

is apt to form of them; and therefore any statements on any subject, to be of value in the development of that subject, must be founded on knowledge and rigid application of the facts of nature, whether or no these facts seemed at first sight probable or sufficient explanation of the phenomena. That advance can only be blind and imperfect till the true law of nature is discovered is well illustrated by the history of wound treatment in former years. Through the darkness which then reigned glimmers of light had at times penetrated, but no true and lasting progress was made till quite recently, when, chiefly by the scientific labours of two men—Pasteur and Lister—a flood of light has been thrown on one of the most obscure subjects in nature, and the foundation of rational methods of treatment on rational and scientific principles has been followed by inestimable advantages to mankind.

EXPLANATION OF THE PLATES.

These specimens have been drawn by the aid of the Camera Lucida, and Zeiss' water-immersion or oil-immersion lenses were those chiefly employed.

PLATE I.

FIG.	PAGE
1. Micrococci, from a wound treated aseptically, growing in infusion of cucumber. × 1450	231
2. Specimen of discharge taken from a case of compound dislocation of the thumb not treated aseptically. Contains numerous micro-organisms. × 1450	235
3. Specimen of the discharge from a case of wound of the scrotum not treated aseptically. Contains numerous micro-organisms. × 1450	235
4. Discharge from a case not treated aseptically. Bacilli and pus cells. × 1450	235
5. Discharge from a case of amputation treated by irrigation. Red blood corpuscles, leucocytes, a few bacilli. × 1450	235
6. Discharge from a case of excision of the hip-joint treated with antiseptics. Micro-organisms and blood-corpuscles. × 1450	235
7. Discharge from a case of Syme's amputation treated with antiseptics. Pus corpuscles and micro-organisms. × 1030	236
8. Discharge from a case of empyema treated aseptically. Leucocytes: no micro-organisms. × 1030	237

PLATE II.

9. Discharge from a case of empyema treated aseptically; taken at a later period than that in the specimen from which fig. 8 was drawn. No micro-organisms. × 1030	237
10. Discharge from a case in which a diseased knee-joint was incised aseptically. No micro-organisms. × 1030	238
11, 12, 13, and 14 are from specimens taken at different times from a case treated aseptically. The first three specimens are free from micro-organisms; the last contains micrococci. × 790	239

FIG.	PAGE
15 and 16. Taken from a case of excision of the mamma treated with aseptic precautions. Fig. 15 contains no micro-organisms. $\times 790$. Fig. 16 contains numerous micrococci. $\times 550$	240

PLATE III.

17. Specimen from a case of operation performed with aseptic precautions. Contains a few micrococci. $\times 1030$	240
18, 19, and 20. Specimens to illustrate the mode of entrance of micrococci into wounds treated aseptically. Fig. 18 shows discharge taken from the drainage tube on March 31. No micro-organisms. $\times 790$. Fig. 19 shows discharge taken from the edge of the dressing on April 4. Micro-organisms are present $\times 1030$. Fig. 20, taken from drainage tube on April 4, contains no micro-organisms. $\times 1030$	241
21, 22, 23, and 24, illustrate the same point. Fig. 21, taken from the gauge on April 4, contains a few micrococci. Fig. 22 taken from the inner drainage tube on April 5, contains no micro-organisms. Fig. 23, taken from the inner drainage tube on April 8, contains one or two micrococci. Fig. 24, taken from an outer drainage tube leading into an abscess cavity, on April 15, contains no organisms. Figs. 21, 23, and 24 also illustrate the fact that the leucocytes found in exudations from wounds treated aseptically, frequently do not appear as healthy pus cells, but seem to be degenerating, or, if derived from the tissue corpuscles, perhaps to have been imperfectly developed. All the specimens are $\times 1030$	242

PLATE IV.

25. Growth of micrococci as observed under the microscope by Mr. Lister. <i>a.</i> Group at 8.55 a.m. <i>b.</i> Same group at 9.4 a.m. <i>c.</i> Same at 9.30 a.m. <i>d.</i> Same at 10.36 a.m.	244
26, 27, and 28 represent micrococci growing in various materials. Fig. 26, discharge from the wound from which the micrococci were taken. $\times 600$. Fig. 27, the same micrococci growing in vitreous humour. $\times 1030$. Fig. 28, the same growing in cucumber infusion after having previously lived in meat infusion. $\times 1030$	245
29. Pus taken from a chronic abscess, contains no micro-organisms. $\times 1030$	254
30. Pus taken from an acute abscess of the mamma when opened, contains micrococci. $\times 1030$	254
31. Pus taken from an acute abscess of the finger, contains micrococci. $\times 1030$	254
32. Pus taken from an acute abscess of the groin when opened, contains streptococci. $\times 1030$	256

PLATE V.

FIG.	PAGE
33 to 38 were kindly examined for me by Mr. E. Nelson, whose skill in microscopical work, and more especially in the uses of illumination, is so well known. These specimens have been drawn from his microscope.	
33. Specimens of milk which had been preserved without boiling for several months. Contains no organisms	41
34. Specimen of the deposit in a beaker containing cucumber infusion, into which the spleen of an animal had been dropped some days previously. No micro-organisms	46
35. Specimen of dust collected and stained with methyl violet. One or two bodies are present which are indistinguishable from micrococci and bacteria, and have taken up the stain	198
36. Specimen of discharge taken on April 13, from a case of removal of loose cartilage from the knee-joint in which suppuration occurred. Contains oval organisms	454
37. Specimen of discharge taken on April 18, from the same case	455
38. Discharge taken on April 22, from the same	456
9. Piece of liver introduced into the abdominal cavity with aseptic precautions, examined 24-48 hours later. Leucocytes have penetrated between the lobules of the liver, and at the upper part of the figure have already become spindle-shaped (Hartnack 2 eyepiece, 7 objective). From Tillmanns	575
40. Piece of dead liver after 17 days in the abdomen; organisation of the leucocytes into fibrous tissue, vessels, &c. (Hartnack, 2 eyepiece, 7 objective). From Tillmanns	575

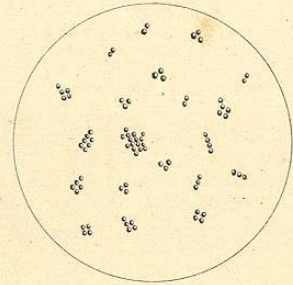


FIG. 1.

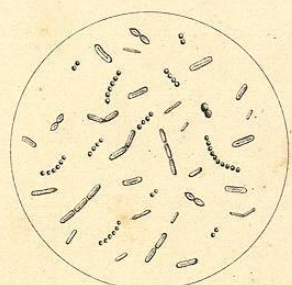


FIG. 2.

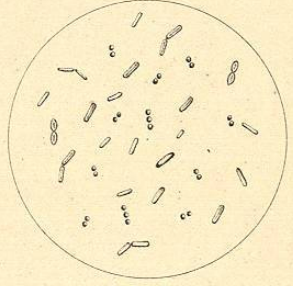


FIG. 3.

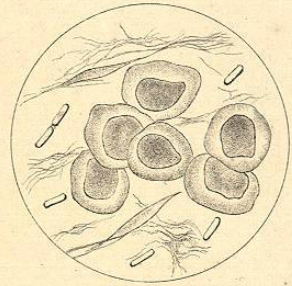


FIG. 4.

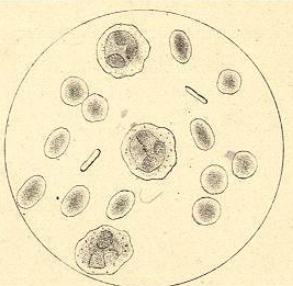


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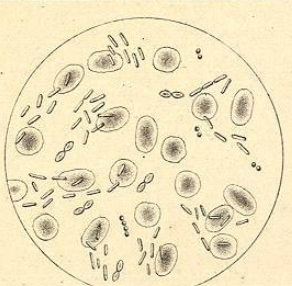


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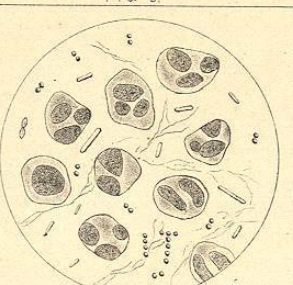


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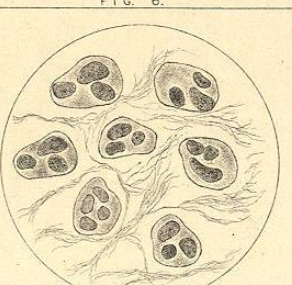


FIG. 8.

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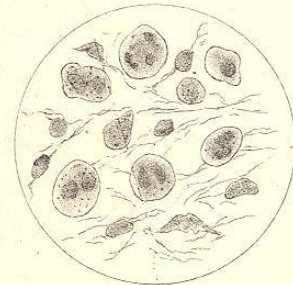


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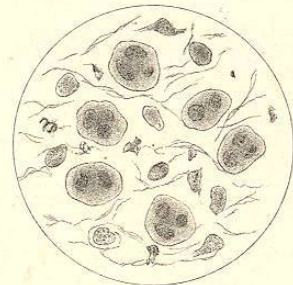


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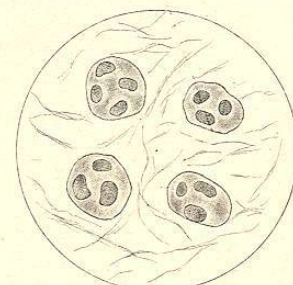


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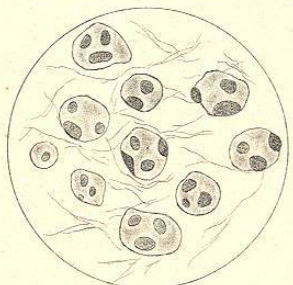


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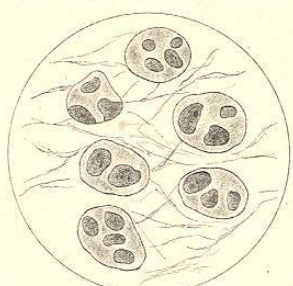


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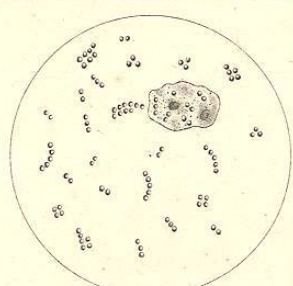


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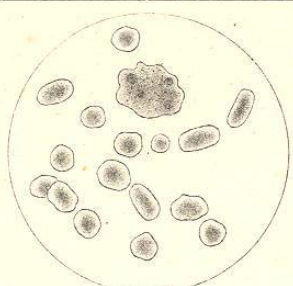


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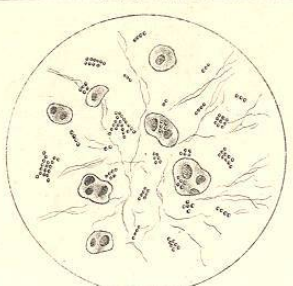


FIG. 16.

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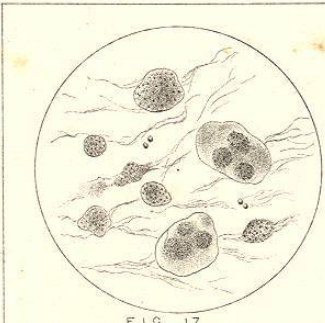


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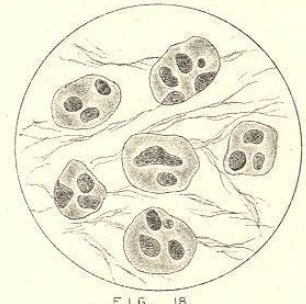


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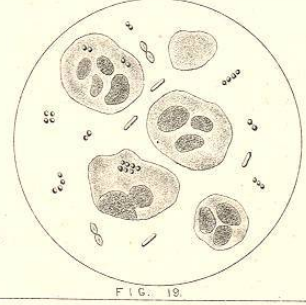


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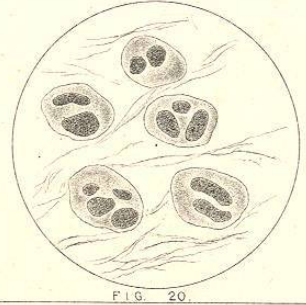


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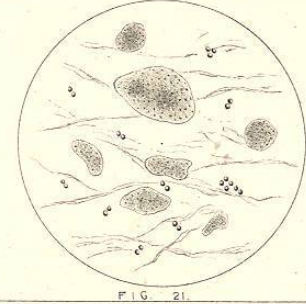


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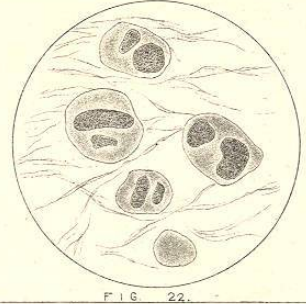


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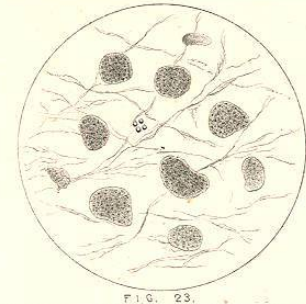


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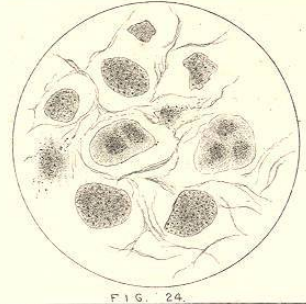


FIG. 24.

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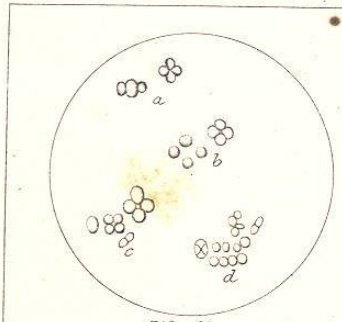


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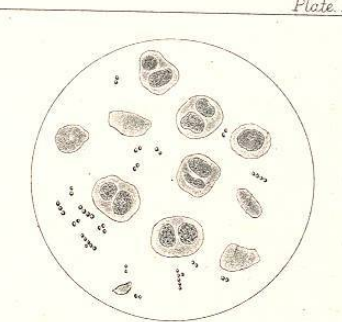


FIG. 26.

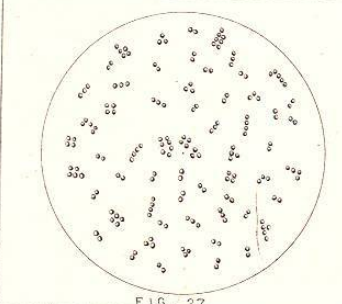


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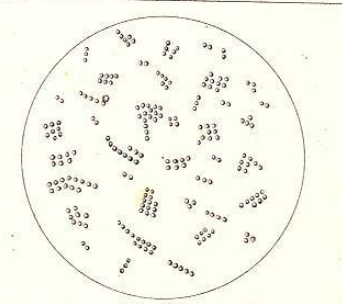


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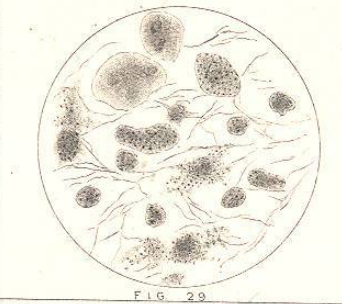


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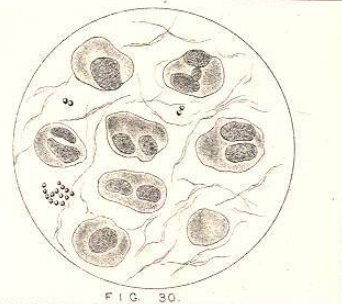


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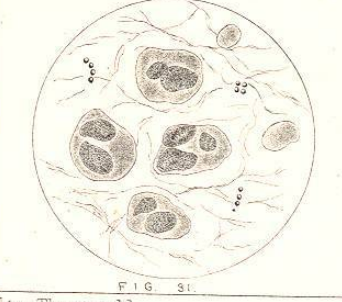


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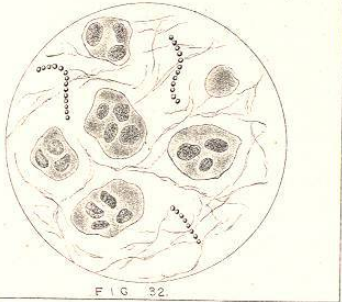
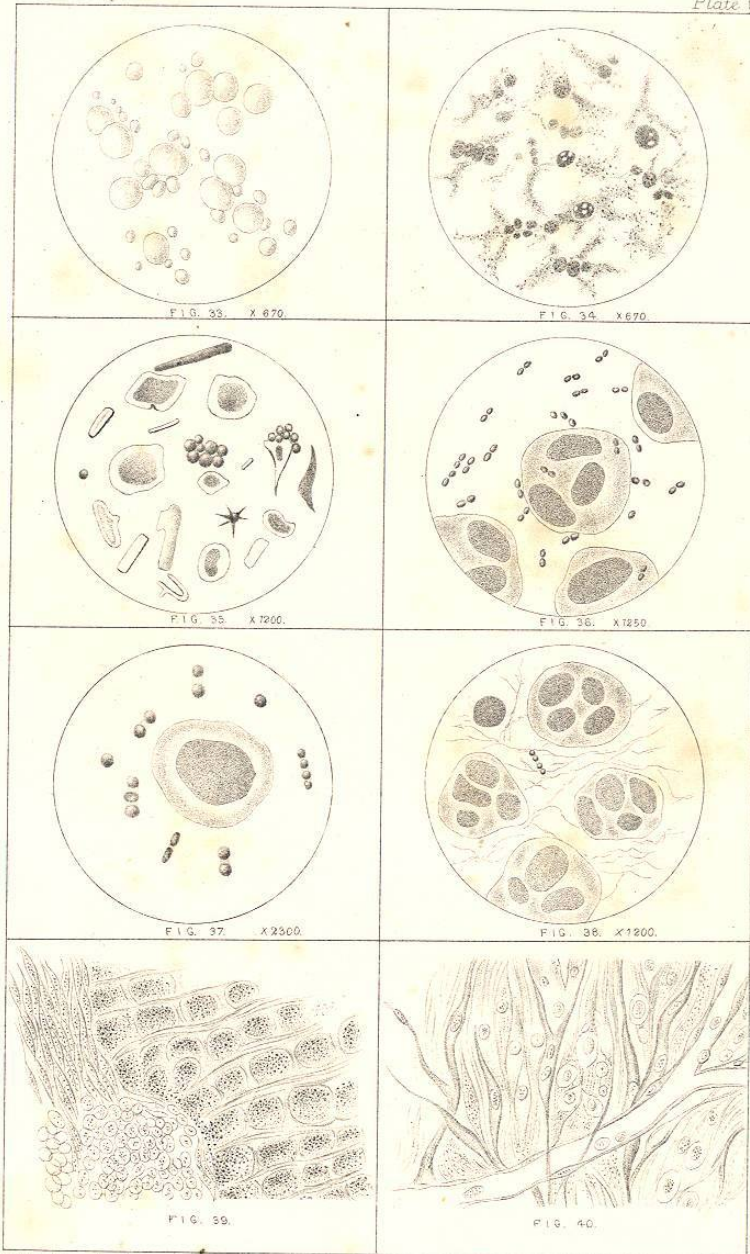


FIG. 32.

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- .001 X 1200
- .001 X 1250
- .001 X 2300