Sei l der zu $\bar{l} = (y + g, z)$ gehörige Substitutionshomomorphismus. Dann ist $l \in L$ und

$$\begin{aligned}(l^{-1}p\varphi)(y) &= l^{-1}((y + g(z))e(y, z)) \\ &= (y - g(z) + g(z))(e(y - g(z), z)) = ye(y - g(z), z).\end{aligned}$$

Damit ist $l^{-1}p\varphi = u \in U$ und $\varphi = p^{-1}lu$, also $G = PLU$. Durch Inversion folgt daraus $G = ULP$.

Sei nun $p \in P$ so, daß $(\varphi^{-1}p)_1$ y-allgemein der Ordnung 1 ist. Wie zuvor finden wir dann ein l so, daß $l^{-1}\varphi^{-1}p = u \in U$. Dann ist $\varphi^{-1} = lup^{-1}$ und damit $\varphi = pu^{-1}l^{-1}$, also $G = PUL$. □

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(Reçu le 20 août 2003 ; version révisée reçue le 26 mars 2004)

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