ERRATUM TO
ASYMPTOTIC AND CONVERGENT FACTORIAL SERIES
IN THE SOLUTION OF LINEAR ORDINARY
DIFFERENTIAL EQUATIONS

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An error in the proof of the entitled article was kindly pointed out
by Professor H. L. Turrittin; its correction introduces a limitation on
the argument of $\omega$ in Theorem 1. To outline the correction in terms
consistent with those of the article, let $v_\nu(z)$ correspond to a segment
on the Puiseux diagram for (1) extending from $(\beta_1, m(\beta_1))$ to $(\beta_1+N,
m(\beta_1+N))$—so that $s_0 = (m(\beta_1+N) - m(\beta_1))/N$— and call

\begin{equation}
\dot{p}_{\beta_1,-m(\beta_1)}h^N + \cdots + \dot{p}_{\beta_1+N,-m(\beta_1+N)}(h)^0 = 0
\end{equation}

the characteristic equation. Thus (11) has one root $h_\nu$ which relates
to the considered particular solution. Substitutions (4) and (5) con-
vert (1) to a differential equation for $v_\nu(z)$ in which the analogue of
(11) has roots $(h_1-h_\nu), \cdots, (h_N-h_\nu)$ if $h_1, \cdots, h_N$ are the roots of
(11). For definiteness, let $m$ of (4) be the least positive integer making
$(m s_0)$ an integer or 0. Then the $a_{\nu,\mu}$'s of (3) and later equations are
deﬁned as the product of a gamma function and the solution of a
difference equation of Poincaré type (reference of footnote 6, chap.
XVII), and the characteristic equation for this difference equation
has $(h_1-h_\nu)^{-1/m(s_0+1)}, \cdots, (h_N-h_\nu)^{-1/m(s_0+1)}$ as its roots. The $a_{\nu,\mu}$'s
are a particular solution for which $\lim_{\mu\to\infty} (a_{\nu,\mu+m(s_0+1)}/a_{\nu,\mu})$ is one of
$(h_1-h_\nu)^{-1}, \cdots, (h_N-h_\nu)^{-1}$, if it exists—we conjecture that this
limit is one value among those of $(h_1-h_\nu)^{-1}, \cdots, (h_N-h_\nu)^{-1}$
having the largest modulus. If $\alpha$ represents the argument of this limit
we have, as a final result, that the convergence in Theorem 1 necessi-
tates the additional restriction on arg $\omega$:

$$|\arg \omega - (\alpha + M\pi)/m(s_0 + 1)| < \pi/2m \cdot |s_0 + 1|$$

(where $M =$ odd integer).