from explanations and re[illegible]nces, it is thought better to present the reasoning again with some fulness.

§ 56. Since $yv = n$, and y is not equal to n, y is the continued product of some of the factors of n, but not of them all. Let s, t, etc., be the odd factors of n of which y is a multiple; and b, d, etc., the odd factors of n of which y is not a multiple. Because $yv = n = b\beta$, and b is not a factor of y, b is a factor of v. Let $v = ab$; then $v\beta = an$. Therefore $F_{ev\beta} = F_0$. In like manner $X_{ev\delta} = X_0$, and so on as regards all those terms of the type $F_{e v\beta}$ in which $\frac{n}{\beta}$ or b is an odd factor of n, but not a factor of y. Hence, putting ev for z in the second of equations (108), and separating those factors of $R_{ev}^{\frac{1}{n}}$ that are of the type $F_{ev\beta}^{\frac{1}{n}}$ from those that are not,

$$R_{ev}^{\frac{1}{n}} = w'' A_{ev} (F_0^{\beta} X_0^{\delta} \ldots .)^{\frac{1}{n}} (P_{evm}^{m} \phi_{ev\sigma}^{\sigma} \ldots .)^{\frac{1}{n}},$$

w'' being an n^{th} root of unity. We understand that $F_0^{\frac{\beta}{n}}$, $X_0^{\frac{\delta}{n}}$, etc., are taken with the rational values which it has been proved that they admit, and, as in § 44, their continued product may be called Q. Then

$$R_{ev}^{\frac{1}{n}} = w'' A_{ev} Q (P_{evm}^{m} \phi_{ev\sigma}^{\sigma} \ldots .)^{\frac{1}{n}}. \tag{126}$$

When e is taken with the particular value c, let w'' become w^r, and when e has the value unity, let w'' become w^a. Then

$$\left.\begin{aligned} R_{cv}^{\frac{1}{n}} &= w^r A_{cv} Q (P_{cvm}^{m} \phi_{cv\sigma}^{\sigma} \ldots .)^{\frac{1}{n}} \\ \text{and} \qquad R_{v}^{\frac{1}{n}} &= w^a A_{v} Q (P_{vm}^{m} \phi_{v\sigma}^{\sigma} \ \ldots .)^{\frac{1}{n}} \end{aligned}\right\} \tag{127}$$

Because R_1 is the fundamental element of the root of a pure uni-serial Abelian equation of the n^{th} degree, equations (3) and (5) subsist together; hence, because w^c is included in w^e,

$$\left.\begin{aligned} (R_v R_1^{-v})^{\frac{1}{n}} &= k_1 \\ \text{and} \qquad (R_{cv} R_c^{-v})^{\frac{1}{n}} &= k_c \end{aligned}\right\} \tag{128}$$

where k_1 is a rational function of w, and k_c is what k_1 becomes by changing w into w^c. By putting e equal to unity in (109),

$$R_1^{\frac{1}{n}} = A_1 (P_m^m \phi_\sigma^\sigma \ldots . F_\beta^\beta)^{\frac{1}{n}}.$$

Taking this in connection with the second of equations (127),

$$(R_v R_1^{-v})^{\frac{1}{n}} = w^a (A_v A_1^{-v}) Q (F_\beta^{-v\beta} \ldots .)^{\frac{1}{n}} \{ (P_{vm}^m P_m^{-vm}) (\phi_{v\sigma}^\sigma \phi_\sigma^{-v\sigma}) \ldots . \}^{\frac{1}{n}}. \tag{129}$$