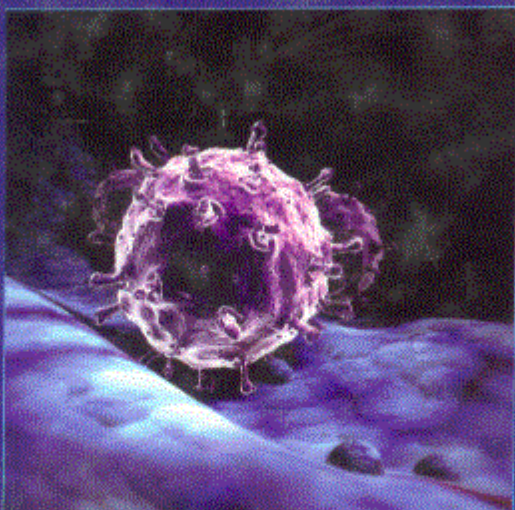




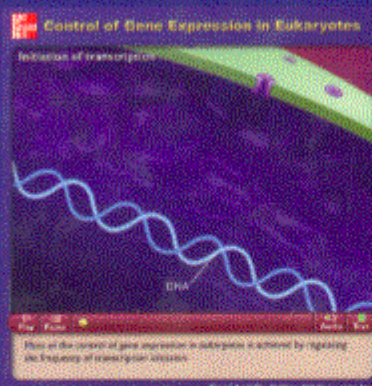
ABOUT THE COVER The cover illustration represents a fantasy view of avian influenza viruses approaching and making contact with the surface of an epithelial cell by means of the protein spikes on their envelopes. The adherence of a virus actually triggers its engulfment and entrance into the cell, which sets the stage for viral multiplication. Despite its tiny size, this virus packs a potentially lethal punch. Known as the H5N1 strain (a code used to distinguish the specific types of spikes it carries), it first emerged in Southeast Asia as the highly contagious bird flu, and it is currently spreading across the world, wreaking havoc on wild and domesticated birds. So resilient is this virus that it can survive for three months in bird droppings and for up to four days in water.

Thus far, the virus has targeted primarily bird populations—however, a few hundred cases have been transmitted from

birds to humans, and a small number appear to have been acquired during person-to-person contact. Influenza viruses are notorious for their capacity to mutate, and the greatest concern is that H5N1 will develop into a different strain that is much more contagious among human populations. There is evidence that this bird flu virus has already developed resistance to some of the traditional flu medications, posing another serious threat to containment.

Understanding the microbiology behind the virus has already been essential in monitoring its global spread. It will also ensure promptness in detection and diagnosis and, hopefully, in speeding the development of effective vaccines. Indeed, this emerging threat, which combines so many areas of study and perspectives, underscores the value and relevance of microbiology in everyday life.

MICROBIOLOGY COMES ALIVE! Available with this text are more than 100 3-D animations that harness the visual impact of microbiology processes in motion. Visit www.mhhe.com/talaro6 to review these dynamic animations!



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ISBN 978-0-07-299489-6
MHID 0-07-299489-4
Part of
ISBN 978-0-07-330540-0
MHID 0-07-330540-5



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