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example of fully invariant subgroup

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The derived subgroup $[G, G]$ is a fully invariant subgroup because if f is an endomorphism of G , then for each word of commutators $[a_1, b_1][a_2, b_2] \cdots [a_m, b_m]$, we have

$$f([a_1, b_1][a_2, b_2] \cdots [a_m, b_m]) = [fa_1, fb_1][fa_2, fb_2] \cdots [fa_m, fb_m] \in [G, G]$$

i.e. the homomorphic image of a word of commutators is a word of commutators.