

Fracture tables / by Frank H. Hamilton ; with a supplement compiled from Dr. Hamilton's notes by John Boardman, comprising in all an analysis of 461 cases of fractures.

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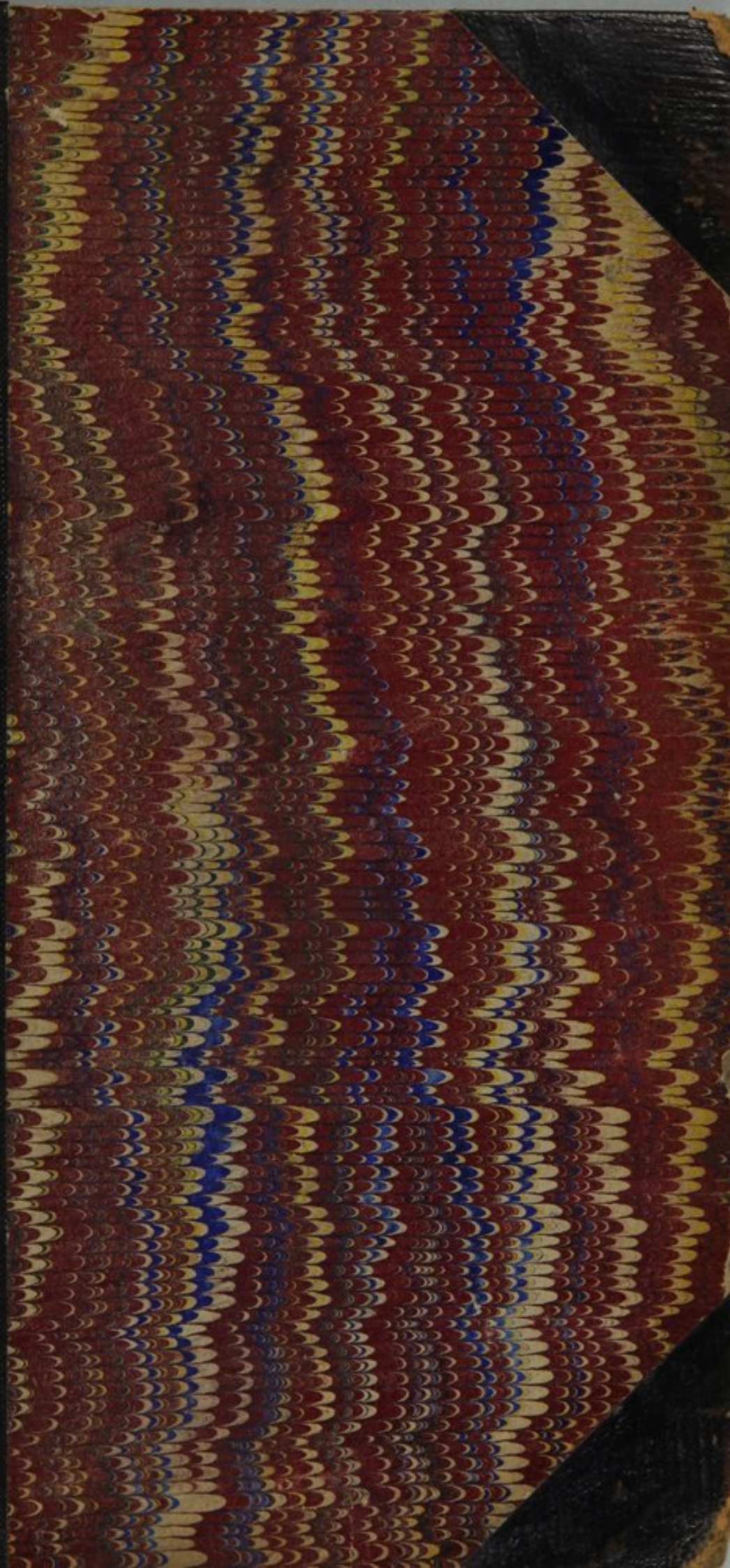
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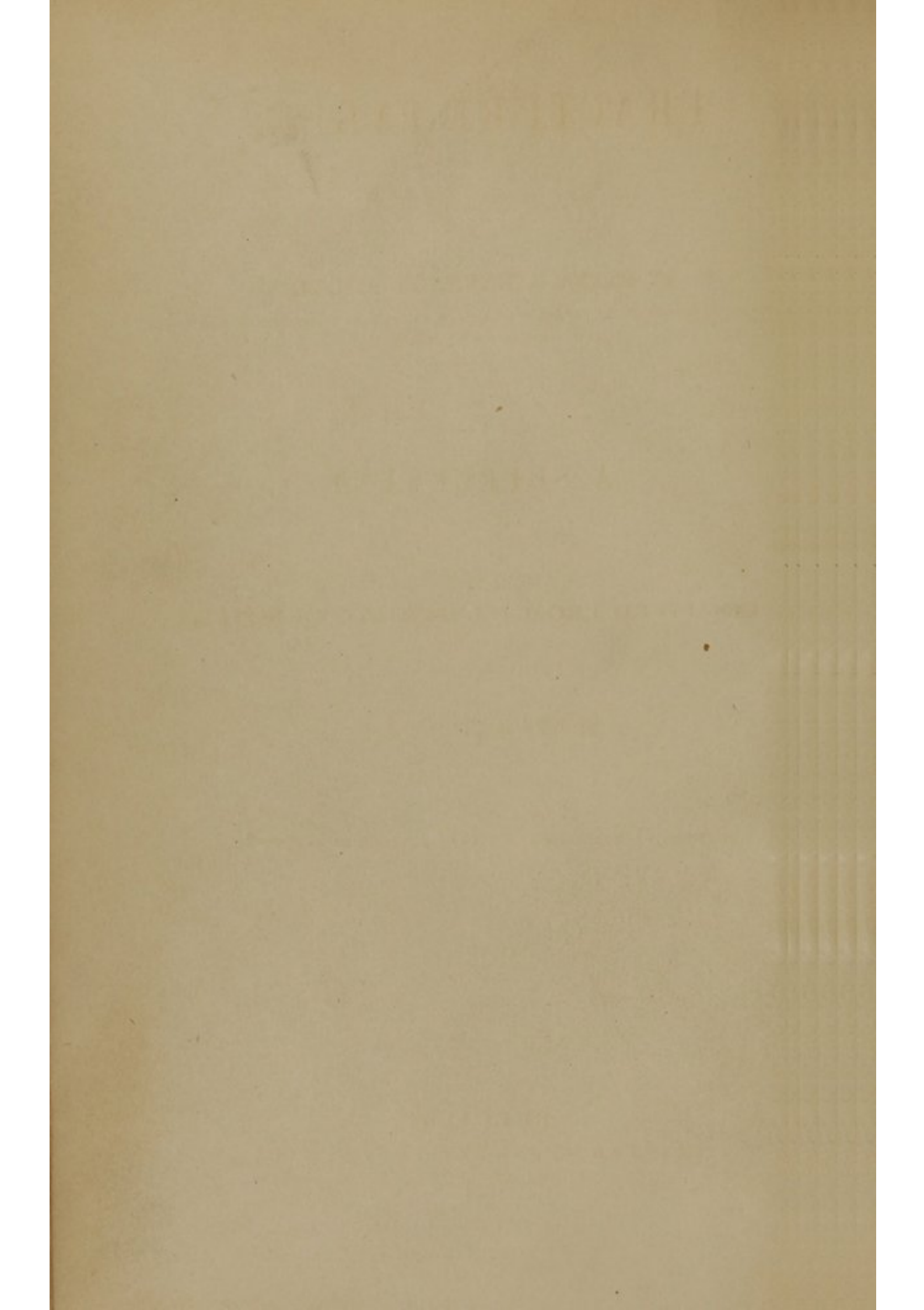
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FRACTURE TABLES

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THE SISTERS OF CHARITY.

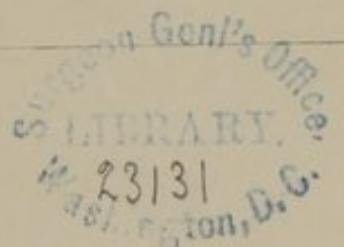
WITH

A SUPPLEMENT

COMPILED FROM DR. HAMILTON'S NOTES,

BY JOHN BOARDMAN, A. B.,

COMPRISING IN ALL AN ANALYSIS OF 461 CASES OF FRACTURES.



BUFFALO:

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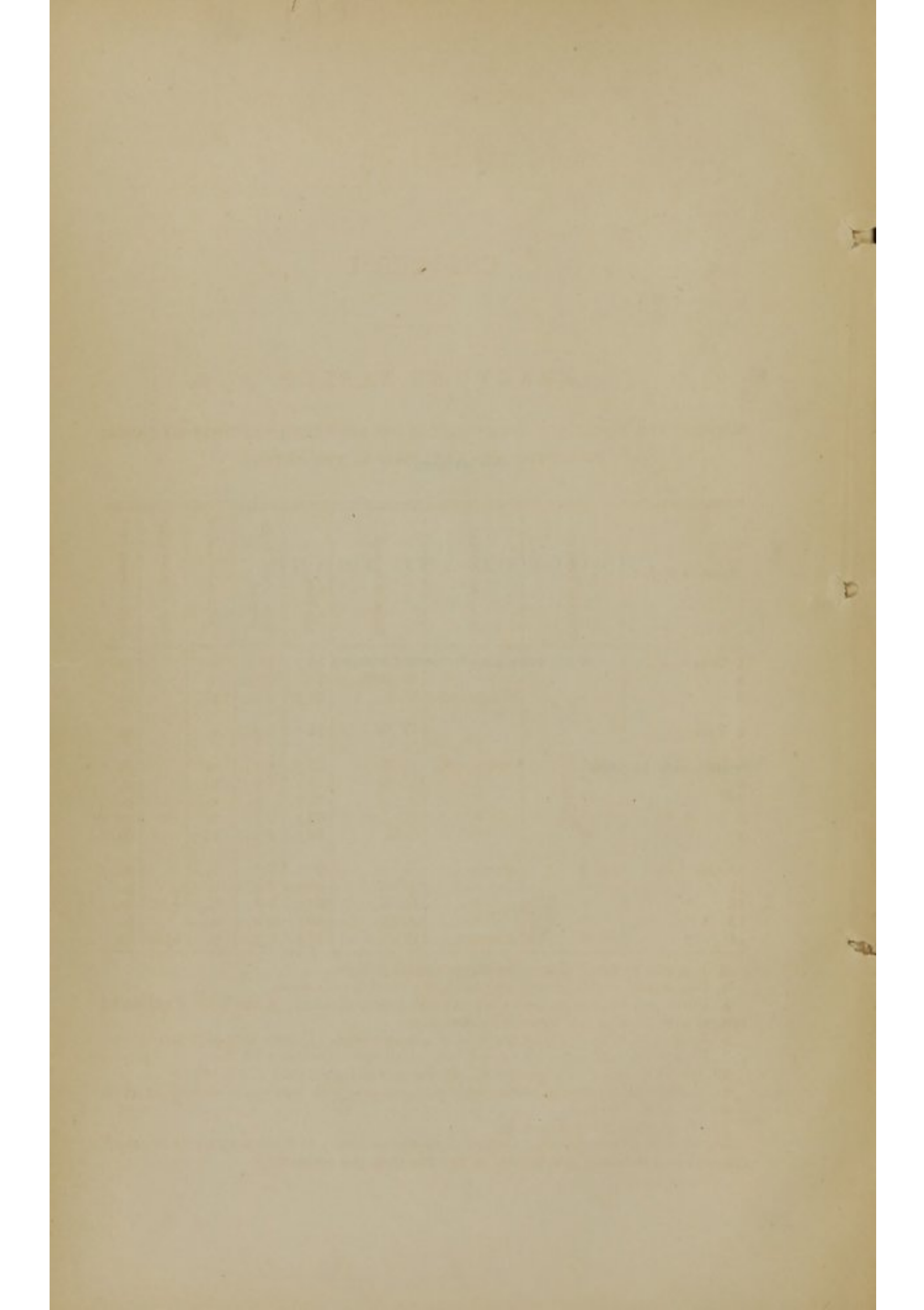
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TO MY SONS

THEODORE AND FRANK,

These pages are affectionately dedicated.

BUFFALO, *July* 14, 1853.



CHAPTER I.

FRACTURE TABLES.

SHOWING THE RESULTS OF TREATMENT IN ONE HUNDRED AND THIRTY-SIX CASES;
COLLECTED AND ARRANGED BY THE AUTHOR.

NAME OF BONES.	Point of Fracture.	Character of Frac.	Name of Patient.	Age then.	Time since it occurred.	Unit'd or not united	Amt. of short'ning,	Perfect or imp'fect
1 Ossa nasi,		simple	S. L.	10 y.	12 y.	u.		ip.
2 " "		"	M. L. P.	7 y.	20 y.	u.		ip.
3 " "		compound	G. R.	24 y.	2 m.	u.		ip.
4 Vomer,			W. W.	15 y.	8 y.	u.		ip.
5 Inf. max.	shaft	comp. com.	V. W.	23 y.	1 y.	u.		p.
6 " "	"	"	N. B.	15 y.	8 y.	u.		p.
7 " "	"	"	J.	25 y.	y.	u.		p.
8 " "	"	"	P.	43 y.	2 y.	u.		ip.
9 " "	"	"	C. B.	52 y.	3 y.	u.		ip.
10 Clavicle,	out $\frac{1}{2}$	simple	K.	2 y.	2 y.	u.		p.
11 " "	"	"	M'K.	16 y.	2 y.	u.		p.
12 " "	"	"	H. W.	24 y.	3 y.	u.	$\frac{1}{4}$ in.	ip.
13 " "	"	"	A. C.	40 y.	5 w.	u.		p.
14 " "	"	commin.	B.	40 y.	1 y.	u.	1 $\frac{1}{4}$ in.	ip.

2. Left nostril much obstructed—nose turned to right.

4. One nostril nearly closed, and has had a catarrh ever since.

5. Broken on both sides by a club, through centre of shaft. A small piece exfoliated several months after and came out externally.

6. Broken on both sides, by the heel of a man's boot. United very slowly.

7. Broken on both sides by a brick bat. Had much trouble with it.

10. Treated with Fox's apparatus. It was a *bend* rather than *fracture*.

11. Extraordinary case of partial fracture, transverse with *bending*, in a healthy adult. Used fig. of 8. No pad.

13. Fragments never displaced.

14. Broken in three pieces. Central piece stands nearly at right angles with the shaft. He says he has nearly lost the use of the arm from the accident.

NAME of BONES.	Point of Fracture.	Character of Frac.	Name of Patient.	Age then.	Time since it occurred.	Unit'd or not united	Amt. of short'ning.	Perfect or imperf'ct
15 Clavicle,	out $\frac{1}{3}$	simple	B.	40 y.	1 y.	u.	1 $\frac{1}{4}$ in.	ip.
16 "	"	"	T. C.	5 y.	2 y.	u.		p.
17 "	middle	"	A. W. R.	6 y.	3 $\frac{1}{4}$ y.	u.		p.
18 "	"	commin.	C. C.	49 y.	14 y.	u.	1 in.	ip.
19 "	out $\frac{1}{3}$	simple	J. P.	22 y.	2 y.	u.	$\frac{1}{12}$ in.	ip.
20 "	"	"	W.	45 y.	1 y.	u.	$\frac{1}{12}$ in.	ip.
21 "	"	"	F. G.	36 y.	4 y.	u.		ip.
22 "	"	"	F. G.	37 y.	3 y.	u.		p.
23 "	"	"	S. E.	25 y.	8 w.	u.	$\frac{1}{4}$ in.	ip.
24 "	"	commin.	R. L.	40 y.	9 w.	u.	$\frac{1}{4}$ in.	ip.
25 "	middle	"		29 y.	8 m.	u.	1 in.	ip.
26 "	out $\frac{1}{3}$	simple	C. U. H.	19 y.	49 y.	u.		ip.
27 "	"	"	P. R.	42 y.	3 m.	u.		ip.
28 Acrom. pro., exter. to junc. of clav. with p.		simple	S. P. K.		4 y.	u. by lig.		ip.
29 Humerus,	middle $\frac{1}{3}$	simple	B. F. McC.	11 y.	8 w.	u.		p.
30 "	surg. neck.	"	B.	65 y.	3 y.	u.		p.
31 "	low $\frac{1}{3}$	"	J. G.	40 y.	10 w.	u.		ip.
32 "	"	"	B. G. McK.	4 y.	23 y.	u.		ip.
33 "	"	comp. com.	S. H. H.	7 y.	17 y.	u.		p.
34 "	"	simple	A. G. E.	7 y.	15 y.	u.	$\frac{1}{12}$ in.	ip.
35 "	"	"	C. C.	33 y.	30 y.	u.	$\frac{1}{12}$ in.	ip.
36 "	exte. c.	"	H.	8 y.	3 m.	u.		ip.
37 "	low $\frac{1}{3}$	comp. com.	H. U.	35 y.	8 m.	u.		ip.
38 "	cond.	simple	J. R. S.	5 y.	18 y.	u.	$\frac{3}{4}$ in.	ip.
39 "	middle	"	A. L.	25 y.	5 y.	n. u.		ip.
40 "	low $\frac{1}{3}$	betw'n con.	P. O'B.	19 y.	3 m.	u.		p.

15. Same case as 14; refractured. Fox's apparatus. Prosecution and verdict for defendant.

16. Fox's apparatus.

17. Got out of place three times, slight deformity still remains—has been a little lame at times since the accident.

18. No axillary pad used; shoulder drops; central fragment turned nearly at right angles with shaft; can use arm as well as ever.

19. Dressed ten days after fracture; Fox's apparatus; ascribes the deformity to his own carelessness; arm not quite as strong as the other; gaining.

21. 22. Are the same patients, but opposite clavicles.

23. Used a cross on back, and axillary pad; united in fourteen days.

24. Fox's apparatus; united in four weeks.

25. The central piece much out of line; use of arm complete; Fox's apparatus.

27. Cross and pad.

31. Elbow stiff—wishes to know whether he ought not to prosecute!

32. Arm much bent at seat of fracture; cannot supine hand completely; ulnar nerve very sensitive; inner half of arm and two small fingers are numb; power of arm much impaired.

33. About one year after accident a piece of bone came out.

34. Slightly bent; not as strong as the other arm and smaller.

36. External condyle displaced; joint rather stiff.

37. Elbow ankylosed.

38. Con dyles separated half an inch; much grating between articular surfaces; cannot perfectly straighten arm; arm occasionally becomes lame; muscles wasted.

NAME OF BONES.	Point of Fracture.	Character of Frac.	Name of Patient.	Age then.	Time since it occurred.	Unit'd or not united	Amt. of short'ning.	Perfect or imp'rfect
41 Humerus,	int. c.	simple	C. C.	11 y.	3 m.	u.		p.
42 "	low $\frac{1}{8}$	"	T.	20 y.	4 y.	u.		ip.
43 Radius,	neck	simple	E. F.	11 y.	1 y.	u.		ip.
44 "	low $\frac{1}{8}$	"	S.	16 y.	6 y.	u.		p.
45 "	"	"	S.	13 y.	1 y.	u.		p.
46 "	"	"	J. B.	7 y.	4 y.	u.		p.
47 "	middle	"	P. K. S.	11 y.	11 y.	u.		p.
48 "	low $\frac{1}{8}$	"	S. J. B.	12 y.	10 y.	u.		p.
49 "	low $\frac{1}{4}$	"	G.	44 y.		u.		ip.
50 "	low $\frac{1}{8}$	"	C.	38 y.	2 y.	u.		ip.
51 Ulna,	olecranon P	simple	S. D.	14 y.	6 w.	u.		p.
52 "	middle	compound	C. C.	9 y.	2 y.	u.		p.
53 "	"	simple	H. G.	9 y.	3 y.	u.		p.
54 "	"	compound	M. A. S.	8 y.	3 y.	u.		p.
55 "	low $\frac{1}{8}$	simple	C. H. B.	21 y.	2 y.	u.		p.
56 "	"	"	E. S.	26 y.	10 w	u.		p.
57 "	"	"	—	25 y.	8 w.	u.		p.
58 "	"	"	C. P.	38 y.	4 m.	u.		p.
59 "	up. $\frac{1}{8}$	"	E. O. B.	32 y.	3 y.	u.		ip.
60 Rad. & ulna	low $\frac{1}{8}$	simple	S. D.	14 y.	9 w.	u.		ip.
61 "	"	"	B. B.	30 y.	6 w.	u.		p.
62 "	"	"	H. A. T.	10 y.	21 y.	u.		p.
63 "	"	"	G. B. P.	8 y.	13 y.	u.		p.
64 "	low $\frac{1}{4}$	"	L.	9 y.	1 y.	u.		ip.
65 "	"	"	H. N.	16 y.	10 y.	u.		p.
66 "	"	"	H.	6 y.	1 y.	u.		p.
67 "	"	commin.	T. K. S.	39 y.	11 y.	u.		ip.
68 "	"	simple	P. M.	6 y.	1 y.	u.		p.

42. Bent inward slightly.

43. Very little power of flexion or extension; no supination.

44. Fracture oblique; lower end of ulna dislocated at the same time.

46. Both ulnas slightly displaced at lower end at same time, and still remain so; wrists weak.

49. Ends of fragments pitched in; ulna thrown out; cannot prone hand; many years since the fracture occurred.

50. Lower end of ulna slightly displaced inward; os lunare slightly displaced backward; has had very little use of arm since the accident; it is tender; often painful and constantly weak.

52. Anterior luxation of the head of the radius at the same time.

55. Lower end of radius luxated backward and outward at same time; circumference of wrist three-quarters of an inch greater than the left wrist; cannot supine hand completely.

59. Lower end of ulna is displaced also; at seat of fracture much bent.

61. Unreduced two weeks.

62. For three or four years after the fracture a deformity was so apparent that surgeons talked of refracturing it. It is now impossible to discover the seat of fracture.

64. Two weeks unreduced, at the end of which time I reduced it as perfectly as the callus would permit. A slight bend remains.

65. Ulna displaced inward quarter of an inch.

67. The ulna had been broken before and was crooked; and I did not have the case under treatment until the third week after the accident. Deformity slight.

NAME OF BONES.	Point of Fracture.	Character of Frac.	Name of Patient.	Age then.	Time since it occurred.	Unit'd or not united	Amt. of short'ning.	Perfect or imperfect
69 Rad. & ulna	low $\frac{1}{3}$	compound	L. B.	38 y.	2 y.	n. u.		ip.
70 "	up. $\frac{1}{3}$	simple	N.	8 y.	1 y.	u.		ip.
71 "	middle $\frac{1}{2}$	"	J. L. S.	26 y.	3 m.	n. u.		ip.
72 "	low $\frac{1}{4}$	"	J.	7 y.	3 m.	u.		p.
73 Rib 4th		simple	F. G.	35 y.	5 y.	u.		p.
74 " 10th	ant. $\frac{1}{3}$	"	B. N.	24 y.	6 y.	u.		ip.
75 " 6th	"	"	M.	43 y.	2 y.	u.		p.
76 " 3d	"	"	W.	32 y.	1 y.	u.		ip.
77 post. sup. spin. p. ileum		simple	R.	20 y.	4 m.	u.		ip.
78 Neck of fem.		simple	R.	14 y.	4 y.	u.	$\frac{1}{2}$ in.	ip.
79 "		"	B.	50 y.	3 y.	u.		ip.
80 "		"	E.	77 y.	1 y.	u.		ip.
81 "		"	S.	76 y.	1 y.	u.	$\frac{1}{3}$ in.	ip.
82 "	within c.	"	J. C. B.	49 y.	4 y.	u.	$1\frac{1}{2}$ in.	ip.
83 "		"	J. C.	78 y.	3 y.	u.		ip.
84 "		"	W.	52 y.	7 y.	u.	$\frac{1}{2}$ in.	ip.
85 Shaft of Fem	middle $\frac{1}{3}$	simple	H.	5 y.	3 y.	u.	$\frac{1}{2}$ in.	ip.
86 "	"	"	J. T.	14 y.	3 m.	u.	$\frac{1}{2}$ in.	ip.
87 "	low $\frac{1}{3}$	"	J. B.	28 y.	2 y.	u.	$\frac{1}{2}$ in.	p.
88 "	middle $\frac{1}{3}$	"	L.	35 y.	8 w.	u.	$\frac{1}{2}$ in.	ip.
89 "	"	"	A. M. B.	39 y.	2 y.	u.	1 in.	ip.
90 "	"	"	J. K.	8 y.	8 w.	u.		ip.
91 "	"	"	W. S.	14 y.	8 y.	u.		p.
92 "	"	"	F.	5 y.	8 m.	u.		p.
93 "	"	"	H.	3 y.	2 y.	u.		ip.
94 "	"	"	H.			u.		ip.

69. The ulna had united shortened; the radius was not united at the end of two years; power of pronation and supination lost. I sawed off the end of fragments and replaced them; they united and made a good arm.

71. Ulna united, but radius still movable.

77. Projects.

78. It did not unite under a year; limb is turned in slightly and weak. No splint.

79. Straight splint.

80. Double inclined plane.

81. Shortened; has not used the limb since the accident; is bedridden. No splint.

82. No splint. See prosecution in vol. iv, of Buff. Med. Jour. Verdict for defendant.

83. Died before she left her bed. Double inclined plane.

84. Did not walk in six months; no splint.

85. Straight splint.

86. Thirteen weeks before union occurred.

87. Straight splint. Ulcer on heel.

88. Broken before at same point, and was then shortened the same; straight splint.

89. Both legs much bent, and continue to bend, from a morbid softening; straight splint.

91. This leg is shorter by two inches than the other, in consequence of early disease in the limb. I am obliged, therefore, to take his own statement that it is not shortened since the accident. No extension was used.

92. Straight splint.

93. 94. Both thighs broken. I cannot, therefore, determine whether shortening has occurred; they are of the same length, slightly bent. Double inclined plane.

NAME OF BONES.	Point of Fracture.	Character of Frac.	Name of Patient.	Age then.	Time since it occurred.	Unit'd or not united	Amt. of short'ning.	Perfect or imperfect
95 Shaft of Fem			Dr. B.	38 y.	2 y.		1½ in.	ip.
96 "	middle ½	simple	M. H.	25 y.	17 w		1½ in.	ip.
97 "	up ½	"	S. A.	32 y.	8 y.		1½ in.	ip.
98 "	low ½	"	L.	31 y.	1 y.			p.
99 "	middle ½	commin.	J. B.	39 y.	1 y.		1 in.	ip.
100 "	"	simple	J. B.	34 y.	6 y.		1 in.	ip.
101 "	middle	commin.	J. P.	73 y.	11 y.		2 in.	ip.
102 "		simple	J. P.				2 in.	ip.
103 "		"	W. T.	28 y.	5 y.		1 in.	ip.
104 "		"	B. L. D.	30 y.	20 y.	u.	1½ in.	ip.
105 "	up ½	"	J. R.	25 y.	3 m.	u.		ip.
106 Top of Trochanter Maj.		simple	M.	29 y.	5 w.			ip.
107 Patella	trans.	simple	G. J.	5 y.	8 m.			ip.
108 "	"	"	R. J.	19 y.	1 y.			ip.
109 Fibula,	low ½	simple	L. J. B.	12 y.	10 y.	u.		ip.
110 "	low ¼	"	E. T. B.	89 y.	1 y.	u.		p.
111 "	low ½	"	F.	40 y.	2 m.	u.		p.
112 "	low ¼	"	H. W.	38 y.	4 m.	u.		ip.
113 Tibia	low ½	compound	P. M.	28 y.	3 m.	u.		ip.
114 "	up ½	simp. tran.	W.	60 y.	m.	u.		p.
115 Tib. & Fib.	up ½	comp. com.	N. K.	14 y.	6 y.	u.	½ in.	ip.
116 "	middle ½	"	J. H.	35 y.	3 y.	u.	½ in.	ip.
117 "	"	"	H. C.	30 y.	3 m.	n. u.	¼ in.	ip.

95. Double inclined plane.

96. Has a partially ankylosed knee—talks of prosecuting; straight splint.

101. 102. Left thigh united shortened two inches; one fracture in right thigh united shortened, and the other did not unite, but it was shortened four months after the accident two inches; no extension and counter-extension had been used; I made the right leg unite, by pressure, and rest with extension, in a few weeks from this time. Both thighs are now shortened two inches and bent.

103. Double inclined plane. Surgeon prosecuted; verdict for defendant.

104. No extension.

105. Foot turns out very much; trochanter major very prominent; slipping in joint; often has pain in joint; did not walk for two years after accident.

106. Fragment carried upward half an inch.

107. Separated half an inch.

108. This was a very small fragment broken from the upper and inner edge. It remained separated about a quarter of an inch.

109. Displaced inward at seat of fracture; tibia slightly displaced outward; use of limb perfect.

112. A dislocation of ankle occurred at same time; patient set it himself; fracture united slightly bent in; use of limb complete.

113. Astragalus broken at same time—ankle partially ankylosed.

115. Produced by fall of a tree on leg; placed on single inclined plane; foot elevated and moderate extension; foot sloughed off. Prosecuted; suit withdrawn.

117. Ulceration extended around leg below knee; large slough on heel; also in front; portion of tendon of extensor longus pollicis sloughed out. Prosecuted.

NAME OF BONES.	Point of Fracture.	Character of Frac.	Name of Patient.	Age then.	Time since it occurred.	Unit'd or not united	Amt. of short'ning.	Perfect or imperfect
118 Tib. & Fib.	low $\frac{1}{4}$	comp. com.	A. H.	38 y.	2 y.	u.		ip.
119 "	low $\frac{1}{2}$	"	L. D.	14 y.	17 y.	u.	$\frac{1}{2}$ in.	ip.
120 "	middle $\frac{1}{2}$	"	J. S.	38 y.	2 y.	n. u.		ip.
121 "	up $\frac{1}{2}$	simple	F. G.	39 y.	1 y.	u.		p.
122 "	3 points	commin.	F. G.	35 y.	5 y.	u.	$\frac{1}{2}$ in.	ip.
123 "	low $\frac{1}{2}$	simple	H.	50 y.	18 y.	u.		ip.
124 "	"	"	A. L.	7 y.	2 m.	u.		p.
125 "	low $\frac{1}{4}$	comp. com.	J. C.	33 y.	6 m.	u.	1 in.	ip.
126 "	middle $\frac{1}{2}$	"	J. C.	33 y.	6 m.	u.	1 in.	ip.
127 "	"	"	M. F.	7 y.	1 y.	n. u.		ip.
128 "	low $\frac{1}{2}$	"	S.	8 y.	1 y.	u.		p.
129 "	middle $\frac{1}{2}$	"	W. C.	11 y.	3 y.	u.	1 in.	ip.
130 "	low $\frac{1}{4}$	simple	R. P.	22 y.	8 m.	u.		p.
131 "	"	"	H.	35 y.	4 m.	u.		p.
132 "	low $\frac{1}{2}$	comp. com.	W. S.	33 y.	7 y.	u.	1 in.	ip.
133 "	"	simple	J. H.	40 y.	8 y.	u.	$\frac{1}{2}$ in.	ip.
134 "	middle $\frac{1}{2}$	compound	G.	16 y.	20 y.	u.	$1\frac{1}{2}$ in.	ip.
135 "	"	simple	A.	33 y.	6 m.	u.	$\frac{1}{2}$ in.	ip.
136 "	"	compound	F. M.	38 y.	5 y.	u.		ip.

119. Leg bent slightly at seat of fracture.

120. Thirteen days after the accident amputation was made ; patient died next day.

122. Broken four inches below knee, at middle and near ankle.

123. A little lame several years ; both bones slightly displaced and bent at seat of fracture.

125. 126. Ant. tib. art. ruptured.

127. Died in a few weeks.

128. Three months after accident a small piece of bone exfoliated.

132. Piece of bone sawn off after several months ; ankle ankylosed ; large irregular deposits of bone ; several pieces have exfoliated.

133. There is a lateral inward displacement of tibia of quarter of an inch. Six months before the leg was as good as the other.

136. Necrosis now existing.

CHAPTER II.

FRACTURE TABLES.

BEING A SUPPLEMENT TO THE FRACTURE TABLES PUBLISHED BY DR. HAMILTON,
APRIL, 1849. COMPILED AND ARRANGED FROM DR. HAMILTON'S NOTES. BY J.
BOARDMAN, A. B., BUFFALO, N. Y. SEPT. 1852.

As prefatory to the tables a few words of explanation seem to be necessary.

Ossa Nasi.—Dr. Hamilton has observed that the accident called “fracture of the ossa nasi” is generally rather a displacement; the fracture being only at the serrated margins, where they unite with each other and with the neighboring bones.

It is a curious fact that only a small proportion of these patients apply to a surgeon for treatment. In the notes I find recorded fourteen cases, one of which died within a few days from other injuries, and seven others employed no surgeon, and have not therefore been admitted to the tables.

Clavicle.—It will be seen by the summary, that a large proportion of the fractures of this bone, are at the inner end of the outer $\frac{1}{3}$. Also that the number of perfect, after the first fifteen years of life is very small.

A great proportion of the fractures of *carpal*, *metacarpal*, *phalangeal*, *tarsal* and *metatarsal*, and also *vertebral* bones, occurring in Dr. Hamilton's practice, or coming under his observation, have not been recorded. The tables are not, therefore, a correct representation of their relative frequency.

NAME OF BONE.	Name of Patient.	Age of Patient.	Cause of Accident.	Point of Fracture.	Character of Fracture	Result of Accident.	What operation was made and what instrument used, trephine, levator, saw, &c.	How soon after the Fracture.	For depressed bone, effused blood, or pus.	Result of Operation.
137. Os occipitis, 138. "	D. L.	13 y. 50 y.	Hit by a clam shell. Fall on back of head	Near center, Sup. angle,	Comp. Simple, with concussion	Sinus, Coma,	Knife, Trephine,	3 w. 16 d.	Bone, Pus,	Recovery. Died on the 19th day, or 48 hours after operation. Died in 18 hours after operation. Died in 1 week after operation. Epilepsia for five years.
139. Ossa parietalia, 140. Os parietal,	J. W.	9 y. 16 y.	Struck by a locomotive, Fell into the hold of a vessel, Fall of a tree upon top of head,	Both sides, Near sagittal suture, Near sagittal suture, Whole side,	Comp. comminuted, " " " "	" " " "	Treph. and levator, Trephine,	1 h. 7 d.	Bone, " " " "	Died in 18 hours after operation. Died in 1 week after operation. Epilepsia for five years.
141. Ossa parietalia, 142. Os parietal of left side, 143. Os parietal of left side,	W. P. C.	30 y. 10 y.	Fall of a tree upon top of head, Fall of scantling endwise upon head, Explosion of steam boiler,	Near ant. fontanelle, Middle, Near ant. fontanelle,	" " " " " "	Coma and recov. Coma, Epilepsia and idiocy,	No op. Forceps and levator,	1 h.	Bone,	Died in 24 hours.
144. Os parietal, 145. Os parietal of left side,	S. H. J. K.	9 y. 31 y.	" " Blow from a club, Buck shot disch'd from a gun, Thrown from sleigh Fell six feet,	Over ear, Near the middle, Ant. inf. angle,	Comp. " " " "	Coma and paralytic, Abscess, Coma and recovery, Epilepsia 15 yrs.	Forceps and levator, Forceps, Trephine, No op. No op.	1 h. & 5 w. 11 d. 4 d.	Bone, " " Pus, &c.	Epilepsia for five years. Died in a few wks Died 22 hours after operation.
146. Os parietal, 147. Os parietal of left side, 148. Os parietal, 149. Os parietal of right side, 150. Os parietal,	D. D. M. G. C. B.	35 y. 22 y. 14 m. 18 m.	Blow from a club, Buck shot disch'd from a gun, Thrown from sleigh Fell six feet,	Over ear, Near the middle, Ant. inf. angle,	Comp. " " " "	Coma and recovery, Epilepsia 15 yrs.	Forceps and levator, Forceps, Trephine, No op. No op.	1 h. & 5 w. 11 d. 4 d.	Bone, " " Pus, &c.	Epilepsia for five years. Died in a few wks Died 22 hours after operation.
151. " 152. Os parietal of left side, 153. Os parietal,	S. P. W. M. H. T. S.	9 y. 2 y. 7 m.	Fall from a horse, Kick of a horse, Fell against a stove,	Ant. inf. angle, Near post. infer. angle,	" " " " " "	Abscess, Abscess,	Cut around cicatrix, Trephine, Forceps, " "	20 y. 24 y. Immed'y,	To insulate cicatrix, Bone, " " " "	Temporary improvement. Nervous pains for 19 yrs. and epilepsia, &c, for last 4 years. Recovery.

11th day until the 18th, when he left the hospital. It is known that he has since died.

147. The buckshot passed through the brain. The trephine was applied to give more free exit to the matter when he began to grow comatose.

150. If this was a fracture, it was unaccompanied with depressions, at least in the outer plate. An abscess formed, however, at the seat of injury, under the scalp, and continued to discharge about two years. Soon after it closed, when he was about five years old, he began to have spasms, vertigo, various and very peculiar hallucinations; his body and mind were gradually becoming enfeebled, when, as nothing else offered a prospect of relief, Dr. Hamilton operated. He was then 23 years old. The operation, which is reported at length in the *Buffalo Med. Jour.*, vol. V., page 460, consisted in brief, in circumscribing the old scars on the scalp with the knife; cutting quite to the bone. The result was for a time a most complete cure, but after a year his old symptoms returned, but in a much milder form. No depression of the skull was discovered in the operation.

151. The wound did not close until about one year after the accident. Then he began to have fits, which have continued ever since. Dr. Hamilton commenced his operation with the intention of circumscribing and lifting the scar, but finding a slight depression of the outer plate he determined to trephine. No inconvenience resulted from the operation. His recovery was rapid, and the fits were for several weeks less frequent and less severe. It is believed, however, that they have returned at length to their old condition.

152. Occurred 19 years ago. *Wound has never closed.* When 3 years old he had hemiplegia of *right* side. Has had nervous pains from that time to this, commencing in right hand and extending to head. At 17 he had epilepsy, which has continued until now. The pulsations of the brain can be felt distinctly.

137. This was rather a cut, or slight scaling up of the outer table, which healed as soon as it was freely laid open and the loose scale was dislodged.

138. The patient was at first "stunned;" then he got up and walked about, but his head felt "big" and "numb." On the 12th day he began to grow dull, on the 16th he was completely comatose, and was trephined by Dr. Hamilton, at the seat of injury. Half a dram of pus found, and slight fracture of internal plate. The autopsy also showed pus at other points.

140. The bones were depressed, but no signs of compression occurring the surgeon in attendance did not think it proper to trephine. Coma supervened on the 6th or 7th day, and the trephine was used by Dr. Hamilton, but no relief was obtained.

141. Fourteen fragments of bone were removed. Epilepsia commenced two years after the fracture occurred and still continues at the end of five years.

142. 148. 149. Are similar to No. 154, differing only in the severity. Reported in *Buffalo Med. Jour.*

144. He is now 29 years old. When he was 23 years old he married and soon after began to have epileptic fits. They have now continued 7 yrs.

145. Occurred five years since. Four pieces of bone removed then, yet he remained speechless, and palsied on the *right* side five weeks; at which time eight more pieces were removed; after this he recovered his speech and the use of his limbs. From the time of the accident until now he has had epilepsy. Until within a year he had the fits as often as once in two weeks, but since he ceased the use of intoxicating drinks, he has had them only once in two or four months. No pain or tenderness at seat of injury. There is an irregular depression at the seat of fracture, but the pulsations of the brain cannot be felt.

146. The bone gradually exfoliated and was removed in pieces from the

NAME OF BONE.	Name of Patient.	Age of Patient.	Cause of Fracture.	Point of Fracture.	Character of Fracture.	Result of Fracture.	What oper. made, and what instrum. used, &c.	How soon after the Fracture.	For depressed bone effused blood, &c.	Result of Operation.
154. Os parietal of left side,	W.	5 m.	Thrown from a carriage,	Near the center,	Simple,	Recovery,	No op.			
155. Os parietal,	J. C.	3 y.	A rail fell upon her,	Near sagittal suture,	"	"	"			
156. Ossa parietalia		6 y.		Near occiput,	"	Pain in scar for 18 years,				
157. Os frontis of left side,		15 y.	Explosion of a cannon,	Over orbit,	Comp. commin.	Coma,	Levator,	39 m.	Bone,	Died in 4 months.
158. Os frontis,	M. H.	9 y.	Fell ten feet,	Over outer angle of orbit,	"	"	Levator and forceps,	1 h.	Bone and extravasated blood,	Recovery.
159. "		6 y.	Kicked by a horse,	Near ant. fontanelle,	"	"	"	12 h.	Bone,	"
160. "	H. K.	3 y.	Fell three feet upon a stone,	Over ext. angle of orbit,	Comp.	Epilep. and coma	Trephine,	38 d.	Pus or bone,	Died in 26 hours after operation.
161. "		20 y.	Struck by a locomotive,	Near center of forehead,	"	Coma,	Levator,	2 h.	Bone,	Died in 24 hours after operation.
162. "	P. M.	23 y.	Fell twenty feet,	Over orbit,	"	Paralysis, idiosyncrasy, and death on 31st day,	No op.			
163. "	J. S.	33 y.	Tree fell on his head	Near ant. font.	Simple,	Mental imbecility	Screw levator,	1 h.	Bone,	Recovery.
164. "	J. F.	35 y.	Brick fell upon him	Over orbit,	Comp.	Coma,	Levator,	Immediately.	"	"
165. Os frontis of left side,	D. P.	65 y.	Fall of a limb of a tree,	Over center orbit,	"	Coma,	Hey's saw and screw levator,	1 h.	"	"
166. Os frontis and os occipitis.	T. B.	22 y.	Thrown from wagon		Comp. commin.		Levator,			
167. Os frontis and ethmoid bone,	H. G.	14 y.	Kick of a horse,	Just over the nose	"	Coma and death in 15 hours,	No op.	Immediately.	"	Died in 3 months.
168. Os frontis, ethmoid, sphenoid, and temporal,	I. E.	35 y.	Fell forty feet.	At base of skull.	Comp.	Paralysis partial and tardy recovery.	"			
169. Probably temporal, &c.	M. M. C.	20 y.	Head traversed by wheel of wagon.	At base of skull.	Simple,					

154. The bone was depressed half an inch, yet there was no coma or other signs of injury. He was sent to Dr. Hamilton two weeks after the accident, who advised no operation. The bones gradually resumed their places. Eight years after, he is well and intelligent (see report of this case in vol. II, p. 347 of Buffalo Med. Jour., article, "Fracture of skull in children," by Dr. Hamilton.)

155. This is similar to 154, differing only in the severity, and it is reported with that case.

156. He is now 24 years old, and has never been able to lie on the back of his head since the accident. Scalp is tender. Bone depressed quarter of an inch.

157. A piece of iron $2\frac{1}{2}$ inches long by $\frac{3}{4}$ of an inch thick, entered sideways and parallel with the superciliary ridge. Considerable brain escaped and it was broken into and disorganized to the depth of two inches. The wound closed in two months. He was then perfectly well. No pain or defect in the *phrenological organs*. Two months after he was seized with phrenitis, and died in 48 hours. The autopsy disclosed a cavity containing two ounces of pus. This abscess must have existed while he was at work and was apparently well.

158. This was an extensive fracture with considerable depression, but the recovery was rapid and perfect. (See Buff. Med. Jour. vol. vi, p. 152.)

160. The child did not seem to be seriously injured until the 34th or 35th day after the accident. He then became gradually comatose. The wound had never healed, but there was a slight swelling and discharge still continuing. On the 36th his coma was complete, but no paralysis. Other means having failed he was trephined by Dr. Hamilton, at the seat of injury. The outer plate was broken and loose; the inner not broken. No pus. The dura mater was not penetrated. The patient was not relieved. The autopsy disclosed no pus within the skull.

162. A fissure without depression. He was never comatose, but soon became idiotic and had paralysis of sphincter of his bladder and rectum. [Buff. Med. Jour., vol. vi, p. 151.]

163. He was admitted to the hospital five weeks after the accident. A slight depression at the point of injury could then be felt. It is not certain that the skull was broken. He was knocked down by the blow, but soon recovered and walked home. Has since had occasional paroxysms of vertigo and has fallen down; has had paralysis of facial muscles; also partial of hands, feet, &c. Left side of the retina of the right eye is insensible. His intellect is impaired. This was his condition several months after the accident.

164. A piece of bone exfoliated and was removed by Dr. Hamilton.

165. Occurred three years since. The outer plate was removed, and the inner being depressed, was lifted to its place, but not removed. It did not exfoliate, but it was a year before it ceased to discharge pus. It is now perfectly well.

167. The os frontis was much depressed and the cribriform plate of the ethmoid was also pushed upward against the brain. Some brain escaped. He was not comatose. He recovered rapidly except that some pus continued to discharge from a small orifice. He was bright and strong. He went to school regularly and was able to cut and split a cord of wood per day. Eight days before he died the fistula closed. Two days before he died he was found in the yard comatose, and from this he never recovered. The autopsy showed an abscess involving a large portion of the anterior lobes of the brain and containing several ounces of pus. The bones were still considerably depressed, and completely united by bony matter.

169. He remained insensible three hours after the accident, and bled from the ear for several days. His right eye became turned in—his hearing impaired and his voice raucous, and both of his arms were for a time paralyzed. At the end of about four months he was still deaf, &c., and his right arm remained paralyzed. The fact of a fracture at the base of the skull, with extravasation, is not known, but assumed. (Buffalo Med. Jour., vol. v, p. 68, Dr. Hamilton's Hospital Reports. See also case No 18, reported in same page.)

NAME OF BONES.	Point of Fracture.	Character of Frac.	Name of Patient.	Age then.	Time since it occurred.	Unit'd or not united	Amt. of short'ning,	Perfect or imp'rfect
170 Ossa nasi,		compound	T. B.	17 y.	14 y.	u.		ip.
171 "		"	G. C.		4 w.	u.		ip.
172 "		simple	C. D.	11 y.		u.		ip.
173 "		"	N. B.	25 y.	2 y.	n.		ip.
174 "		"	H. S.	3 w.	12 y.	u.		ip.
175 "		"	I. A.	8 y.	15 y.	u.		p.
176 Sept. nasi,		simple	L. L.	19 y.	33 y.	u.		ip.
177 "		"	J. B.	26 y.	4 y.	u.		ip.
178 "		"	J. M.	28 y.	3 y.	u.		ip.
179 Sup. max.	under mal'r	simple	M. P.	34 y.	1 y.	u.		p.
180 Inf. max.	shft. bth. sds.	comp. com.	J. K.	17 y.	8 m.	u.		ip.
181 "	shaft	"	A. G.	11 y.	3 y.	u.		p.
182 "	angle	"	R. B.	39 w.	7 w.	u.		ip.
183 "	ang. & shaft	simple	A. M.	26 y.	5 w.	n. u.		ip.
184 "	shaft	"	J. W. S.	25 y.	1 y.	u.		p.
185 "	angle	"	J. McE.	22 y.	1 y.	u.		p.
186 "	"	"	A. V.	47 y.	15 y.	u.		p.
187 "	symp. ment.	"	N. M.	25 y.	10 y.	u.		ip.
188 Clavicle,	out $\frac{1}{2}$	comrain.	B. L. D.			u.	$\frac{1}{2}$ in.	ip.
189 "	"	simple	S. U.	47 y.	11 y.	u.	$\frac{1}{4}$ in.	ip.
190 "	"	"	W. P. L.	26 y.	13 y.	u.		p.
191 "	"	"	H. S.	56 y.	1 y.	u.	$\frac{1}{2}$ in.	ip.
192 "	"	"	E. M.	14 y.	31 y.	u.		p.
193 "	"	"	J. R.	44 y.	1 y.	u.	$\frac{1}{2}$ in.	ip.
194 "	"	"	G. W. R.	48 y.	2 y.	u.	$\frac{1}{2}$ in.	ip.
195 "	"	"	C. A. W.	47 y.	4 y.	u.	$\frac{1}{2}$ in.	ip.
196 "	"	"	Mrs. —	28 y.	12 y.	u.	$\frac{1}{2}$ in.	ip.
197 "	"	"	P. T.	51 y.	4 m.	u.	$\frac{1}{2}$ in.	ip.
198 "	"	"	M. McC.	12 y.	23 y.	u.	$\frac{1}{2}$ in.	ip.
199 "	"	"	A. A. H.	3 $\frac{1}{2}$ y.	6 m.	u.		p.
200 "	"	"	E. G. C.	40 y.	4 m.	u.	$\frac{2}{3}$ in.	ip.
201 "	middle	"	L. L.	32 y.	8 y.	u.	$\frac{1}{2}$ in.	ip.

170. The deformity is very conspicuous.

173. Displaced laterally; ulceration of septum nasi, has occurred and still continues; health bad.

174. Nose nearly flat at its middle and upper part.

175. Slight prominence of cartilage at end of nasal bones.

176. Nose perfectly flat.

177. Nose much flattened.

180. Central fragment slightly lifted and displaced.

182. Posterior fragment displaced upward and anteriorly. Necrosis has occurred.

187. Fracture vertical; left side displaced upward and posteriorly.

188. Deformity striking. The usual form of displacement of fractures at this point, i. e. the outer-end of inner fragment over rides the inner end of outer fragment.

189. 190. 191. The displacement of same character as No. 188.

192. There was a projection at seat of fracture five years. None now.

193. 194. 195. 196. Displacement of same character as No. 188.

197. The arm was nearly paralyzed, from use of axillary pad.

198. Deformity at seat of fracture for long time great; now very slight.

200. Bent forward at seat of fracture. Arm not as strong.

NAME of BONES.	Point of Fracture.	Character of Frac.	Name of Patient.	Age then.	Time since it occurred.	Unit'd or not unit'd	Amt. of short'ning.	Perfect or imp'rfect
202 Clavicle,	middle	simple	R. M. F.	12 y.	2 m.	u.		p.
203 "	"	"	R. M. F.	"	"	u.		p.
204 "	"	"	J. D. S.	2 y.	24 y.	u.		p.
205 "	"	"	S. McN.	37 y.	10 y.	u.		p.
206 "	"	"	J. C.	43 y.	"	u.		p.
207 "	out $\frac{1}{2}$	"	I. E.	35 y.	5 y.	u.	$\frac{1}{2}$ in.	ip.
208 "	"	"	M. K.	50 y.	1 y.	u.	in.	ip.
209 "	"	"	H. M.	44 y.	6 m.	u.	in.	ip.
210 "	"	"	I. W.	15 y.	1 y.	u.		p.
211 Scapula,	coracoid P.	simple	I. W.	30 y.	3 m.	n. u.		ip.
212 "	below spine	"	W. V.	54 y.	1 y.	u.		p.
213 Humerus,	low $\frac{1}{8}$	comp.	J. A.	12 y.	10 y.	u.	$\frac{3}{4}$ in.	ip.
214 "	surg. neck.	simple	M. B.	23 y.	2 m.	u.		p.
215 "	"	"	M. C.	30 y.	7 w.	u.		p.
216 "	up. $\frac{1}{4}$	"	J. T.	54 y.	9 w.	u.		p.
217 "	middle	"	J. M. C.	63 y.	3 y.	u.	$\frac{7}{8}$ in.	ip.
218 "	"	"	E. F.	18 y.	25 y.	u.		p.
219 "	"	"	J. B.	44 y.	5 m.	u.		p.
220 "	"	"	S.	13 y.	7 m.	u.	$\frac{1}{4}$ in.	ip.
221 "	"	"	J. H. S.	36 y.	41 y.	u.		p.
222 "	low $\frac{1}{3}$	"	W. C.	4 y.	20 y.	u.		p.
223 "	"	"	S. McN.	32 y.	15 y.	u.		p.
224 "	"	"	E. S.	39 y.	8 y.	u.		p.
225 "	low $\frac{1}{8}$	"	F. N.	59 y.	7 m.	u.	$\frac{1}{2}$ in.	ip.
226 "	"	"	C. F.	8 y.	8 m.	u.	in.	ip.
227 "	"	"	H. A.	38 y.	4 m.	n. u.	in.	ip.
228 "	"	"	E. H.	2 $\frac{9}{12}$ y.	3 m.	u.		p.

202. 203. Was a *bend* of right and left clavicle.

207. Shoulder half inch lower than other; use of arm perfect.

210. Inflammation extended to articulation of head of humerus, producing for a long time false ankylosis.

211. Process moves with the head of the humerus.

213. A small piece of the bone was removed. Has false ankylosis of elbow.

214. See No. 283.

217. Seven weeks after accident bone had not united and the fragments were displaced. Same patient as No. 274.

216. Result of fragilitas ossium.

219. Result of lues.

220. Motions of arm nearly perfect.

222. At same time fractured radius and ulna. See No. 271.

223. Cannot straighten arm perfectly.

225. Lower end of upper fragment is in front of the upper end of lower fragment, flexion and extension imperfect.

226. Fracture immediately above condyles. Treated with two right-angle splints, one anteriorly, one posteriorly; and also two short, lateral splints, for five weeks. At which time, the upper fragment was found to project in front of the upper end of lower fragment; motion of elbow perfect; soon, the hand became forcibly flexed upon forearm, the first phalanges, upon metacarpal bones, and he lost the power of pronation and supination. The projecting portion, eight months after the fracture, was removed by Dr. Hamilton, but with little or no benefit to patient.

227. Has slight motion of arm, but motion of fore-arm nearly perfect.

229. False ankylosis, lower fragment displaced backward.

NAME OF BONES.	Point of Fracture.	Character of Frac.	Name of Patient.	Age then.	Time since it occurred.	Union'd or not union'd	Amt. of short'ning.	Perfect or imp'fect
229 Humerus,	low 1-6	simple		9 y.	2 m.	u.		ip.
230 "	in condyle	"	P. Y.	5½ y.	6 m.	u.		ip.
231 "	"	"	G. B.	5 y.	1 y.	u.		p.
232 "	"	"	B. S.	12 y.	38 y.	u.		p.
233 "	"	"	A. B. H.	43 y.	6 m.	u.		ip.
234 "	out. condyle	"	E. R.	inf'cy	ad't	u.		ip.
235 "	"	"	J. R. D.	y.	11 w	u.		ip.
236 "	"	"	R. W.	88 y.	2 m.	u.		ip.
237 Radius,	lower end	compound	O. P.	15 y.	2 y.	u.		ip.
238 "	lower ⅓	"	W. H. M.	16 y.	15 y.	u.		p.
239 "	neck	simple	I. R. A.	25 y.	10 m	u.		ip.
240 "	upper ⅓	"	J. B.	9 y.	10 y.	u.		p.
241 "	middle	"	W. J.	10 y.	19 y.	u.		p.
242 "	"	"	M. O. B.	45 y.	8 w.	u.		ip.
243 "	"	"	D. S.	21 y.	50 y.	u.		p.
244 "	lower ⅓	"	P. B.	15 y.	3 m.	u.		p.
245 "	"	"	W. L.	2½ y.	6 m.	u.		ip.
246 "	"	"	P. D.	1½ y.	4 m.	u.		p.
247 "	"	"	W. H.	33 y.	21 y.	u.		p.
248 "	"	"	H. H.	14 y.	24 y.	u.		p.
249 "	"	"	S. G.	15 y.	25 y.	u.		p.
250 "	"	"	M. W.	8 y.	1 y.	u.		ip.
251 "	"	"	T. B.	22 y.	3 m.	u.		p.
252 "	"	"	H. D.	52 y.	3 y.	u.		ip.
253 "	"	"	I. L.	43 y.	3 m.	u.		p.
254 "	"	"	R.	29 y.	1 y.	u.		ip.
255 "	"	"	J. D. B.	56 y.	4 m.	u.		ip.
256 Ulna,	3 points	simp. & co v.	J. L.	25 y.	2 y.	u.	1 in.	ip.
257 "	up. ⅓	simple	J. C.	18 y.	1 y.	u.		p.

230. Had been broken before at same point and left deformed; remained in same condition after second fracture; false ankylosis of elbow joint.

232. Could not flex fore-arm upon humerus for six months; now motion perfect, but arm pains when used.

233. Also fracture of lower end of humerus at same time. Cannot extend, or flex fore-arm, more than to right angle; flexion of fingers imperfect. Arm pains when she attempts to use it.

235. There was false ankylosis of elbow joint for a long time; now motion free.

236. Outer condyle is separated half an inch; deformity evident; cannot straighten arm perfectly.

237. Much deformed; hand forcibly drawn toward radial side.

239. Upper end of lower fragment displaced forward; supination lost; flexion very imperfect.

242. Did not employ a surgeon for the first five weeks.

243. Pronation and supination imperfect.

244. Somewhat bent at seat of fracture.

246. This was a bend of radius and fracture of ulna. No. 261.

250. Radius was bent forward at seat of fracture when splints were removed, but, as is often the case with young persons, time has made it nearly perfect.

252. Deformity great; hand bent backward and very weak.

254. Slightly bent; motions of hand impaired.

255. Slight displacement of ulna; hand stiff, swollen and partly paralyzed.

256. Remains bent.

NAME OF BONES.	Point of Fracture.	Character of Frac.	Name of Patient.	Age then.	Time since it occurred.	Unit'd or not united	Amt. of short'ning.	Perfect or imp'fect
258 Ulna,	up. $\frac{1}{8}$	simple	U. L.	40 y.	1 y.	u.		ip.
259 "	"	"	R. S.	46 y.	9 w.	u.		ip.
260 "	middle	"	S. G.	30 y.	10 y.	u.		p.
261 "	"	"	P. D.	1 $\frac{3}{8}$ y.	4 m.	u.		p.
262 "	"	"	M. O. B.	3 y.	6 w.	u.		p.
263 "	up. $\frac{1}{8}$	"	E. C.	3 $\frac{3}{8}$ y.	2 m.	u.		p.
264 "	low $\frac{1}{3}$	"	O. H. P.	26 y.	11 w.	u.		ip.
265 "	low $\frac{1}{8}$	"	P. W.	39 y.	1 y.	u.		ip.
266 "	olecranon P	"	J. C.	18 y.	9 y.	u.		ip.
267 "	"	"	P. C.	14 y.	69 y.	u.		ip.
268 "	"	"	S. D.	14 y.	5 w.	u.		p.
269 "	"	"	C. A.	15 y.	6 m.	u.		ip.
270 Rad. & ulna	low 1-6	compound	A. F.	11 y.	1 y.	u.		p.
271 "	up $\frac{1}{8}$	simple	W. C.	4 y.	20 y.	u.		p.
272 "	middle	"	D. M.	14 y.	4 y.	u.	1 in.	ip.
273 "	"	"	I. S.	9 y.	17 y.	u.	$\frac{1}{2}$ in.	ip.
274 "	"	"	J. M. C.	63 y.	3 y.	u.		p.
275 "	"	"	T. B. S.	11 y.	11 y.	u.		p.
276 "	"	"	J. W.	10 y.	40 y.	u.		p.
277 "	"	"	W. P.	12 y.	14 y.	u.		p.
278 "	"	"	J. B.	15 y.	25 y.	u.		p.
279 "	"	"	I. H. L.	37 y.	40 y.	u.		p.
280 "	"	"	G. B.	11 y.	5 w.	u.		p.
281 "	"	"	M. C.	9 y.	10 y.	u.		p.
282 "	low $\frac{1}{3}$	"	J. J.	10 y.	42 y.	u.		p.
283 "	"	"	M. B.	23 y.	2 m.	u.		p.
284 "	"	"	M.	3 y.	8 w.	u.		p.
285 "	"	"	H. A. C.	12 y.	6 y.	u.		p.
286 "	"	"	P. W. T.	32 y.	4 m.	u.		p.
287 "	"	"	E. McL.	1 y.	3 y.	u.		p.
288 "	low $\frac{1}{8}$	"	P. H.	30 y.	10 y.	u.		ip.

258. Head of radius dislocated forward, unreduced; motion nearly perfect.

259. Slight bend at seat of fracture; lower fragment overlaps upper; wrist ankylosed.

261. See No. 246.

h 264. Anterior luxation of head of radius, unreduced, ulna bent; motions perfect; head of radius does not strike humerus.

266. United by ligament; arm as strong as before.

267. Cannot straighten arm perfectly; pronation and supination imperfect.

268. Union appears to be perfect; four weeks before had a fracture of radius of same arm, which was treated by an empiric.

269. Radius dislocated forward; cannot straighten arm.

271. See No. 222. This was a bend of both bones and not a complete fracture.

272. Arm not as strong as before and at times painful.

274. Same patient as No. 217.

277. Flexion and supination imperfect.

279. Pronation and supination imperfect.

283. Same patient as No. 214. Both fractures caused by the crank of a hand car when under full speed; slight bend at seat of fracture.

284. This was a bend of both bones.

285. Radius bent forward at seat of fracture.

286. Four months since, broke radius and ulna, and three months after refractured them at same point. Now but slight bend of ulna, at seat of fracture.

288. Use of arm perfect; did not know it was shortened.

NAME OF BONES.	Point of Fracture.	Character of Frac.	Name of Patient.	Age then.	Time since it occurred.	Unit'd or not united	Amt. of short'ning.	Perfect or imperfect
289 Rad. & ulna	low $\frac{1}{2}$	simple	M. C.	40 y.	5 w.	u.		p.
290 " "	" "	"	P. McE.	8 y.				p.
291 Carpal		comp.	S. L.	18 y.	1 y.	u.		ip.
292 Metacarpal of thumb	up $\frac{1}{3}$	simple	M. H.	26 y.	2 m.	u.		ip.
293 do. of finger	low $\frac{1}{3}$	comp.	H. H.	21 y.	1 y.	u.		p.
294 " "	low $\frac{1}{4}$	simple	W. P.	27 y.	14 y.	u.		ip.
295 2d and 3d phalanges		comp.	J. T.	7 y.	1 y.	u.		ip.
296 Ensiform cartilage	base	simple	H. B. R.	28 y.	12 y.	u.		ip.
297 7th cerv. vertebra	spin. process	"	R. L.	50 y.	9 w.	u.		ip.
298 Lumbar "		"	—	45 y.	36 y.	u.		
299 Lumbar		"	B.	25 y.	15 y.	u.		
300 Os innominatum		"	P. C.	40 y.		u.		ip.
301 Acetabulum		"	M. S.	40 y.			1 $\frac{1}{2}$ in	ip.
302 Femur	middle	comp. com.	J. A. B.	14 y.	17 y.	u.	1 in.	ip.
303 " "	"	"	P. H.	23 y.	38 y.	u.	1 $\frac{1}{4}$ in	ip.
304 " "	low $\frac{1}{8}$	"	D. W.	20 y.	5 y.	u.	7 in.	ip.
305 " "	middle	compound	J. S.	18 y.	10 w	u.	1 in.	ip.
306 " "	neck of f.	simple	J. B.	52 y.	3 m.	u.	1 $\frac{1}{2}$ in	ip.
307 " "	"	"	T. K.	77 y.	1 y.	u.	3 in.	ip.
308 " "	"	"	J. S.	39 y.	6 y.	u.	2 in.	ip.
309 " "	"	"	L. F. T.	42 y.	6 w.	u.	$\frac{1}{2}$ in.	ip.
310 " "	"	"	W.	66 y.	5 w.	u.		ip.
311 " "	troc. mag.	"	B. R.	25 y.	2 m.	u.		ip.

291. While holding right hand over muzzle of a gun, it was discharged, and a charge of shot passed through the *semilunare, cuneiforme and unciforme*, removing part of these bones—can move all fingers except little finger.

292. Upper end of lower fragment is displaced slightly inward.

294. Fragments somewhat displaced.

295. Anchylosis—slight bend at seat of fracture; still very tender.

302. Did not use limb for one year. After eighteen months a piece of bone was removed. No halt.

304. Right femur was crushed by a heavy weight. Several pieces came out. Did not know limb was shortened more than three inches; by means of one inch added to the heel of right shoe, he walks with hardly any perceptible halt. When standing the ala of right side of pelvis is four inches lower than left and becomes almost six inches when he walks. This inclination of the pelvis is accomplished by a lateral curvature of the lumbar vertebrae.

NAME OF BONES.	Point of Fracture.	Character of Frac.	Name of Patient.	Age then.	Time since it occurred.	Union or not united	Am't. of shortening	Perfect or imperfect
312 Femur	up $\frac{1}{2}$	simple	M. C.	9 y.	31 y.	u.	1 $\frac{1}{2}$ in.	ip.
313 "	"	"	A. G.	35 y.	6 w.	u.	2 $\frac{3}{4}$ in.	ip.
314 "	"	"	J. C.	49 y.	7 w.	u.	2 $\frac{3}{4}$ in.	ip.
315 "	"	"	I. H. F.	30 y.	16 d.	u.	3 $\frac{7}{8}$ in.	ip.
316 "	"	"	J. R.	40 y.	1 m.	u.		ip.
317 "	"	"	E. R.	42 y.	4 y.	u.	3 $\frac{1}{4}$ in.	ip.
318 "	"	"	J. M.	1 y.	1 y.	u.		p.
319 "	middle	"	J. G.	8 y.	22 y.	u.	1 $\frac{1}{2}$ in.	ip.
320 "	"	"	J. G.	14 y.	16 y.	u.	1 $\frac{1}{2}$ in.	ip.
321 "	"	"	M. H.	15 y.	19 y.	u.	1 $\frac{1}{2}$ in.	ip.
322 "	"	"	H. C.	16 y.	25 y.	u.	4 $\frac{1}{2}$ in.	ip.
323 "	"	"	D. K.	15 y.	8 y.	u.		p.
324 "	"	"	A. A.	22 y.	9 w.	u.	1 $\frac{1}{2}$ in.	ip.
325 "	"	"	A. S.	13 y.	19 y.	u.	1 $\frac{1}{4}$ in.	ip.
326 "	"	"	S. B.	3 y.	63 y.	u.		p.
327 "	"	"	J. G.	13 y.	6 w.	u.		p.
328 "	"	"	G. W. H.	43 y.	6 w.	u.	1 $\frac{1}{2}$ in.	ip.
329 "	"	"	M.	3 y.	5 w.	u.		p.
330 "	"	"	P. J.	15 y.	30 y.	u.		p.
331 "	"	"	G. S. L.	22 y.	1 y.	u.	1 $\frac{1}{2}$ in.	ip.
332 "	"	"	E. S.	8 y.	5 y.	u.	1 $\frac{1}{2}$ in.	ip.
333 "	"	"	R.	9 y.	3 m.	u.		p.
334 "	"	"	M.	18 y.	8 w.	u.		p.
335 "	"	"	J. McE.	22 y.	1 y.	u.	3 in.	ip.
336 "	"	"	J. L.	35 y.	1 y.	u.	3 $\frac{1}{4}$ in.	ip.
337 "	"	"	J. L.	35 y.	3 m.	u.	3 $\frac{1}{4}$ in.	ip.

312. The overlapping of fragments at seat of fracture is very perceptible; has but slight halt.

313. Had been fractured before at same point; was shortened then, but more now; straight splint was used and adhesive plaster extension.

315. Fourteen years since, broke left femur by a fall, while walking; an empiric treated it nine weeks, with short splints, without obtaining union, patient then went to another empiric who treated it with pasteboard and leather splints, and in five weeks he was about. About one year after he refractured same bone; it was treated in same manner by the empiric; patient was up in fourteen days. Eight years since, he hurt same limb; empiric said it was broke. Sixteen days since, he broke it a fourth time by jumping from a wagon. A surgeon was then called for the first time. Now united, but much bent at seat of fracture.

318. Bent forward at seat of fracture; toes turned in a little.

319. 320. Same patient; both fractures near same point; straight splint was used.

322. No halt can be perceived in his walk.

323. Straight splint was used.

324. Straight splint and adhesive plaster extension.

325. No deformity; no halt.

327. Straight splint and starch bandage was used.

328. Straight splint, and after three weeks the double inclined plane.

329. Dressed with roller and laid in a pillow.

332. Double inclined plane was used.

333. 334. Straight splint used, also in No. 331.

335. Union was delayed about eight weeks; four months from the first fracture patient refractured it, by turning in bed, to which he was confined by a nonunited fracture of tibia and fibula. See No. 388. Union took place with great deformity after each fracture.

336. 337. Same patient. Straight splint was used each time.

NAME OF BONES.	Point of Fracture.	Character of Frac.	Name of Patient.	Age then.	Time since it occurred.	Union'd or not union'd	Amt. of short'ning.	Perfect or imperfect
338 Femur	middle	simple	D. C.	29 y.	1 y.	u.	$\frac{2}{3}$ in.	ip.
339 "	"	"	J. T.	14 y.	12 w.	u.	$\frac{2}{3}$ in.	ip.
340 "	"	"	S. S. S.	27 y.	6 w.	u.		ip.
341 "	low $\frac{1}{8}$	"	A. M.	24 y.	30 y.	u.	$\frac{1}{4}$ in.	ip.
342 "	"	"	J. B.	8 y.	4 w.	u.		p.
343 "	"	"	P. H.	29 y.	4 m.	u.		p.
344 "	"	"	E. S.	42 y.	5 y.	u.	1 in.	ip.
345 "	"	"	H. H.	42 y.	7 w.	u.	$\frac{1}{2}$ in.	ip.
346 Patella	trans.	"	E. L.	20 y.	7 w.	u.		p.
347 "	"	"	J. McC.	33 y.	2 y.	u. by lig.		ip.
348 "	"	"	W.	40 y.	9 w.	"		ip.
349 "	"	"	C. A.	31 y.	4 m.	u.		ip.
350 "	"	"	J. D.	36 y.	3 m.	u.		ip.
351 Tibia	middle	comp.	R. P.	53 y.	4 y.	u.		p.
352 "	"	"	S. C.	28 y.	7 m.	u.	$\frac{1}{4}$ in.	ip.
353 "	low $\frac{1}{8}$	"	P. M.	28 y.	4 m.	u.		ip.
354 "	"	"	J. T.	17 y.	6 y.	u.		ip.
355 "	"	"	J. McD.	38 y.	3 y.	u.		p.
356 "	up $\frac{1}{8}$	simple	J. E.	42 y.	10 y.	u.		p.
357 "	up 1-6	"	R. P.	55 y.	7 y.	u.	$\frac{1}{4}$ in.	ip.
358 "	middle	"	R. J.	46 y.	10 m.	u.		p.
359 "	"	"	G. P.	11 y.	6 w.	u.		p.
360 "	"	"	G. E.	17 y.	11 y.	u.		p.
361 "	"	"	M. H.	30 y.	4 y.	u.		p.
362 "	"	"	H. W.	17 y.	4 y.	u.		p.
363 "	"	"	J. T.	11 y.	16 y.	u.		p.
364 "	"	"	G. G.	18 y.	7 y.	u.		p.
365 "	"	"	L.	50 y.	2 m.	u.		p.
366 "	low $\frac{1}{8}$	"	M. C.	19 y.	2 m.	u.		p.
367 "	mall. int.	"	W. G.	35 y.	6 w.	u.		p.

338. Leg pains him when used; not as strong as before.

339. Union did not take place in eleven weeks. Straight splint used.

340. Limb was shortened. Straight splint used.

341. Double inclined plane used.

342. 344. 345. Straight splint used.

347. Had splint on twenty-five days. Union by ligament $\frac{1}{2}$ inch in length.

348. Had splint on twenty-eight days; five weeks after first fracture refractured it while walking.

349. Sixteen weeks since, fractured patella, and eight weeks after refractured it at same point. Union by ligament $\frac{1}{4}$ inch in length as in No. 348 and No. 350.

352. Seven months after the accident, limb was quite lame, but improved after the removal of a small fragment of bone which was found to be loose.

353. Fracture extended into joint; astragalus and lower end of tibia became necrosed; ankle but little stiff.

356. A little bent at seat of fracture.

357. Same patient as No. 351, and also same leg. Head of fibula displaced; tibia bent at seat of fracture; limb pains when he walks; also see No. 374.

358. Slight bend at seat of fracture; pains him when used.

366. This patient at same time fractured the tibia and fibula of other leg, see No. 399. The starch bandage was here used as in case of No. 359 and No. 365.

NAME OF BONES.	Point of Fracture.	Character of Frac.	Name of Patient.	Age then.	Time since it occurred.	Unit'd or not united	Amt. of short'ning.	Perfect or imp'fect
368 Fibula	middle	comp. com.	T. M.			n. u.		ip.
369 "	"	comp.	R. C.	20 y.	5 y.	u.		p.
370 "	"	"	H. W.	28 y.	14 y.	u.		p.
371 "	up $\frac{1}{8}$	simple	—	60 y.	3 w.	u.		p.
372 "	low $\frac{1}{3}$	"	C. B.	34 y.	14 y.	u.		p.
373 "	"	"	I. S.	34 y.	28 y.	u.		p.
374 "	low $\frac{1}{8}$	"	R. P.	57 y.	4 w.	u.		p.
375 "	"	"	J. R.	32 y.	3 m.	u.		ip.
376 "	"	"	H. B.			u.		ip.
377 "	"	"	J. S.	10 y.	4 y.	u.		ip.
378 "	"	"	J. S.	32 y.	20 y.	u.		ip.
379 "	ext. mall.	"	A. G.	21 y.	8 m.	u.		ip.
380 Tib. & Fib.	middle	comp. com.	J. O.	48 y.	3 m.	u.	$\frac{1}{2}$ in.	ip.
381 "	low $\frac{1}{3}$	"	H. K.	14 y.	7 m.	u.	$\frac{1}{2}$ in.	ip.
382 "	low 1-6	"	C. S.	50 y.	6 m.	u.		ip.
383 "	low $\frac{1}{8}$	"	J. B. F.	39 y.	6 y.	u.	1 in.	ip.
384 "	up $\frac{1}{3}$	comp.	I. R.	34 y.	8 y.	u.	$\frac{3}{4}$ in.	ip.
385 "	middle	"	T. C.	4 y.	23 y.	u.	$\frac{1}{2}$ in.	ip.
386 "	"	"	J. W.	11 y.	1 y.	u.		p.
387 "	"	"	W. K.	35 y.	4 m.	u.		p.
388 "	"	"	J. McE.	22 y.	1 y.	u.	1 $\frac{1}{2}$ in.	ip.
389 "	low $\frac{1}{3}$	"	A. R.	30 y.	2 y.	u.	$\frac{1}{2}$ in.	ip.
390 "	"	"	M. F.	24 y.	3 m.	u.		ip.
391 "	"	"	G. W. B.	33 y.	1 y.	u.	$\frac{1}{2}$ in.	ip.
392 "	"	"	W. H.	32 y.	22 y.	u.		p.

371. The tendency to displacement was so little, that no splint was used; the horizontal posture was sufficient to keep fragments in place—caused by direct blow—no displacement of tibia.

374. See No. 351; 357 same patient.

375. Tibia was dislocated inward; still remains slightly displaced. Fibula bent in at seat of fracture. Ankle swollen.

376. Tibia dislocated inward, unreduced.

377. Foot turned slightly out; some enlargement above malleolus externus.

378. There is some deformity; ankle at times becomes swollen and painful.

379. Foot turns in; lower fragment displaced downward.

380. Starch bandage and the double inclined plane was used. Union was not complete on the 25th day, but patient was allowed to get up on 39th day. Dr. H. saw him again two years after and found ankle and knee stiff.

382. Bones united in four weeks. Had ulcer on heel.

384. Both bones much bent at seat of fracture.

385. Has remained fistulous, fragments of bone have frequently been removed from the wound.

386. Starch bandage used.

388. On the first day of work after an attack of bilious fever, a bank of earth fractured his left tibia and fibula, and also his right femur, see No. 335. Soon ulcers formed on both heels; about thirteen weeks after accident erysipelas appeared on the left leg. Union took place in eleven months, with deformity; the lower end of upper fragments override the upper end of lower fragments.

389. Bones project at seat of fracture. Six months since a slight injury at that point produced an ulcer, which is still open.

390. Bones much bent, lower end of upper fragment projects anteriorly. Heel bent backward. Skin over seat of fracture red and tender, appears as if it would ulcerate.

391. Ankle stiff and swollen. Patient did not know limb was shortened.

NAME OF BONES.	Point of Fracture.	Character of Frac.	Name of Patient.	Age then.	Time since it occurred.	Union or not united	Amt. of short'ning.	Perfect or imperfect
393 Tib. & Fib.	low $\frac{1}{3}$	comp.	I. O. B.	26 y.	5 m.	u.	$\frac{1}{2}$ in.	ip.
394 "	"	"	P. B.	25 y.	6 m.	u.	$\frac{1}{2}$ in.	ip.
395 "	"	"	M. S.	40 y.	—	n. u.	—	ip.
396 "	" & up 1-6	"	B. G. McK.	39 y.	17 y.	u.	$1\frac{1}{4}$ in.	ip.
397 "	low $\frac{1}{3}$	"	M. F.	31 y.	2 y.	n. u.	—	ip.
398 "	up $\frac{1}{3}$	simple	—	25 y.	8 w.	u.	—	p.
399 "	mid. & low $\frac{1}{3}$	simp. & com.	M. C.	19 y.	2 m.	u.	—	p.
400 "	up $\frac{1}{3}$	simple	E. T.	21 y.	5 y.	u.	$\frac{1}{2}$ in.	ip.
401 "	"	"	T. L.	—	—	u.	$\frac{1}{2}$ in.	ip.
402 "	middle	"	W. B.	38 y.	8 m.	u.	$\frac{1}{2}$ in.	ip.
403 "	"	"	E. V.	10 y.	15 w.	u.	—	p.
404 "	"	"	W. McC.	19 y.	3 m.	u.	—	p.
405 "	"	"	W. R.	38 y.	5 w.	u.	—	p.
406 "	"	"	J. M.	16 y.	8 w.	u.	—	p.
407 "	low $\frac{1}{3}$, up $\frac{1}{3}$	"	R. S.	46 y.	4 m.	n. u.	$\frac{1}{2}$ in.	ip.
408 "	low $\frac{1}{3}$	"	I. H. L.	52 y.	25 y.	u.	$\frac{1}{2}$ in.	ip.
409 "	"	"	J. H. L.	15 y.	5 w.	u.	—	p.
410 "	"	"	E. McD.	35 y.	6 w.	u.	$\frac{1}{2}$ in.	ip.
411 "	"	"	A. T.	49 y.	2 y.	u.	$\frac{1}{2}$ in.	ip.
412 "	"	"	T. F.	38 y.	2 y.	u.	$1\frac{1}{4}$ in.	ip.
413 "	"	"	T. S.	40 y.	8 w.	u.	$\frac{1}{2}$ in.	ip.
414 "	"	"	T. H.	3 y.	6 w.	u.	—	p.
415 "	"	"	I. C. C.	14 y.	8 y.	u.	—	p.
416 "	"	"	J. K.	16 y.	8 m.	u.	—	p.
417 "	"	"	J. J.	22 y.	6 m.	u.	—	p.
418 "	"	"	A. A. H.	32 y.	1 y.	u.	$\frac{1}{2}$ in.	ip.
419 "	"	"	J. H.	25 y.	2 y.	u.	$\frac{1}{2}$ in.	ip.
420 "	"	"	I. P. W.	—	4 m.	u.	—	p.
421 "	low 1-6	"	E. B.	42 y.	8 y.	u.	$\frac{1}{2}$ in.	ip.
422 "	low $\frac{1}{3}$	"	E. B.	50 y.	3 m.	u.	$\frac{1}{2}$ in.	ip.
423 "	low 1-6	"	I. T.	44 y.	2 y.	u.	—	p.

393. A fragment of bone was removed.

394. Health bad before accident. Much bent at seat of fracture, has an ulcer over seat of fracture.

395. The attempt was made for fifteen days to save limb, then amputation was performed.

396. Lower end of upper fragment of tibia projects over lower fragment. Patient did not rest any weight upon his limb until after four months, and it was not until after the fifth month that he attempted to do without his crutches. Pains him at seat of fracture; motion of ankle not quite as free as the other.

397. Amputated five weeks after fracture.

399. See No. 367: starch bandage used in both fractures.

402. Upper end of lower fragment is anterior to lower end of upper; foot weak: uses crutch. Here as in No. 266 and No. 267, the starch bandage was used.

406. There was no displacement of the bones.

407. Lower end of upper fragment is anterior to upper end of lower fragment; union not yet complete; used extension twenty-five days, then starch bandage. Had ulcer on heel.

408. Bent at seat of fracture; ankle stiff, enlarged; pains more and more each year.

410. There is an anterior and lateral displacement of the lower end of upper fragment.

411. It remains much swollen.

413. 416. Slightly bent at seat of fracture.

421. 422. These are one person.

NAME OF BONES.	Point of Fracture.	Character of Frac.	Name of Patient.	Age then.	Time since it occurred.	Union or not united.	Amt. of shortening.	Perfect or imperfect.
424 Tib. & Fib.	low $\frac{1}{8}$	simple	A. V.	37 y.	25 y.	u.	$\frac{1}{8}$ in.	ip.
425 "	"	"	H. M.	43 y.	10 w.	u.	$\frac{1}{8}$ in.	ip.
426 "	"	"	E. H.	27 y.	6 w.	u.	"	ip.
427 "	"	"	M. H.	54 y.	4 w.	u.	$\frac{1}{4}$ in.	ip.
428 "	low 1-6	"	J. H.	6 $\frac{3}{8}$ y.	4 m.	u.	"	p.
429 "	low 1-6 and int. mall.	"	I. B.	33 y.	30 y.	u.	"	p.
430 "	up $\frac{1}{8}$	"	F. C. T.	35 y.	8 w.	n. u.	$\frac{3}{4}$ in.	ip.

424. Foot turned in very much.

429. Ankle ankylosed. Pains him more now than it did years ago; limb emaciated.

430. This patient, never a stout, robust man, is now pale, skin cold and moist; under excitement his pulse varies in a short time, from 100 to 140. Leg enormously swollen and cedematous; no union; upper end of lower fragment is in front of lower end of upper fragment. Has been treated with the lateral splints.

The following *thirty-one* cases are drawn also from Dr. H.'s notes, being cases in which death or amputation followed the fracture, and on that account were not admitted to the other tables:

NAME OF BONE.	Point of Fracture.	Character of Frac.	Name of Patient.	Age then.	Time of Amputa'n.	Point of Ampu't'n.	Result.	Time of Death.
431 Inf. Maxilla,		comp. com.	J. G.	31 y.		up $\frac{1}{2}$	d.	12th d.
432 Humerus,	up $\frac{1}{2}$	"	K.	3 y.	17 d.	"	r.	
433 "	middle	"	E. H.	21 y.	19 h.	"	r.	
434 "	"	"	E. H.	21 y.	18 h.	"	r.	
435 "	"	"	W. L.	28 y.	4 h.	shoulder	r.	
436 "	"	simple	J. C.	35 y.		" joint	r.	
437 Radius & Ulna,	low $\frac{1}{2}$	comp. com.	I.	27 y.	6 h.	middle	r.	
438 "	middle	"	F. P.	19 y.	14 h.	humerus	d.	15 h.
439 Carpus, etc.,		"	Hollander,	11 y.	soon	low $\frac{1}{2}$ of rad. and ulna	d.	36 h.
440 "		"	H. C.	20 y.	"	rad. & carp.	r.	
141 "		"	H. C.	22 y.	12 h.	artic.	r.	
442 Phalanx,	2d	"	Boy,	12 y.	18 h.	wrist joint	r.	
443 "	2d	"	"	12 y.	"	2d artic.	r.	
444 "	3d	"	B.	20 y.	soon	mid. 2d phal.	r.	
445 "	1st	"	P. H.	28 y.	"	last artic.	r.	
446 "	1st	"	"	28 y.	"	m. carp. artic.	r.	
447 "	2d	"	"	28 y.	"	"	r.	
448 "	3d	"	B.	40 y.	6 h.	1st phalanx.	r.	
449 "	2d and 3d	"	S. C.	25 y.	5 w.	2d artic.	r.	
450 "	"	"	L. R.	30 y.	12 h.	1st artic.	r.	
451 "	"	"	"	30 y.	"	"	r.	
452 "	"	"	"	30 y.	"	"	r.	
453 "	1st, 2d & 3d	"	J. W.	45 y.	4 w.	metacarpus	d.	
454 Femur,	neck	comp.	J. O'K.	40 y.			d.	6 h.
455 "	middle	comp. com.	H. B.	21 y.			d.	34 h.
456 "	"	simple	"	21 y.			d.	34 h.
457 "	"	commin.	J. N.	30 y.	5 h.	up $\frac{1}{2}$	d.	8 h.
458 "	—	comp. com.	A. M.	30 y.	5 w.	middle	r.	
459 Tibia & Fibula,	"	"	J. S.	30 y.	"			
460 "	"	"	I. B.	3 y.	soon	up $\frac{1}{2}$	d.	9 d.
461 "	up $\frac{1}{2}$	"	D. R.	40 y.	7 h.	above knee	d.	3 h.

SUMMARY.

OF THE CASES REPORTED BY DR. HAMILTON.				POINTS OF FRACTURE.			CHARACTER OF FRACTURE.			RELATIVE NO. AT ALL AGES.									
	No. of Fractures.	No. of Perfect.	No. of Imperfect.	Upper or outer $\frac{1}{2}$.	Middle.	Lower $\frac{1}{2}$.	Comp. & Comm.	Comp.	Simple	To 15 years.		15 to 30 years.		30 to 45 years.		45 to 60 years.		60 to 82 years.	
										No.	P.	No.	P.	No.	P.	No.	P.	No.	P.
NAME OF BONES.																			
Ossa Nasi,	3	..	3	..	..	..	..	1	2	2	..	1	..	..	..	..	..	..	..
Vomer,	1	..	1	..	..	..	..	..	1	1	..	..	..	..	..	..	..	..	..
Inf. Maxilla,	5	3	2	*	..	..	5	..	..	1	1	2	2	1	..	1	..	..	..
Clavicle,	18	6	12	15	3	..	..	4	14	3	2	7	2	7	2	1	..	..	..
Scapula,	1	..	1	†	..	..	..	..	1	..	..	1	..	..	..	..	..	..	..
Humerus,	14	5	9	1	2	11	2	..	12	8	4	2	..	3	..	1	1	..	..
Radius,	8	5	3	1	1	6	..	..	8	4	3	2	2	2	..	..	..	..	..
Ulna,	9	8	1	2	3	4	..	2	7	4	4	3	3	2	1	..	..	..	..
Radius & Ulna,	13	7	6	1	1	10	..	1	11	8	5	3	2	2	..	..	..	..	..
Femur,	29	4	25	10	13	1	..	..	27	7	2	6	1	9	1	3	..	4	..
Patella,	2	..	2	..	..	..	..	..	2	1	..	1	..	..	..	..	..	..	..
Tibia,	2	1	1	1	..	1	..	1	1	..	..	1	..	..	..	1	1	..	..
Fibula,	4	2	2	..	..	4	..	2	2	1	..	..	..	3	2	..	..	..	..
Tibia and Fibula, ..	22	5	17	2	9	10	9	5	7	6	2	5	1	10	2	1	..	..	..
Amount,	131	46	85	33	32	47	16	16	95	46	23	34	13	39	8	8	2	4	..
<i>Of the Supplement.</i>																			
Ossa Nasi,	6	1	5	..	..	..	..	2	4	3	1	2	..	..	..	..	..	..	..
Septum Nasi,	3	..	3	..	..	..	..	..	3	2	..	1	..	..	..	..	..	..	..
Sup. Maxilla,	1	1	..	..	..	..	..	..	1	..	..	..	1	1	..	..	..	..	..
Inf. Maxilla,	8	4	4	..	..	..	1	3	1	1	1	5	2	2	1	..	..	..	..
Clavicle,	23	9	14	17	6	..	..	..	23	7	6	2	1	7	..	6	2	..	..
Scapula,	2	1	1	†	||	..	..	..	2	..	..	1	..	..	..	..	1	1	..
Humerus,	24	12	12	4	5	15	..	1	21	10	4	3	3	7	4	2	1	2	..
Radius,	19	12	7	2	3	14	..	2	17	8	6	5	3	4	2	2	..	..	..
Ulna,	14	6	8	§	3	2	..	..	13	6	4	5	2	2	..	1	..	..	..
Radius and Ulna, ..	21	18	3	1	10	10	..	1	20	15	13	2	1	3	3	..	..	1	1
Femur,	44	10	34	13	25	6	3	1	40	16	8	4	2	10	..	2	..	2	..
Patella,	5	1	4	..	..	..	..	..	5	..	..	1	1	4	..	..	..	..	..
Tibia,	17	13	4	2	10	5	..	5	12	2	2	8	5	3	3	4	3	..	..
Fibula,	12	6	6	1	3	8	1	2	9	1	..	4	2	3	2	2	2	..	..
Tibia and Fibula, ..	51	18	33	5	11	35	4	14	33	5	3	10	4	12	3	..	..	..	..
Amount,	250	112	138	45	76	92	8	31	207	76	48	53	26	58	19	19	8	6	2

* 5 Shaft. † Acro. p. ‡ Corocoid p. 1. § Olec. 4. || Below spine.

SUMMARY OF TABLES OF ALL THE CASES FROM THE NOTES OF
DR. HAMILTON.

NAME OF BONES.	No. of Fractures.	No. of Perfect.	No. of Imperfect.	POINTS OF FRACTURE.			CHARACTER OF FRACTURE.			RELATIVE NO. AT DIFFERENT AGES.									
				Upper or outer $\frac{1}{2}$.	Middle.	Lower $\frac{1}{2}$.	Comp. & Comm.	Comp.	Simple.	To 15 years.		15 to 30 years.		30 to 45 years.		45 to 60 years.		60 to 82 years.	
										No.	P.	No.	P.	No.	P.	No.	P.	No.	P.
Ossa Nasi,	9	1	8	..	..	..	..	3	6	5	1	3	..	..	..	..	..	..	..
Septum Nasi,	4	1	3	..	..	..	..	..	4	3	..	1	..	..	..	..	..	..	..
Sup. Maxilla,	1	1	..	..	..	..	..	..	1	..	..	..	..	1	1	..	..	..	..
Inf. Maxilla,	13	7	6	..	..	..	6	3	1	2	2	7	4	3	1	1	..	..	..
Clavicle,	41	15	26	32	9	..	..	4	37	10	8	9	3	14	2	7	2	..	..
Scapula,	3	1	2	..	..	..	..	..	3	..	..	2	..	..	..	..	1	1	..
Humerus,	38	17	21	5	7	26	2	1	36	18	8	5	3	10	4	3	2	2	..
Radius,	27	17	10	3	4	20	..	2	25	12	9	7	5	6	2	2	..	..	..
Ulna,	23	14	9	10	6	6	..	2	20	10	8	8	5	4	1	1	..	..	..
Radius and Ulna, ..	34	25	9	2	11	20	..	2	31	23	18	5	3	5	3	..	1	1	..
Femur,	73	14	59	23	38	7	3	1	67	23	10	10	3	19	1	5	..	6	..
Patella,	7	1	6	..	..	..	..	..	7	1	..	2	1	4	..	1	..	..	..
Tibia,	19	14	5	3	10	6	..	6	13	3	2	9	5	3	3	5	4	..	..
Fibula,	16	8	8	1	3	12	1	4	11	2	..	4	2	6	4	2	2	..	..
Tibia and Fibula, ..	73	23	50	7	20	45	13	19	40	11	5	15	5	22	5	1	..	..	..
Carpal,	1	..	1	..	..	..	1	..	..	..	..	1	..	..	..	..	..	..	..
Metacarpal,	3	1	2	1	..	2	..	1	2	1	..	2	1	..	..	..	..	..	..
Phalanges,	1	..	1	..	..	..	..	1	..	1	..	..	..	..	..	..	..	..	..
Ribs,	4	2	2	..	..	..	..	..	4	..	..	1	..	3	2	..	..	..	..
Vertebra,	3	..	..	..	..	..	..	..	3	2	..	..	..	..	1	..	..	..	..
Pelvis,	2	..	2	..	..	..	..	..	1	..	..	..	..	2	..	..	..	..	..
Amount,	395	161	231	87	108	144	26	49	312	126	71	93	40	102	29	29	10	10	2

SUMMARY OF BONES OF SKULL FROM THE NOTES OF
DR. HAMILTON, &c.

NAME OF BONES, &c.	No. of Fractures.	Recovered.	Died.	Comp. & Comm.	Compound.	Simple.	RELATIVE NO. AT DIFFERENT AGES									
							To 15 yrs.		15 to 30 y.		30 to 45 y.		45 to 60 y.		60 to 82 y.	
							N.	R.	N.	R.	N.	R.	N.	R.	N.	R.
Os Occipital,	2	1	1	..	1	1	1	1	..	..	1	..	..	..	..	..
Os Parietal,	18	13	5	7	8	3	12	11	3	1	3	1	..	..	..	..
Os Frontis,	9	5	4	3	5	1	4	2	2	..	2	2	..	..	1	1
Os Temporal,	1	1	..	..	..	1	..	..	1	1	..	..	..	..	..	..
Occipital and Frontal,	1	1	..	1	..	..	..	..	1	1	..	..	..	..	..	..
Os Frontis and Ethmoid,	1	..	1	1	..	..	1	..	..	..	..	..	..	..	..	..
Os Frontis, Ethmoid, Sphenoid and Temporal,	1	..	1	..	1	..	..	..	..	..	1	..	..	..	..	..
Amount,	33	21	12	12	15	6	18	14	7	3	7	3	..	..	1	1
Fractures of the Cranium at the N. Y. Hospital, by Dr. T. D. Lente,	117	21	96	..	..	..	13	4	64	11	39	6	9	..	2	..

SUMMARY OF BONES OF SKULL.—I have taken the liberty of forming a summary from the valuable article "Lente's Statistics of Fracture of the *Cranium*," published January last in the "New York Journal of Medicine and the Collateral Sciences." In those tables *one hundred and twenty-eight* cases are reported, of which the result in *three* cases was not given, and in *eight* others the age was wanting; on this account I have omitted these in my summary of his tables. These results differ from those obtained from Dr. Hamilton's notes, but the reader, if he examines the cases in both tables will perceive that those recorded by Dr. Lente are such as have been brought into the *New York Hospital* during the last twelve years, the result of *recent* injuries, and also that the proportion of those under *fifteen* years of age is very small compared to the other ages, while in Dr. Hamilton's notes more than one half occurred in the *first fifteen* years of life; also Dr. Hamilton's notes are *in part* composed of cases, which have come under his eye, after the lapse of several years from the time of the accident, and they cannot therefore so faithfully represent the average result of such injuries, since none but survivors are accounted for.

In a medico-legal point of view, the following suggestion of Dr. Lente, in the same article, is of value: "In no case did death follow the receipt of the injury until after the lapse of some hours, even in the most desperate cases; nor does it appear to be possible for an ordinary blow upon the head, producing fracture of the skull, to cause immediate death." "In a recent criminal trial of great interest, it will be recollected that, at one stage of the proceedings, it was much discussed whether a blow upon the head with an ordinary weapon capable of inflicting death, could produce this result instantaneously; many eminent surgeons were examined, and the general impression was that the thing was exceedingly improbable, if not impossible, and the question was thus decided." A suggestion, that the reader will see is equally applicable to the notes of the thirty-three cases by Dr. Hamilton.

In the March number of the same Journal, Stephen Smith, M. D., in an article entitled "Smith on Surgical Treatment of Epilepsy," exhibits one of the frequent results of fractures of the cranium, as illustrated also by Dr. Hamilton's tables. In twenty-seven cases of epilepsy reported by Smith, twenty-four were known to have resulted from fracture of the bones of the head.

The New York Journal, before alluded to, vol. iii, 1840, speaks in very high terms of "Remarks on Fractures, by A. L. Pierson, M. D., of Salem, Mass.," which contains not only remarks, but also tables "drawn from the records of the Mass. General Hospital," "of all the cases of fracture ever treated in that institution." Also the Boston Med. and Surg. Jour., Aug.,

1840, makes honorable mention of those tables. I regret that I have not had the opportunity of examining them.

In the same Journal, vol. iv., page 473, is a short article entitled "Cases of Fracture in the General Hospital of Hamburgh, during the year 1838, by Fricke." "The whole number treated was *seventy-two*. Of these, forty-two were cured, ten died, and twenty remained under treatment." Between 10 and 30 years there were twenty fractures; from 30 to 50 years, twenty-four fractures; 50 to 70 years, twenty-two fractures; 70 to 90 years, six fractures. Also the tibia and fibula were broken *twenty-two* times, the femur *seventeen* times, os brachii *seven*, and the clavicle *three* times — the *shortest term of treatment* was for the os nasi, *nineteen days*; and the *longest* for the neck of os femoris, *one hundred and thirty-nine days*.

The author states that of the seventy-two, six remained from the last year; of the sixty-six who entered, fifteen were females.

Lente, N. Y. Jour., vol. iii, page 167, gives a statement of 1548 fractures, of which 1366 were males, and 182 females. I have not been able to determine the relative proportion in which fractures occur of the sexes: these, being the only statements I have been able to find on this point.

The only records I have found of the number of fractures drawn from a body of men, were the books of the Auburn State Prison. They show that of *five hundred and eighty* convicts admitted, *one hundred and twenty* reported at time of admission, ancient fractures.

The subject of *results*, which occupies the most prominent place in Dr. Hamilton's tables, is not considered in Fricke's table, nor am I informed that it constitutes a point in Pierson's tables, or in any others hitherto constructed. I am at least quite certain that by no one else, have the results been determined by measurements.

"Lente's Statistics of Fractures" published in the September number of the N. Y. Journal, give the "age, sex, season, and seat of fracture, &c.," in those fractures occurring in the N. Y. Hospital for the last twelve years, but in his tables, he makes no mention of the amount of shortening in the different fractures. To show the relative frequency of fractures of the different bones, he institutes "a comparison with the statistics of Malgaigne, at the Hotel Dieu of Paris, Lonsdale, at the Middlesex Hospital of London," and Norris, at Pennsylvania Hospital of Philadelphia; from which, as well as from Fricke, at the General Hospital at Hamburgh, and Dr. Hamilton's notes, I shall make the following abridgment by way of comparison.

NAME OF BONES.	N. Y. Hospital.	Pennsylvania Hos- pital.	Hotel Dieu.	Middlesex Hospi- tal.	General Hospital at Hamburgh.	Dr. Hamilton.
Thigh,.....	280	134	308	181	17	73
Tibia and Fibula,	442	293	515	197	22	73
Tibia,	45		29	41	5	19
Fibula,	92		108	51	4	16
Arm,	161	227	310	118	7	38
Radius and Ulna,	90		107	93	2	34
Ulna,	36		29	64	..	23
Radius,	143		160	197	1	27
Clavicle,	158	84	225	273	3	41
Inf. Maxilla,	65	19	27	32	1	13
Pelvis,	23	6	7	7	3	2
Patella,	30	16	45	38	1	7
Scapula,	17	10	4	18	..	3
Sternum,	12	5	1	2	1	1
Skull,	128	46	53	48	..	33
Amount,	1722	840	1939	1392	67	403

It is thus by comparison of the cases occurring both here and elsewhere, that I have endeavored to arrive at the general truths, which can only be obtained from facts collected from various sources. It is by comparison of the *results* in the tables first published by Dr. Hamilton, with those I have compiled from his notes, and also by comparing both with other tables, that I have sought to prove their accuracy as statistical records. There will be seen a striking similarity in the average results between the tables in the case of almost every bone; the relative frequency of fracture being nearly identical, as stated by the different writers. It is true the statistics of Middlesex Hospital present a much larger proportion of fractures of the superior extremities than the other tables; but when it is ascertained that the number of beds in this Hospital is limited, and that a large proportion of those treated are "out-door patients," this disagreement will find a sufficient explanation.

