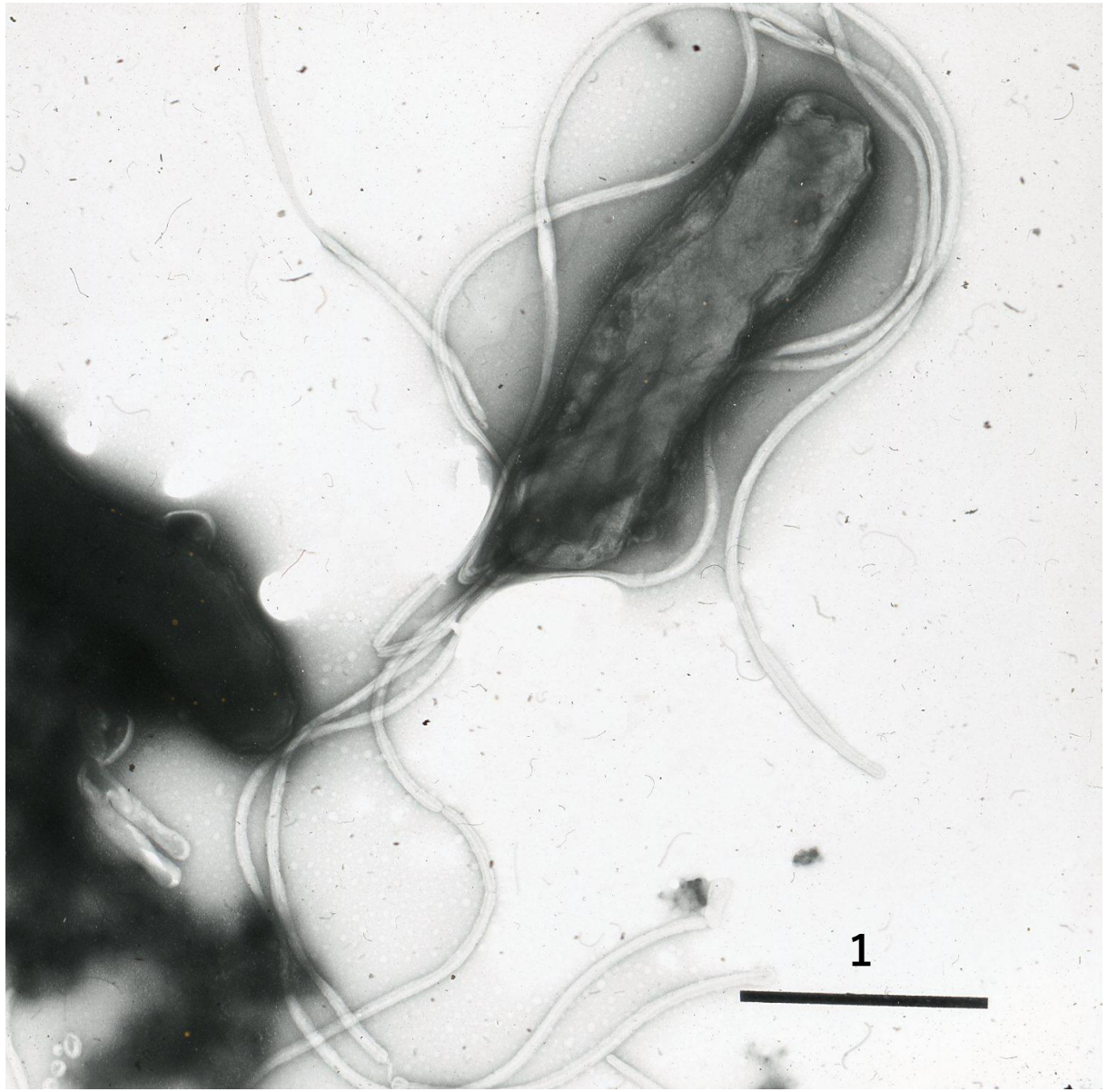
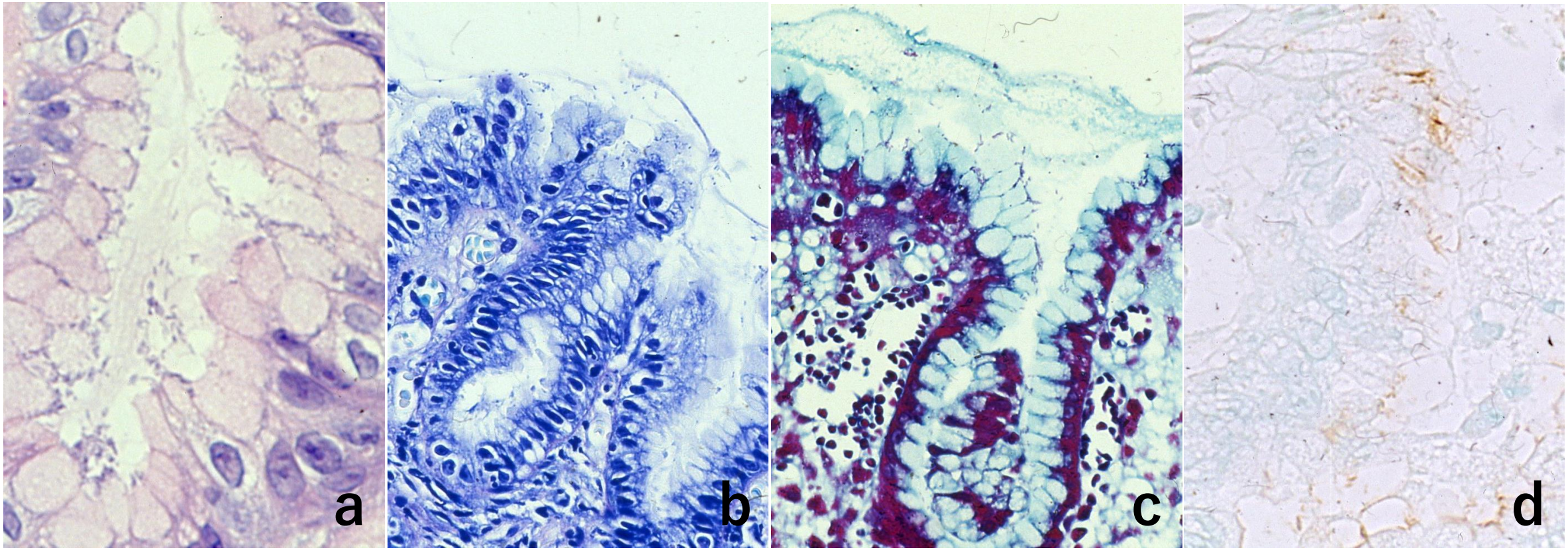
Detection of *Helicobacter pylori* in H&E-stained gastric biopsy preparations

Helicobacter pylori is identifiable in H&E-stained preparations, particularly under a prolonged hematoxylin staining condition. The staining intensity of *H. pylori* bodies is increased when the hematoxylin staining period is doubled from 5 min, the routine period of Mayer's hematoxylin staining, to 10 min. The staining intensity of the background epithelial nuclei is only mildly increased. H&E staining employing a prolonged hematoxylin staining period gives detectability of *H. pylori* comparable to Giemsa and immunoperoxidase staining. The modified H&E method is thus very useful and practical for identifying *H. pylori* in routine gastric biopsy specimens. The author strongly recommends to use 3 times concentrated Mayer’s hematoxylin solution, instead of 2 times concentrated Mayer’s hematoxylin, which is commonly utilized for H&E staining in many Japanese diagnostic pathology laboratories.

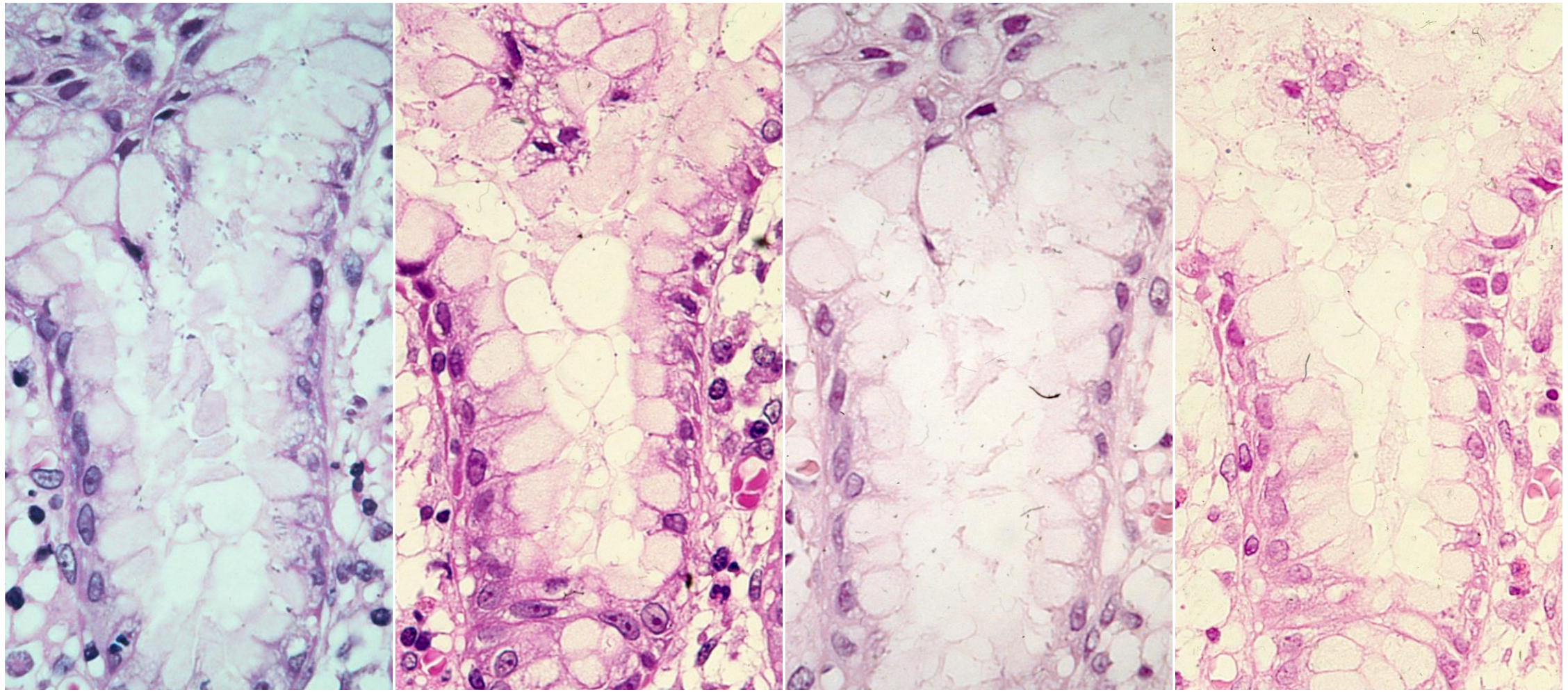
Ref.: Tazawa K, Tsutsumi Y. Effect of prolonged staining with hematoxylin on detecting *Helicobacter pylori* in hematoxylin-eosin-stained gastric mucosa. Pathol Int 1998; 48(6): 448-452. doi: 10.1111/j.1440-1827.1998.tb03931.x



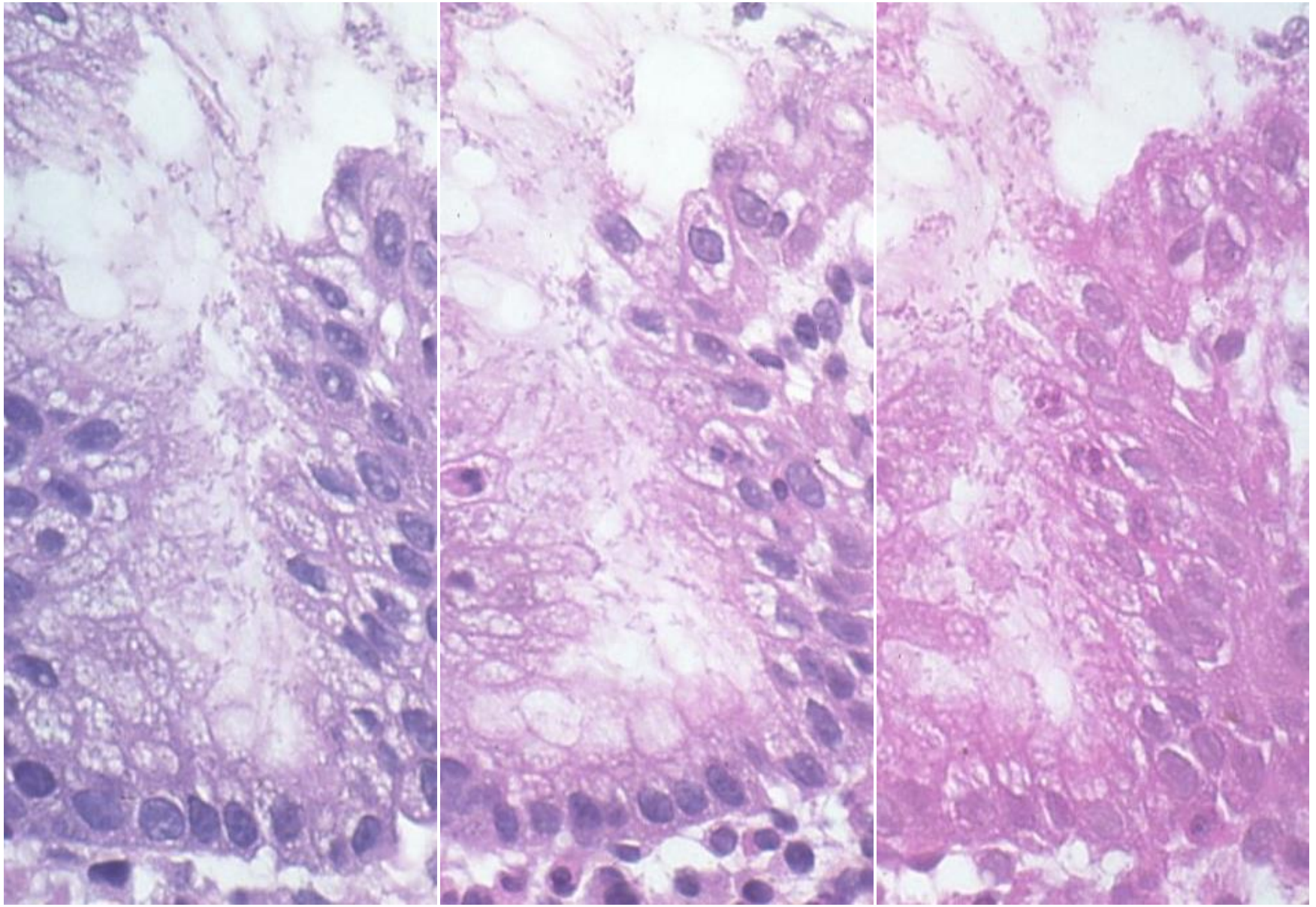
Scanning electron microscopy of *Helicobacter pylori* (negative staining). Long flagellae are evident.



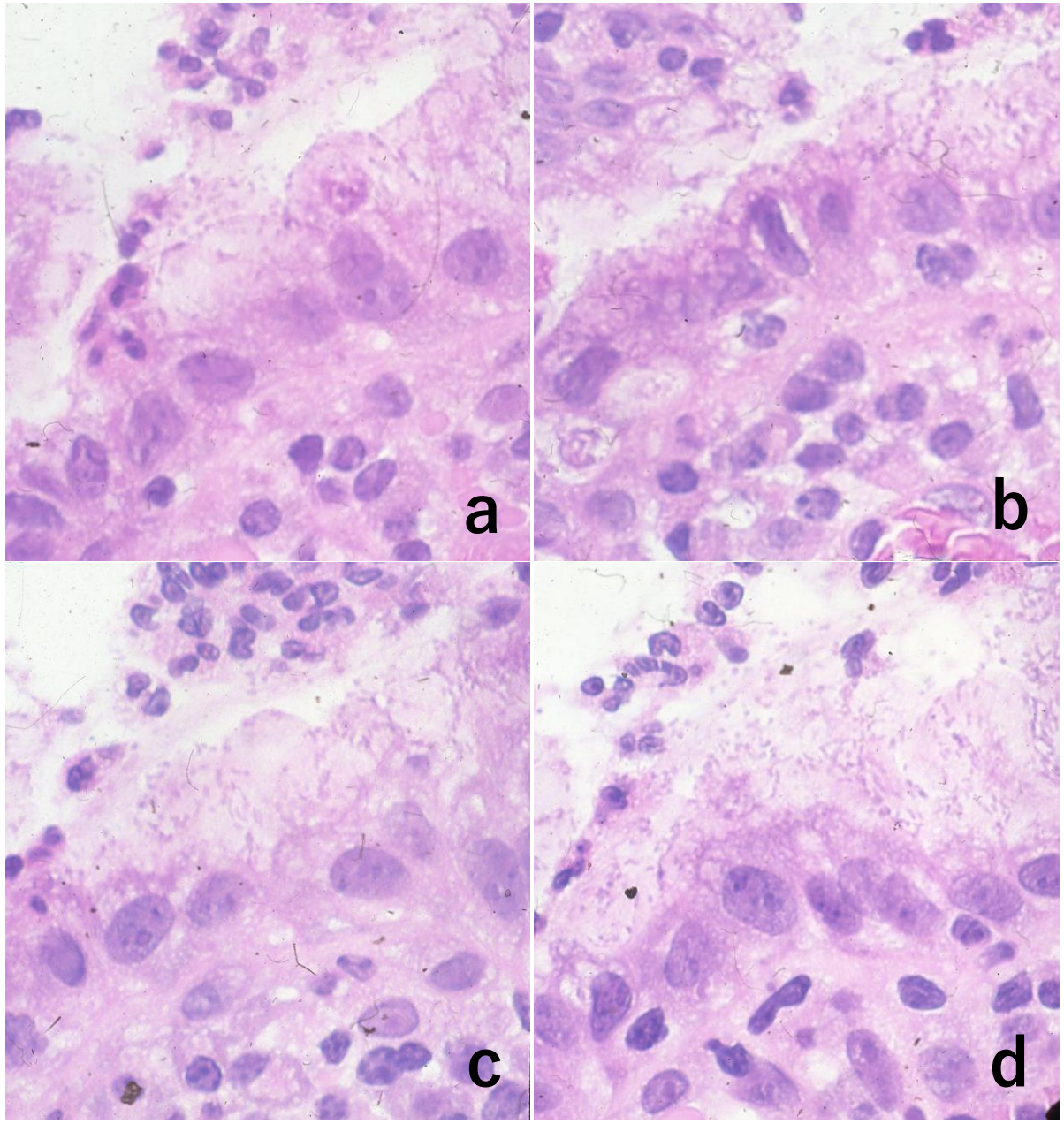
Demonstration of *Helicobacter pylori* in gastric biopsy specimen.
a) H&E, b) Giemsa, c) Gimenez, d) Immunostaining for *H. pylori* Ag
When the staining condition is good, H&E staining is suitable for detecting *H. pylori* in the gastric biopsy specimen. It is very important for us pathologists to save the time and money for the diagnosis of *H. pylori*-related gastritis.



Helicobacter pylori-infected gastric mucosa. H&E preparations stained in 4 different pathology laboratories using the consecutive sections of the same sample. Detectability of *H. pylori* is considerably different from lab to lab. Hematoxylin accentuates the bacteria, while eosin hampers the presence of the bacteria.



Helicobacter pylori-infected gastric mucosa. Another examples: H&E preparations stained in 3 different pathology laboratories using the consecutive sections of the same sample. Hematoxylin stainability is considerably different from lab to lab.



Helicobacter pylori in the gastric biopsy samples. The detectability of *H. pylori* is dependent upon the hematoxylin staining period. a) 0.5 min, b) 1 min, c) 2 min, d) 4 min