be true (Easy computation).

6. We previously encountered the two birational maps

$$\mu^{(g)} : S^{(g)} \longrightarrow J(S)$$

and

$$\mu^{(g-1)} : S^{(g-1)} \longrightarrow \Theta$$

from the g-fold symmetric product of a Riemann surface S to its Jacobian $J(S)$, and from the $(g-1)$st symmetric product of S to the theta-divisor $\Theta \subset J(S)$. The latter map involves both of the two previous examples of rational maps: if $\mathcal{G} : \Theta \longrightarrow \mathbb{P}^{g-1}$ is the Gauss map, as defined in Section 7 of Chapter 2, then the composition

$$S^{g-1} \xrightarrow{\pi} S^{(g-1)} \xrightarrow{\mu^{(g-1)}} \Theta \xrightarrow{\mathcal{G}} \mathbb{P}^{g-1*}$$

(π the standard quotient map) is just the map defined in example 4 above, applied to the canonical curve $S \subset \mathbb{P}^{g-1}$.

☞ See P338, P342 & P360 for the definitions and interpretations. $\Rightarrow$ $\mathcal{G} \circ \mu^{(g-1)} \circ \pi : S^{g-1} \longrightarrow \mathbb{P}^{g-1*}$ is the map as below: $(p_1, \cdots p_{g-1}) \longmapsto \overline{\iota_K(p_1) \cdots \iota_K(p_{g-1})} \in \mathbb{P}^{g-1*}$.
where $\iota_K : S \longrightarrow \mathbb{P}^{g-1}$ is the canonical mapping.

7. A birational map of the projective plane $\mathbb{P}^2$ to itself