Development of White Fibrous Tissue.

1. Portion of blastema from deep layer of skin in an embryo calf 2 inches long, showing 1st the embryonic corporcles or nuclei and 2nd the same bodies surrounded by granular matter in a spindle-shaped manner. Magnified 350 diam.

2. Same from an embryo calf 3 inches long, showing 1st the nuclei, 2nd granular spindle-shaped corporcles as before, and 3rd solid spindle-shaped cells.

3. Same from embryo further advanced, showing spindle-shaped corporcles united by their extremities into fibres.

4. Part from calf 9 inches long, showing distinct bundles of white fibrous tissue beside the structures before mentioned.

5. Bundles of white fibrous tissue from subcutaneous tissue of calf 13 inches long.

6. Same heated with water and, showing the embryonic corporcles or nuclei embedded in it.

7. Portion of the inner layer of the chorion in a full-grown calf 9 inches long, showing the formation of white fibrous tissue by the direct jellification of the blastema around the embryonic corporcles, without the previous formation of spindle-shaped corporcles.
8. Left lymph from pleura: showing delicate granular fibres with nuclei embedded amongst them. Magnified 350 times.


10. Portion of lymph of considerable consistence from pleura, showing nuclei with granular matter deposited about them as a spindle shaped mass, and perfect fibre.

11. White fibrous tissue from pleural adhesions of old standing.

12. Ph. after addition of acetic acid, showing nuclei...
Development of
Yellow Elastic Tissue.

13. Embryonic corpules or nuclei from inner part of walls of Umbilical artery in Fetal calf 2 inches long.

14. From the same but more externally showing spindle-shaped corpules in different stages of development.

15. From walls of Umbilical artery in Fetal calf 4 inches long, showing the same structures further advanced. The nuclei cannot now be seen in the corpules.

16. From outer part of middle coat in same artery.

Embryonic artery in
17.8.18. from middle coat of Fetal calf 8 inches long.
19. Stentines from Ligamentum Nuda of calf 3 inches long.

20. Dr. from Ligamentum Nuda of calf 5 inches in length.

21. From Ligamentum Nuda of calf 3½ feet long.

22. The same after addition of rube and sinuous sutures
22. Tissue from Ligamentum Nuchae of Calf 2 days after birth. Magnified 30 times. The Ligament still present tended to the naked eye resemble the appearance of ordinary tendon. Under the microscope, however, the fibers were broader and better defined than those of whole fibrous tissue. They were best slightly acted on by Acetic Acid.

24. D2 from Ligamentum Nuchae of Calf 14 days after birth. 350 diameter.

25. D2 from Ligamentum Nuchae of adult animal. To show the difference between the fibers in the young and full grown animal. 250 diameter.
Development of Cartilage and Bone.

27. Section of cartilage from Scapula of Calf 3 inches long. Showing nuclei embedded in granular matrix without any surrounding cell walls.

28. S. from head of Tibia of same animal.

29. Section of cartilage from head of Tibia of Salat calf 6 inches in length. Showing division of nuclei and also first trace of what is termed the cartilage cell.

30. S. from Embryo calf 5 inches in length. From same locality.

31. Section of cartilage from Diaphysis of Femur of Salat calf 5 inches in length. Showing the nuclei to be more abundant and to have a linear arrangement immediately subjacent to inciting membrane.

32. Section from Epiphysis of same bone in Embryo further advanced. Shows enlargement of Haversian canals.
33. Section of cartilage from epiphysis ofibia in fetal calf, two
times previous to ossification - Showing division of the nuclei and the
formation around many of them of the structure termed the cart
cell.

34. Section of capsule of same limb.

35. Transverse section of epiphysis ofibia in which ossification be
commenced - Showing a newly formed Hauserian canals cut
across. On transverse section these as represented, look like large
cells with nuclei lying in their interior. The nuclei are however
embedded in the walls of the tube.

36. Longitudinal section of tibiae, showing the opening Hauserian
canals with the nuclei embedded in their walls and commencing
most of ossification.

37. Longitudinal section of cartilage from shaft of femur in a fetal calf. The hyaline substance between the different rows
of cartilage cells presented a distinctly fibrous aspect.

38. Transverse section of Po, showing the cut extremities of the
Hauserian canals.
38.39 Transverse and longitudinal sections of otostegite calcite from summit of lateral wall, showing formation of first 3 anterior septae.
40. Transverse section of newly ossified bone, showing formation of first lamella of Haversian system and the second lamella zone, forming to be formed within the bones. A test to determine if the Haversian canals are surrounded by first lamella. B, lacunae contained in D. C, nuclei contained in secondary lamellae.

41. The same decalcified with dilute solution of hydrochloric acid. A, bodies contained within lacunae, corresponding to the original cartilage nuclei.


43. B, treated with hydrochloric acid. The matrix in which bone matter was deposited is seen to have a fibrous aspect. B, bodies included in the lacunae of the bone.
45. 46. Transverse sections of Femur of fishes at different periods of growth, showing gradual increase in number of lamellae of Haversian systems. The cartilaginous material has been dissolved out so as to bring into view the bodies contained in the lacunae.

47. Transverse section of Femur of full grown animal, also treated with Hydrochloric acid, showing that the bodies contained within the lacunae, and the greater number of lamellae surrounding each Haversian canal in perfect Man in Salt Bovver.
48. 49. 50. Longitudinal sections of decalcified tubal bone. In 29 the vacuolary matter was only partially dissolved in some parts and in these portions the lacunae with the bodies contained within them are distinctly seen.

51. Decalcified spiral of bone from uterus of full grown animal. Showing its resemblance to white fibrous tissue.
52, 53. Portions of bone from orbital plate of Frontal bone in infant calf.
54. Section of cartilage from tarsus of intact calf showing vessels injected.

55. Section of same uninjected and more highly magnified, showing that the walls of the vessels are mostly formed by the surrounding cartilage.

56. Dr. Dr.

57. Section of cartilage from epiphysis of tibia with nucleus of newly formed bone in centre. Shewing vacuities of the new bone compared with the cartilage.
58. Longitudinal section of Pott's bone defect
60. Embranumus corporcles or nuclei from bladuna of muscles of leg in an Embranumus calf 1 inch in length.

61. Dr from Dorzal muscles of same animal.

62. Elementary muscular fibres from Lutionsus Dorzal Muscle in calf divided in length.

63. Dr from Dorzal muscles of same animal.
64. Elementary Fibres from Muscles of Leg in one Embryo Calf 4 inches long - 250 diameters.

65. Dorsal Muscles of same animal. In many of the fibres there were in addition to the nuclei and granular matter, bright refracting particles of considerable size, evidently fat globules 250 diameters.

66. Elementary Fibres from Dorsal Muscles of Embryo Calf 6 inches long, showing the minute granules contained within the sarcosomes arranged in linear series, giving to some portions of the fibre the appearance of transverse and longitudinal striations. 250 diameters.

67. Elementary Fibres from Dorsal Muscles of Calf 12 inches long - 250 diameters.
68. Elementary fibres from muscles of leg in Embryo Horse.

69. The same treated with dilute Hydrochloric acid showing sarcomin and embedded nuclei.

70. Elementary fibres of Dorsal muscles in same animal.
71. Perfectly formed Elementary Fibres from Fetal Muscles of Embryo calf 10 inches long.

72. Regular forms of Elementary fibres from Stomach of same animal; some of them appearing to be formed by quite a position of spindle-shaped cells with transverse axis.

73. Primitive Fibrella in perfectly formed Fetal Muscle magnified 500 diameters. 13 particles into which the fibrella are seen to break, corresponding to the Cross particles of Roman.

74. Elementary fibres of Fetal muscle in which the primitive Fibrella have been dissolved out by Acetic Hydrochloric acid, showing Sarcomatous nuclei embedded in it.

75. Transverse section of Fetal muscle perfectly formed a. primary bundle of Elementary fibres.

76. Transverse section of Fibre of full grown animal shewing the great difference in point of diameter between the Elementary Fibre of Fetal and adult muscle.

77. Elementary of Fetal Muscle, perfectly formed from an Embryo calf 12 inches long.

78. 25% of calf about 5 months old

79. 50% of full grown animal.

80. Elementary Fibres of adult muscle, in which the primitive fibres have been dissolved out shewing Sarcomatous nuclei in muscle
82. Epithelium cells and homogenous membrane with included nuclei from tongue of intact calf. Birefringent long.

82. Homogenous Membrane with included nuclei from flura of same animal. At one part of it distinct flattened epithelium ace amo.

84. Bire from viscerum of same animal.

85. Columnar epithelium from mucous membrane of intestine. Many possessed double nuclei.
86. From Brain of Embryo Calf 8 inches in length

87. 0
88. 9
89. ½ inches long.

88. From Kidney of Calf 4 inches in length.

89. Some Kidney of Calf 5 inches long.
90 & 91. From Liver of Embryo Calf 24 inches in length showing trabeculae entirely composed of Embryonic Corpora leva or nuclei.

92 & 93. Cells from Liver of Embryo Calf 4 inches long.

94. Large cells occurring in the Liver of Fetal animals, filled with nuclei.

95 & 96. Groups of Liver cells from Liver of Embryo calf 8 inches in length.
97. Tubules from Kidney of calf, with more or less bulbous extremities, apparently the young Malpighian Bodies.

98 & 99. Piles and tubules from Intestine of Emu rope calf. 8 inches in length.
101. Embryonic vesicles from ovary of calf 6 miles long.

101. From ovary of calf, showing stroma with embryonic vesicles lying in the antra.

102. Large compound cell-structure from ovary of calf 18 inches in length.

103. Bovina of B. 

105. D. from Eulynge Calf 2 inches in length.

106. The same treated with Acetic acid.

107. Blood from heart of Fetal Calf 2 miles in length.
108. Blood from Umbilical vein of Infant calf similar in texture.

109. Go. From Heart of same animal.

110. Blood from Umbilical vein of Sheep & similar in texture.
111. Inner layer of umbilical artery in Solat calf is invalid long.

112. Some nerve issued more externally.

113. Fibers from middle coat of perfectly formed Solat artery.

114. Fibers from second set of fibers described ad occurring in the middle coat of the Solat artery.
115 & 116. Umbilical artery in fetal calf 13 inches long, stripped of the 3rd or external coat and showing fibers of middle coat partially coiled. In 115 the fibers are represented as uncoiling at once throughout the entire thickness of the coats. In 116 they are represented as uncoiling in layers.

117. A portion of the uncoiled band of fibers magnified 250 diameters, showing the two sets of fibers of which the middle coat of the artery is composed.
118, 119. From chorion of Fallopian tube, showing formation of capillary vessels.

120, 121. From same showing structure of Harper's vessels.
132. Homogeneous membrane from inner surface of bile duct in man.

133. Epithelium from aorta of man.

134. Epithelium from longitudinal sinus of sheep.

135. Epithelium from renal sinus of pig.
125. Transverse banded fibres from middle coat of artery. No. 350 Diameter.

127. Same magnified 500 Diameter.

128. Spindle-shaped corporacles from middle coat of Dr. The now voluntary muscular fibres of Kölliker.

129. Same from uterine arteries of Dr. During pregnancy the arteries have their walls much thickened. The increase in thickness is due to a very large increase of these spindle-shaped cells.
130 to 133. From Brindisi, coast of Br Mussini, gradual transition from elastic fibre to insulator coat of
ade.
135. Arterial supply. Double layer of smooth muscle around the spiral fibres in external coat.

136. Common iliac artery, showing branching.

137. The same, slightly extended, showing mode of union of these fibres.