With a penicillin-insensitive strain, on the other hand, the production of acid is not susceptible to inhibition by penicillin. This is shown in Table V.

TABLE V

Final Concentration of Penicillin in Oxford Units per ml.	Presence or Absence of Clot After Varying Periods of Incubation with Penicillin-insensitive <i>Afibrinolytic</i> Strain of <i>Staph. pyogenes</i>		Colour of Contents of Tubes Before and After Incubation (0.02 ml. of 0.04% Neutral Red was Added to Each Tube)	
	3 hrs.	9 hrs.	Initially	9 hrs.
0.00	++	++	Yellow	Pink
0.025	++	++	"	"
0.05	++	++	"	"
0.10	++	++	"	"
0.25	++	++	"	"
0.50	++	++	"	"

NOTES ON TABLE V.—(1) Quantities of reagents employed were the same as in Table IV. (2) Symbols have same connotation as in Table IV.

It is seen from the above results (Table V) that even 0.5 unit of penicillin per ml. has not interfered with the production of acid by insensitive *Staph. pyogenes*, which is in marked contrast to the results in Table IV when a sensitive strain was employed. The results in Table V also demonstrate the separate nature of the phenomena of fibrinolysis and acid production. The strain used was *afibrinolytic*, and in spite of good acid production (at all penicillin concentrations used) solution of fibrin did not occur.

Fibrinolysis by *Str. pyogenes* (Group A) is also inhibited by penicillin (as was shown by Neter and Will, 1944). Using the technique described above, this action was found with one strain down to 0.025 unit of penicillin per ml., and with another to 0.0125 unit per ml. As *Str. pyogenes* does not form coagulase, 0.02 ml. of 1% calcium chloride was added to each tube to give the preliminary fibrin clot.

This inhibitory action of penicillin on fibrinolysis by both *Staph. pyogenes* and *Str. pyogenes* may be responsible for some of the therapeutic effects of penicillin, since prevention of the dissolution of fibrin barriers would counteract the spread of infection.

Summary

Penicillin inhibits fibrinolysis by penicillin-sensitive fibrinolytic strains of *Staph. pyogenes*.

The clot produced in human plasma by coagulase activity redissolves on further incubation, but fails to redissolve in the presence of penicillin at concentrations as low as those necessary to inhibit growth.

This effect is shown with penicillin-sensitive but not with penicillin-insensitive strains of *Staph. pyogenes*, and is presumably connected with the inhibition of growth.

I am very grateful to Major-Gen. L. T. Poole for his kind interest in this work, also to Major J. H. Twiston Davies, Lieut.-Col. C. H. Stuart-Harris, and Major S. T. Cowan for valuable advice. I wish to thank Sgt. J. R. McDonald and Sgt. J. Smith for their able assistance.

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The *Soviet Medical Chronicle* for March, 1945, prepared by the Anglo-Soviet Medical Council in London from material supplied by the U.S.S.R. Society for Cultural Relations, Moscow, reports the reopening of the Pirogov Museum in the village of Sheremetka, not far from the city of Vinnitsa in the Ukraine. This museum is dedicated to Nikolai Pirogov, the famous surgeon (1810-81), known as the father of Russian medicine. During their occupation the Germans turned it into a stable and destroyed many valuable exhibits. When they retreated from the village the Germans planted mines both in the house in which Pirogov had lived and worked, and in his tomb. At the risk of their lives the villagers removed the mines and saved the museum. Later on the staff of the local hospital helped to repair the building, which is now open to visitors again.

Medical Memoranda

Identical Disease in Identical Twins

Kallmann and Reisner (1943), in an enlightening study recently reviewed in this *Journal* (1944, **2**, 504), confirmed the conclusions arrived at by various other authors that "hereditary factors play a decisive part in both the origin and the clinical course of tuberculous disease." An extensive literature—mostly German—on this subject is to be found in the original paper.

As a contribution to the pathology of twins the following cases may be of some interest.

The twins in question are 7-year-old daughters of a tuberculous mother under my treatment. These little girls, so far as I am able to judge, are identical—monozygotic—twins. In the course of routine contact examination of the children I learnt that they were complaining of cramp-like abdominal pains. The plain abdominal radiographs of the twins show calcified mesenteric glands,

so alike in size, site, and configuration that one feels entitled to call them identical. As the two radiographs were taken on different days some allowance should be made for a slight difference in positioning, with slightly different projection of the glands in relation to the spine. There is no doubt that in both cases exactly the same group of glands is affected.

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Diffuse Peritonitis from Gangrene of Hernial Sac

Gangrene of a hernial sac, though rare, is well known. It may or may not be associated with gangrene of the sac contents, the latter usually occurring in an elderly patient with a long-standing hernia. However, the following case, if not unique, appears to be of such rarity as to be worth recording.

A man aged 59 was admitted to the City General Hospital, Sheffield, on Nov. 15, 1944, for retention of urine. The relevant history was that six months previously he developed bilateral inguinal herniae, for which he was given a truss. This did not control either side adequately, and 10 days before admission the left hernia became irreducible, painful, and tender. This local tenderness was followed by colic pain, nausea, and later vomiting, also with absolute constipation for four days and retention of urine 12 hours before admission, for which he had been catheterized.

On examination his general condition was poor, he was dehydrated, and his tongue was red and dry. The abdomen was distended, tender all over, but intestinal sounds were present. In the left inguinal canal there was a tender swelling, which was irreducible, non-expansile on coughing, and covered by red oedematous skin. Seven oz. of urine was withdrawn by catheter. The provisional