpus luteum prepares the uterus to receive a fertilized ovum; that, whether followed by pregnancy or menstruation, it causes "progestational" changes in the endometrium. Actual existence of the hormone was proved by Weichert in 1928 after he successfully obtained definite changes in the animal uterus similar to those by Loeb.
Monday

S A M 40: 19.92; clear; S
Charlie Kohn (pronounced Con) & wife, Rose Cohn, brought their 3 year old girl "N" in with an infected mouth. A good letter came from Sam today.

Henry & Katheryn Mitchel & serv. Jimmie came 6:10 pm & stayed until 7:15, to talk to us about getting Jimmie in Hendricks next year. Mother had suggested it & I wrote to them this morning. We sent them over to talk to Mr. Kemp.

He had Henry Wallace announce, 9:30 tonight, that he would be a candidate for President on a third-party ticket next year.

I hasten to laugh at everything, for fear of being obliged to weep—BEAUMARCHAIS

A precursor of the doctrine of the internal secretions was Théophile de Bordeu (1722-76). In his "Analyse médicale du sang, 1776," he compared the physical characteristics of capons to those of eunuchs. Bordeu suspected that the testicles in the male were actually responsible for sex development and function as well as the presence of the secondary sex characteristics.
One of the founders of endocrinology was the gifted scientist, Charles Edward Brown-Séquard (1817-94) whose work sponsored much of the interest in the use of testicular and other organ extracts. He injected an extract containing dog and guinea pig testes into himself at the age of 72 and claimed to have been rejuvenated, a report which has been discounted as being over-enthusiastic and imaginary.
**Micro Method for the Determination of Sulfonamides in the Blood**

**Method**

**Principle.** A fourth of a cubic centimeter of blood is mixed with saponin and trichloroacetic acid. This mixture is filtered, and to the filtrate is added Ehrlich's reagent. A yellow color will appear immediately if a sulfanilamide is present in the blood in a quantity of more than 0.5 mg. per hundred cubic centimeters. The yellow color is compared with the colors of four standards.

**Reagents.**

1. Aqueous solution of 50 mg. of saponin in 100 cc. of distilled water.
2. Twenty per cent aqueous solution of trichloroacetic acid.
3. Two per cent solution of pure Ehrlich's paradiethylamino-benzaldehyde in 95 per cent alcohol. It must be stored in a glass-stoppered brown bottle. It remains colorless for a long period of time but should be discarded if it becomes yellow. If only a slight yellow color develops in the presence of an acid, the reagent is still satisfactory.
4. A few powders containing accurately weighed 100 mg. portions of sulfanilamide in each. From one of these powders a stock standard solution is made by dissolving it in 100 cc. of distilled water. This solution, placed in an ice box, will keep for several months. In the preparation of the standards a 10 mg. solution of sulfanilamide per hundred cubic centimeters is prepared by diluting 2 cc. of the stock standard to 20 cc. with distilled water. From this 10 mg. per hundred cubic centimeter solution four solutions are prepared:

   Seven mg. per hundred cubic centimeters. Add 3 cc. of distilled water to 7 cc. of 10 mg. per hundred cubic centimeter solution.

   Five mg. per hundred cubic centimeters. Add 5 cc. of distilled water to 5 cc. of 10 mg. per hundred cubic centimeter solution.

   Three mg. per hundred cubic centimeters. Add 7 cc. of distilled water to 3 cc. of 10 mg. per hundred cubic centimeter solution.

   One mg. per hundred cubic centimeters. Add 9 cc. of distilled water to 1 cc. of 10 mg. per hundred cubic centimeter solution.

From these four solutions the four standards are prepared as follows: Of each of these solutions 0.25 cc. is placed in each of four tubes. To each tube 4 cc. of the saponin solution and 4 cc. of trichloroacetic acid solution is added. Filtration is necessary only if there is the slightest cloudiness. Into each of four other very clean tubes, having the same diameter as has the "unknown" tube, is transferred 4 cc. of the mixtures and 2 cc. of Ehrlich's reagent. These four tubes are placed in the colorimeter. These standards keep well in an ice box certainly for two weeks.

5. A simple so-called "tube support" for color comparison. It is a piece of wood with seven holes, so that the tube with the unknown can be placed between any two standard tubes. A light blue glass is used as a background at the openings in the colorimeter, because some eyes can distinguish slight color differences in yellow-blue better than in yellow. Duboscq types of colorimeters and a photoelectric colorimeter may be used.

**Procedure.** Take with an adequate pipet 0.25 cc. of blood from an ear lobe or finger tip. If oxalated venous blood is available for other examinations, one may use this blood. Blow the blood out in a small mortar. Add 4 cc. of saponin solution. Rub with a pestle and wait four minutes (for hemolysis). Add 4 cc. of trichloroacetic acid solution. Rub again with the pestle. Filter through a retentive filter (No. 5 Whatman) of about 6 cm. diameter. Transfer 4 cc. of the filtrate in a very clean tube. Add 2 cc. of Ehrlich's reagent. Put the tube in the colorimeter. Compare with the standards. If the color of the unknown is more intense than the standard of 7 mg. per hundred cubic centimeters take 1 cc. of the filtrate, dilute it four times (by adding 3 cc. of distilled water). Treat this solution just as the undiluted filtrate. The result of the reading is multiplied by 4.

**Conversion Factors.** These are factors by which the reading must be multiplied if sulfonamides other than sulfanilamide are used. The conversion factor for sulfathiazole is 1.7 and for sulfadiazine 1.5. For other sulfonamides which survive the crucial clinical tests, one may calculate the conversion factor as follows. Because the solubility in water of the sulfonamides differs widely, it is advisable to make a 5 mg. per cent solution from the new sulfonamide. Up to the present this has been possible with all sulfonamides. For example, in 100 cc. of distilled water at 37.5 C. the solubility of the free drug is 1,370 mg. of sulfanilamide, 92 mg. of sulfathiazole and 11 mg. sulfadiazine.

**Procedure.** Take three tubes. In the first tube put 5 cc. of a 5 mg. per hundred cubic centimeter solution of the new sulfonamide. In the second tube put 3 cc. of the 5 mg. per hundred cubic centimeter solution plus 2 cc. of distilled water. In the third tube put 1 cc. of the 5 mg. per hundred cubic centimeter solution plus 4 cc. of distilled water; 0.25 cc. of each tube is treated just as the blood filtrate. Compare the standards. Example: The color developed by a 3 mg. per hundred cubic centimeter solution of sulfadiazine corresponds with the color of a 2 mg. per hundred cubic centimeter solution of sulfanilamide. Therefore the conversion factor is 1.5.

*Peters, J. T., J.A.M.A., 124:31-33 (Jan. 1), 1944*
DETERMINATION OF SULFONAMIDES IN BLOOD AND URINE*

Reagents—
1. A solution of trichloroacetic acid containing 15 gm. dissolved in water and diluted to 100 cc.
2. A 0.1 per cent solution of sodium nitrite.
3. An aqueous solution of N-(1-naphthyl)ethylenediamine dihydrochloride containing 100 mg. per 100 cc. This solution should be kept in a dark colored bottle.
4. A solution of saponin containing 0.5 gm. per liter.
5. 4 N hydrochloric acid.
6. A solution of ammonium sulfamate, containing 0.5 gm. per 100 cc.
7. A stock solution of sulfanilamide (or other sulfonamide drugs) in water containing 200 mg. per liter. This solution can be kept for several months in the ice box. The most convenient standards to prepare from the stock solution are 1, 0.5, and 0.2 mg. per cc. To prepare these 5, 2.5, and 1 cc. of the stock solution plus 18 cc. of the 15 per cent solution of trichloroacetic acid are diluted to 100 cc.

Procedure for Blood—2 cc. of oxalated blood are measured into a flask and diluted with 30 cc. of saponin solution, and after 1 or 2 minutes precipitated with 8 cc. of the solution of trichloroacetic acid. The free sulfanilamide (or other sulfonamide drugs) is determined in the filtrate as follows: 1 cc. of the sodium nitrite solution is added to 10 cc. of the filtrate. After 3 minutes standing, 1 cc. of the sulfamate solution is added, and after 2 minutes standing, 1 cc. of the solution of N-(1-naphthyl)ethylenediamine dihydrochloride is added. The unknown is compared with an appropriate standard which has been treated as above. This comparison can be made immediately and no change in color is observed for 1 hour or more. To determine the total sulfanilamide, (or other sulfonamide drugs) 10 cc. of the filtrate are treated with 0.5 cc. of 4 N hydrochloric acid, heated in a boiling water bath for 1 hour, cooled, and the volume adjusted to 10 cc. The subsequent procedure is as stated above for determining free sulfanilamide.

Procedure for Urine—Protein-free urine is diluted to contain about 1 to 2 mg. per cent of sulfanilamide (or other sulfonamide drugs) and 50 cc. of the diluted urine plus 3 cc. of the 4 N hydrochloric acid are diluted to 100 cc. 10 cc. of the product of this second dilution are treated as a blood filtrate for free sulfanilamide, (or other sulfonamide drugs) and 10 cc. heated without further addition of acid for total sulfanilamide (or other sulfonamide drugs). If the urine contains protein, it is diluted and treated by the procedure for blood.

Note: A standard sulfanilamide solution may be used in determining the concentration of sulfapyridine, sulfathiazole or sulfadiazine, providing the results obtained are multiplied by suitable conversion factors. These are as follows: for sulfapyridine and sulfadiazine, the results should be multiplied by 1.45; and for sulfathiazole by 1.48.

3. The reagents can be obtained from LaMotte Chemical Products Co., Baltimore.
4. Sample and reagent volumes can be proportionately reduced to give the minimal amount of filtrate necessary for an accurate color comparison.

### THE DOSAGE FOR SULFONAMIDES AND ADJUVANT ALKALIES

<table>
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<tr>
<th>The Sulfonamide</th>
<th>Infections for Which the Sulfonamide Is Considered Most Effective</th>
<th>Initial and Subsequent Doses* (Oral)</th>
<th>‘Alka-Zane’** Alkaline Effervescent Compound Dosage for Adjuvant Therapy</th>
</tr>
</thead>
</table>
| Sulfathiazole    | Staphylococcc, pneumococcc, and urinary tract infections.         | Adults:  
Initial: 4 Gm.  
Subsequent: 1 Gm. every 4 hours until temperature has been normal for 72 hours | (To alkalize urine and promote diuresis)  
Adults: 5 Gm. (1 heaping teaspoonful) in water 4 times daily  
Children: 1-3 Gm. (¼ to ½ teaspoonful) in water 4 times daily |
| Sulfadiazine     | Streptococcc, staphylococcc, pneumococcc, meningococcc, gonococcc and urinary tract infections. | Adults:  
Initial: 0.10 Gm/Kg  
Subsequent: 1 Gm. every 4 hours until temperature has been normal for 72 hours | (To alkalize urine and promote diuresis)  
Adults: 5 Gm. (1 heaping teaspoonful) in water 4 times daily  
Children: 1-3 Gm. (¼ to ½ teaspoonful) in water 4 times daily |

### THE DOSAGE FOR SULFONAMIDES AND ADJUVANT ALKALIES

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</tr>
</thead>
</table>
| Sulfamerazine   | Streptococcc, staphylococcc, pneumococcc, meningococcc, gonococcc and urinary tract infections. | Adults:  
Initial: 3 or 4 Gm.  
Subsequent: 1 Gm. every 8 hours. Continued for 72 hours after the temperature, pulse, respiration rates return to normal | (Although incidence of crystalluria is reduced, alkalization is recommended)  
Adults: 5 Gm. (1 heaping teaspoonful) in water 4 times daily  
Children: 1-3 Gm. (¼ to ½ teaspoonful) in water 4 times daily |
| Sulfaguanidine  | Bacillary dysentery.                                             | Adults:  
Initial: 0.05 Gm/Kg  
Subsequent: 0.05 Gm/Kg every 4 hours day and night until number of stools is 5 or less daily; then 0.05 Gm/Kg every 8 hours for at least 3 days | (Prophylactically for dehydration and acidosis)  
Adults: 5 Gm. (1 heaping teaspoonful) in water 4-6 times daily |
|                 |                                                                 | Children: | |
|                 |                                                                 | Infants under 6 mos.  
Initial: 0.5 Gm.  
Subsequent: 0.25 Gm. every 12 hours | |
|                 |                                                                 | Infants 6 mos.-3 yrs.  
Initial: 1.0 Gm.  
Subsequent: 0.5 Gm. every 12 hours | |
|                 |                                                                 | Children 3-10 yrs.  
Initial: 1.5 Gm.  
Subsequent: 1.0 Gm. every 12 hours | |
DOSES PROPORTIONATE TO AGE

SCALE OF GUY'S HOSPITAL, LONDON

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<tr>
<th>Age</th>
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<td>5 and 6 Years</td>
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One is used as the unit in this table.

The dose for children may also be calculated by the following methods:

1. Divide the age by the age plus 12; the result will be the proportionate dose. For instance, a child three years old would receive 3 divided by 3 plus 12, that is, three divided by 15, result is 1/5. A child three years old would receive one-fifth of the adult dose. (Young's Rule)

\[ \text{weight of child} \times \text{adult dose} \]

2. Clark's rule:

\[ \frac{150}{\text{age of child at next birthday}} \times \text{adult dose} \]

3. Cowling's rule:

\[ \frac{24}{\text{adult dose}} \]

These rules should not be applied to drugs the action of which is influenced specifically by age nor should they be applied to extremely young children. Doses for infants should be learned as such and not calculated by formula.
### HORMONES

<table>
<thead>
<tr>
<th>Substance</th>
<th>Dosage (average)</th>
<th>Source</th>
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<tr>
<td>Ketohydroxyestrin</td>
<td>0.2 to 1.0 mg. (2000-10,000 I.U.) intramuscularly one or more times weekly</td>
<td>Human pregnancy urine</td>
<td>Menopausal syndrome</td>
</tr>
<tr>
<td>(Estrone)</td>
<td></td>
<td>Placenta</td>
<td>Smear vaginitis</td>
</tr>
<tr>
<td>Dihydroxyestrin</td>
<td>0.083-0.167 mg (10,000-20,000 I.U.) intramuscularly one or more times weekly</td>
<td>Hydrogenation of estrone</td>
<td>Gonococcal vaginitis</td>
</tr>
<tr>
<td>(Estriol)</td>
<td></td>
<td></td>
<td>Suppression of lactation</td>
</tr>
<tr>
<td>Trilhydroxyestrin</td>
<td>0.06 to 0.12 mg. orally one to four times a day</td>
<td>Human pregnancy urine</td>
<td>Female hypogonadism</td>
</tr>
<tr>
<td>(Estriol)</td>
<td></td>
<td></td>
<td>Menstrual irregularities</td>
</tr>
<tr>
<td><strong>Progestrone:</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Corpus luteum hormone</td>
<td>1.0 to 10.0 mg. (1-10 I.U.) intramuscularly</td>
<td>Animal ovaries</td>
<td>Dysmenorrhea</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Synthetic</td>
<td>Menorrhagia</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Habitual abortion</td>
</tr>
<tr>
<td><strong>Androgens:</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Testosterone propionate</td>
<td>5.0 to 25.0 mg. intramuscularly</td>
<td>Testicular tissue</td>
<td>Male</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Synthetic</td>
<td>Eunuchoidism</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Delayed puberty</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Falling libido</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Male climacteric</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Female</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Menometrorrhagia</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Inhibition of lactation</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>After-pains</td>
</tr>
</tbody>
</table>

### HORMONES

<table>
<thead>
<tr>
<th>Substance</th>
<th>Dosage (average)</th>
<th>Source</th>
<th>Therapeutic Indications</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Gonadotropic:</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chorionic gonadotropic</td>
<td>200-500 I.U. intramuscularly two or three times weekly</td>
<td>Human pregnancy urine</td>
<td>Cryptorchidism</td>
</tr>
<tr>
<td>(P.U.)</td>
<td></td>
<td>Placenta</td>
<td>Functional uterine bleeding</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Amenorrhea</td>
</tr>
<tr>
<td>Equine gonadotropic</td>
<td>200 to 400 I.U. intramuscularly two or three times weekly</td>
<td>Pregnant mare’s serum</td>
<td>Female sterility</td>
</tr>
<tr>
<td>(P.M.S.)</td>
<td></td>
<td></td>
<td>Male sterility</td>
</tr>
<tr>
<td><strong>Anterior Pituitary</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lobe:</td>
<td></td>
<td></td>
<td>Symptomatic</td>
</tr>
<tr>
<td>Extract</td>
<td>Not standardized. Preparations are injected intramuscularly</td>
<td>Pituitary body anterior lobe</td>
<td></td>
</tr>
<tr>
<td>Desiccated powder</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The following factors may be elaborated by the gland:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>— Known —</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lactogenetic hormone</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Adrenotropic hormone</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Growth hormone</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gonadotropic hormone</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Thyrotropic hormone</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>— Postulated —</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ketogenic hormone</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Glycotropic hormone</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Diabetogenic hormone</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Parathyrpotropic hormone</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pancreatropic hormone</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Substance</td>
<td>Dosage (average)</td>
<td>Source</td>
<td>Therapeutic Indications</td>
</tr>
<tr>
<td>--------------------------------</td>
<td>----------------------------------</td>
<td>------------------</td>
<td>---------------------------------------</td>
</tr>
<tr>
<td><strong>Posterior Pituitary Lobe:</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Posterior pituitary injection, U.S.P.</td>
<td>Obstetrical, 0.2 to 1.0 cc. (2-10 U.S.P. units)</td>
<td>Pituitary glands</td>
<td>Obstetrical</td>
</tr>
<tr>
<td></td>
<td>Surgical, 1.0 to 2.0 cc. (10-20 U.S.P. units)</td>
<td></td>
<td>Uterine atony</td>
</tr>
<tr>
<td>Alpha-hypophosphamine (oxytocic)</td>
<td>0.3 to 1 cc. (3-10 U.S.P. units)</td>
<td></td>
<td>Postpartum hemorrhage</td>
</tr>
<tr>
<td>Beta-hypophosphamine (pressor)</td>
<td>0.3 to 1 cc. (6-20 pressor units)</td>
<td></td>
<td>Surgical</td>
</tr>
<tr>
<td></td>
<td>The above preparations for hypodermic or intramuscular injection.</td>
<td></td>
<td>Postoperative intestinal paresis and distention</td>
</tr>
<tr>
<td><strong>Thyroid:</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Thyroid U.S.P.</td>
<td>60 to 120.0 mg., orally</td>
<td>Thyroid glands</td>
<td>Hypothyroidism</td>
</tr>
<tr>
<td>Thyroxin U.S.P.</td>
<td>0.2 to 2.0 mg., intravenously</td>
<td>Synthetic</td>
<td>Simple goiter</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Cretinism</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Myxedema</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Obesity (selected cases)</td>
</tr>
</tbody>
</table>

**HORMONES**

<table>
<thead>
<tr>
<th>Substance</th>
<th>Dosage (average)</th>
<th>Source</th>
<th>Therapeutic Indications</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Parathyroid:</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Parathyroid injection U.S.P.</td>
<td>Maintenance: 0.2 to 0.4 cc. (20-40 U.S.P. units)</td>
<td>Parathyroid glands</td>
<td>Hypoparathyroidism</td>
</tr>
<tr>
<td></td>
<td>Critical: 1.0 to 3.0 cc. (100-300 U.S.P. units)</td>
<td></td>
<td>Parathyroid tetany</td>
</tr>
<tr>
<td></td>
<td>For subcutaneous injection</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Adrenal Medulla:</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Epinephrine U.S.P.</td>
<td>0.06 to 1.0 cc. of 1:1000 solution by subcutaneous injection</td>
<td>Suprarenal glands</td>
<td>Asthmatic paroxysms</td>
</tr>
<tr>
<td></td>
<td>Synthetic</td>
<td></td>
<td>Anaphylactic reactions</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Locally—hemorrhage</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Catarrial congestion</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Glaucoma</td>
</tr>
<tr>
<td><strong>Adrenal Cortex:</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Adrenal Cortex Extract</td>
<td>Symptomatic (100 to 2500 Dog Units, 2-50 cc. by subcutaneous or intramuscular injection)</td>
<td>Suprarenal glands</td>
<td>Addison’s disease</td>
</tr>
<tr>
<td>Desoxycorticosterone</td>
<td>Symptomatic (5.0 to 15.0 mg. by intramuscular injection)</td>
<td>Synthetic</td>
<td>Other adrenal cortex hormone deficiencies</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Shock</td>
</tr>
<tr>
<td><strong>Insulin</strong></td>
<td>Average Gm. of d-glucose excreted = 15</td>
<td>Fresh pancreatic glands</td>
<td>Diabetes mellitus</td>
</tr>
<tr>
<td></td>
<td>Sufficient units to render aglycosuric</td>
<td></td>
<td>Malnutrition (selected cases)</td>
</tr>
<tr>
<td></td>
<td>(1 unit = 1/22 mg. of zinc insulin crystals)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>For subcutaneous administration</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
## HORMONE-LIKE PREPARATIONS

<table>
<thead>
<tr>
<th>Substance</th>
<th>Dosage</th>
<th>Sources</th>
<th>Therapeutic Indications</th>
</tr>
</thead>
<tbody>
<tr>
<td>Estrogen</td>
<td>0.1 to 1.0 mg. orally per day</td>
<td>Synthetic</td>
<td>Menopausal syndrome</td>
</tr>
<tr>
<td>Diethylstilbestrol (Stilbestrol)</td>
<td>0.5 to 2.0 mg. intramuscularly 3 times a week</td>
<td></td>
<td>Senile vaginitis</td>
</tr>
<tr>
<td>Estrogen</td>
<td>0.05 to 0.15 mg. orally per day</td>
<td></td>
<td>Gonorrheal vaginitis</td>
</tr>
<tr>
<td>Ethinyl estradiol</td>
<td></td>
<td></td>
<td>Suppression of lactation</td>
</tr>
<tr>
<td>Progestin</td>
<td>5.0 to 30.0 mg. orally per day</td>
<td>Synthetic</td>
<td>Female hypogonadism</td>
</tr>
<tr>
<td>Pregnenolone</td>
<td></td>
<td></td>
<td>Menstrual irregularities</td>
</tr>
<tr>
<td>Androgen</td>
<td>10.0 to 50.0 mg. orally</td>
<td>Synthetic</td>
<td></td>
</tr>
<tr>
<td>Methyl testosterone</td>
<td></td>
<td></td>
<td></td>
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</tbody>
</table>

## THE VITAMINS

<table>
<thead>
<tr>
<th>Vitamin A</th>
<th>Therapeutic Indication</th>
<th>Sources</th>
<th>Daily Requirements*</th>
<th>Therapeutic Doses</th>
</tr>
</thead>
<tbody>
<tr>
<td>(antixerophthalmic, epithelium protecting vitamin) Fat Soluble, Pro-Vitamin A: Carotenes cryptoxanthin</td>
<td>Night blindness or dark adaptation. Prolonged deficiency effects epithelial structures producing atrophy and keratinization. Metaplasia may occur in salivary glands, respiratory mucous membrane, the eyes and genito-urinary system.</td>
<td>Liver oils, Green vegetables, Milk and dairy products.</td>
<td>Man (70 Kg.) ............. 5000 I.U. 10,000-25,000 U.S.P. or I.U. daily.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Woman (56 Kg.) ............. 6000 I.U.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Pregnancy (latter half) ............. 1.8 mg.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Lactation ............. 5000 I.U.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Children:</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>under 1 year ............. 1500 I.U.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>1-12 years ............. 2000-4500 I.U.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Girls 13-20 years ............. 5000 I.U.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Boys 13-20 years ............. 5000-6000 I.U.</td>
<td></td>
</tr>
<tr>
<td>Thiamine Hydrochloride (vitamin B1, anti-neuritic, anti-beriberi vitamin) Water Soluble, 1 U.S.P. or I.U. = 3 micrograms of thiamine hydrochloride.</td>
<td>Beriberi, anorexia, fatigue, polyneuritis, neuritis of chronic alcoholism, neuritis of pregnancy. Increased needs for B1 in prolonged fever, hyperhydrosis and acute inflammatory nervous diseases.</td>
<td>Grains, whole or embryo, Enriched white bread, Pork, Yeast, Bran, Crystalline thiamine hydrochloride.</td>
<td>Man (70 Kg.) ............. 1.5-2.3 mg.</td>
<td>10-50 mg. daily.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Woman (56 Kg.) ............. 1.2-1.8 mg.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Pregnancy (latter half) ............. 1.8 mg.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Lactation ............. 2.3 mg.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Children:</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>under 1 year ............. 0.4 mg.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>1-12 years ............. 0.6-1.2 mg.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Girls 13-20 years ............. 1.4-1.2 mg.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Boys 13-20 years ............. 1.6-2.0 mg.</td>
<td></td>
</tr>
</tbody>
</table>
## The Vitamins

<table>
<thead>
<tr>
<th>Name</th>
<th>Therapeutic Indication</th>
<th>Sources</th>
<th>Daily Requirements*</th>
<th>Therapeutic Doses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Riboflavin (vitamin B2 or C) Water Soluble</td>
<td>Facial seborrheic dermatitis, photophobia, cheilitis, specific glossitis.</td>
<td>Bran, Enriched white bread, Yeast, Milk and dairy products, Liver, Green vegetables, Crystalline riboflavin.</td>
<td>Man (70 Kg.) 2.2-3.3 mg.</td>
<td>5-15 mg. daily.</td>
</tr>
<tr>
<td>Niacin (nicotinic acid, nicotinamide, anti-pellagra vitamin) Water Soluble</td>
<td>Characteristic symptoms of pellagra such as anorexia, dermatitis, stomatitis, diarrhea and mental disturbances, Alcoholic pellagra.</td>
<td>Bran, Liver, Yeast, Enriched bread, Peanuts, Crystalline niacin and niacinamide.</td>
<td>Man (70 Kg.) 15-23 mg. Woman (56 Kg.) 12-18 mg. Pregnancy (latter half) 18 mg. Lactation 23 mg. Children: under 1 year 4 mg. 1-12 years 6-12 mg. Girls 13-20 years 14-12 mg. Boys 13-20 years 16-20 mg.</td>
<td>50-500 mg. daily.</td>
</tr>
<tr>
<td>Pyridoxine (vitamin B6) Water Soluble</td>
<td>In treatment of Parkinsonism, amyotrophic lateral sclerosis, muscular dystrophy and atrophy. Well defined symptoms have not been described in man.</td>
<td>Egg yolk, Wheat germ, Yeast, Rice polishings, Whole grains, Crystalline pyridoxine hydrochloride.</td>
<td>Not determined.</td>
<td>10 to 15 mg. by oral or parenteral administration.</td>
</tr>
<tr>
<td>Pantothenic Acid Water Soluble</td>
<td>Human deficiency symptoms have not been described. Clinical observations, however, indicate that pantothenic acid is essential to human nutrition.</td>
<td>Liver, Molasses, Peanuts, Yeast, Wheat bran, Wheat germ, Crystalline calcium pantothenate.</td>
<td>Not determined.</td>
<td>Daily doses of 10 to 50 mg. have been suggested.</td>
</tr>
<tr>
<td>Vitamin C (ascorbic acid, c vitaminc acid) 1 U.S.P. or I.U. = 50 micrograms of ascorbic acid</td>
<td>Manifestations of scurvy such as hemorrhages, edema, loosening of the teeth, gingivitis, interference with wound healing. Mild symptoms such as spongy gum, malaise and weakness.</td>
<td>Fresh fruits, Fruit juices, Green vegetables, Cabbage, Peppers, Crystalline ascorbic acid.</td>
<td>Man (70 Kg.) 75 mg. Woman (56 Kg.) 70 mg. Pregnancy (latter half) 100 mg. Lactation 150 mg. Children: under 1 year 30 mg. 1-12 years 35-75 mg. Girls 13-20 years 80 mg. Boys 13-20 years 90-100 mg.</td>
<td>100 mg. daily in addition to amount supplied by the diet.</td>
</tr>
</tbody>
</table>
### The Vitamins

<table>
<thead>
<tr>
<th>Name</th>
<th>Therapeutic Indication</th>
<th>Sources</th>
<th>Daily Requirements*</th>
<th>Therapeutic Doses</th>
</tr>
</thead>
</table>
| Vitamin D             | Rickets, enlarged joints, curved spine, bony ribs, soft bones, osteomalacia, osteoporosis, low blood phosphorus | Fish liver oils and concentrates, calciferol, irradiated 7-dehydrocholesterol, irradiated milk and foods. | Children under 1 year...400-800 L.U.  
Pregnancy (latter half)...400-800 L.U.  
Lactation .......................400-800 L.U. | 1,000 to 20,000 L.U. units daily. |
| Fat Soluble.          | Vitamin E deficiency in human beings has not been described. In experimental animals vitamin E deficiency produces sterility and muscular dystrophy. | Wheat germ oil, corn oil, cottonseed oil, lettuce, crystalline alphatocopherol acetate. | Not determined.  | 50-100 mg daily for treatment of certain types of ovarian failure, threatened abortion and muscular dystrophy. |
| Vitamin K             | Prolongation of prothrombin clotting time. Hemorrhagic disease of newborn and in cases of obstructive jaundice. | Cabbage, cauliflower, kale, spinach and other green vegetables. | Not determined.  | In obstructive jaundice 1 to 2 mg of Menadione orally or intramuscularly. For prevention of hypoprothrombinemia of newborn 1 to 2 mg of Menadione. |
| (2 methyl-3-phytyl)   | 1,4-naphthoquinone)  
Fat Soluble.  
Menadione  
(2 methyl 1,4 naphthoquinone) |                                                                                     |                                                  |                                                                                 |

#### Newer Factors of the "B" Complex

**Biotin**—Anti-egg white injury factor, role in human nutrition has not been determined.

**Choline**—Hydroxyethyl trimethyl ammonium hydroxide. Essential for normal fat metabolism in experimental animals.

**Folic Acid**—Required by certain lactic acid forming bacteria. Role in human nutrition not established.

**Inositol**—Hexahydroxy cyclohexane. Prevents loss of hair in mice. Role in human nutrition not established.

**Para-aminobenzoic acid**—Growth factor for chicks and bacteria. Role in human nutrition not established.

### Vitamin Units

<table>
<thead>
<tr>
<th>Vitamin A</th>
<th>One L.U. or U.S.P. unit = 0.6 microgram of beta carotene</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vitamin B₁</td>
<td>One L.U. or U.S.P. unit = 3.0 micrograms of thiamine hydrochloride</td>
</tr>
<tr>
<td>Vitamin C</td>
<td>One L.U. unit = 0.05 milligrams of ascorbic acid</td>
</tr>
<tr>
<td>Vitamin D</td>
<td>One L.U. or U.S.P. unit = 0.025 micrograms of calciferol</td>
</tr>
</tbody>
</table>

**Note:** 1000 micrograms = 1 milligram  
1 International Unit (I.U.) = 1 U.S.P. unit

### Minimum Daily Adult Vitamin Requirements

<table>
<thead>
<tr>
<th>Vitamin A</th>
<th>4000 U.S.P. units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vitamin B₁</td>
<td>1.0 milligrams</td>
</tr>
<tr>
<td>Vitamin B₂</td>
<td>2.0 milligrams</td>
</tr>
<tr>
<td>Vitamin C</td>
<td>30.0 milligrams</td>
</tr>
<tr>
<td>Vitamin D</td>
<td>400 U.S.P. units</td>
</tr>
</tbody>
</table>

*Based on the chart of "Recommended Dietary Allowances" of the Food and Nutrition Board of the National Research Council; J.A.M.A. 116:2461, 1941.*

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**NEWER FACTORS OF THE "B" COMPLEX**

**Biotin**—Anti-egg white injury factor, role in human nutrition has not been determined.

**Choline**—Hydroxyethyl trimethyl ammonium hydroxide. Essential for normal fat metabolism in experimental animals.

**Folic Acid**—Required by certain lactic acid forming bacteria. Role in human nutrition not established.

**Inositol**—Hexahydroxy cyclohexane. Prevents loss of hair in mice. Role in human nutrition not established.

**Para-aminobenzoic acid**—Growth factor for chicks and bacteria. Role in human nutrition not established.
### TABLES OF APPROXIMATE EQUIVALENTS OF DOSES, APOTHECARY'S AND METRIC SYSTEMS

<table>
<thead>
<tr>
<th>Apothecary or Troy</th>
<th>Metric</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 ounce = 30 grams (Gm.)</td>
<td></td>
</tr>
<tr>
<td>4 drams = 15 grams (Gm.)</td>
<td>300 cubic centimeters (cc.)</td>
</tr>
<tr>
<td>2½ drams = 10 grams (Gm.)</td>
<td>240 cubic centimeters (cc.)</td>
</tr>
<tr>
<td>2 drams = 8 grams (Gm.)</td>
<td>200 cubic centimeters (cc.)</td>
</tr>
<tr>
<td>7½ grains = 5 grams (Gm.)</td>
<td>120 cubic centimeters (cc.)</td>
</tr>
<tr>
<td>1 dram = 4 grams (Gm.)</td>
<td>100 cubic centimeters (cc.)</td>
</tr>
<tr>
<td>45 grains = 3 grams (Gm.)</td>
<td>60 cubic centimeters (cc.)</td>
</tr>
<tr>
<td>30 grains = 2 grams (Gm.)</td>
<td>50 cubic centimeters (cc.)</td>
</tr>
<tr>
<td>15 grains = 1 gram (Gm.)</td>
<td>30 cubic centimeters (cc.)</td>
</tr>
<tr>
<td>10 grains = 0.65 gram (Gm.)</td>
<td>25 cubic centimeters (cc.)</td>
</tr>
<tr>
<td>7½ grains = 0.5 gram (Gm.)</td>
<td>20 cubic centimeters (cc.)</td>
</tr>
<tr>
<td>7 grains = 0.45 gram (Gm.)</td>
<td></td>
</tr>
<tr>
<td>6 grains = 0.4 gram (Gm.)</td>
<td></td>
</tr>
<tr>
<td>5 grains = 0.32 gram (Gm.)</td>
<td>15 cubic centimeters (cc.)</td>
</tr>
<tr>
<td>4 grains = 0.25 gram (Gm.)</td>
<td></td>
</tr>
<tr>
<td>3 grains = 0.2 gram (Gm.)</td>
<td></td>
</tr>
<tr>
<td>2½ grains = 0.16 gram (Gm.)</td>
<td></td>
</tr>
<tr>
<td>2 grains = 0.13 gram (Gm.)</td>
<td></td>
</tr>
<tr>
<td>1½ grains = 0.1 gram (Gm.)</td>
<td></td>
</tr>
<tr>
<td>1 grain = 65 milligrams (mg.)</td>
<td>5 cubic centimeters (cc.)</td>
</tr>
<tr>
<td>½ grain = 50 milligrams (mg.)</td>
<td>4 cubic centimeters (cc.)</td>
</tr>
<tr>
<td>¼ grain = 45 milligrams (mg.)</td>
<td>3 cubic centimeters (cc.)</td>
</tr>
<tr>
<td>⅛ grain = 32 milligrams (mg.)</td>
<td>2 cubic centimeters (cc.)</td>
</tr>
<tr>
<td>⅛ grain = 24 milligrams (mg.)</td>
<td>1.8 cubic centimeters (cc.)</td>
</tr>
<tr>
<td>⅛ grain = 22 milligrams (mg.)</td>
<td>1 cubic centimeter (cc.)</td>
</tr>
<tr>
<td>⅛ grain = 16 milligrams (mg.)</td>
<td>1.2 cubic centimeters (cc.)</td>
</tr>
<tr>
<td>⅛ grain = 11 milligrams (mg.)</td>
<td></td>
</tr>
<tr>
<td>⅛ grain = 8 milligrams (mg.)</td>
<td></td>
</tr>
<tr>
<td>⅛ grain = 6.5 milligrams (mg.)</td>
<td>0.9 cubic centimeter (cc.)</td>
</tr>
<tr>
<td>¼ grain = 5.4 milligrams (mg.)</td>
<td></td>
</tr>
<tr>
<td>¼ grain = 4 milligrams (mg.)</td>
<td></td>
</tr>
<tr>
<td>⅛ grain = 3.2 milligrams (mg.)</td>
<td>0.6 cubic centimeter (cc.)</td>
</tr>
<tr>
<td>⅛ grain = 2 milligrams (mg.)</td>
<td></td>
</tr>
<tr>
<td>¼ grain = 1 milligram (mg.)</td>
<td></td>
</tr>
<tr>
<td>¼ grain = 0.65 milligram (mg.)</td>
<td></td>
</tr>
<tr>
<td>⅛ grain = 0.54 milligram (mg.)</td>
<td></td>
</tr>
<tr>
<td>⅛ grain = 0.4 milligram (mg.)</td>
<td></td>
</tr>
<tr>
<td>⅛ grain = 0.3 milligram (mg.)</td>
<td></td>
</tr>
<tr>
<td>⅛ grain = 0.26 milligram (mg.)</td>
<td></td>
</tr>
<tr>
<td>¼ grain = 0.2 milligram (mg.)</td>
<td></td>
</tr>
<tr>
<td>⅛ grain = 0.1 milligram (mg.)</td>
<td></td>
</tr>
</tbody>
</table>

### Liquid Measures

<table>
<thead>
<tr>
<th>Apothecary</th>
<th>Metric</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 pint = 480 cubic centimeters (cc.)</td>
<td></td>
</tr>
<tr>
<td>12 fluid ounces = 360 cubic centimeters (cc.)</td>
<td></td>
</tr>
<tr>
<td>8 fluid ounces = 240 cubic centimeters (cc.)</td>
<td></td>
</tr>
<tr>
<td>6 fluid ounces = 200 cubic centimeters (cc.)</td>
<td></td>
</tr>
<tr>
<td>4 fluid ounces = 120 cubic centimeters (cc.)</td>
<td></td>
</tr>
<tr>
<td>3½ fluid ounces = 100 cubic centimeters (cc.)</td>
<td></td>
</tr>
<tr>
<td>2 fluid ounces = 60 cubic centimeters (cc.)</td>
<td></td>
</tr>
<tr>
<td>1½ fluid ounces = 50 cubic centimeters (cc.)</td>
<td></td>
</tr>
<tr>
<td>1 fluid ounce = 30 cubic centimeters (cc.)</td>
<td></td>
</tr>
<tr>
<td>½ fluid ounce = 25 cubic centimeters (cc.)</td>
<td></td>
</tr>
<tr>
<td>5½ fluid drams = 20 cubic centimeters (cc.)</td>
<td></td>
</tr>
<tr>
<td>4 fluid drams = 15 cubic centimeters (cc.)</td>
<td></td>
</tr>
<tr>
<td>2½ fluid drams = 10 cubic centimeters (cc.)</td>
<td></td>
</tr>
<tr>
<td>2 fluid drams = 7½ cubic centimeters (cc.)</td>
<td></td>
</tr>
<tr>
<td>50 minim = 5 cubic centimeters (cc.)</td>
<td></td>
</tr>
<tr>
<td>65 minim = 4 cubic centimeters (cc.)</td>
<td></td>
</tr>
<tr>
<td>1 fluid dram = 3.7 cubic centimeters (cc.)</td>
<td></td>
</tr>
<tr>
<td>50 minim = 3 cubic centimeters (cc.)</td>
<td></td>
</tr>
<tr>
<td>40 minim = 2.8 cubic centimeters (cc.)</td>
<td></td>
</tr>
<tr>
<td>32 minim = 2 cubic centimeters (cc.)</td>
<td></td>
</tr>
<tr>
<td>30 minim = 1.8 cubic centimeters (cc.)</td>
<td></td>
</tr>
<tr>
<td>20 minim = 1.2 cubic centimeters (cc.)</td>
<td></td>
</tr>
<tr>
<td>16 minim = 1 cubic centimeter (cc.)</td>
<td></td>
</tr>
<tr>
<td>15 minim = 0.9 cubic centimeter (cc.)</td>
<td></td>
</tr>
<tr>
<td>12 minim = 0.75 cubic centimeter (cc.)</td>
<td></td>
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<tr>
<td>10 minim = 0.6 cubic centimeter (cc.)</td>
<td></td>
</tr>
<tr>
<td>8 minim = 0.5 cubic centimeter (cc.)</td>
<td></td>
</tr>
<tr>
<td>5 minim = 0.3 cubic centimeter (cc.)</td>
<td></td>
</tr>
<tr>
<td>3 minim = 0.18 cubic centimeter (cc.)</td>
<td></td>
</tr>
<tr>
<td>⅛ minim = 0.1 cubic centimeter (cc.)</td>
<td></td>
</tr>
<tr>
<td>1 minim = 0.06 cubic centimeter (cc.)</td>
<td></td>
</tr>
</tbody>
</table>

### EQUIVALENTS OF GREATER ACCURACY

| 1 Gm. = 15.43 grains |
| 1 Gm. = 0.2572 dram |
| 1 Gm. = 0.03215 Troy ounce |
| 1 Gm. = 0.03527 Avoirdupois ounce |
| 1 Gm. = 0.0022 Avoirdupois pound |

| 1 grain = 0.048 gram (Gm.) |
| 1 grain = 64.8 milligrams (mg.) |
| 1 dram = 5.888 grams (Gm.) |

| 1 Troy or Apothecary ounce = 31.1 grams (Gm.) |
| 1 Avoirdupois ounce = 28.35 grams (Gm.) |
| 1 Avoirdupois pound = 453.6 grams (Gm.) |

| 1 cubic centimeter = 16.23 minims |
| 1 milliliter = 18.23 minims |
| 1 milliliter = 0.2705 fluid dram |
| 1 milliliter = 0.0338 fluid ounce |
| 1 milliliter = 0.00211 pint |
| 1 milliliter = 0.000264 gallon |

| 1 minim = 0.0641 cubic centimeters (cc.) |
| 1 fluid dram = 3.6966 cubic centimeters (cc.) |
| 1 fluid ounce = 29.57 cubic centimeters (cc.) |
| 1 pint = 473 cubic centimeters (cc.) |

1 teaspoon holds 4 to 7 cc.
1 dessert spoon holds 9 to 14 cc.
1 tablespoon holds 15 to 22 cc.
1 wine glass holds 50 to 90 cc.
1 teacup holds 125 to 240 cc.
1 tumbler holds 200 to 300 cc.
### OBSTETRIC TABLE

<table>
<thead>
<tr>
<th>The numbers in the first line represent the first day of the last menstrual period; these directly below the probable date of the parturition.</th>
</tr>
</thead>
<tbody>
<tr>
<td>November</td>
</tr>
<tr>
<td>1</td>
</tr>
<tr>
<td>2</td>
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<tr>
<td>3</td>
</tr>
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<td>24</td>
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<td>26</td>
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<td>27</td>
</tr>
<tr>
<td>28</td>
</tr>
<tr>
<td>29</td>
</tr>
<tr>
<td>30</td>
</tr>
</tbody>
</table>

### FORMULAE FOR FEEDING

#### NORMAL INFANTS WITH SWEET MILK

<table>
<thead>
<tr>
<th>Age</th>
<th>Whole Milk, Ounces</th>
<th>Boiled Water, Ounces</th>
<th>Sugar, Ounces</th>
<th>Feedings, Ounces</th>
<th>Number of Feedings in 24 Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 week</td>
<td>6</td>
<td>6</td>
<td>1</td>
<td>2</td>
<td>6</td>
</tr>
<tr>
<td>2 weeks</td>
<td>10</td>
<td>8</td>
<td>1</td>
<td>3</td>
<td>6</td>
</tr>
<tr>
<td>1 month</td>
<td>14</td>
<td>10</td>
<td>1½</td>
<td>4</td>
<td>6</td>
</tr>
<tr>
<td>3 months</td>
<td>18</td>
<td>7</td>
<td>1½</td>
<td>4</td>
<td>6</td>
</tr>
<tr>
<td>4 months</td>
<td>22</td>
<td>8</td>
<td>2</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>6 months</td>
<td>26</td>
<td>9</td>
<td>2</td>
<td>7</td>
<td>5</td>
</tr>
<tr>
<td>8 months</td>
<td>32</td>
<td>0</td>
<td>1</td>
<td>8</td>
<td>4</td>
</tr>
<tr>
<td>12 months</td>
<td>32</td>
<td>0</td>
<td>0</td>
<td>8</td>
<td>4</td>
</tr>
</tbody>
</table>

*After the first month* the juice of an orange, diluted with boiled water, or undiluted, every morning. Cod liver oil every morning between the first and second feedings.

*After the second month* raw carrot juice, one or two tablespoonsfuls, made by extracting the juice of ground carrots, added to the milk at the 2 o'clock feeding.

*Between the fourth and sixth months* cereals, green vegetables, purées and meat broths are added to the diet.

Boiled water between feedings, two or more times daily.

**Feeding hours:** 6 times daily—6, 10 A.M.; 2, 6, 10 P.M.; 2 A.M.

5 times daily—Omit 2 A.M.

4 times daily—8 A.M., 12 Noon, 3, 6 P.M.

Two level tablespoonsfuls equal 1 oz. of sugar. Two level tablespoonfuls of desmiloate or brown Karo syrup correspond to one level tablespoonful of sugar. To avoid constipation, it is advisable to use at least one half of the required quantity of sugar, and only the other half in the form of a sugar substitute.

### DIAGNOSTIC INDICATIONS FROM THE STOOLS OF INFANTS

#### ODOR:
- Aromatic—breast milk.
- Putrefactive—cow's milk.
- Foil—excess of protein.
- Offensive sour—excess of starch.
- Acid—excess of sugar.

Dark brown—starvation, malt soup extract, swallowed argyrol, changed blood.

Foamy gray—high starch.

Green—sugar.

Mucus—frequently due to use of castor oil.

Curd—indicate only rapid peristalsis.

Undigested masses, especially of vegetables, are merely indigestible cellulose fibers.
FOODS THAT PROVIDE A BLAND DIET IN PEPTIC ULCER

Obviously, a specific dietary regimen which will reduce epigastric pain and permit healing can be devised only by the attending physician, after due consideration of the individual patient's particular condition. So many variable factors must be considered in each case that only a somewhat general list of foods that provide a bland diet can be given here:

**SOUPS:**
- Cream or purée of all vegetables except tomatoes.

**FISH:**
- Fresh cod, halibut or bass boiled or broiled, with cream sauce.

**MEATS:**
- Once daily, scraped beef, broiled lamb or mutton chop, roast lamb, chicken or turkey—no gravy.

**EGGS:**
- Any style except fried.

**FARINACEOUS:**
- Fine-grained cereals such as Cream of Wheat, Wheatena, Farina, with cream and sparingly of sugar; rice; tapioca; spaghetti; toast, dry bread or hard rolls.

**VEGETABLES:**
- Potatoes baked, mashed or creamed; rice, all soft-boiled green vegetables except cabbage, cauliflower, onions, Brussels sprouts and turnips.

**FRUITS:**
- Orange juice (strained), stewed or cooked fruits with small amount of sugar.

**FATTFY FOODS:**
- Plentifully of milk, cream and butter; olive oil and mayonnaise.

**DESSERTS:**
- All cream and egg desserts such as junket, custard, rice, tapioca and bread puddings; Jello; stewed or cooked fruit.

**BEVERAGES:**
- Plentifully of plain water; milk, cocoa, malted milk. Coffee and tea may be used in moderation if desired.

**AVOID:**
- Condiments, all sour, spicy and peppery foods. All fried foods and rich gravies. Pastry and sweets of all kinds; hot breads. Foods with roughage such as bran, fruit skins and fruits containing seeds. Carbonated or alcoholic beverages. Tobacco.

In the treatment of peptic ulcer the administration of 'Gelusil'® Adsorbent Antacid in conjunction with a bland diet has been found effective. This preparation, which is composed of specially prepared nonreactive aluminum hydroxide and magnesium trisilicate, has the important advantage of being nonconstipating.

RE DUCING DIET

SOUPS: Clear soups and broths, vegetable soup, made with little fat.
CEREALS: Occasionally, the coarse kind, served with skimmed milk.
BREAD: One slice at a meal.
EGGS: Boiled or poached, not fried or prepared with butter, cream or fat.
DAIRY PRODUCTS: Cheese made with skimmed milk: Swiss cheese, cottage cheese.
FISH AND MEATS: Lean beef and pork, roasted or boiled. Lean chicken and turkey roasted or boiled. Lamb chops. Boiled or broiled fish. All small portions.
VEGETABLES: Greens, asparagus, string beans, green peas, cabbage, cauliflower, Brussels sprouts, onions, turnips, rutabagas, spinach, parsnips, carrots, mushrooms, watercress, green olives. Potatoes once or twice a week. Only enough butter for seasoning. No gravies.
DESSERTS: Fresh fruits only. Ices and gelatins sweetened with saccharin or very little sugar.
FRUITS: All raw fruits, except bananas. Very little cooked fruit.
BEVERAGES: Buttermilk, skimmed milk, coffee or tea or cereal coffee without sugar or cream.
To Be AVOIDED: Butter, cream, oily salad dressings, unless made with mineral oil. Fats of all kinds, cereal foods, potatoes, sweets of all kinds. All these must be taken very sparingly.

FOODS THAT INCREASE WEIGHT

<table>
<thead>
<tr>
<th>Foods</th>
<th>Portions to give 100 calories</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bacon, fat</td>
<td>1 tablespoonful</td>
</tr>
<tr>
<td>Butter</td>
<td>1 tablespoonful</td>
</tr>
<tr>
<td>Cheese, American</td>
<td>1¾ inch cube</td>
</tr>
<tr>
<td>Corn syrup</td>
<td>1½ tablespoonful</td>
</tr>
<tr>
<td>Cream, thick</td>
<td>1½ tablespoonful</td>
</tr>
<tr>
<td>Cream, thin</td>
<td>¾ cup</td>
</tr>
<tr>
<td>Cream, whipped</td>
<td>2 tablespoonfuls</td>
</tr>
<tr>
<td>Dates</td>
<td>3 or 4</td>
</tr>
<tr>
<td>Eggs</td>
<td>1½ small—1 large</td>
</tr>
<tr>
<td>English walnuts</td>
<td>About 12 medium size</td>
</tr>
<tr>
<td>Figs</td>
<td>2 medium size</td>
</tr>
<tr>
<td>Hickory nuts</td>
<td>16 average size</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Foods</th>
<th>Portions to give 100 calories</th>
</tr>
</thead>
<tbody>
<tr>
<td>Honey</td>
<td>1 tablespoonful</td>
</tr>
<tr>
<td>Maple sugar</td>
<td>.4 tablespoonfuls</td>
</tr>
<tr>
<td>Maple syrup</td>
<td>1½ tablespoonfuls</td>
</tr>
<tr>
<td>Oleomargarine</td>
<td>1 tablespoonful</td>
</tr>
<tr>
<td>Olive oil or other</td>
<td></td>
</tr>
<tr>
<td>Vegetable oil</td>
<td>1 tablespoonful</td>
</tr>
<tr>
<td>Pecans</td>
<td>10 to 13</td>
</tr>
<tr>
<td>Raisins</td>
<td>¾ cup</td>
</tr>
<tr>
<td>Rice, steamed</td>
<td>.¾ cup</td>
</tr>
<tr>
<td>Sugar, brown</td>
<td>2 tablespoonfuls</td>
</tr>
<tr>
<td>Sugar, white</td>
<td>2 tablespoonfuls</td>
</tr>
<tr>
<td>Whole milk</td>
<td>.¾ cup</td>
</tr>
</tbody>
</table>

DENTITION TABLE

ORDER OF APPEARANCE

<table>
<thead>
<tr>
<th>Teeth Type</th>
<th>Age Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Central incisors</td>
<td>6th to 8th month</td>
</tr>
<tr>
<td>Lateral incisors</td>
<td>8th to 12th month</td>
</tr>
<tr>
<td>Canines</td>
<td>16th to 20th month</td>
</tr>
<tr>
<td>1st molars</td>
<td>12th to 16th month</td>
</tr>
<tr>
<td>2d molars</td>
<td>20th to 30th month</td>
</tr>
</tbody>
</table>

MILK TEETH

The first teeth begin to appear at the sixth to eighth month and are completed by the second year. There are wide variations as to time, and considerable irregularity in the order of appearance of the teeth. The lower teeth generally come first; the corresponding upper teeth next.

The full primary dentition is twenty teeth; ten in each jaw.

ORDER OF APPEARANCE

<table>
<thead>
<tr>
<th>Teeth Type</th>
<th>Age Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Central incisors</td>
<td>6th to 9th year</td>
</tr>
<tr>
<td>Lateral incisors</td>
<td>7th to 10th year</td>
</tr>
<tr>
<td>Canines</td>
<td>9th to 14th year</td>
</tr>
<tr>
<td>1st bicusps</td>
<td>9th to 13th year</td>
</tr>
<tr>
<td>2d bicusps</td>
<td>11th to 14th year</td>
</tr>
<tr>
<td>1st molars</td>
<td>5th to 8th year</td>
</tr>
<tr>
<td>2d molars</td>
<td>10th to 14th year</td>
</tr>
<tr>
<td>3d molars</td>
<td>16th to 22nd year</td>
</tr>
</tbody>
</table>

PERMANENT TEETH

The full permanent dentition is thirty-two teeth; sixteen in each jaw.
### Ideal Weights for Men—Ages 25 and Over

<table>
<thead>
<tr>
<th>HEIGHT (with shoes)</th>
<th>WEIGHTS IN POUNDS (as ordinarily dressed)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Small Frame</td>
</tr>
<tr>
<td>Feet</td>
<td>Inches</td>
</tr>
<tr>
<td>5</td>
<td>2</td>
</tr>
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### Ideal Weights for Women—Ages 25 and Over

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<th>HEIGHT (with shoes)</th>
<th>WEIGHTS IN POUNDS (as ordinarily dressed)</th>
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### Average Weights and Measures of Adult Human Organs

- **Brain**: Weight: male, 50 ounces; female, 44 ounces.
- **Heart**: Weight: male, 10 to 12 ounces; female, 8 to 10 ounces. Measurements: 5 inches long, 3½ inches broad, 2½ inches thick.
- **Lung**: Weight: right, 23 ounces; left, 19 ounces. Very variable.
- **Stomach**: Weight: 4½ to 5 ounces. Measurements: 10 to 12 inches long, 4 to 5 inches wide.
- **Liver**: Weight: 45 to 60 ounces. Measurements: transverse, 10 to 12 inches; antero-posterior, 6 to 7 inches.
- **Pancreas**: Weight: 3 ounces. Measurements: 6 to 8 inches long, 1½ inches broad.
- **Spleen**: Weight: 5 to 7 ounces. Measurements: 5 inches long, 3 inches broad, 1½ inches thick.
- **Kidney**: Weight: 4½ to 5½ ounces. Measurements: 4 inches long, 2½ inches broad, 1½ inches thick.

The average weight and size of all these organs are less in the female than the male.
### BOYS FROM 6 TO 16 YEARS

Average weight in pounds for each specified age (with clothes)

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### GIRLS FROM 6 TO 16 YEARS

Average weight in pounds for each specified age (with clothes)

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U.S. Department of Labor
Children's Bureau
### BOYS UNDER 6 YEARS

Average weight in pounds for each specified age (without clothes)

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</tbody>
</table>

U. S. Department of Labor
Children's Bureau
## Normal Findings

### Blood

- **Erythrocytes (red cells)**: 4,500,000-5,000,000 per cubic mm.
- **Leukocytes (white cells)**: 5,000-8,000 per cubic mm.
- **Hemoglobin**: 90-105 per cent (14-17 gm. per cent)
- **Color index**: 0.9-1.05
- **Coagulation time**: 1-2 min
- **Bleeding time**: 1-2 min

### Differential White Count

- **Polymorphonuclears**: 68-70 per cent
- **Segmented polys**: 58-66 per cent
- **Stab cells (rod nuclei)**: 3-5 per cent
- **Juveniles (metamyelocytes)**: 0-1 per cent
- **Myelocytes**: 0 per cent
- **Small lymphocytes**: 20-22 per cent
- **Large lymphocytes (monocytes)**: 3-6 per cent
- **Eosinophiles**: 1-2 per cent
- **Basophiles**: 0.5-1 per cent

### Blood Chemistry

- **Urea nitrogen (w.b.)**: 10-15 mg. per 100 cc.
- **Glucose (w.b.)**: 80-110 mg. per 100 cc.
- **Uric acid (w.b.)**: 2-4 mg. per 100 cc.
- **Non-protein nitrogen (w.b.)**: 25-35 mg. per 100 cc.
- **Creatinine (w.b.)**: 1.2 mg. per 100 cc.
- **Cholesterol (p)**: Total: 150-250 mg. per 100 cc.
  - **Esters**: 60-75% of total
- **Calcium (s)**: Milli-equivalents per liter: 4.5-5.5
- **Sodium (s)**: Milli-equivalents per liter: 310-340 mg. per 100 cc.
- **Potassium (s)**: Milli-equivalents per liter: 135-146 mg. per 100 cc.
- **Phosphorus (s, inorganic)**: 3.4 mg. per 100 cc.
- **Chloride (s, as NaCl)**: Milli-equivalents per liter: 97-106 mg. per 100 cc.
- **Bilirubin (s, Van den Bergh method)**: Direct: negative
  - **Indirect**: 0.1-0.25 mg. per 100 cc.
- **Fatty acids (p)**: 200-450 mg. per 100 cc.
- **Albumin (s)**: 4.0-5.0 gm. per 100 cc.
- **Globulin (s)**: 2.0-2.5 gm. per 100 cc.
- **Total protein (s)**: 6.0-7.5 gm. per 100 cc.
- **Phosphatase (s, Bodansky)**: Milli-equivalents per liter: 0.0-0.12 units
- **CO₂ capacity (p)**: alkaline: 2.0-9.0 units
- **Hydrogen ion concentration (s)**: pH 7.35

### Urine

- **Amount in 24 hours**: 1200-1500 cc.
- **Color**: Light to amber
- **Specific Gravity**: 1.017-1.020
- **Reaction to litmus**: pH 4.8-7.5 (mean 5.3)
- **Total acidity**: 554-669 cc. N/10 NaOH in 24-hr. spec.
- **Urea**: 25.0-35.0 (mean 30) gm. in 24-hr. spec.
- **Organic solubles**: 30-40 (mean 35) gm. in 24-hr. spec.
- **Inorganic solubles**: 20-30 (mean 25) gm. in 24-hr. spec.
- **Uric acid**: 0.4-1.0 gm. in 24-hr. spec.
- **Ammonia**: 0.5-1.0 gm. in 24-hr. spec.
- **Chlorides**: 10-15 (mean 13) gm. in 24-hr. spec.
- **Phosphates**: 2.5-3.5 gm. in 24-hr. spec.
- **Sulfates**: 1.5-3.5 gm. in 24-hr. spec.
- **Total solids**: 55-70 (average 60) gm. in 24-hr. spec.
- **Phenolsulfonphthalein test**: 50-50 per cent by end 1st hr.
- **Phenolsulfonphthalein test**: 60-75 per cent by end 2nd hr.

### Gastrointestinal Contents

- **Quantity (one hour after Ewald meal)**: 40-800 cc.
- **Total acidity**: 40-70 deg. (cc. N/10 NaOH per 100 cc.)
- **Free HCl**: 30-40 deg. (cc. N/10 NaOH per 100 cc.)
- **Combined HCl**: 15-20 deg. (cc. N/10 NaOH per 100 cc.)
- **Organic acids and acid salts**: 3-5 deg. (cc. N/10 NaOH per 100 cc.)

### Cerebrospinal Fluid

- **Color**: Clear-colorless
- **Reaction**: Slightly alkaline
- **Calcium**: 2.5-11.6 mg. per 100 cc.
- **Magnesium**: 3.0 mg. per 100 cc.
- **Chlorides**: 740 mg. per 100 cc.
- **Glucose**: 0.04-0.07 gm. per 100 cc.
- **Protein**: Trace
- **Total solids**: 0.876-1.2 gm. per 100 cc.
- **Cytology**: 1 to 7 (max. 10) cells per cubic mm.
- **Pressure**: 60-100 mm. (water manometer)
- **Specific Gravity**: 1.001-1.010
AVERAGE NORMAL BLOOD PRESSURE

<table>
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<tr>
<th>Age</th>
<th>Systolic</th>
<th>Diastolic</th>
<th>Pulse Pressure</th>
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<tbody>
<tr>
<td>10 years</td>
<td>103</td>
<td>70</td>
<td>35</td>
</tr>
<tr>
<td>15 years</td>
<td>113</td>
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<td>20 years</td>
<td>120</td>
<td>80</td>
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</tr>
<tr>
<td>25 years</td>
<td>122</td>
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</tr>
<tr>
<td>30 years</td>
<td>123</td>
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<tr>
<td>35 years</td>
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<td>45 years</td>
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<tr>
<td>55 years</td>
<td>132</td>
<td>87</td>
<td>45</td>
</tr>
<tr>
<td>60 years</td>
<td>135</td>
<td>89</td>
<td>46</td>
</tr>
</tbody>
</table>

PULSE RATE AT DIFFERENT AGES

In health the pulse varies according to certain conditions, such as age, sex, temperament, exercise, excitement, food and temperature. The heart’s action is generally more frequent in females than in males.

<table>
<thead>
<tr>
<th>Age</th>
<th>Per minute</th>
<th>Age</th>
<th>Per minute</th>
</tr>
</thead>
<tbody>
<tr>
<td>Birth</td>
<td>130 to 150</td>
<td>2 to 4 years</td>
<td>90 to 110</td>
</tr>
<tr>
<td>1st month</td>
<td>120 to 140</td>
<td>6 to 10 years</td>
<td>90 to 100</td>
</tr>
<tr>
<td>1 to 6 months</td>
<td>About 130</td>
<td>10 to 14 years</td>
<td>80 to 90</td>
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<tr>
<td>6 to 8 months</td>
<td>About 120</td>
<td>Adult age</td>
<td>Average 72</td>
</tr>
<tr>
<td>1 to 2 years</td>
<td>110 to 120</td>
<td>Old age</td>
<td>Average 67</td>
</tr>
</tbody>
</table>

RESPIRATION RATE AT DIFFERENT AGES

Newborn | 30 to 50 | 3 to 4 years | About 25 |
| Balance of 1st year | 25 to 35 | 4 to 15 years | 20 to 25 |
| 1 to 2 years | About 28 | Adult age | 16 to 18 |

TEMPERATURES

Hyperpyrexia .... 105° F. and over
High fever .... 103° to 105° F.
Moderate fever .... 101° to 103° F.
Low fever .... 100° to 101° F.
Subfebrile .... 99° to 100° F.
NORMAL .... 98.6° F.

CENTIGRADE AND FAHRENHEIT EQUIVALENTS

To convert centigrade degrees into Fahrenheit degrees—Multiply the number of centigrade degrees by 9/5 and add 32 to the result.
To convert Fahrenheit degrees into centigrade degrees—Subtract 32 from the number of Fahrenheit degrees and multiply the difference by 5/9.

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TABLE OF pH INDICATORS

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<thead>
<tr>
<th>Indicator</th>
<th>pH Range</th>
<th>Color Change</th>
</tr>
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<tbody>
<tr>
<td>Methyl orange</td>
<td>2.9-4.0</td>
<td>Red-yellow</td>
</tr>
<tr>
<td>Bromphenol blue</td>
<td>2.8-4.6</td>
<td>Yellow-blue</td>
</tr>
<tr>
<td>Methyl red</td>
<td>4.4-6.0</td>
<td>Red-yellow</td>
</tr>
<tr>
<td>Bromcresol purple</td>
<td>5.2-6.8</td>
<td>Yellow-purple</td>
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<tr>
<td>Bromthymol blue</td>
<td>6.0-7.6</td>
<td>Yellow-blue</td>
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<tr>
<td>Phenol red</td>
<td>6.8-8.4</td>
<td>Yellow-red</td>
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<tr>
<td>Thymol blue</td>
<td>8.0-9.6</td>
<td>Yellow-blue</td>
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<tr>
<td>Thymolphthalein</td>
<td>9.3-10.5</td>
<td>Colorless-blue</td>
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</table>
**SYMPTOMS AND TREATMENT OF ACUTE POISONING**

Unless otherwise stated, oral poisoning is to be understood. The **lethal dose** for adults—taken in a single dose—is of course an indefinite figure. It is to be understood that smaller doses have been taken with lethal effect, while larger quantities have not proved fatal.

<table>
<thead>
<tr>
<th>Poison</th>
<th>Symptoms</th>
<th>Treatment</th>
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<tbody>
<tr>
<td><strong>ACIDS</strong></td>
<td><strong>AMMONIA</strong></td>
<td><strong>Symptoms</strong></td>
</tr>
<tr>
<td>Sulfuric acid.</td>
<td>Erosion of the corners of the mouth, the mucous membrane of the mouth, pharynx, esophagus and stomach; white, later black, erosion (nitric acid leaves yellow spots; chronic acid leaves orange-yellow spots in mouth). Severe pain on swallowing. Vomiting of brownish-black matter (if nitric acid, yellowish). Strong salivation. Edema of the glottis, from inhalation of fuming nitric acid; bloody, dysenteric stools, perforation of the stomach, hematuria, collapse, small, rapid pulse, cramps. In severe cases rapid death from acidosis.</td>
<td>Same as caustic alkalies. When inhaled, erosion of the air passages. Urine not alkaline.</td>
</tr>
<tr>
<td>Nitric acid.</td>
<td></td>
<td><strong>ANILINE</strong></td>
</tr>
<tr>
<td>Lethal dose 1 to 2½ drams.</td>
<td>Lethal dose of acetic ammonia solution 1 oz.</td>
<td>Gray-blue cyanosis, methemoglobinemia, anxiety, dyspnea, disturbance of consciousness.</td>
</tr>
<tr>
<td>Hydrochloric acid.</td>
<td></td>
<td><strong>ANTIMONY</strong></td>
</tr>
<tr>
<td>Chromic acid.</td>
<td></td>
<td><strong>Gastroenteritis, vomiting, colic, diarrhea, dyspnea, cramp in the calves of the legs, general paralysis, unconsciousness.</strong></td>
</tr>
<tr>
<td>Acetic acid.</td>
<td><strong>ARSENIC</strong></td>
<td><strong>ARSENIC ACID</strong>, <strong>FOSTER’S SOLN., SODIUM ARSENATE, SODIUM CAECYLA TE, PARIS GREEN</strong></td>
</tr>
<tr>
<td>Lethal dose up to 5 drams.</td>
<td>Lethal dose of arsenic trioxide 1½ to 3½ grains.</td>
<td><strong>GASTRICL disgust, vomiting, colic, severe diarrhea, later constipation, headache, cyanosis, arsenic dermatitis, cardiac weakness, small, frequent pulse, rapid respiration, coma.</strong> From organic combinations of arsenic, temporary visual disturbances.</td>
</tr>
<tr>
<td><strong>ALCOHOL</strong></td>
<td><strong>ARSPHENAMINE</strong></td>
<td><strong>ATROPINE</strong></td>
</tr>
<tr>
<td>Lethal dose undetermined. Adults, from 10 to 20 ozs.; children, 1½ to 3 ozs.</td>
<td>Lethal dose 0.5 grams.</td>
<td>Lethal dose 1½ grains.</td>
</tr>
<tr>
<td></td>
<td>Restlessness, excitement, eventually delirium and excitement, staggering, stupor, coma, small, slow pulse, lowered temperature, general paralysis. Delirium tremens.</td>
<td>Vomiting, red face, dryness of the mouth, thirst, difficulty in swallowing, giddiness, strongly dilated pupils, visual disturbances, excitement, hallucinations, cramps, accelerated pulse, eventually tachycardia, paralysis.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
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<tr>
<td><strong>ALKALIES</strong></td>
<td><strong>AMETHYLL</strong></td>
<td><strong>ATROPINE</strong></td>
</tr>
<tr>
<td>Caustic soda, liquorepotassae.</td>
<td><strong>BELLADONNA</strong></td>
<td>Lethal dose 1½ to 2½ grains.</td>
</tr>
<tr>
<td>Lethal dose about 150 to 300 grains.</td>
<td>Lethal dose 3 to 10 belladonna. Stramonium. Lethal dose 100 seeds. Scopolamine, hyoscyanine. Lethal dose less than one grain.</td>
<td></td>
</tr>
<tr>
<td>Poison</td>
<td>Symptoms</td>
<td>Treatment</td>
</tr>
<tr>
<td>----------------</td>
<td>---------------------------------------------------------------------------</td>
<td>---------------------------------------------------------------------------</td>
</tr>
<tr>
<td>BARIUM</td>
<td>Vomiting, diarrhea, dysphagia, cramps, paralysis of the legs, visual disturbances, arrest of heart action, increased blood pressure.</td>
<td>Gastric lavage, sodium sulfate, 320 to 800 grains to a quart or 20 c.c. of 1/2 to 1% solution subeutaneously or intravenously; milk, albumin, tannin, atropine.</td>
</tr>
<tr>
<td>Barium chloride.</td>
<td>Lethal dose 48 grains.</td>
<td></td>
</tr>
<tr>
<td>Barium nitrate.</td>
<td>Lethal dose 48 to 64 grains.</td>
<td></td>
</tr>
<tr>
<td>Barium carbonate.</td>
<td>Lethal dose 64 grains.</td>
<td></td>
</tr>
<tr>
<td>BELLA-DONNA</td>
<td>Same as atropine.</td>
<td></td>
</tr>
<tr>
<td>BENZINE</td>
<td>Headache, dizziness, drunkenness, cyanosis, tachycardia, cramps, coma, renal irritation.</td>
<td>Gastric lavage, tannin, milk, heart stimulants, camphorated oil.</td>
</tr>
<tr>
<td>Lethal dose 1/4 to 1 oz. Kerosene.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>BENZOL</td>
<td>Acute poisoning: Drunken excitement, narcosis, coma.</td>
<td>Acute poisoning: Gastric lavage, tannin, heart stimulants.</td>
</tr>
<tr>
<td>Lethal dose one ounce.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>BISMUTH</td>
<td>Same as mercury.</td>
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<tr>
<td>BOTULISM</td>
<td>Same as meat poisoning.</td>
<td></td>
</tr>
<tr>
<td>BROMIDES</td>
<td>Gastric irritation, nausea, apathy, headache, slow respiration and pulse, somnolence or maniacal excitement.</td>
<td>Gastric lavage, caffeine, sodium chloride.</td>
</tr>
<tr>
<td>CARBON MONOXIDE</td>
<td>Headache, vomiting, dizziness, staggering, tinnitus, unconsciousness, paralysis, rapid respiration, rapid pulse, cyanosis (carbon monoxide hemoglobin), cramps, hallucinations.</td>
<td>Fresh air, oxygen inhalations, venesection (300-500 c.c. of blood followed by saline injection, 600 to 1000 c.c.). Infusion of physiological salt solution. No narcotics. Camphor.</td>
</tr>
<tr>
<td>CARBOLIC ACID</td>
<td>Cyanosis, myosis, strong carbolic odor of the breath, whitish erosion of the lips and mouth, diarrhea, colic, increased frequency of pulse, stertorous respiration, narrow pupils, urine greenish-brown, dizziness, cramps, coma, nephritis. If external poisoning, dry gangrene from burning with a 2% phenol solution.</td>
<td>Gastric lavage, emetics, lime water, charcoal, magnesium sulfate, magnesium oxide, sodium sulfate, methenamine, mucilage, milk, stimulants.</td>
</tr>
<tr>
<td>Phenol, lysol, compound creo-sol solution.</td>
<td>Lethal dose by mouth 1/4 to 1/2 ounce.</td>
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</tr>
<tr>
<td>CHLORAL HYDRATE</td>
<td>Same as narcotics.</td>
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</tr>
<tr>
<td>CHLORINE GAS</td>
<td>Severe spasmodic cough, bloody expectoration, spasms of gottis, dyspnea, stabbing pain in the chest, sneezing, flowing of tears, pneumonia.</td>
<td>Hot vapor inhalations, weak ammonia fumes or inhalation of vapor from a solution of sodium hyposulfite 48 grains, sodium carbonate 12 grains, water 5 ounces.</td>
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<tr>
<td>(Bromine fumes)</td>
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<tr>
<td>CHLOROFORM</td>
<td>Same as narcotics.</td>
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</tr>
<tr>
<td>COCAINE</td>
<td>Restlessness, dizziness, cramps, increased pulse and respiratory rate, dilated pupils, collapse, impaired consciousness, pallor, tremor.</td>
<td>Gastric lavage, tannin, atropine, anil nitrite, potassium bromide, chloral hydrate, artificial respiration, stimulants (camphor, coffee), barbital, phenobarbital, avertin.</td>
</tr>
<tr>
<td>Lethal dose 16 grains.</td>
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<tr>
<td>Poison</td>
<td>Symptoms</td>
<td>Treatment</td>
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</tr>
<tr>
<td>COLCHICINE</td>
<td>Vomiting, colic, diarrhea, polyuria, hematuria, anuria, numbness, paralysis, collapse, irregular, slow pulse, muscular tremor, dyspnea.</td>
<td>Enemas, emetics, mucilage, camphor, external stimulation.</td>
</tr>
<tr>
<td>COPPER</td>
<td>Vomiting of green or blue masses, salivation, colic, irregular breathing and pulse, dizziness, headache, delirium, paralysis.</td>
<td>Gastric lavage with ferrocyanide of potash, 1:1000 solution. Tablespoonful of albumin every 4 hours; 1 oz of magnesium oxide, milk, powdered iron, potassium iodide, camphor, charcoal.</td>
</tr>
<tr>
<td>CORROSIVE SUBLIMATE</td>
<td>Same as mercury.</td>
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</tr>
<tr>
<td>CROTON OIL</td>
<td>Stomatitis, vomiting, pharyngitis, gastroenteritis, dysenteric diarrhea, general weakness, exhaustion.</td>
<td>Muclaginous and oily substances, opium, tannin, ether, camphor.</td>
</tr>
<tr>
<td>CRUDE PETROLEUM</td>
<td>Same as benzine.</td>
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</tr>
<tr>
<td>CYANIDE</td>
<td>Odor of bitter almonds. Slowly progressive cyanosis, dizziness, giddiness, vomiting, strong dilation of the pupils, cramps, coma, arrest of respiration and heart action.</td>
<td>If swallowed: Apomorphine subcutaneously. If cramps are present, no apomorphine but gastric lavage should be tried. After vomiting, thorough gastric lavage with 1 to 2000 potassium permanganate or 2% hydrogen peroxide and charcoal. Methylen blue, 50 c.c. intravenously, 50 c.c. of a 2% solution of sodium hyposulfite slowly injected intravenously. Insulin, colloidal sulfur. Artificial respiration (with oxygen). Heart and respiratory stimulants, cutaneous stimulation. If inhaled: Emetics and washing out the stomach are omitted.</td>
</tr>
<tr>
<td>DIGITALIS</td>
<td>Vomiting, retching, colic, diarrhea, irregular, slow pulse; dyspnea, excitement, cold extremities, muscular tremor, somnolence.</td>
<td>Gastric lavage, emetics, charcoal, tannin, rest in bed, camphor, atropine, alcohol, tea, coffee.</td>
</tr>
<tr>
<td>ERGOT</td>
<td>Nausea, vomiting, colic, diarrhea, necrosis of individual parts of the body, abortion, numbness, stupor, dilated pupils, cramps, blindness, coma.</td>
<td>Gastric lavage, emetics, amyl nitrite, nitroglycerin, camphor, opium.</td>
</tr>
<tr>
<td>ETHER</td>
<td>Same as narcotics.</td>
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</tr>
<tr>
<td>FORMALDEHYDE</td>
<td>Redness of the conjunctiva and of the pharynx, gastric pain, dizziness, unconsciousness, cyanosis, cardiac weakness, albuminuria, hematuria, anuria.</td>
<td>Gastric lavage, 6-12 raw eggs, urea in massive doses, ammonium acetate solution in drop doses, purgatives, emesis. Skin injuries to be washed with dilute ammonia or ammonium carbonate. In the eye, weak ammonia vapors.</td>
</tr>
<tr>
<td>HYDROFLUORIC ACID</td>
<td>Dysphagia, gastric pain, vomiting, finally arrest of heart action, severe localized skin and bone necrosis.</td>
<td>Gastric lavage, emetics, tannin, strychnine, artificial respiration, camphor, caffeine. External heat.</td>
</tr>
<tr>
<td>HYPNOTICS</td>
<td>Insensibility, twitching, deep sleep, cardiac and respiratory paralysis, Hematoporphyryuria from sulphon.</td>
<td>Gastric lavage, laxatives, diuretics, artificial respiration, stimulants, camphor, epinephrine, picrotoxin.</td>
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<tr>
<td>Poison</td>
<td>Symptoms</td>
<td>Treatment</td>
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<tr>
<td>ILLUMINATING GAS</td>
<td>Same as carbon monoxide.</td>
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<tr>
<td>INSECT BITES</td>
<td>Swelling, urticaria, sometimes edema of the glottis.</td>
<td>Caffeine, epinephrine, camphor. Locally: Ammonia, cooling pastes; on mucous surfaces, sodium bicarbonate.</td>
</tr>
<tr>
<td>INSULIN</td>
<td>General: Fatigue, muscular weakness, hunger sensation, sweating. Hypoglycemic symptom complex: Dizziness, stupor, collapse, delirium, cramps. Local: If exceptionally susceptible, necrosis of adipose tissue.</td>
<td>Grape juice, grape sugar, orange juice, cane sugar. Intravenously: When a symptom complex develops: 5-20 grams of dextrose as a 5-50% sterile solution. Subcutaneously; ½ c.c. (8 minims) 1:1000 epinephrine solution.</td>
</tr>
<tr>
<td>IODINE</td>
<td>Pain in the mouth, esophagus and stomach; irritation in the throat, salivation, vomiting, depression, headache, small pulse, tachycardia, renal irritation, albuminuria, hemoglobinuria, dyspnea. Tincture of iodine causes brown coloration of the vomitus and of the mucous membranes.</td>
<td>Gastric lavage, flour, starch, mucilage, albumin, emetics, laxatives, sodium hyposulfite, sodium bicarbonate, calcium preparations.</td>
</tr>
<tr>
<td>LEAD SALTS</td>
<td>Acute poisoning: Severe gastroenteritis.</td>
<td>Acute poisoning: Gastric lavage, emetics, sodium and magnesium sulfate, phosphates, albumin, milk, mucilage, charcoal, sodium hyposulfite intravenously. For colic: Opium, atropine, belladonna, enemas.</td>
</tr>
<tr>
<td>LYSOL</td>
<td>Same as phenol.</td>
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<tr>
<td>MEAT POISONING</td>
<td>Acute gastroenteritis, vomiting, diarrhea, high fever, extreme weakness and prostration, dizziness, mydriasis, ptosis, collapse.</td>
<td>Emetics, gastric lavage, enemas, castor oil, charcoal, camphor, botulism serum.</td>
</tr>
<tr>
<td>MERCURY</td>
<td>Ulcerating stomatitis, erosion of the mucous membranes; acute gastroenteritis and dysenteric symptoms, bloody diarrhea, tenesmus, coughing, bronchopneumonia, skin eruption, paralytic weakness, nephritis, anuria, albuminuria, cardiac weakness.</td>
<td>Washing the mouth with sodium perborate, gastric lavage, emetics, milk, albumin, sodium hyposulfite, potassium or sodium iodide, theobromine. Dextrose and sodium bicarbonate. Infusion of hypertonic dextrose solution.</td>
</tr>
<tr>
<td>METHYL ALCOHOL</td>
<td>Vomiting, abdominal pains, dizziness, visual disturbances, blindness, delirium, cardiac weakness.</td>
<td>Gastric lavage, venesection, heat, oxygen inhalations, stimulants, camphor, caffeine, strychnine.</td>
</tr>
<tr>
<td>MORPHINE</td>
<td>Headache, vomiting, contracted pupils, stupor, reduced sensitivity to pain, generalized paralysis, respiratory paralysis, urine retention, cramps, coma.</td>
<td>Emetics, gastric lavage with 1:1000 solution of potassium permanganate, tannin, charcoal, black coffee, atropine, strychnine, camphor, stimulants, artificial respiration.</td>
</tr>
<tr>
<td>MUSHROOMS</td>
<td>Vomiting, salivation, colic, diarrhea, icterus, hematuria, weak pulse, low heart beats, dizziness, cramps, collapse.</td>
<td>Gastric lavage, flour, starch, potassium permanganate solution. Intravenously: Dextrose in Ringer's solution. Opium, mucilage, tannin, charcoal, venesection, camphor, sometimes atropine or strychnine, diuretics.</td>
</tr>
<tr>
<td>NARCOTICS</td>
<td>Lowered blood pressure, weak and intermittent pulse, dilated pupils, stupor or coma, asphyxia, arrest of heart action and respiration, possibly liver damage.</td>
<td>Artificial respiration, carbon dioxide inhalation, strychnine, epinephrine, physiological salt solution intravenously. If atvertin poisoning, 3 c.c. or more thyroxine; coramine intramuscularly, 3 c.c. or more, once or twice; 1 to 2 c.c. of 1% cocaine solution subcutaneously.</td>
</tr>
</tbody>
</table>

**Poison**

**Symptoms**

**Treatment**
<table>
<thead>
<tr>
<th>Poison</th>
<th>Symptoms</th>
<th>Treatment</th>
</tr>
</thead>
<tbody>
<tr>
<td>NICOTINE</td>
<td>Small pulse, fainting, salivation, vomiting, diarrhea, cramp, tachycardia, stenocardia, visual disturbances, pallor.</td>
<td>Atropine, chloroform, chloral hydrate, morphine.</td>
</tr>
<tr>
<td>Lethal dose ¾ grain. Tobacco. Lethal dose 64 to 192 grains. Snuff. Lethal dose 32 to 48 grains.</td>
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<tr>
<td>NITRATES Potassium nitrate, sodium nitrate.</td>
<td>Restlessness, vomiting, colic, polyuria, fainting, tremors, giddiness, cramps, coma, angina pectoris, heart palpitation.</td>
<td>Gastric lavage, emetics, diuretics, camphor, external stimulants.</td>
</tr>
<tr>
<td>OPIUM</td>
<td>Same as morphine.</td>
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<tr>
<td>OXALIC ACID</td>
<td>Black vomitus, colic, shortness of breath, collapse, cardiac arrest, paresthesia, cramps, trismus, tetanus, later paralysis. Calcium oxalate crystals in vomited matter, in feces and urine. Oliguria, anuria, hemorrhagic nephritis.</td>
<td>Emetics, gastric lavage, calcium preparations, chalk lime, magnesium oxide, diuretics, phenobarbital. Subsequently or intravenously, 30 to 60 grains of calcium chloride in a quart of normal saline solution.</td>
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<tr>
<td>Acid potassium oxalate. Lethal dose 40 to 112 grains.</td>
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<tr>
<td>PHENOL</td>
<td>Same as carbolic acid.</td>
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<tr>
<td>PHOSPHORUS</td>
<td>Nausea, headache, epigastric pain, vomiting (odor of phosphorus and phosphorescence of vomitus in the dark); later icterus, severe abdominal pains, hepatic enlargement, bradycardia, small, soft pulse, gastritis and intestinal hemorrhage, skin hemorrhage, renal hemorrhage, nosebleed, metrorrhagia, fainting, cardiac weakness, stupor, coma, cardiac arrest, phosphorus necrosis of the lower jaw.</td>
<td>Thorough washing out of the stomach with 1:1000 potassium permanganate solution, then emetics: copper sulfate or carbonate, 15 grains to a dose. Magnesium sulfate, sodium sulfate, sodium bicarbonate, lime water, camphor, epinephrine. Insulin with dextrose may be tried. Crude tincture, 30 to 40 drops in mucilaginous solution. Avoid milk, egg yolk, castor oil. Phosphorus burns should be painted with a 10% solution of silver nitrate.</td>
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<tr>
<td>Lethal dose about 1/16 to 1 grain.</td>
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<tr>
<td>PICRIC ACID</td>
<td>Yellowish-red vomitus, yellow discoloration of skin and mucous membranes, yellow vision. Headache, slow pulse, albuminuria, hematuria.</td>
<td>Gastric lavage, diuretics. Stains from the skin may be removed with ether or alcohol.</td>
</tr>
<tr>
<td>POTASSIUM CHLORATE</td>
<td>Methemoglobinemia, methemoglobinuria, hemoglobinuria, dryness in the throat, vomiting, thirst, diarrhea, icterus, cyanosis, cardiac weakness, uremia.</td>
<td>Gastric lavage, laxatives, diuretics, oxygen inhalations, venesection, stimulants, camphor, pilocarpine. Avoid acids, lemonade, potassium acetate.</td>
</tr>
<tr>
<td>Lethal dose 80 to 240 grains.</td>
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<tr>
<td>QUININE</td>
<td>Tinnitus, excitement, hemorrhage from mucous membranes, disturbance of vision and hearing, blindness, disturbance of consciousness, collapse, reduced pulse rate.</td>
<td>Gastric lavage, emetics, charcoal, stimulants.</td>
</tr>
<tr>
<td>SALVARSAN Arsphenamine Arsenobenzol</td>
<td></td>
<td>Same as arsenic.</td>
</tr>
<tr>
<td>SANTONINE</td>
<td>Vomiting, numbness, cramps, mydriasis, collapse, salivation, mild colicky pains, paralysis, visual disturbances, reddish discoloration of the urine, increased libido, polyuria, strangury.</td>
<td>For angioneurotic crises: epinephrine. For skin eruption: sodium hyposulfite, calcium preparations.</td>
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<tr>
<td>Lethal dose 1½ to 5 grains.</td>
<td></td>
<td>Camphor, gastric lavage, artificial respiration, charcoal, ether inhalation, chloral hydrate.</td>
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<tr>
<td>SCOPOLAMINE</td>
<td>Same as atropine.</td>
<td></td>
</tr>
<tr>
<td>SERUM SICKNESS</td>
<td>Urticaria: 7 to 12 days later eruption resembling measles; fever, pain in the joints, general indisposition.</td>
<td>Pituitrin, epinephrine, calcium preparations.</td>
</tr>
</tbody>
</table>
### Incompatibilities of Drugs

<table>
<thead>
<tr>
<th>Poison</th>
<th>Symptoms</th>
<th>Treatment</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>SILVER</strong>&lt;br&gt;Silver nitrate.</td>
<td>First white then black patches on the mouth; gastric pain, vomiting, diarrhea. In chronic cases, argyria.</td>
<td>Gastric lavage with salt solution (10 to 20 grams to 1000). Potassium or sodium iodide. Muclaginous drinks, castor oil.</td>
</tr>
<tr>
<td><strong>SNAKE BITES</strong></td>
<td>Localized phlegmonous, hemorrhagic inflammation, lymphangitis, vomiting, fever, dyspnea, cardiac and respiratory paralysis.</td>
<td>Immediate sucking out of the wound or cauterization. Ligature above the injury. Subcutaneously around the wound 3% to 5% tincture of iodine or 1% to 5% potassium permanganate. Lime water, iron chloride, sodium or potassium hypochlorite, ammonia, 1% alcohol, ether, camphor, pilocarpine, venescent, antivenom serum.</td>
</tr>
<tr>
<td><strong>STRYCHNINE</strong>&lt;br&gt;Lethal dose ¼ to 20 grains.</td>
<td>Trismus, tetanic cramps, extremities and neck rigid, terrorized expression, dyspnea, cyanosis.</td>
<td>Emetics (apomorphine subcutaneously), chloral hydrate, chloroform inhalations, atropine, morphone, alcohol, camphor, tannin, artificial respiration, phenobarbital; if necessary: venescent, saline infusion.</td>
</tr>
<tr>
<td><strong>SULFUR</strong>&lt;br&gt;Sulfides.</td>
<td>Unconsciousness, dyspnea, cyanosis, convulsions, paralysis, sulf-hemoglobinemia.</td>
<td>Artificial respiration, oxygen, venescent, salt infusion, camphor, iron oxide or carbonate.</td>
</tr>
<tr>
<td><strong>TOBACCO</strong></td>
<td>Same as nicotine.</td>
<td>Gastric lavage, albumin, milk, tannin, sodium or potassium carbonate.</td>
</tr>
<tr>
<td><strong>ZINC</strong>&lt;br&gt;Zinc chloride, zinc sulfate.</td>
<td>Gastroenteritis, vomiting, albuminuria.</td>
<td>Gastric lavage, albumin, milk, tannin, sodium or potassium carbonate.</td>
</tr>
</tbody>
</table>

**Acetanilid.** Avoid antipyrine, chloral hydrate, damp powder. Bromides and iodides (precipitation). Resorcin, thymol (liquid or wet mass).

**Acetylsalicylic Acid** (Aspirin). Avoid alkalies (decomposition).

**Acids.** Strong acids may be incompatible with salts of weak acids; for instance, sodium salicylate with hydrochloric acid (precipitation of free salicylic acid which is not readily soluble).

**Albumin.** Avoid alkalies, acids, alcohol, tannin, metal salts (precipitation).

**Alcohol.** Avoid acacia, gelatin, albumin (precipitation). Potassium chloride, picric acid, potassium permanganate, chromic acid (explosion).

**Alkalies.** Avoid alkaloids (precipitation). Easy oxidizable substances (decomposition by oxidation in alkaline solutions, such as dextrose, resorcin, hydroquinone and procatechin, pyrogallol, chrysarobin, suprarenin, etc.). Acid salts (neutralization). Ammonia salts (liberation of ammonia). Fats (saponification). Esters (dissociation, see aspirin, salol). Syrups (discoloration, mostly dirty discoloration of plant syrups, especially syrup of raspberry). Calcium, magnesium salts, barium and iron salts (precipitation).

**Alkaloids.** Avoid alkalies, carbonates, borax, metallic salts, iodine and iodides, tannins, plant extracts and tinctures containing tannins (precipitation). Nitrates, such as sweet spirits of nitre, amyl nitrite and sodium nitrite, potassium permanganate (dissociation, nitration or oxidation).

**Alum.** Avoid lead acetate, alkalies, alkaline carbonate, acacia, gelatin, lime water (precipitation).

**Aminopyrine.** Same as for antipyrine.

**Ammonia.** Avoid alkaloids, metallic salts (precipitation). Formaldehyde (formation of methenamine). Iodine (explosion, from iodide of nitrogen; to this classification belong all ammoniated combinations, such as salts of ammonia, ammoniated mercury). Chlorinated lime (explosion, same applies to all ammoniated substances).

**Ammonium Salts.** Avoid alkali carbonates and bicarbonates (ammonia liberation).


**Amy Nitrite.** Avoid antipyrine, alkaloids, iodides, bromides; (to be prescribed only alone or with alcohol; not soluble in water).
Antipyrine. Avoid tannin plant extracts containing tannic acid, iodine, quinine, sublimated mercury (precipitation). Nitric acid; also sweet spirits of nitre, sodium nitrite, amyl nitrite, nitrous acid, iron salts, ammonia (discoloration and dissociation). Acetanilid, acetylsalicylic acid, caffeine-sodio-salicylate, formaldehyde and formaldehyde-containing substances, methenamine, sodium salicylate, salol, chloral hydrate, phenol, naphthol, menthol (liquefaction). Mercuric chloride, calomel (liquefaction of the mercury, making it easily absorbable and poisonous).


Atropine. Same as alkaloids.

Bichloride of Mercury. (Corrosive Sublimate). Avoid alkaloids, alkalies, tannins and tannic acid-containing plant extracts, as well as most organic substances (precipitation). Metals and metal salts (dissociation or amalgamation). Water containing lime, soap, carbonates, ammonia (precipitation). Lime water (explosion).


Caffeine-Sodio-Benzoate and Salicylate. Avoid acid and acidulated fruit juices, such as syrup of lemon, syrup of raspberry (precipitation). Antipyrine, aminopyrine (liquefaction).

Calomel. Avoid albumin, hydrocyanic acid, lactic acid, hydrochloric acid, carbonates, alcohol, alkalies, such as magnesium oxide (formation of corrosive mercury). Especially important: organic substances, light, sugar (conversion into corrosive sublimate). Calomel powder should be prescribed with milk sugar, because milk sugar is not hygroscopic and the moisture necessary for conversion is not present. Antipyrine (poison).

Camphor. Avoid phenol, chloral hydrate, naphthol, thymol, salol, resorcin (liquefaction).


Chlorinated Lime. Avoid ammonia and ammonium salts, sulfur, glycerin, fats and oils, also essential oils (explosion).

Chlorine Water. Avoid silver salts, lead and mercury salts (oxides), alkalies, and all easily oxidizable organic substances, sugar, plant extracts, plant mucilage.

Chromic Acid. Avoid lead salts, silver salts (precipitation): Oxidizable salts (oxidation). Iodine, sulfur, phosphorus, carbon, colloidion, sugar, lycopodium, starch, alcohol, ether, phenol, glycerin, tannin, all easily oxidizable substances (explosion).
INCOMPATIBILITIES OF DRUGS—(Continued)

Lead Acetate Solution. Avoid hydrochloric acid, sulfuric acid, phosphoric acid, iodides, bromides, opium, tannin, iodine, mucilage (precipitation).

Liniments. Acids and acid salts, aluminum, calcium and magnesium salts. In liniments containing ammonia avoid also free iodine.

Lysol (Compound Solution of Cresol). Avoid zinc sulfate because of the liberation of fatty acid or oleic acid of zinc.

Magnesium Oxide. Avoid calomel (decomposition).

Magnesium Sulfate. Avoid alkalies (precipitation). Carbonates (precipitation).

Menthol. Avoid phenol, chloral hydrate, naphthal, thymol, resorcin, salol (liquefaction).

Mercury Oxy cyanide. Avoid trituration in a mortar, especially with organic substances (explosion).

Mercury Salts. Mercury salts are precipitated by numerous other salts. Soluble mercurial salts are thrown down by chlorides, bromides, iodides, and alkalies; precipitate with iodides, alkalies and ammonia.

Methenamine. With antipyrine forms an inactive compound in the stomach.

Morphine Salts. Avoid iron salts, silver salts, mercury salts, potassium permanganate, alkalies, nitrites, tannic acid.

Mucilage (Acacia). Avoid alcohol, ether, tinctures, metallic salts, especially lead acetate solution, ferric oxide, borax (precipitation).

Naphthol. Avoid phenol, antipyrine, camphor, menthol (liquefaction).

Nitric Acid. Avoid glycerin, carbohydrates, phenols, resins and ethereal oils. Cellulose, such as powdered plants, wood, cork, and rubber stoppers (explosions).

Nitrous Acid. Avoid anti-pyrine, alkaloids, iodides, bromides. (Present in sweet spirits of nitre, amyl nitrite and sodium nitrite.)

Novocaine (Procaine). Avoid alkaline carbonates, calomel, tannin, silver salts.

Opium. Same as alkaloids.

Paraldehyde. Avoid bromides and iodides (decomposition).

Pepsin. Avoid alcohol, also tinctures, alkalies, metallic salts (precipitation).

Phenacetin. Avoid chloral hydrate, salicylic acid (liquefaction).


Phenyl Salicylate. Avoid antipyrine, camphor, chloral hydrate, menthol, thymol (liquefaction).

Physostigmine. Avoid tannic acid, iron salts, mercury salts, alkalies.

Picric Acid. Avoid iodine, sulfur, charcoal, powdered plants, sugar, starch, lycopodium, resins and oils, alcohols, phenols (explosion).

Potassium Ars enite Solution (Fowler's Solution). Avoid iron salts, iodides (precipitation).

Potassium Bromide. Avoid paraaldehyde, calomel (decomposition).

Potassium Chlorate. Avoid all easily oxidizing substances because they may explode. Iodine, sulfur, glycerin, alcohol, ether, phenol, lycopodium; especially important: charcoal, tannin, sugar (explosion: for instance, not to be used in tooth powder, or as internal medication with sugar).

Potassium Iodide. Potassium chlorate, potassium permanganate, iron oxide (liberation of iodine). Alkaloids, metallic salts, such as silver, lead and mercury salts; also calomel, potassium arsenic solution (Fowler's solution) (precipitation).

Potassium Permanganate. Alkaloids (oxidation of the latter in solution). Iodine, sulfur, glycerin, alcohol, ether, phenol, charcoal, lycopodium, sugar, tannin (explosion).


Quinine. Same as alkaloids.

Resorcin. Avoid antipyrine, salicylic acid, camphor, menthol, aminopyrine (liquefaction). Metallic salts, iodides (discoloration).

Salicylic Acid. Avoid iron salts (discoloration). Alkaloids (precipitation).

Salts. Inorganic. Care must be exercised that no insoluble salt results from the combination of two salts, such as chlorides and silver nitrate, zinc sulfate and lead acetate.

Salts. Organic. (For instance, sodium benzoate, sodium salicylate.) Avoid strong free acids.

Silver Salts. Avoid chlorides, bromides, iodides, cyanides, alkalies, sulfides, tannic acid, especially organic substances (albumin, mucilage, sugar, etc.).

Soaps. Avoid acids, acid salts, salts of aluminum, calcium, magnesium, especially metallic salts.

Sodium Arsenate. Avoid cocaine (precipitation; for instance, when used for subcutaneous injection).
Sodium Bromide. Same as potassium bromide.

Sodium Iodide. Same as potassium iodide.

Sodium Nitrate. Avoid chlorides, bromides, iodides, cyanides, acetates, alkalies, tannin (precipitation). Alkaloids, glucosides, carbohydrates, sugar, phenols, albumin, mucilage, as well as other organic substances (explosion when mashed, as in pill-making). Should be always prescribed alone, or in pill form with kaolin.

Sodium Nitrite. Avoid antipyrine, alkaloids, iodides, bromides (decomposition).

Sodium Perborate. Avoid acids.

Sodium Salicylate. Avoid antipyrine, aminopyrine (deliquescence).

Sulfur. Avoid potassium chloride, potassium permanganate, chlorinated lime, picric acid (explosion). Metallic salts (black discoloration).

Sulfuric Acid. Care during admixture of water, alcohol, turpentine, etc. (heat and possible explosion). Avoid lead, barium calcium salts (precipitation).

Suprenalin, Adrenalin. Avoid alkalies, metallic salts, such as iron (iron chloride solution), mercury (discoloration).

Syrups. Most alkalies discolor syrups; also some acids. The reaction should be watched.


Theobromine (Double Salts). Avoid acids.

Theobromine Sodiosalicylate. Avoid acids, alkalies, metallic salts, phosphates (precipitation).

Thymol. Avoid camphor, chloral hydrate, menthol, salol, antipyrine, aminopyrine (liquefaction).

Tinctures. The tinctures containing tannic acid should be diluted only with alcohol (precipitation). Those containing alkaloids should not be mixed with tinctures containing tannic acid (precipitation).

Tincture of Iodine. Avoid ammonia and its salts (explosion, generation of nitrogen iodide).

Tincture of Opium. Avoid tannic acid, iodine, metallic salts, such as lead salts (precipitation). See also alkaloids.

Urethane. Avoid chloral hydrate, sodium salicylate, camphor, naphthol, phenol, salol (liquefaction).

Zinc Sulfate. Avoid lead acetate (precipitation).

Acids. In colored fabrics, acid stains are treated with ammonia or sodium bicarbonate and thoroughly washed.

Adhesive Plaster. Benzine, benzol, chloroform or fatty oils.

Alkalies. Soften with water. Colored fabrics: wash with vinegar or a ten per cent solution of citric acid. White fabrics: a one half per cent solution of hydrochloric acid may be used, followed by thorough rinsing with water. Test with litmus to see if all alkali is removed.

Asuline Dyes, Methylene Blue. Lye solution. Dilute hydrochloric acid is also good. Both methods must be followed by thorough rinsing with water. Very resistant dyes must be soaked for several hours in a 1 to 1000 permanganate solution, rinsed and treated with oxalic acid solution.

Argyrol and Mild Silver Solution. When fresh, can be removed with soap and water. Old stains disappear if treated with a warm solution of sodium thiosulfate, 10 to 20 per cent.

Balsam of Peru. Very difficult to remove. Old stains should be first softened with benzyl benzoate. Fresh stains may be removed from white clothes by persistent treatment with chloroform, acetic ether or amyl alcohol.

Blood. Same as hemoglobin.

Bromides. As soon as possible, aromatic spirits of ammonia should be applied, then washed with clear water.

Canada Balsam. Fresh or dried stains may be removed with ether, amyl alcohol, chloroform, oil of turpentine, carbon tetrachloride, carbon bisulfide, and toluol; in most instances also with alcohol, acetone, methanol, acetic ether, and benzine.

Castor Oil. Absolute alcohol, ether, chloroform, benzol. Benzine or gasoline not effective.

Chlorophyll. For fresh stains (grass, etc.) warm alcohol; for old stains sodium perborate, ammoniated hydrogen peroxide, dilute aromatic spirits of ammonia, dilute zinc chloride solution. For resistant stains, chlorinated lime, bleaching fluid, sulfurous acid, hyposulfite, and other sulfites.

Chromic Acid. Dilute sulfurous acid in watery solution or concentrated sodium thiosulfate solution mixed with a few drops of sulfuric acid. When the fabric is suitable, the acid may be precipitated into lead chromate with lead acetate, and this, after washing in distilled water, dissolved with lye.

Chrysanabin. Most easily removed with benzol, but chloroform, tetraline and absolute alcohol are also effective. Warming these solutions renders them more efficient.

Cod Liver Oil. Carbon tetrachloride, benzol, and gasoline. The best solvent is methylol. A final washing with soap, preferably tincture of green soap, is necessary.

Coffee and Cocoa. Washing in concentrated salt water and rinsing thoroughly with water. Sometimes softening the stain with glycerin is helpful.
Collodion. Ether or sweet spirits of nitre.

Copaba. Ether, chloroform, oil of turpentine, benzol, acetic ether, benzine, alcohol, carbon disulfide.

Copper Sulfate. A 30% solution of potassium iodide, or the stains are moistened with a 10% solution of acetic acid, followed by a lukewarm solution of 20% sodium chloride; furthermore, potassium cyanide can be used.

Fluidextracts. In most instances alcohol is sufficient, perhaps followed by tincture of green soap or soapsuds.

Fruit. Washing with lukewarm sweet milk. If this does not succeed, a brief application of sodium bisulfite, slightly acidified with hydrochloric acid. The garment must then be well washed in cold and in warm water.

Gold, Colloidal. Easily removed from clothes or hands with a concentrated (about 20%) solution of potassium cyanide.

Grass. Same as chlorophyll.

Hemoglobin. Fresh stains (blood) should be washed with lukewarm water; older stains should be softened with borax solution, dilute ammonia or tincture of green soap, and finally treated with a 2% solution of oxalic acid. For resistant stains, solutions of peptin with hydrochloric acid or other enzyme preparations may be used.

Ichthyol. Warm soapsuds.

Ink, Methyl Violet. From the skin, it may be removed with glycerin, acetic or citric acid. Fabrics require similar applications. Resistant stains must be treated as Tar Coloring Products.

Iodine. Hands or clothes are moistened with ammonia or sodium thiosulfate solution.

Iodoform, Vioform. The article is soaked for two hours in a 2% acetic acid solution; then rinsed and wrung out. The article is then placed for one hour in a 2% solution of hyposulphite, washed thoroughly in water, boiled for about ten minutes in soapsuds, and rinsed out in cold water.

Lanolin (Wool Fat). Ether, acetone, benzol, benzine, chloroform. Alcohol is ineffective.

Lead Acetate. After applying peroxide, the remaining yellow stain is removed with lye or acetic acid.

Linseed Oil. The best solvents are tetralin, hexalin, and warm amyl alcohol. For white or naturally colored objects, aromatic spirits of ammonia is added.

Mercuriochrome. A 3% solution of potassium permanganate followed by a 5% solution of oxalic acid, which is then rinsed out thoroughly. Hypochlorites are also effective.

Mercury. (Corrosive Sublimate). Tincture of iodine is applied to the stain; the resulting mercuric iodide is then removed with strong iodide of potash.

Removing Medicinal Stains—(Continued)

A solution of potassium cyanide or potassium iodide may be left to dry on the stain. The stain can then be washed out with warm sodium hyposulphite.

Mildew. First, the stain is covered with ammonia water, then carefully saturated (by means of absorbent cotton) with a 20% solution of oxalic acid and thoroughly rinsed in water. In white fabrics, mildew or urine stains can be removed by wetting with dilute hydrochloric acid, followed by hydrogen peroxide.

Milk. The fatty constituents are removed with a mixture of equal parts of ether and alcohol, the casein with diluted ammonia water, and the lactose, by repeated washings with water.

Mineral Oil. Ether, benzine, benzol, chloroform, dichloroethyl, trichloroethyl, carbon tetrachloride.

Oils and Fats. Same as mineral oil. Blotting paper, layer of cotton or other absorbent material should be placed under the stain, while treating it.

Picric Acid. For about a minute, the stain is left to dissolve in an alkaline sulfate such as potassium sulfate, then it is thoroughly washed with soap and water. The following is also recommended for fresh stains: the stain is covered with a paste made of magnesium carbonate and water; then after a while the paste is rubbed into the stain.

Potassium Permanganate. Dilute sulfuric acid, dilute hydrochloric acid, oxalic acid, hyposulphite or alkaline sulfates. For susceptible fabrics and marble which cannot be treated with acids, the stains should be moistened with ammonium sulfate solution, which is then washed away. The manganese sulfate formed is dissolved with a 10% solution of potassium cyanide.

Protargol. While fresh, protargol stains are easily washed away with soap and water. Old stains can be removed with a solution of potassium iodide, sodium hyposulphite or ammonium persulfate, also with hydrogen peroxide and ammonia.

Pyrogallol. Old stains cannot be removed. Fairly recent stains can be removed or made less conspicuous by applying a warm 5 to 10% iron sulfate solution to the stain until it changes to a deep blue color. After thorough washing with water, the remaining stain is promptly treated with a solution of oxalic acid. When the color disappears, the stained article is carefully rinsed. The procedure is repeated as often as necessary.

Reagents. Esbach's reagent: same as picric acid; Fehling's or Haines' solution: same as copper sulfate; Guenzburg's solution: same as pyrogallol; Giemsa's solution. Löffler's methylene blue, carbolfuchsin, gentian violet; indicator stains: same as aniline dyes; Lugol's solution: same as iodic; Mayer's and Nessler's reagent: same as mercury; Weigert's solution as well as Stock's fluid: same as iron salts.

Red Wine. Sodium perborate or hydrogen peroxide solution.

Resins. Strong alcohol. (See also Canada Balsam.)

Resorcin. Fresh stains are treated with glycerin, dichlorhydrin, ether, alcohol; older stains with citric acid solution; very old stains, as aniline dyes.
Rhubarb. From light colored fabrics stains may be removed with hot benzol. For cleaning the hands, vinegar or pumice stone should suffice.

Rust, Iron Salts. Ferric chloride, tincture of iron salts, and rust yield to treatment with a 10% zinc chloride solution, or a 10% citric acid solution, or a warm 5% solution of oxalic acid to which about 5% glycerin is added; also hot sodium pyrophosphate solution. Weak, watery solutions of ammonium fluoride or potassium fluoride (lead, gutta-percha, paraffin or wooden vessels should be used). White fabrics may also be treated with hydrosulfite, such as sodium hydrosulfite (sprinkled on the stain and moistened). In all instances, thorough rinsing with water should follow.

Salvarsan. Fresh stains can be washed away. Old stains cannot be removed.

Silver Nitrate. A simple method is to moisten the stain with iodine, then wash out immediately in cool or lukewarm water. Or, fresh stains are quickly removed with a 10% solution of potassium cyanide. This should be followed by bichloride of mercury and thorough rinsing with water. Or a 10% solution of potassium iodide may be used. The resulting yellow stains are then removed with thiosulfate solution. For removing caustic silver nitrate (lunar caustic) from the skin the following mixture may be used: Bichloride of mercury 10, ammonium chloride 10, distilled water 80. Covering the spots with concentrated copper chloride and washing this away with thiosulfate solution is also recommended. Before using any of these methods, oiliness of the skin should be removed with carbon tetrachloride or ether.

Soot. May be rubbed out with a 20% solution of tartaric acid.

Tannin. Dilute acetic acid or a solution of oxalic acid, or a mixture of equal parts of alcohol, glycerin or dichlorhydrin and water. Deep stains need also hyposulfite. Lead acetate is also effective. Sulfate of iron may also be used, and the resulting ink removed with oxalic acid.

Tar and Tar Products. Dried stains should be softened with warm oil, then benzol, xylol, chloroform, carbon tetrachloride, trichlroethyl, tetrail for dissolving the stain (a blotter should be placed under the stain for absorption). Next washing with tincture of green soap or with soap and water.

Tar Coloring Products. Hydrogen peroxide, perborates, peroxide (oxygen preparations for silk and delicate fabrics); chlorinated lime, hypochlorite solutions, etc. Lime for linen, cotton and paper. (Sodium hyposulfite or weak ammonia as follow-up treatment.) Sulfurous acid, potassium sulfite, bisulfite, hydrosulfite (for all fabrics, as wool, silk, mixed weaves, wood, paper). Frequently, hot glycerin or acetic or citric acid suffices. Sometimes strong tincture of soap is resultful. Fabric should first be tested to see if it will withstand such applications. Invariably washing with water should follow the application.

Trypanflavine. Woolen garments should be treated promptly. After the stain has dried, the garment should be washed in warm water. Then water is heated to about 125 degrees F. and to every quart of water one-half dram of hydrochloric acid is added. The stain is soaked in this for 15 minutes. The garment is then thoroughly rinsed in clear water and dried.

Urine. Same as mildew.
### ABBREVIATED LATIN WORDS

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<tr>
<th>Latin</th>
<th>Abbreviation</th>
<th>Meaning</th>
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<td>Ad</td>
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<td>Ad libitum</td>
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<td>Liquor</td>
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<td>Recipe</td>
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<td>Ut dictum</td>
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### SERVING MEDICINE THROUGH RESEARCH AND MANUFACTURE

#### Service through Manufacture.

It is difficult to appreciate the magnitude of the advances made in the medical sciences since William R. Warner opened his retail drugstore in Philadelphia in 1856. Practice of the healing art itself was confined largely to the exercise of various time-honored, empiric procedures and the judicious administration of certain well-tried medicaments.

Pharmacology and the pharmacist’s art were therefore limited essentially to technical refinements of traditional devices, and it was in this direction that William R. Warner displayed abilities of an exceptionally high order which rapidly gained the respect and confidence of a large medical clientele.

In 1866, after ten years' success as a retail pharmacist, Warner entered wholesale drug manufacture and soon acquired prominence as the first who “manufactured pills in which sugar was used as a coating.” In 1879 Warner introduced “parvules,” small pills produced on a large scale, and his firm also gained recognition for the excellence of its effervescent products and tonic elixirs.

Thus service to the medical profession through manufacture of exceptionally pure, uniform and reliable pharmaceuticals was the foundation on which William R. Warner based his success.

#### Service through Research.

William R. Warner’s ideal of service to the medical profession through refinement and control of materials and manufacturing techniques was supplemented in 1938 by a concept of equal importance: Service through Research. In June of that year the Warner Institute for Therapeutic Research was established with the purpose of conducting fundamental investigations for development and improvement of medicinal and biologic preparations and the discovery of new compounds for use in diagnosis, treatment and prophylaxis.

The research activities of the Warner Institute are given additional scope through Research Fellowships and Scholarships maintained by William R. Warner & Co., Inc., in medical schools, hospitals and other scientific institutions co-operating on research problems.

Moreover, recognizing that progress in the medical sciences is dependent to a considerable extent upon the availability of new, initially rare substances for diagnostic, prophylactic and therapeutic uses, William R. Warner & Co., Inc., gladly accepts the responsibility, whenever possible, of making such materials available at nominal cost to qualified clinical investigators and to institutions engaged in the teaching of medicine or pharmacy.

William R. Warner & Co., Inc., 113 West 18th Street, New York 11, N. Y.
'AGAROL'
Emulsion of Mineral Oil with Phenolphthalein
and an Agar-Gel

Description: Highly emulsified mineral oil in an aqueous agar-gel containing tragacanth, acacia, egg albumen, and glycero. Particles of insoluble phenolphthalein in a state of extremely fine subdivision are uniformly distributed throughout the emulsion. Thus uniform dosage of phenolphthalein and miscibility of the emulsified mineral oil with the contents of the gastrointestinal tract are assured.

Actions and Uses: 'Agarol' Emulsion relieves constipation smoothly and efficiently by providing moisture, lubrication, and peristaltic stimulation, three factors essential to normal evacuation. Moisture is retained in the stool by means of an aqueous, osmotically active agar-gel. Lubrication is supplied by highly emulsified mineral oil and indigestible, colloid gums comparable to mucin. Gentle peristaltic stimulation is initiated by pure, white phenolphthalein, U.S.P.

The emulsified oil droplets remain dispersed throughout the fecal column and do not form pools of free mineral oil to collect in the sigmoid colon and rectum. Anal seepage of mineral oil and interference with defecation reflexes are thereby reduced to a minimum. Moreover, the hydrophilic, aqueous agar-gel component of the emulsion resists absorption of fluid in the lower bowel and thus retains moisture in the stool.

Dosage: The average adult dose is 1/2 to 1 tablespoonful upon retiring and may be repeated if necessary the following morning, two hours after eating. The dose for children three to six years old is 1/4 to 1 teaspoonful. Children under three years of age are given proportionately smaller doses. Administration should be avoided at meal times or during gastric digestion. Absorption of oil-soluble vitamins by 'Agarol' Emulsion is negligible when the preparation is administered in therapeutic doses two hours after meals, as directed. The required dose of 'Agarol' Emulsion actually contains a relatively small amount of oil (0.64 cc. to 4.5 cc.) which is not apt to absorb food factors because the larger, continuous phase of the emulsion is aqueous.

Packaging: Bottles containing 5, 10, and 16 fluidounces.

'ALKA-ZANE'
Alkaline Effervescent Compound

Description: An effective and well-tolerated alkalinizing preparation. This snow-white, granular combination of basic compounds, citrates and phosphates, administered in water as recommended, creates a refreshing, effervescent drink that replenishes the alkaline reserve, insures increased fluid intake, promotes diuresis and renders the urine alkaline.

In solution, one heaping teaspoonful provides:
Sodium citrate ............. 41.00 grains (2.70 Gm.)
Sodium bicarbonate ...... 25.00 grains (1.60 Gm.)
Magnesium phosphate ...... 3.80 grains (0.25 Gm.)

The alkaline salts formed when 'Alka-Zane' Alkaline Effervescent Compound is dissolved in water are readily absorbed and efficiently utilized as systemic alkali. In contrast to many preparations for systemic alkalinization, 'Alka-Zane' Alkaline Effervescent Compound contains no tannates or sulfates which exert little or no alkaline effect and may promote fluid loss through laxative action.

Actions and Uses: Since sulfonamides and their acetyl derivatives are sparingly soluble in acid urine there is a tendency toward crystalluria during unmodified sulfonamide treatment. For this reason adjuvant alkali therapy with 'Alka-Zane' Alkaline Effervescent Compound is indicated when sulfonamides are administered. The solubility of these substances in the urine was to be minimal at pH 5.5 to 6.5 whereas it was doubled or tripled at pH 7.5 and increased tenfold at pH 8.0.

'Alka-Zane' Alkaline Effervescent Compound is especially valuable in preventing sulfanamide crystalluria because it not only efficiently raises the pH of the urine, but its very mode of administration, which requires solution in water, insures the increased fluid intake which is usually essential.

'Alka-Zane' Alkaline Effervescent Compound may be used alternately with acid-forming salts in the treatment of certain urinary tract infections in which successive changes of urinary pH are desirable. Alkalization of the urine is also recommended during treatment of gout in order to prevent deposition of urates in the urinary tract.

Dosage: For adults, one heaping teaspoonful of 'Alka-Zane' Alkaline Effervescent Compound in a glass of water three or four times daily about an hour after meals and upon retiring. For children over 6 years of age, one-half teaspoonful three or four times daily one hour after meals and upon retiring. For children under 6 years of age, proportionately smaller doses, as indicated. 'Alka-Zane' Alkaline Effervescent Compound makes a refreshing drink when mixed with water or fruit juices.

Packaging: Bottles containing 1 1/2 ozs., 4 ozs. and 8 ozs.

'ANUSOL'
HEMORRHOIDAL SUPPOSITORIES

Description: A slim, elongated, rectal suppository designed for painless insertion past the anal ring and comfortable retention within the rectum. 'Anusol' Hemorrhoidal Suppositories do not contain anesthetic, hemostatic or vasoconstricting drugs which may mask the symptoms of serious disease and produce systemic side effects by repeated application. Effective, but safe, therapeutic action is provided by the following rational formula:

Bismuth subgallate .................... 2.25
Bismuth resorcin compound .......... 1.75

Nicaraguan balsam (medicinal) .......... 3.00
Zinc oxide .................................. 11.00
Acid boric ................................... 18.00
Base of pure cacao butter, benzoateied lard
and beeswax q.s. ad. ....................... 100.00

**Actions and Uses:** In hemorrhoids and in uncomplicated inflammatory rectal states, the decongestive action of 'Anusol' Hemorrhoidal Suppositories acts to allay the inflammation. With improvement in circulation, the edema fluid is further reduced with consequent progressive alleviation of both distention and pressure upon nerve endings. Direct removal of the cause thus achieves freedom from the symptoms of pain. Concurrently, the emollient ingredients of 'Anusol' Hemorrhoidal Suppositories soothe the irritated mucosa, coat it to protect it from further trauma, soften retained rectal contents and provide lubrication to facilitate their evacuation. Healing may then proceed as rapidly as venous stasis is reduced and extrava-
sation of blood is checked. When hemorrhoids are still amenable to palliative therapy; when surgery is inadvisable as in pregnancy, and in certain disease states; or when operation is refused, 'Anusol' Hemorrhoidal Suppositories afford a safe measure for quick relief, speedier healing and protection against further insult. 'Anusol' Hemorrhoidal Suppositories will effect urgently desired relief in uncomplicated hemorrhoidal conditions yet will not mask the presence of more serious disease.

When surgery is indicated, preoperative preparation of the field and reduction of congestion may be readily undertaken with 'Anusol' Hemor-
 rhoidal Suppositories. Then following hemorrhoidectomy, or incision of a thrombosed pile, or injection therapy, the decongestive, soothing protec-
tion of 'Anusol' Hemorrhoidal Suppositories will serve to assure greater comfort for the patient and speed uncomplicated healing.

Continuing rectal discomfort, unallayed by change in position, uneasiness on walking and pain on defecation, when associated with simple cryptitis, papillitis or proctitis, may also be controlled with 'Anusol' Hemorrhoidal Suppositories.

**Dosage:** One suppository inserted at bedtime and after each defection.

**Packaging:** Boxes of 6 and 12 suppositories.

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**'OMNI-BETA'**

**Elixir Vitamin B Complex**

**Description:** Elixir 'Omni-Beta' provides every therapeutic advantage of the complete B complex in a pleasantly flavored, concentrated form. It is quantitatively and qualitatively rich in the unfraccionated aqueous ex traction of yeast, liver, and rice polishings which are the best natural sources of the B vitamins. Balancing proportions of crystalline thiamine, riboflavin and niacinamide are added so that the minimum daily adult requirements of thiamine and riboflavin are supplied in each teaspoonful.

Elixir 'Omni-Beta' is not limited to one natural source of the B complex. A blend of the three richest sources insures high potency of all B factors. This therapeutic advantage is not obtainable from simple mixtures of the

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**'Celu-Cillin'**

50,000 Units Penicillin Tablets

**Description:** 'Celu-cillin' is an effective oral penicillin preparation in the form of a pleasant-tasting tablet. Each tablet provides 50,000 units of calcium penicillin with aluminum hydroxide and calcium carbonate as buffers against gastric acid. 'Celu-cillin' tablets are scored for the con-
VENIENT ADMINISTRATION OF DIVIDED DOSAGE. Each ‘Gelu-cillin’ tablet is hermetically sealed in a heavy aluminum foil packet. This patented sealing guards against the loss of potency from absorption of moisture, contact with the atmosphere and other destructive influences, giving assurance that ‘Gelu-cillin’ will reach the patients without loss of strength.

Actions and Uses: ‘Gelu-cillin’ is used in the treatment of gonococcal, pneumococcal, streptococcal and staphylococcal infections. As a prophylactic measure, ‘Gelu-cillin’ may be used to guard against the development of secondary infections following tonsillectomies or tooth extractions in cases where there is a history of rheumatic fever, rheumatic heart disease or other conditions where secondary infections are likely to occur.

Dosage: In certain conditions as designated, ‘Gelu-cillin’ may be used as the only source of penicillin. In other more serious conditions, ‘Gelu-cillin’ should be used in conjunction with or as a supplement to parenteral therapy. ‘Gelu-cillin’ is administered to the best advantage at low levels of gastric secretion. The preferred times for taking ‘Gelu-cillin’ are either 1/2 hour before meals or from 1 1/2 to 2 hours after.

Gonorrea: A. Oral Therapy—One ‘Gelu-cillin’ tablet every two to three hours for six doses per day, continue treatment for one or two days.
B. Combined Therapy—One parenteral injection of 100,000 units. After two to three hours, one ‘Gelu-cillin’ tablet every two to three hours for six successive doses. Penicillin should be administered only parenterally in gonorrheal complications such as arthritis, endocarditis and epididymitis. It must be considered that syphilis may be present along with the gonorrhea. Treatment for gonorrhea, as described, may mask evidence of syphilis by preventing the appearance of the chancre. Consequently, blood serological tests should be made monthly for a period of three months, checking on this possibility.

Pneumococcos, Streptococcos and Staphylococcus Infections.
Combined therapy—Initially, 20,000 to 40,000 units of penicillin should be given parenterally every three hours. After the temperature has been reduced, continue treatment orally with ‘Gelu-cillin’. One ‘Gelu-cillin’ tablet should be taken at two to three hour intervals (day and night) and treatment should be continued for at least 48 hours after the temperature has returned to normal. If the infection is not controlled satisfactorily by ‘Gelu-cillin’, parenteral administration should be resumed.

Prophylactic Use:
Two to four tablets daily in divided doses. Start dosage one day before and continue three to four days after surgery.

‘Gelu-cillin’ should not be used in meningitis, endocarditis and peritonitis—conditions requiring parenteral penicillin. In acute suppurative and bacteraemia or septicemia, parenteral penicillin should be administered until blood cultures are negative. ‘Gelu-cillin’ may be used after control of the acute condition has been established. ‘Gelu-cillin’ as well as all penicillin preparations, either oral or parenteral, are ineffective in dysentery, typhoid fever, brucellosis and E. coli infections.

Packaging: ‘Gelu-cillin’ is supplied in boxes of 12 scored tablets, each with a potency of 50,000 units of penicillin. Tablets are hermetically sealed in heavy, aluminum foil pockets, arranged in three strips of four tablets.

‘GELUSIL’
ANTACID ADSORBENT

Description: ‘Gelusil’ Antacid Adsorbent (fluid) is an exceptionally palatable preparation of a uniquely acid-resistant aluminum hydroxide gel, 6.5%, containing 7 1/2 grams of uniformly dispersed and suspended magnesium trisilicate per teaspoonful.
‘Gelusil’ Antacid Adsorbent (tablets) have proved particularly convenient for ambulant patients. Each grit-free, pleasantly flavored tablet is equivalent to one teaspoonful of the liquid and provides 7 1/2 grams of magnesium trisilicate with partially dehydrated, acid-resistant aluminum hydroxide gel corresponding to 4 grams of aluminum hydrate.

Actions and Uses: An especially prepared aluminum hydroxide gel, uniquely resistant to hydrochloric acid in physiologic concentrations, is the basis of ‘Gelusil’ Antacid Adsorbent. Thus, the antipeptic, demulcent, colloid character of ‘Gelusil’ Antacid Adsorbent is not altered by contact with the gastric contents.

The protective action of the special, activated aluminum hydroxide gel forming the basis of ‘Gelusil’ Antacid Adsorbent is predominantly physical. Hydrochloric acid is inactivated by adsorption and the proteolytic activity of pepsin is diminished as a result of decreased acidity, adsorption, and precipitation. Inflamed or ulcerated areas of the gastro-intestinal mucosa are mechanically protected by a film of the gel. Moreover, since aluminum hydroxide is not absorbed, the danger of systemic alkalosis is obviated regardless of the dose administered.

Magnesium trisilicate slowly inactivates hydrochloric acid by chemical reaction as well as by physical adsorption. Protective, demulcent silica gel and magnesium chloride are formed. Antacid activity is prolonged.

One teaspoonful or one tablet of ‘Gelusil’ Antacid Adsorbent inactivates approximately 100 cc. of N/10 HCl within 3 1/2 hours at body temperature, as measured with Töpfer’s reagent. The inactivation does not produce a pH higher than 6 regardless of the amount of acid present; i.e., pronounced alkalinity, such as might evoke a secondary acid rise, is not created.

‘Gelusil’ Antacid Adsorbent is indicated for the treatment of gastric hyperacidity and peptic ulcer. It is also an excellent vehicle for other medication such as phenobarbital and belladonna. ‘Gelusil’ Antacid Adsorbent provides all the benefits to be desired of this type of therapy as well as unique stability, uniform composition and practical freedom from constipating effects.

Dosage: One to four tablespoonfuls of ‘Gelusil’ Antacid Adsorbent (fluid) or one to four tablets may be given between meals as often as necessary to relieve symptoms and promote recovery.

Packaging: Bottles containing 6 and 12 fluidounces.

‘MEDINAL’
BARBITAL SODIUM

Description: Soluble, rapidly absorbed, long-acting sedative and hypnotic. Available as an exceptionally palatable elixir and tablet, suppository and powder form.

Actions and Uses: “Medinal”* Barbital Sodium is an effective sedative and hypnotic. It is used as such in simple insomnia, hysteria, neurasthenia, thyroid disease and chorea; in the intervals between epileptic seizures, in mental disturbances and in impending delirium tremens. “Medinal” Barbital Sodium may be used in combination with the analgesics such as amino-pyrene, acetophenetidin and acetylsalicylic acid to augment their action in the relief of pain, especially of neuralgic character. The therapeutic effects of “Medinal” Barbital Sodium are exerted on the higher centers of the brain, and therapeutic doses do not usually cause any apparent injury to the heart, circulation or kidneys.

In the absence of pain, sleep is usually induced by the administration of “Medinal” Barbital Sodium within half an hour and lasts for four to eight hours, varying with individuals and the dosage. The patient generally awakes refreshed, but occasionally experiences lassitude, vertigo, headache, nausea and diarrhea on the following day. Patients known to be sensitive to any form of barbital should not receive “Medinal” Barbital Sodium.

Dosage: One tablet of “Medinal” Barbital Sodium, or three teaspoonfuls of “Medinal” Elixir Barbital Sodium in hot water or hot milk, provides an average hypnotic dose. One-half to one teaspoonful of “Medinal” Elixir Barbital Sodium may be administered three or four times a day for mild, continuous sedation. One “Medinal” Suppository provides effective, prolonged hypnotic when rectal administration is indicated.

Packaging: “Medinal” Elixir Barbital Sodium, containing 0.33 Gm. (2 grains) of barbital sodium in each teaspoonful, is supplied in bottles containing six fluidounces and one gallon.

“Medinal” Tablets Barbital Sodium, 0.32 Gm. (5 grains), are provided in boxes of 12 and bottles of 50 and 100.

“Medinal” Suppositories Barbital Sodium, containing 0.65 Gm. (10 grains) of barbital sodium in each slim, easy-to-insert cacao butter suppository, are supplied in boxes of six.

“Medinal” Barbital Sodium (powder), is packed in bottles containing 30 Gm. (1 ounce).

“Medinal” Barbital Sodium Tablets are compressed without added excipient. They are completely soluble and suitable for both oral and hypodermic administration. The solution for injection should be prepared in distilled water and sterilized by heat.

‘SULFAThIAADOX’

Self-Sterilizing Sulfathiazole Ointment

Description: An oil-in-water, nonstaining, water-washable ointment containing microcrystalline sulfathiazole 5%, urea peroxide 1%, and chlorobutanol (an antifungal preservative) 0.5%. The sulfathiazole is oxygen potentiated by the action of urea peroxide, selected for this purpose by comparative laboratory trials.

Oxygen potentiation of the microcrystalline sulfathiazole contributes a self-sterilizing property to ‘Sulfathiaadox’* Ointment not possessed by sulfonamides per se. ‘Sulfathiaadox’ Ointment is bactericidal for Staphylococcus aureus, Streptococcus hemolyticus and Escherichia coli as well as for the highly resistant, sporeforming anaerobic Clostridium perfringens (welchii) and Clostridium tetani. The uniquely potentiated antibacterial quality of ‘Sulfathiaadox’ Ointment tends to prevent septic contamination of the ointment and increases its therapeutic efficiency.

Finally, the specially designed, water-washable ointment base facilitates utilization of the microcrystalline sulfathiazole at the site of application and permits easy removal of crusts and surface debris.

Actions and Uses: For the local treatment of pyogenic skin infections, including impetigo; erythema; pustular acne vulgaris; bacterial folliculitis; furunculosis; infected eczema; infected seborrheic dermatitis, and infected wounds. ‘Sulfathiaadox’ Ointment is also useful in treating secondary pyogenic infections of pre-existing dermatoes caused by poison ivy, fungi, etc. Its use as a dressing is a valuable prophylactic measure against infection of open wounds, superficial burns and minor surgical procedures. The self-sterilizing property guards against reinfection of the lesion.

Application: ‘Sulfathiaadox’ Self-Sterilizing Sulfathiazole Ointment is applied externally at the site of the lesion.

Packaging: One-ounce tubes, one-pound jars, and five-pound jars.

‘THERA-VITA’

THERAPEUTIC VITAMIN CAPSULES

Description: A highly potent multivitamin capsule designed for the therapeutic treatment of vitamin deficiencies. Each Thera-Vita® capsule contains 10 times the M.D.R.† of vitamin B₁, 5 times the M.D.R. of B₂ and C and 3½ times the M.D.R. of A and D plus B₉ and calcium pantothenate, the need for which has not been determined in human nutrition.

The formula of Thera-Vita is in proper balance. Established ratio values among the fat and water soluble vitamins have been strictly adhered to; i.e., 10 to 1 for A and D; 10 to 1 for niacinamide and B₁ or B₂, and 10 to 1 for calcium pantothenate and B₉.

Each Thera-Vita capsule provides:

<table>
<thead>
<tr>
<th>Vitamin</th>
<th>Amount</th>
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<tbody>
<tr>
<td>B₁</td>
<td>10 mg.</td>
</tr>
<tr>
<td>B₂</td>
<td>10 mg.</td>
</tr>
<tr>
<td>C</td>
<td>150 mg.</td>
</tr>
<tr>
<td>Niacinamide</td>
<td>100 mg.</td>
</tr>
<tr>
<td>B₉</td>
<td>1 mg.</td>
</tr>
<tr>
<td>Calcium Pantothenate</td>
<td>10 mg.</td>
</tr>
<tr>
<td>A</td>
<td>12,500 U.S.P. units</td>
</tr>
<tr>
<td>D</td>
<td>1,250 U.S.P. units</td>
</tr>
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</table>

Actions and Uses: Thera-Vita capsules make possible the therapeutic treatment of mixed vitamin deficiencies by helping to restore normal tissue levels of the essential vitamins. Quick response is obtained in the vitamin deficiency states induced by: (1) restricted or unbalanced diets; (2)...

†Minimum Daily Requirements.
periods of metabolic stress; (3) impaired utilization and absorption; (4) abnormal excretion.

**Dosage:** One to three capsules daily will provide a recognized therapeutic dosage of all the essential vitamins.

**Packaging:** Bottles of 100 and 250 capsules.

**'UROTOPIN' URINARY ANTISEPTIC**

**Description:** "Urotopin"*† Urinary Antiseptic, the original methenamine, a condensation product of formaldehyde and ammonia, is absorbed from the intestinal tract and circulates unchanged in the body fluids. It is rapidly excreted by the kidneys, releasing formaldehyde in urine of the proper degree of acidity.

**Action and Uses:** "Urotopin' Urinary Antiseptic has the marked advantage of being nontoxic even when not excreted. It is thus of unique value in patients with renal insufficiency. "Urotopin' Urinary Antiseptic is bacteriostatic for many strains of E. coli and is useful in the treatment of genitourinary infections due to strains of this organism resistant to the sulfonamides. Helmholtz found that cultures of E. coli, resistant to sulfathiazole, high urinary acidity and mandelic acid, were destroyed in urine containing a concentration of 200 mg. of methenamine per 100 cc.

"Urotopin' Urinary Antiseptic is especially useful in the treatment of refractory urinary tract infections where it is desirable to change therapeutic agents in order that the infecting organisms do not become unduly resistant to a specific drug. It is also useful in the treatment of urinary tract infections in patients exhibiting systemic side effects from sulfonamide therapy. Administration of "Urotopin' Urinary Antiseptic is a valuable prophylactic measure before instrumentation of, or operation on, the urinary tract.

"Urotopin' Urinary Antiseptic may, in exceptional cases, produce urticaria or vesical irritation.

**Dosage:** The effective dose of "Urotopin' Urinary Antiseptic for adults is 4 to 5 grams (60 to 75 grains) daily, administered every 6 hours in four equal doses to secure uniform concentration in the urine.

The dose for infants is 0.13 to 0.2 gram (2 to 3 grains); for children four to five years old, 0.32 to 0.5 gram (5 to 7½ grains), and for children of six to fifteen years, 0.65 to 1.0 gram (10 to 15 grains), four times daily. "Urotopin' Urinary Antiseptic should be administered well-diluted in water.

The therapeutic effectiveness of "Urotopin' Urinary Antiseptic is dependent upon the acidity of the urine which, for optimal formaldehyde release, should approximate pH 5.5. Therefore, it is usually necessary to administer acidifying salts such as acid sodium phosphate, ammonium nitrate, ammonium chloride or acid ammonium phosphate. The usual adult dose of either of these acidifiers is 2 grams four times daily. The dose for children is from one-fourth to one-half the adult dose. Administra-

†Accepted by the Council on Pharmacy and Chemistry of the A.M.A.
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