

**CORRECTION TO
 A NOTE ON GALOIS COVERING**

YASUJI TAKEUCHI

This Journal, vol. 6 (1969), 321-327.

(Received June 1, 1972)

Prof. L.N. Gupta has pointed out the author that there is a gap in the proof of Theorem 2.2 [3]. In this theorem we need to put certain assumptions. To give it, we shall extend to the case of preschemes certain notions defined by Chase, Harrison and Rosenberg in [1].

Let $\sigma, \tau: X \rightarrow Z$ be two morphisms of preschemes where X is affine. Then σ and τ are called to be strongly distinct if, for any sum $X \cong X_1 \amalg X_2$ such that X_i are affine schemes ($i=1, 2$), $\sigma\varphi$ and $\tau\varphi$ are distinct where φ is the canonical morphism: $X_1 \rightarrow X$.

Let X be a Galois covering of a prescheme Y with a Galois group \mathfrak{G} , $\Phi: X \rightarrow Y$ the structure morphism and Z an intermediate prescheme between X and Y with the structure morphism $\Phi_1: X \rightarrow Z$, $\Phi_2: Z \rightarrow Y$. We shall say that Z is \mathfrak{G} -strong if there is an affine open covering $\{V_\gamma\}_{\gamma \in I}$ of Y such that for any pair $\sigma, \tau \in \mathfrak{G}$, $\Phi_1\sigma$ and $\Phi_1\tau$ are equal or their restrictions to $\Phi^{-1}(V_\gamma)$ are strongly distinct for all $\gamma \in I$.

One can show that \mathfrak{G} -strongness is independent on an affine open covering.

Let $\varphi: X \rightarrow Y$ be a surjective morphism of preschemes which is finite and locally free. Let Z_1, Z_2 be two intermediate preschemes between X and Y such that the structure morphisms $\psi_i: Z_i \rightarrow Y$ are affine for $i=1, 2$. Z_1 and Z_2 are said to be isomorphic as intermediate preschemes if there is a Y -isomorphism $\psi: Z_1 \rightarrow Z_2$ such that the diagram

$$\begin{array}{ccc} & X & \\ \swarrow & & \searrow \\ Z_1 & \xrightarrow{\psi} & Z_2 \end{array}$$

is commutative where the unadorned morphisms are structural. We shall call an intermediate covering between X and Y an isomorphism class of intermediate preschemes between X and Y .

A correct form of Theorem 2.2 in [3] can be obtained by strengthening