25^r C. ("summerdays") counted for periods from May 16th to June 15th, June 16th—July 15th etc shows fluctuations, which in a large majority of cases agree in sign with those of the mortality of infants in June, July etc.

3^{id}. If a simple proportionality is assumed between the deviation from the normal of the number of "summerdays" and that of the mortality in a period beginning and ending 15 days later, then for each summerday above or below the normal number the mortality of infants is increased or diminished at Groningen with 5, at Utrecht with 4% of the mean monthly death-rate.

Chemistry. — "*Action of potassium hypochlorite on cinnamide*", (2nd communication). By Dr. R. A. WEERMAN. (Communicated by Prof. S. HOOGEWERFF).

It has been stated in a previous communication [1] that from cinnamide and potassium hypochlorite was obtained cinnamoylstyrylurea.

$$C_6H_5C^H = C^H — N^H \diagdown$$
$$\qquad\qquad\qquad\qquad CO.$$
$$C_6H_5C^H = C^H — C^0 — N^H \diagup$$
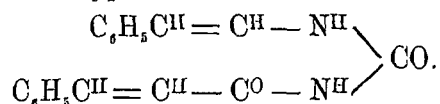
This proved that in the action of potassium hypochlorite on cinnamide an intramolecular rearrangement of atoms takes place, and that it therefore becomes possible to arrive from a compound with the atomic grouping:

$$C_6H_5C = C — C — N$$
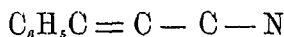
at one with the atomic grouping:

$$C_6H_5C = C — N — C.$$
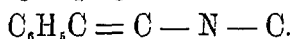
A compound of this structure may be very readily obtained from cinnamide by treating this in methylalcoholic solution with an alkaline solution of potassium hypochlorite. In this way a yield of about 70% of the urethane is obtained:

$$C_6H_5C^H = C^H — N^H — C^0{}_{OCH_3}$$

styrylaminoformic methyl ester.
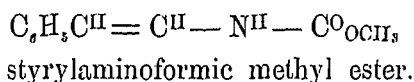
B. p. $181°$—$182°$ at 14 mm. M. p. $122°$—$123°$ (corr.)

0,1674 gr. yielded 0,0914 gr. H_2O and 0,4141 gr. CO_2
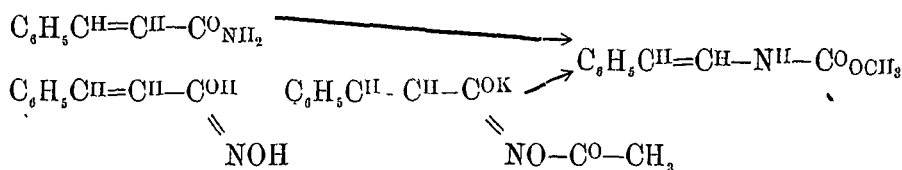
0,1733 „ _ „ 12 cc. N_2 at $14°$ and 761 mm.

Found: 67,45 $\%$ C; 6,11 $\%$ H and 8,12 $\%$ N.

Calculated for $C_{10}H_{11}O_2N$: 67,76 $\%$ C; 6,27 $\%$ H and 7,91 $\%$ N.

[1] Proc. 1906, 303.

A substance of the same structure has been described by THIELE and PICKARD [1], who prepared it from the potassium salt of the acetylated cinnamo-hydroxamic acid. As they give the melting point as 115°, and as, in another respect, their observations do not quite agree with mine, the urethane was prepared by Mr. W. OCHTMAN, in the manner indicated by THIELE and PICKARD for the purpose of comparison.

The two substances appeared to be quite identical; the melting point was found to be 122°—123° and a mixture of the two melted at the same temperature.

$$C_6H_5CH=CH-CO_{NH_2} \longrightarrow C_6H_5CH=CH-NH-CO_{OCH_3}$$

$$C_6H_5CH=CH-C^{OH} \qquad C_6H_5CH-CH-C^{OK}$$

$$\underset{NOH}{\parallel} \qquad \underset{NO-CO-CH_3}{\parallel}$$

This ready formation of urethane in an aqueous-alcoholic alkaline medium is remarkable.

I ascertained that this reaction also takes place with a derivative of cinnamic acid. From o-nitro-cinnamide is formed the o-nitrostyryl-aminoformicmethyl ester :

$$C_6H_4NO_2 - CH = CH - NH - CO_{OCH_3}$$
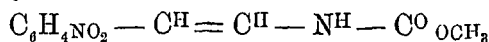
This crystallises in bright yellow needles mp. 149'—150°.

0,2009 gr. yielded 0,3956 gr. CO_2 and 0,0781 gr. H_2O.
0,1457 „ „ 15,8 cc. N_2 at 15° and 758 mM.

Found : 53,70 % C; 4,36 % H and 12,60 % N.
Calculated for $C_{10}H_{10}O_4N_2$: 54,03 % C; 4,55 % H and 12,61 % N.

A fuller communication will follow in the Receuil.

Delft, July 1907.

Chemical Laboratory of the Technical High School.

Meteorology. — "*The analysis of frequency-curves of the air-temperature.*" By Dr. J. P. VAN DER STOK.

1. The question in what way the characteristic details of frequency-curves of different kinds may be pointed out in a striking way in a pliant, analytical form has again been treated extensively in a recent work [2].

The aim of this communication is to fix the attention on the

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[1] Ann. 309, 197.

[2] H. BRUNS, Wahrscheinlichkeitsrechnung und Kollektivmasslehre, Leipzig und Berlin, TEUBNER, 1906.