by the usual capsular stains. It is as readily demonstrated on "R" strains of pneumococcus as on "S" strains.

This structure may be made apparently to disappear from *B. anthracis* by suspending the organisms in 1% NaCl and then staining. It reappears however if the organisms are washed free of the salt and restained.

The unfortunate circumlocution "capsule-like structure" has been employed not because the findings are ambiguous but because the capsule has never been accurately defined and the confusion to which the use of terms like "pseudo-capsule", "aureole", "clear zone", etc., has led make it impossible to speak more scientifically. There seems little doubt however that the structure stained by this method is the true capsule.

Two minor defects of this method should be mentioned. Precipitation of stain sometimes produces a granular deposit which makes the background confusing. Experiments now going on indicate that it may prove possible to do away with this disadvantage. Evaporation of Wright's stain also sometimes results in the formation of ringlike bodies which somewhat resemble capsules, although careful study shows them to be artefacts. Though occasionally causing confusion these bodies are usually easily to be distinguished from the true stained capsules.

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Presence of Capsules on "Non-Capsulated" Microorganisms.*

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That capsules may be rather widely distributed throughout the bacterial field has been frequently suggested. Streptococci with capsules were reported by Tavel and Krumbein[1] (*cf.* the *"streptococque auréolé"* of LeRoy de Barres and Weinberg[2]) and Hiss[3] convinced himself that many if not all strains of *Streptococcus pyogenes* are capsulated. Boni[4] claimed to have demonstrated the presence of

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1 Tavel and Krumbein, *Centralbl. f. Bakt. Ref.*, 1895, **18**, 547.

2 de Barres and Weinberg, *Archiv. de med. et d'anat. pathol.*, 1899, **11**, 399.

3 Hiss, *J. Exp. Med.*, 1905, **6**.

4 Boni, *Centralbl. f. Bakt.*, 1900, **28**, 705.

these structures on many different types of organisms. However his method of covering the smears (before staining) with egg albumin and glycerine hardly provided conditions in which artefacts could be excluded, and this fact has thrown considerable doubt on the inference he drew. Still, the statement is often encountered in the literature that many, if not all, varieties of bacteria *may* be capsulated; a statement which is correctly described as a guess. Huntoon is generally known to have thought that he had demonstrated capsules on several varieties of "noncapsulated" bacteria. His only published statement, however, appears to be the following, written in connection with the description of the capsular stain with which his name is connected[5]: "This method has been tried on streptococci, staphylococci, members of the Gram negative group and many flagellate bacilli and has in no instance shown a capsule on these organisms though a similar structure may be demonstrated on all by means of a special technic which will be the subject of a subsequent report."

By the technique described in the previous communication we have examined smears from agar cultures of the following "noncapsulated" organisms and have found them to be surrounded by a definite structure, limited by a membranous periphery selectively stained pink, which is similar to the capsule-like structure demonstrable about *Diplococcus pneumoniae* by the same staining method.

	Strains
1. *Serratia marescens* Bizio *(B. prodigiosus)*	4
2. *Pseudomonas aeruginosa (B. pyocyaneus)*	2
3. *B. subtilis* Ehrenberg Cohn	2
4. *B. subtilis* Chester	1
5. *Escherichia coli*	3
6. *Erysipelothrix murisepticae*	1
7. *Eberthella typhi*	1
8. R strains of *Diplococcus pneumoniae*	6
	(2 each of types 1, 2, and 3)

We have also examined a number of specimens of the acid fast group. The findings in a few instances strongly suggest that some members of this group too may possess capsules, but the evidence is as yet too small to warrant definite statements.

All organisms were positively identified in accordance with Bergey's Manual except that no pyocyanin could be definitely obtained from the otherwise typical *pseudomonas aeruginosa.*

[5] Huntoon, *J. Bact.*, 1917, **2**, 241.