TABLE 5.—*Continued*

SUMMARY	Cost in Cents	Calories
Monday	40	2,655
Tuesday	60	2,712
Wednesday	55	2,453
Thursday	55	2,648
Friday	55	2,840
Saturday	55	2,630
Sunday	70	3,236
Per week	$ 3.90	19,174
Per diem	0.56	2,739
Per month	16.80	

Individual income appropriate to this expenditure is $67.20 per month.

tered toast) costing $1.03 for 2,500 calories stand out in their extravagance, but this is outdone by nine orders of two poached eggs on toast costing $1.91 for the day's requirement. The portion of spaghetti with cheese is certainly overpriced, and were the service to an Italian clientele would not be so costly.

The greatest wonder appears in the cost of the tomato portions. Tomatoes with lettuce and dressing cost over $9.00 for 2,500 calories, nearly as much as cantaloupe at $10.00, while champagne (bought outside the restaurant at $4.00 a quart) costs $14.00 for 2,500 calories.

The mystery of tomatoes is baffling. A can of tomatoes is little else than flavored water. The popularity of the tomato probably depends on its flavor and its color. A painter wishing to sell a landscape puts a figure with a red cloak in the center. It is an ancient device. In like manner, a restaurant puts a few lettuce leaves on a plate with a red tomato in the middle, covers it with a little dressing and gets a large price. It is the work of an artist for a connoisseur.

To indicate the practical value to which this work may be put, the following selected menus have been arranged. They give the cost and caloric content of inexpensive dishes which may be ordered at the restaurant and which provide for three meals a day during a week for a man of average weight. Only the morning cup of coffee occurs more than once.

TABLE 6.—COST TABLE

Ham and Eggs, 25 Cents	Cents
2 Eggs	6.66
3½ oz. Ham	4.40
3 Slices bread	0.45
10 gm. Butter	0.89
2½ oz. Potatoes	0.04
800 calories	12.44

Bacon and Eggs, 25 Cents	Cents
2 Eggs	6.66
1 oz. Bacon	3.72
3 Slices bread	0.45
10 gm. Butter	0.89
2½ oz. Potatoes	0.04
800 calories	11.76

Plain Omelet, 15 Cents	Cents
2 Eggs	6.66
3 Slices bread	0.45
10 gm. Butter	0.89
500 calories	8.00

Tenderloin Steak, 55 Cents	Cents
9½ oz. Steak	17.30
3 Slices bread	0.45
10 gm. Butter	0.89
2½ oz. Potatoes	0.04
1,300 calories	18.68

Ham Sandwich, 5 Cents	Cents
½ oz. Ham	0.70
2 Slices bread	0.30
10 gm. Butter	0.89
200 calories	1.89

At Bellevue Hospital, New York, in 1912, the cost of food from the market, that is, of uncooked food, was 25 cents daily for 3,200 calories for each person in the establishment; at the Muncipal Lodging House during 1911 the cost was 13 cents daily for 2,700 calories per person.

When one considers that Childs restaurant pays for service and for expensive ground floor rental in the busiest parts of New York City, surely food at the cost outlined above is not expensive. But this menu is laboratory made, calculated from the scientific standpoint and from the standpoint of food economics. The restaurant in question could easily give this information on its menu card. It would have immense educational influence were it to do so.

In a few selected portions Mr. Gephart has estimated the retail market value of materials entering into the portions sold and these are revealed in Table 6.

It is evident that the actual cost of these standard portions is about half to one-third their cost in the restaurant. The housewife who knows how to buy the essential ingredients, and especially how to cook them, is an economic factor of prime importance in the home. Of such stuff is the science of food economics.

Mr. Gephart's work is the first extended investigation of its kind. It would be wise if the public could be better informed regarding the caloric value of foods which it purchases. It would be of vast significance if the barrel of flour, the can of lard, the pot of beans or the package of breakfast food could be labeled with the caloric content of the particular unit of sale.

The question would not then be asked, would Professor X eat his own diet? But the individual could then ask himself, am I sufficiently well-to-do to be careless of what I spend for food? And, can I spend less with equal profit and as great satisfaction?

SCOPOLAMIN-MORPHIN TREATMENT IN LABOR

A CRITICAL ANALYSIS OF SIXTY CASES

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A series of cases under scopolamin-morphin treatment was begun January 1, this year, in the Michael Reese Maternity, on the obstetric service of Dr. Lester E. Frankenthal, and continued on the service of Dr. Frank Cary. The series terminated February 5.

All private cases, all cases that threatened to become pathologic, and all cases that came in too soon before delivery to permit of the proper administration of the drugs, were kept out of the series. The total number analyzed was sixty.

Of the four delivery rooms in the Michael Reese Maternity, each constructed with cork-lined, sound-proof walls and sound-proof doors, the largest was chosen for the "twilight sleep" cases. Two nurses, both graduates with extensive obstetric experience, were especially engaged for day and night duty during the entire period of the series, and they remained constantly in the delivery room. The patients were furthermore under the continual observation of either the senior or junior intern on obstetrics, and of the day and night head nurse in charge of the maternity. All results were tabulated and the observations were constantly checked by Drs. Frankenthal, Cary and myself.

Patients in labor were sent to the third floor admitting room where they received a tub bath (sponge bath if membranes had ruptured), shaving of the genitals, and an enema, if not too far advanced in

labor; when, if suitable for the series, they were taken to the delivery room, where treatment was begun with the following indications; in multiparas, when the pains recurred every ten minutes, and in primiparas when the pains recurred every five minutes.

The drug used in the earlier cases was a tablet form of scopolamin put out by Sharp and Dohme and made by Merck; later a powder form of scopolamin by Merck and ampules of scopolamin from Hoffman-LaRoche, preserved with mannite, according to the formula of Straub of Freiburg, were employed in alternate cases.

The total dosages varied from one-eighth to one-quarter grain morphin and from two doses of 1/200 to nine doses of 1/150 and eleven doses of 1/200 grain scopolamin, hypodermically. Subdued light, smoked glasses and avoidance of unnecessary and loud talking were strictly enforced. Observations on all points brought out in the literature were taken and recorded at half-hour intervals, and oftener when necessary.

The accompanying table represents a summary of the sixty cases in two groups, primiparas and multiparas. A few of the items were analyzed in only the last twenty-one cases, and are marked "2d S."

At the close in each case a brief impression of that case was written, and these remarks are here presented verbatim in groups arranged according to the degree of success or failure.

RESULTS OF TREATMENT

NO SUCCESS, TWENTY-SIX CASES

Case 10.—Patient's memory was clear at all times. Patient was somewhat indifferent to the pains, but said that the pains were severe.

Case 13.—Slight vertigo—memory clear at all times.

Case 29.—Patient's memory clear throughout, slight flush and marked thirst being the only noticeable symptoms.

Case 32.—At no time during labor had patient the slightest cloudiness of memory, sleeping between pains.

Case 53.—Patient was delirious for several hours, doing foolish stunts and was very restless.

Case 55.—Patient was very delirious, throwing herself about in a wild manner and later required restraint.

Case 56.—Very restless—the drug increased her restlessness.

Case 58.—Very restless, and during the second stage patient was absolutely unmanageable—could not be aroused and had to have restraining sheet.

Case 61.—Treatment stopped after 5/150 grain scopolamin and 2/8 grain morphin because labor pains ceased. Patient also vomited and became restless; fetal heart tones dropped to 96 and forceps were used.

Case 63.—Not much effect of the drug could be seen.

Case 66.—Patient had a mitral insufficiency and myocarditis, a supposedly ideal case for the use of the treatment. After three doses subcrepitant râles appeared in the upper left lung, the pulse became fast and irregular and the fetal head stood in deep transverse arrest. Forceps and immediate extraction were followed by a pulmonary edema, from which the patient finally recovered. The baby was born in asphyxia pallida and was resuscitated with difficulty.

Case 68.—No effect of drug noticed.

Case 3.—Patient's memory at all times was clear and no effect of the drug noticeable.

Case 9.—Patient's memory at all times was clear and very little effect of drug could be noticed. Patient had difficulty in getting the head past the outlet. Pains were strong, but no progress. "Kristeller" resulted in normal delivery.

Case 11.—Delivery rapid following a somewhat quiet period. Patient quite indifferent, apparently having little pain, but somewhat cyanotic.

Case 12.—Patient in the beginning was quiet; after the third dose became somewhat noisy and hysterical; memory was clear throughout labor.

Case 14.—Child revived with difficulty. Later condition good. Treatment did not give desired effect of drugs.

Case 19.—With heart tones at 108 from 124 after two doses, deemed it inadvisable to continue the treatment. Patient's mind was clear at all times and no effects of the treatment were noticeable.

Case 25.—Patient had no disturbance of memory.

Case 33.—Patient stopped for about four hours; after the fourth injection of scopolamin no effects of the drug were obtained.

Case 37.—Patient's memory was clear at all times.

Case 59.—Patient's memory clear throughout labor. After delivery became restless, then delirious, got out of bed and ran to window, getting onto the sill, was dragged off by the nurse, overpowered her, ran to the rear stairway, where three nurses finally succeeded in subduing her and getting her into the quiet room, where she was shackled and kept so four days, when she finally became entirely rational again.

Case 62.—Patient's memory clear throughout. Case terminated by rupture of uterus. Patient, nonipara, had three doses of scopolamin 1/200 grain, and 2/8 grain morphin. After the last dose at 1:45 a. m., pains became less frequent and stopped at 4:30 a. m. At this time the fetal heart tones could no longer be heard, and the patient gradually became semiconscious. At 6:30 she was pale, and sweat appeared on the brow. The dilated cervix was found collapsed and the presenting head had receded. Diagnosis, rupture of the uterus, seen by Drs. Frankenthal, Cary and myself, abdominal section done, fetus and placenta found free in the abdominal cavity, a jagged transverse rupture in the lower uterine segment of the uterus, running straight across the whole width anteriorly just at the level of the fundus of the bladder and a huge retroperitoneal hematoma up to the kidney. Hysterectomy was done—patient died on the second day.

Case 65.—No effect of drug noticed.

Case 67.—No effect of drug noticed.

Case 70.—No effect of drug noticed.

LITTLE SUCCESS, SEVEN CASES

Case 6.—Patient's memory seemed clear at all times, bearing down pains were very few.

Case 16.—Toward the end, patient appeared for a few seconds rather confused. Memory always clear, slightly irrational after returning to the ward, restless and required restraint.

Case 18.—Patient at no time before delivery had cloudy memory. Pain lessened toward end.

Case 20.—Labor seemed very easy, patient's memory was clear at all times.

Case 49.—With the exception of about two hours after the fourth dose, patient had clear memory throughout.

Case 69.—Patient slightly drowsy at birth, but knew of birth.

Case 7.—Patient's memory was slightly cloudy at time of birth.

PARTIAL SUCCESS, EIGHT CASES

Case 15.—Drugs apparently had some effect on memory though not throughout. Duration of effect rather short—no marked improvement on giving last dose; patient very noisy, excited, and at times toward the end became irrational and difficult to control until about the last hour, when she quieted down considerably.

Case 24.—Patient had six doses 1/150 grain of scopolamin, but had few symptoms showing effect; although patient responded to memory tests before birth she had no recollection of the birth of child. She says she had chloroform.

Case 28.—Amnesia present to slight degree. Patient very noisy during the last hour, and had to have restraining sheet in ward.

Case 34.—Patient appeared very drowsy. Difficult to concentrate thoughts. At intervals she seemed to have cloudy memory for events.

SUMMARY OF CASES

	Totals	Primiparas	Multiparas
Cases	60	33	27
Drugs:			
Scopolamin, total amount (range)		2/200–9/150–11/200	8/150–7/200
Morphin, total amount (range)		1/8–2/8	1/8–2/8
Time from first to last hypodermic (range)		1: 15–19: 45; Av., 8: 15	1: 15–12: 15; Av., 5: 35
Duration (Compared with an untreated series of one year ago):			
First stage		17: 10 Untreated (10: 20)	14: 13 Untreated (7: 55)
Second stage		2: 10 series (2: 00)	1: 59 series (1: 33)
Total labor		19: 42 (12: 51)	15: 11 (7: 53)
Subjective symptoms:			
Memory, clear	26	12	14
Memory, cloudy	39	24	15
Deep T. S.	1	1	0
Very deep T. S.	0	0	0
Thirst	32	17	15
Euphoria, 2d S.		Good, 6; fair, 1; poor, 4	Good, 6; fair, 1; poor, 2
Headache	27	15	12
Vertigo	31	22	9
Objective symptoms:			
Sleep	43	24 (slight 8)	19 (slight 3)
Incoordinate movements	13	10 (slight 1)	3 (slight 1)
Reflexes		Not abolished	Not abolished
Flushing of face	45	24 (marked 2)	21
Dry skin and mucous membranes, 2d S.	18	10	8
Apparent effect on pain:			
Absent	1	1	0
Less	39	20	19
Average	19	10	9
Increased	1	1	0
Consciousness:			
Present	45	23	22
Partial	10	6	4
Absent	5	4	1
Excitation:			
Absent	39	17	22
Present	16	12	4
Marked	2	2	0
Delirium	9	7	2
Abdominal pressing:			
Good	24	10	14
Medium	18	9	9
Absent	10	7	3
Vomiting, 2d S.	4	1	3
Birth:			
Spontaneous	57	31	26
Operative, etc.	4	2 (forceps)	2 Kristeller abdom. section
Mental state at birth:			
Clear	28	15	13
Cloudy	26	14	12
Deep T. S.	5	4	1
Expression of pain:			
None	4	2	2
Slight	5	3	2
Average	37	20	17
Marked	8	5	3
Additional anesthesia	3	2 (ether)	1 (ether)
Perineal tears	12	7	5
Baby:			
Respiration spontaneous	47	25	22
Respiration artificial	13	8	5
Rhythm and character, 2d S.	3	3 feeble	0
Asphyxia	6	4	2
Oligopnea	4	4	0
Pulse 1 hr., P P, 2d S.		Good, 8; fair, 2; poor, 1	Good, 9
Pupils, 2d S.		Dilated, 4; slightly, 6	Dilated, 2; slight, 3
Stillbirth	1	0	1 (rupture uterus)
Late lasting symptoms:			
Mydriasis, 2d S.	8	7	1
Cloudiness, 2d S.	9	6	3
Delirium, 2d S.	2	1	1 marked
Puerperium:			
Breast engorgement, 2d S.	3	3	0
After-pains, 2d S.	8	6	2
Involution		Normal	Normal
Placenta:			
Spontaneous delivery	2	1	1
Crédé	57	31	26
Manual removal	1	0	1 (laparotomy)
Blood pressure-range:			
Antepartum		115–150	115–150
Postpartum		110–145	110–145
Strength of contractions, 1st stage:			
Average	51	28	23
Decreased	8	5	3
Strength of contractions, 2d stage:			
Average	29	13	16
Decreased	28	18	10
Increased	3	2	1
Postpartum hemorrhage	7	5	2
Number of bimanual examinations (total, 77):			
One examination	52-52	26	26
Two examinations	5-10	5	0
Three examinations	5-15	2	3
Positions:			
L O A.	47	25	22
R O A.	10	7	3
R O P.	1	1	0
Dp. tr. arrest	1	1 (No. 66 forceps)	0
Success of treatment:			
None	26	12	14
Little	7	6	1
Partial	8	4	4
Fair	5	4	1
Good	8	5	3
Complete	6	2	4

CASE 17.—Toward the end patient seemed slightly confused. Memory occasionally cloudy, but was quite clear after delivery.

CASE 21.—Patient drowsy throughout from a half hour after the first injection. Attempted to sleep between pains. Pain apparently uninfluenced; memory clear throughout.

CASE 48.—Patient was under effect of the drugs only at the very end. Treatment lasted 6½ hours.

CASE 51.—Patient's memory was only slightly cloudy.

FAIR SUCCESS, FIVE CASES

CASE 8.—Patient's memory was clear throughout, but she appeared indifferent to what was going on.

CASE 43.—Patient was under influence of the drug as concerns amnesia for about one hour. Treatment lasted five hours and twenty-five minutes.

CASE 44.—Patient's memory was cloudy—excitation in the last half hour very marked, throwing herself about wildly. In the ward she had to be tied in bed.

CASE 45.—Patient was wildly delirious at time of pain, sleeping between pains, but throwing herself about for two hours before delivery in a wild manner.

CASE 57.—Postpartum hemorrhage half hour after patient returned to bed. Patient did not know when the baby was born. Abdominal muscles not used after the fifth dose of scopolamin.

GOOD SUCCESS, EIGHT CASES

CASE 5.—Patient seemed to come partially out of the effect of the treatment shortly before delivery.

CASE 22.—Patient after the first three doses showed considerable amnesia; partially recovered; after last two doses she showed amnesia again and doesn't remember when the baby was born.

CASE 26.—After the third dose did not use her abdominal muscles; hence head remained at the vulva longer than need have been.

CASE 35.—Memory tests were interfered with on account of the delirium present. Patient seemed to remember on the following morning much better than had been expected.

CASE 47.—Patient was very quiet; very difficult to arouse; memory was cloudy; abdominal muscles not acting.

CASE 40.—So far as could be ascertained, this case was a success; patient quite an ignorant person and information difficult to obtain; memory quite cloudy; pain not noticeably diminished.

CASE 41.—Patient quite noisy immediately prior to delivery, but after child was born she slept, during which motions of the extremities were spasmodic and involuntary. Drug seemed to act promptly, and amnesia was present after the second dose.

Case 54.—Amnesia attained at the time of delivery—temporary—semi-delirious toward the end.

COMPLETELY SUCCESSFUL, SIX CASES

CASE 23.—Patient had absolute loss of memory, but was very delirious, throwing herself about in a wild manner. Repair work was almost impossible on account of her wild actions, and restraint was necessary in bed. Child started breathing with little stimulation; ten minutes later stopped and artificial respiration had to be resorted to.

CASE 60.—Patient did not know when baby was born. Conduct during labor excellent.

CASE 42.—Patient's memory was only slightly cloudy prior to delivery, but amnesia was more marked after the birth of the child. Delivery was rapid.

CASE 46.—Patient was very quiet and slept all the time from one hour before delivery until several hours thereafter. Pains during second stage were good, regular and strong, but abdominal muscles were not used.

CASE 50.—Patient's memory was cloudy. Gave no expression of pain at time of birth and slept most of the time.

CASE 52.—Patient's amnesia was complete. Slept almost all the time, arousing only slightly at the return of each pain.

Two primiparas, cases 53 and 56, classified as unsuccessful, received the maximum total doses, 9/150 grain scopolamin, and a primipara, case 49, classified as slightly successful, received 11/200, whereas case 60, primipara, and cases 42, 46 and 50, multiparas, classified as completely successful, each received a total of only 3/150 grain scopolamin. These striking variations in dosage, effective conversely to the total amounts used, show clearly how utterly uncertain the outcome must be in any given case. But the women whose faith in their local physicians of worth has been shaken by the trumpet blasts of the optimists—what do they know about these petty details?

The average duration of the so-called first stage (17: 10, primiparas, and 14: 15, multiparas) exceeded that of a series of one year ago of the same number of cases taken for comparison (10: 20, primiparas and 7: 55, multiparas) by about seven hours, while the second stages in the two series (2: 10, primiparas, and 1: 59, multiparas, this series, and 2: 00, primiparas, and 1: 33, multiparas, untreated series) were about equal. However, it must be remembered that the total number of bimanual examinations made on the entire sixty cases was only seventy-seven, and that every patient admitted to the Michael Reese Maternity is examined once bimanually as soon as prepared after admission, and thereafter not again unless there is the strictest indication; hence the onset of the second stage had to be determined in most cases by other means, such as rupture of membranes, bearing down pains, etc., and as a result the seven hour retardation should be considered as applying to the combined first and second stages. To overcome this generally conceded prolongation of labor (though several writers have claimed the opposite result) pituitary extract has been freely and frequently employed elsewhere. Such juggling with the natural powers, like the combined use of the brake and the whip, has seemed to us an attempt to make a right out of two wrongs. The use of pituitary extract in the Michael Reese Maternity service is limited sharply to the terminal portion of the second stage, when its maximum benefits are seen without secondary disadvantages.

Memory tests were carried out conscientiously but without unnecessarily disturbing those patients that seemed somnolent. Twenty-six remained clear throughout labor, thirty-nine were cloudy, yet the twenty-six had a greater total of scopolamin than the thirty-nine.

Thirty-two women complained of a thirst so intense as to be literally unquenchable. Their parched mouths and incessant requests for water were not the least distressing feature of the treatment.

Headache and vertigo were present in twenty-seven and thirty-one cases, respectively, and the former was a source of much distress and even intense suffering, persisting for several days in some cases. Yet these same women who were rendered so wretched, in many instances for hours and days after delivery, would have gone through a normal confinement of from eight to eleven hours' average duration, and would have been comfortable and happy thereafter, if they had not had the so-called blessings of "twilight sleep."

Forty-three patients slept part of the time, but could always be easily aroused, seeming to respond to external stimuli and to feel the contractions.

Pain was felt by many of these women regardless of the number of doses of scopolamin. It was diminished in thirty-nine, absent in one, average in nineteen

and increased in one. That this applied equally to the cases at Freiburg, is evidenced by the various series in which additional anesthetics were used at the end, such as ether, ethyl chlorid, etc. If this be so, then why discard the old and tried combination of morphin hypodermically for pain and chloral by rectum, with completely effaced and partially dilated cervix, as used by the obstetricians of the Michael Reese Maternity for more than a quarter of a century with safety? The typical analgesia and amnesia of the more favorable reports in the literature were obviously not attained in a large number of cases in which we had every reason to expect results if the claims made by the proponents of this procedure had been substantiated.

Restlessness was present in eighteen cases and delirium in nine, in seven of which restraint and shackling were necessary. These "obstetrical jags," as Dr. Cary so aptly put it, represented the most annoying and unpleasant phase of the whole investigation, appeared in every kind of case with few or many doses, and necessitated unremitting watchfulness on the part of the nursing staff and interns, in spite of which such incidents as those in Case 59 occurred.

The serious risk of self-infection during labor engendered by the uncontrolled motions of these women was a source of constant anxiety. They sat cross-legged and the heel would enter the vulva. In their vague efforts to reach the region of pain, they repeatedly attempted to explore their genitalia. It was next to impossible to keep the genitalia free from feces, and the fact that we had no infections can be ascribed chiefly to the careful initial preparation all patients receive in the admitting room of the maternity, plus the untiring alertness of the nursing force to keep these women from harming themselves. In this connection, comment is in order on the practice of one clinic, in which patients undergoing the treatment are virtually under strait-jacket restraint. Is a treatment necessitating such measures deserving of recognition, much less approbation?

Three days prior to the occurrence of Case 62, rupture of the uterus, Dr. Frankenthal spoke to me of the danger that this treatment could obscure such important symptoms as the pain in premature separation of the placenta, *cessation of pains* in rupture of the uterus, even the presence of an eclampsia suppressed by medication similar to the Stroganoff treatment; and though thanks to the day and night staff, this case was detected, who knows what further disasters might happen in future series or isolated cases, under the combined blanket of the drug, the semidarkness of the room and the patient too restless for proper examination?

Birth in all cases but four was spontaneous. Case 9, sextipara, Kristeller, after the head had been on the perineum one and one-half hours; Case 61, primipara, heart tones dropped to 96, after 27:10 hours of labor and low forceps were applied; Case 66, primipara, broken cardiac compensation, head in deep transverse arrest after 22:25 hours, 4:25 of which were in the hospital, terminated by forceps; and Case 62, abdominal section for rupture of the uterus.

Amnesia at birth was entirely absent in twenty-eight, present in twenty-six, and marked in five, while analgesia was present in four, slight in five, pain was average in thirty-seven, and marked in eight at birth. Ether was used in three cases, all operative.

Perineal tears occurred in twelve cases, or 20 per cent. of the series, seven in primiparas, and five in multiparas, ranging from slight first degree, to deep second degree, all of which were repaired immediately, this being the routine in the Michael Reese Maternity for all tears however slight. In the untreated series of sixty cases of a year ago there were seventeen perineal tears, or 28 per cent.; but in this connection it is debatable whether a very slow passage of the head over the perineum and through the vulva, leaving the mucocutaneous surfaces intact, to be sure, but causing a separation of the perineal musculature subcutaneously with subsequent rectocele and possible prolapse, is more desirable than an occasional episiotomy with immediate and accurate repair. The understanding women of this generation seem much more concerned lest a tear be left unsutured or improperly sutured, than by the occurrence of the tear itself.

Respirations in the baby were spontaneous in forty-six cases, and required artificial aid in thirteen cases. Methods used ranged, after laryngeal aspiration, from spanking to hot and cold tubbing, artificial respirations, Schultze swinging, and direct tracheal insufflation by catheter. Four were oligopneic and six were asphyctic, requiring constant watching and in two cases repeated resuscitations.

The one stillbirth occurred in Case 62, rupture of the uterus, with escape of the fetus into the abdominal cavity and prompt death.

Of the "late lasting symptoms," the patients complained most of blurred vision; eight were pronounced, lasting over twenty-four hours; nine patients had cloudy memory lasting over six hours postpartum, and two had marked delirium, persisting two and four days postpartum. Who can read such statistics, knowing the care with which this work was done and the safeguards that were thrown around the cases, and not feel out of patience with those who seemingly are trafficking in the natural fears of pregnant women?

After-pains were noteworthy in eight cases, six in primiparas, a larger proportion than is usual; involution, breast engorgement and lactation were not influenced. Our mothers nurse their babies, the babies do well, and are taken off the breast only on the rare occasions when a threatened breast infection requires radical action to avoid pus formation.

"The exhaustion of labor" has always been conspicuous by its absence in the wards of the Michael Reese Maternity, excepting in the occasional pathologic primiparas, and even these are usually alert on the second day. We find it hard to understand this phrase, graphic though it is, for there is seldom a day when on making rounds it is not necessary to insist that some recently delivered woman get off her elbow, stop entertaining her neighbors, and lie down. The women are permitted to turn frequently, and after four days are encouraged to lie face downward the greater part of the time and so favor anteflexion in involution. All patients sit up in bed on the eighth day, get out of bed on the ninth and go home on the eleventh day (many on the tenth at their own request because they feel so well).

Spontaneous delivery of the placenta occurred only twice, fifty-seven cases requiring the Credé expression, which is not attempted until thirty minutes postpartum even if a placental pole shows at the outlet. In the untreated series of sixty cases there were five spon-

taneous expulsions. The single manual removal occurred in the case of ruptured uterus.

Blood pressures taken on admission and immediately postpartum showed an average drop of 5 mm.

There were seven postpartum hemorrhages, none of which required packing, but were variously controlled by holding the fundus (not massaging), vulvar compression, ergot and pituitary extract hypodermically, and temporary compression of the abdominal aorta. This compares unfavorably with the untreated series of sixty cases in which only one postpartum hemorrhage occurred, but is surely explained by the enfeebled contractions, the lengthened labor and the restlessness of the patients.

That frequent bimanual examinations are not necessary, even in such a series as this in which the patient is so unreliable a guide, is proved by the small total of seventy-seven in sixty cases, in spite of which no obstetric indications were overlooked.

From the foregoing results it seems reasonable to conclude that there are such dangers connected with the administration of the drugs, and that there is such a striking uncertainty of action in any given case, that the routine adoption of the treatment is not to be considered; moreover, it has been found impossible to "select" cases on any intelligent basis.

The lay press and magazines in their anxiety to outdo one another have published articles filled with the most extravagant phrases, but it is a bit out of the ordinary to read of a medical enthusiast announcing that by this treatment *the horrors of the delivery room are avoided.* The women must be few and far between who look back on the room in which they gave birth as a "chamber of horrors."

SUMMARY

The prolongation of labor, the increase in the number of fetal asphyxias, the excessive thirst and intense headaches that are so distressing, the difficult control of patients and avoidance of infection by soiling of the genitals, the more frequent postpartum hemorrhages, the blurred vision, the ghastly deliriums persisting far into the puerperium, the inability to recognize the onset of the second stage unless by risk of more frequent examinations, the masking of early symptoms such as antepartum hemorrhage, rupture of the uterus and even eclampsia, the violence and uncertainty of the whole treatment, the general bad impression given to our patients who are being taught to approach the "horrors of labor" in fear and trembling, constitute so severe an arraignment of this treatment of labor cases that we feel compelled to condemn it, leaving open the question of the merits of a single dose of morphin and scopolamin in those cases in which we have hitherto given morphin and atropin.

New Feature of Antifly Campaign.—At Buffalo in order to encourage and promote the antifly campaign the health department has inaugurated the plan of granting a certificate to the proprietors of all places of business who will make war on flies and certify on honor that there were no flies in their places on the first days of June, July, August and September. This it is believed will prove effective in increasing efforts against the fly nuisance. As suggestions in the way of fly extermination and prevention the following are offered: "Kill all winter flies, the egg-layers; clean up the premises and keep them free of dirt, refuse, manure, garbage, etc., the breeding places; screen all windows and doors; cover garbage cans and manure boxes; place fly traps in April; get the neighbors interested."

SCOPOLAMIN AND NARCOPHIN SEMINARCOSIS DURING LABOR*

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The conservative attitude of American physicians toward the use of scopolamin and morphin during labor has been chiefly due to the lack of uniformity in the results obtained in the various German clinics, for in that country the method was devised and has been steadily improved. In a number of obstetric cases recorded by Schneiderlein,[1] anesthesia obtained by this means proved fatal in one instance, and subsequently the use of these drugs for the purpose of obtaining complete anesthesia has not been advocated. A smaller dosage, as Steinbuchel[2] found, would induce seminarcosis which was safe for the mother. While in this state the patient may be sensitive to pain but is unable to remember that she suffered, or in fact, to remember anything which occurred during the course of labor. This method of treatment, therefore, does not produce anesthesia, but seminarcosis and amnesia.

Steinbuchel's technic, however, did not yield satisfactory results in the hands of Gauss,[3] who was stimulated to seek better means for regulating the administration of the drugs. Later Straub sought a more stable preparation of scopolamin. Such precautions were necessary to prevent overdosage and to avoid decomposition products of scopolamin which are toxic. Gauss believed that administration of these decomposition products, especially apoatropin, accounted for the untoward symptoms which Hocheisen[4] frequently observed and which led him to denounce emphatically the use of scopolamin in any case. But, even after the required stable preparation had been procured and the technic standardized to give uniform results in Freiburg, the reports from other European clinics varied. In Berlin, for example, Strassman[5] observed when scopolamin and morphin were used that uterine contractions were frequently impaired, and even more frequently that the fetus was asphyxiated; and for these reasons Strassman did not recommend the treatment. On the other hand, the results in Döderlein's clinic in Munich reported by Zweifel[6] have been encouraging.

The fact that efforts are being made continually to simplify and perfect the method also indicates that it is still in the experimental stage. In May, 1914, Siegel,[7] one of Krönig's assistants, reported a series of 220 cases in which narcophin was used to replace morphin. The repeated administration of both drugs was based on a time-schedule, and not on various tests which Gauss has employed. Siegel came to the conclusion that narcophin had less effect than morphin on

* From the Woman's Clinic of the University Hospital.

1. Schneiderlein: Die Skopolamin-Morphium Narkose, München. med. Wchnschr., 1903, i, 37.
2. Steinbuchel: Schmerzverminderung und Narkose in der Geburtshilfe mit spezieller Berücksichtigung der kombinierten Skopolamin-Morphium Anaesthesia, Leipzig and Vienna, 1903.
3. Gauss: Geburten in kunstlichem Dammerschlaf, Arch. f. Gynäk., 1906, lxxviii, 579; Bericht über das erste Tausend Geburten im Skopolamin Dammerschlaf, München. med. Wchnschr., 1907, p. 157.
4. Hocheisen: Ueber Geburten unter Skopolamin-Morphium, Ztschr. f. Geburtsh. u. Gynäk., 1907, liv, 131.
5. Strassman: Die Schmerzstillung bei der Geburt, Berl. klin. Wchnschr., 1911, xlviii, 982, 1046.
6. Zweifel: Ueber Morphium-Skopolamin Dammerschlaf, Monatsschr. f. Geburtsh. u. Gynäk., 1912, xxxvi, 719.
7. Siegel: Schmerzlose Entbindungen in Dämmerschlaf unter Verwendung einer vereinfachten Methode, Deutsch. med. Wchnschr., 1914, xl, 1049.