RICCATI ISOTHERMAL SYSTEMS — A CORRECTION.

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The list of solutions given on page 346 of my paper in the April BULLETIN is incomplete.* The error appears in the last step of the discussion of case III, where it is stated that the coefficient α must vanish.

When the value †

$$P = \alpha x + \gamma x^{-1} + \delta x^{-2} + \beta^2 \alpha^{-1} x^{-3}$$

is substituted in (13), or, more conveniently, in the equation

$$(2\alpha x^{-1} + P'')(1 + P^2) - 2P(P'^2 + \beta^2 x^{-4}) = 0$$

derived by putting $y = 0$ in (9), it is found that $\beta = 0$, $\delta = 0$, $4\alpha\gamma + 1 = 0$.. This gives a solution which, by a proper magnification, may be reduced to

$$y' = \frac{y^2 + x^2 - 1}{2x}; \tag{14}$$

the corresponding integral is

$$x + 2 \tan^{-1} \frac{1 - y}{x} = \text{const.} \tag{14'}$$

To make the discussion complete it is necessary to consider separately the assumption, not included in the form (10), that R is constant. This, however, gives only imaginary solutions

$$y' = a(x \pm iy)^2 + b(x \pm iy) + c. \tag{15}$$

The conclusions on page 346 should therefore read as follows:

If an equation of the Riccati type proper represents an isothermal system, it is reducible to one of the forms (14) *or* (15).

If a real isothermal system has a differential equation of the form $y' = P + Qy + Ry^2$, *it is similar to one of the five systems numbered* (3), (4), (6), (7), (14′).

* My attention was called to the additional solutions by Mr. J. E. Wright who kindly communicated the results of an independent examination of the problem.

† In the original paper the last term in the value of P appears with a negative sign. There are two other errata on p. 345 : the second term in the third line should be $-4RR'Q'$, and the comma at the end of the fourth line from below should be deleted.

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