

- ▶ For a mapping  $\varphi : S \rightarrow T$ , let  $\ker \varphi = \{(u, v) : \varphi(u) = \varphi(v)\}$  be the **kernel** of  $\varphi$ .

### THEOREM 5.5

*An  $A$ -generated profinite semigroup  $S$  is a continuous homomorphic image of  $\overline{\Omega}_A \mathbf{V}$  if and only if it is a pro- $\mathbf{V}$  semigroup.*

### COROLLARY 5.6

*Let  $S$  be a pro- $\mathbf{V}$  semigroup and suppose that  $\varphi : S \rightarrow T$  is a continuous homomorphism onto a finite semigroup. Then  $T \in \mathbf{V}$ .* □