levels of K were one-fourth to one-eleventh of those observed with the other penicillins, and K persisted at demonstrable levels for relatively short periods.

In both rabbits and man the recovery of K in the urine averaged 30–35 per cent. This compares with an average recovery for F, G, and X of 74 per cent in rabbits and 91 per cent in man.

In the treatment of experimental pneumococcal infections in white mice, an impure preparation of K was one-sixth as active as G and one-eighth as active as X. In the treatment of experimental streptococcal infections in white mice, a pure preparation of K was one-eleventh as active as G, and one-thirtieth as active as X.

The above data suggest that penicillin K is inactivated in the body to a greater extent and more rapidly than either F, G, or X, resulting in a far lower therapeutic activity than would be anticipated from its bactericidal action *in vitro*. It seems clear that the amount of K in commercial penicillin should be minimized; and it would seem desirable to standardize impure mixtures of penicillins for therapeutic use by some method other than their bactericidal activity *in vitro*.

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Direct Culture of Rheumatic Virus[1]

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In March 1945 there was presented before the New York Pathological Society (*4*) a demonstration of specimens and a discussion concerning the production of nonbacterial endocarditis of a verrucous type in experimental animals following the injection of pericardial fluid, whole blood, and blood plasma from patients with rheumatic fever, and the subsequent propagation of the supposed pathogenic agent or agents in embryonated eggs and transfer back to the small mammals to reproduce the disease. It was recognized that virus diseases naturally present in the experimental animals may give rise to difficulty in interpretation of the morphological results, as had been noted by De Vecchi (*3*) and Andrei and Ravenna (*1*); hence the need of supporting evidence.

J. L., girl aged 16, with severe rheumatic endocarditis and pericarditis and temperature of 105.2°, was admitted to hospital on 12 January 1946. The plasma of her blood, drawn that evening, was injected into five embryonated eggs on 13 January. Of these eggs, two died on the first day, one on the fourth day, and two were killed on the sixth day, so that the result was briefly recorded as $D_1 - D_1 - D_4 - K_6 - K_6$. Another specimen of plasma, taken on the morning of 13 January and injected into five eggs on this day, gave the result $D_1 - K_6 - K_6 - K_6 - K_6$; and the third specimen, taken on the afternoon of 13 January and injected without delay into five eggs, gave the result $D_2 - D_2 - K_6 - K_6 - K_6$. On 14 January a fourth specimen, taken in the morning, supplied plasma for five eggs with the result $D_1 - D_3 - K_6 - K_6 - K_6$. A fifth specimen, taken that afternoon, supplied plasma for five more eggs and resulted in $D_2 - D_3 - D_3 - K_6 - K_6$.

None of these eggs showed any recognized pathological changes. The extraembryonic fluids were harvested promptly and found bacteria free by aerobic culture.

On 21 January the pooled fluids from these 25 eggs were used in part for the inoculation of rabbits and guinea pigs and later for inoculation of more embryonated eggs (see below).

Meanwhile, on 15 January some of the citrated plasma saved from the blood drawn on 12 January was used for inoculation of the chorioallantoic membranes of five embryonated eggs, aged 9 days. All five of these eggs survived to be harvested on 18 January ($K_3 - K_3 - K_3 - K_3 - K_3$), and all exhibited remarkable localized thickening of the chorioallantoic membrane and intense reddish-pink discoloration of the embryo proper. Aerobic bacterial cultures remained free from growth. One membrane of this lot was ground in a mortar and suspended in saline solution for inoculation on the chorioallantois of five additional embryonated eggs on 29 January. All these survived to be harvested on 2 February ($K_4 - K_4 - K_4 - K_4 - K_4$), and each exhibited a thickened chorioallantoic membrane with local nodules and general reddening of the live embryo itself.

The pooled fluids of the first 25 eggs mentioned above (21 January) were used in part for injection into five eggs on 26 January, with the result $D_2 - D_2 - D_4 - K_6 - K_6$. No pathological changes were recognized in these eggs. On 26 January, also, this

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same pooled fluid was used to inoculate the chorioallantoic membrane of five embryonated eggs. The result was $K_3 - K_3 - K_3 - K_3 - K_3$. All these eggs exhibited thickened membrane and reddened embryo at harvest on 29 January. One of these membranes was ground and suspended in saline solution for inoculation onto chorioallantois of each of five embryonated eggs on 1 February the result being $K_4 - K_4 - K_4 - K_4 - K_4$. All five had thick lesions on the chorioallantois and reddened embryo at harvest.

A further specimen of blood, drawn from the patient on 24 January, supplied plasma for egg inoculations on 26 January. This was injected into five eggs, with the result $D_2 - D_3 - D_4 - K_6 - K_6$. One of these, dying on the fourth day, exhibited a much thickened chorioallantois. The others were free from recognized gross alterations. Also on 24 January this same plasma was used to inoculate the chorioallantois in each of five eggs, with the result $K_3 - K_3 - K_3 - K_3 - K_3$. Each of these eggs at harvest exhibited locally thickened membrane and diffuse redness of the embryo.

The pooled extraembryonic fluid from the first 25 eggs was used in part for intravenous injection into rabbits and intraperitoneal injection into guinea pigs. This experiment is to be reported elsewhere.

The brief title of this note should not be misinterpreted. Rheumatism is a clinical term which has been applied to diseases of diverse causation. Patient J. L. is suffering from a severe first attack of the rheumatic fever of adolescence with evidence of endocardial and pericardial inflammation, a disease entity recognized more or less definitely since the classical description of Bouillaud (*2*). The observations reported here indicate that the blood of this patient has harbored an agent which has been propagated in embryonated eggs with the production of rather characteristic changes in the eggs.

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News and Notes

Editorial Announcement

Next week *Science* will consist of only 32 pages. This reduction in size is forced on us simply because we do not have the paper for the larger journal our readers have come to expect.

Paper supplies, which were scarce enough during the war period, have become even more scanty since controls on consumption were removed.

Strikes in the various industries and services have further added to the acuteness of the scarcity, which is prevalent in all kinds of paper, kraft, newsprint, book, and coated stocks. If it were possible to bring you *Science* printed on wrapping paper, we would do it!

We hope that the emergency will last only a few weeks, but actually at this time, there is no sure way of predicting how long it will last.

Some monthly scientific publications will not be able to print their June issues at the regular time and whether these numbers will appear in July or in August, no one is able to say at the moment.

Ernest W. Goodpasture, professor of pathology and dean of the School of Medicine, Vanderbilt University, Nashville, Tennessee, has been selected as the 1946 recipient of the Passano Foundation Award, according to the Board of Directors of the Foundation. Presentation of the $5,000 cash award was made at an appropriate ceremony in Osler Hall of the Medical and Chirurgical Faculty of Maryland, in Baltimore, on the night of 15 May, when Dr. Goodpasture will speak on "Research and Medical Practice."

The Foundation, which was established in 1944 by the Williams and Wilkins Company, Medical Publishers, of Baltimore, proposes to aid in any way possible the advancement of medical research, especially research that bears promise of clinical application. For the encouragement of such research the Foundation has established the award as one of its activities.

Dr. Goodpasture receives the award for his original development of the method for propagation of viruses in pure culture by inoculation of chick embryos and for his outstanding contributions to advancement of knowledge of the cell-parasite relationship in bacterial and virus infection.

Albert E. Wood, paleontologist, has been appointed assistant professor of biology at Amherst College, effective 15 April 1946. Dr. Wood had been a geolo-