color figures

Mapping the Miasma

Tom Koch

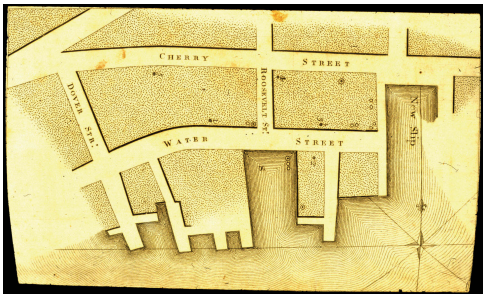

Figure 4. Seaman's 1798 map of yellow fever deaths in the Roosevelt Street basin area, New York. Fatalities are number sequentially. Near-fatal deaths are symbolized by an E, cases whose diagnosis was uncertain were symbolized by an "o". Source: the National Library of Medicine.

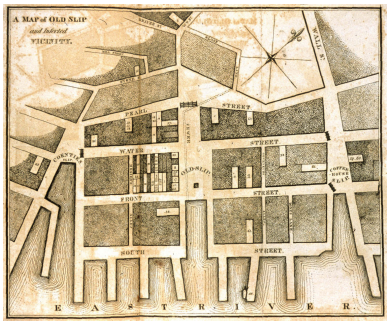

Figure 6. Pascalis's map of yellow fever cases near Old Slip, New York, 1819. Fatal cases are numbered sequentially by time of death. Source: the New York Academy of Medicine.

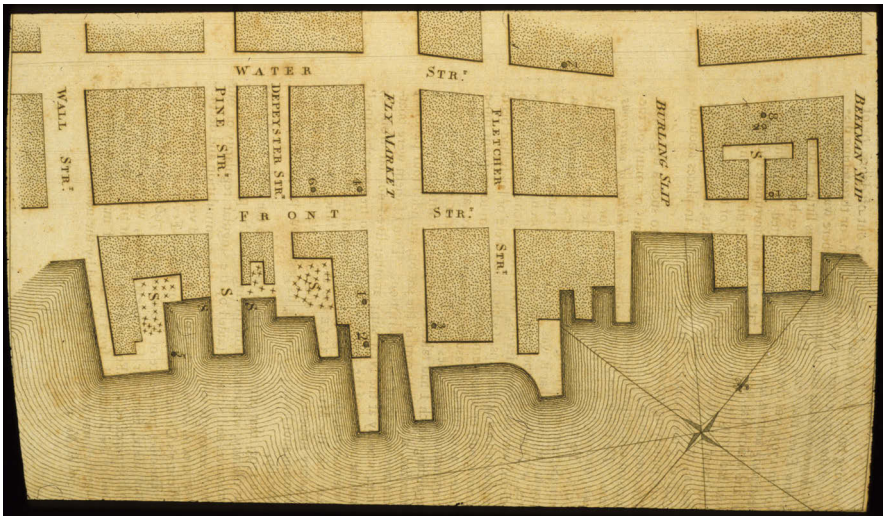

Figure 5. Seaman's map of the sources of the 1795 yellow fever outbreak in New York City. Fatal cases are numbered sequentially. An "S" symbolized "slips, puddles, filth, and garbage". An "x" was used to indicate "common convenience." Source, the National Library of Medicine.

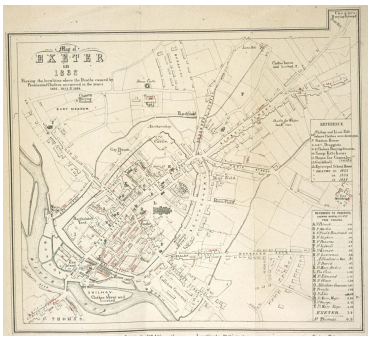

Figure 7. Map of cholera in Exeter, 1832, published by Shapter in 1849. The map includes a statistical table of deaths by parish population and incidence of disease by parish in the years 1832-4. Source: the New York Academy of Medicine.

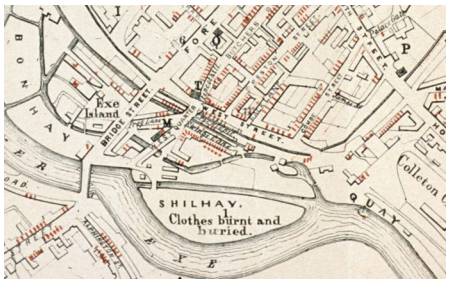

Figure 8.

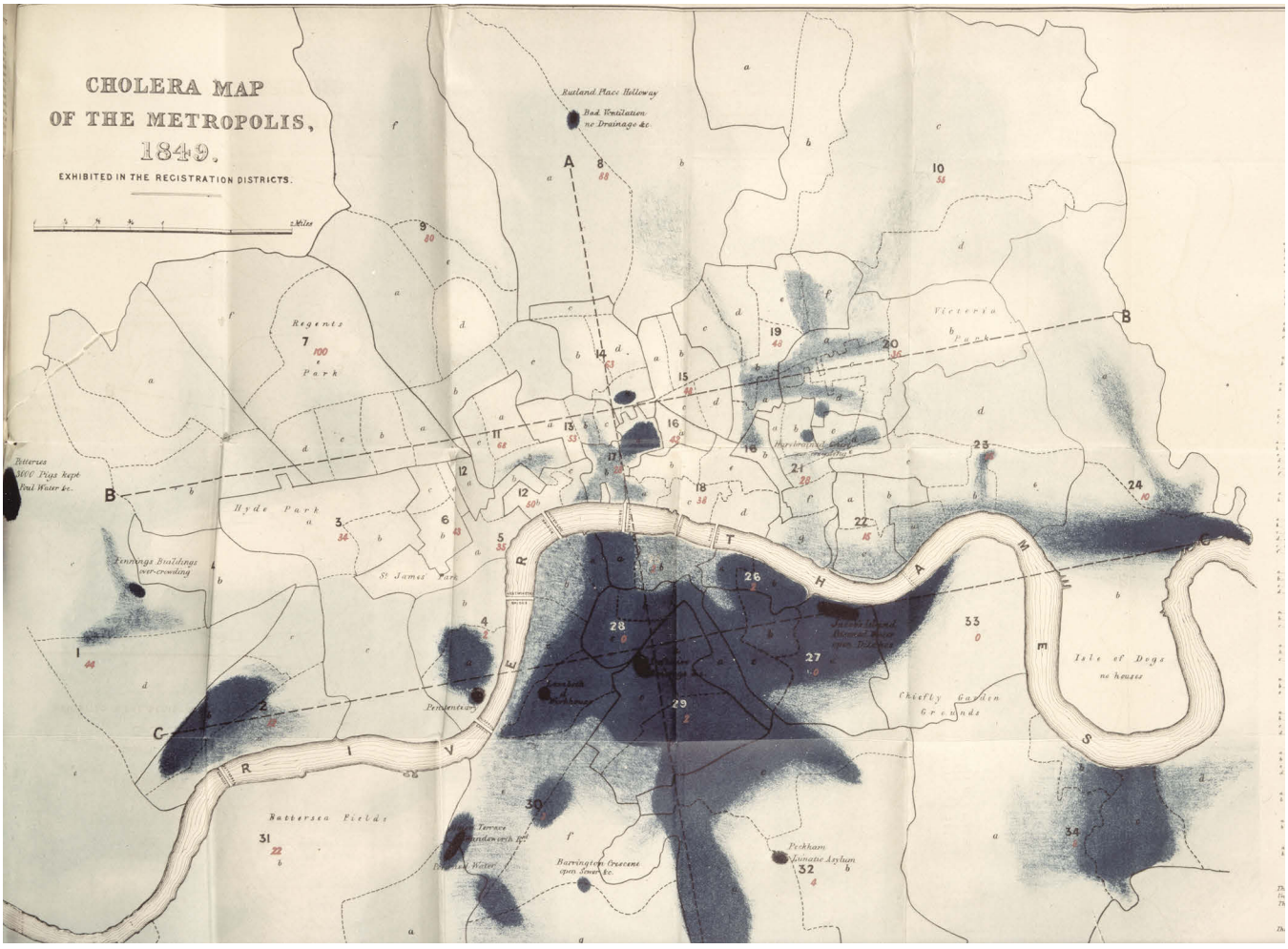

Figure 9. Grainger's density map of the 1849 cholera epidemic in London showing intensity by political district and sub-district. Source: the College of Physicians of Philadelphia Library, Philadelphia, PA.

Figure 11. Chadwick's map of Leeds in which increasing incidence of contagious disease is correlated graphically with declining income. Map courtesy of Wellcome Trust.

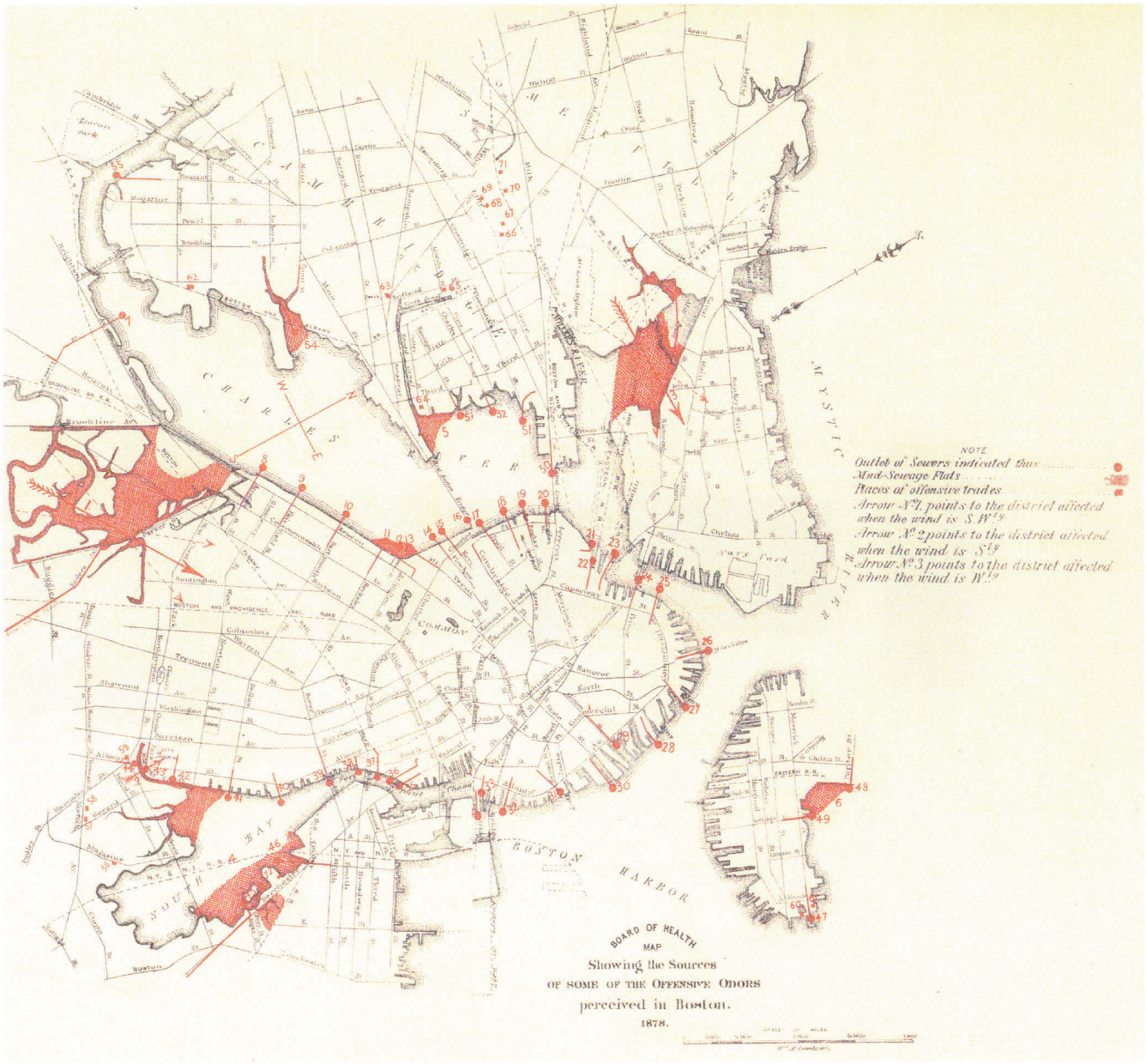

Figure 16. Board of Health Map of offensive odors in Boston, Massachusetts, 1878. Red hatching shows the location of mud flats and marshes, large dots of sewer gratings, from which foul odors were carried across the city by prevailing winds marked with separate arrows. Boston Board of Health, 1878. Source: City of Boston Archives. Source: City of Boston archives.

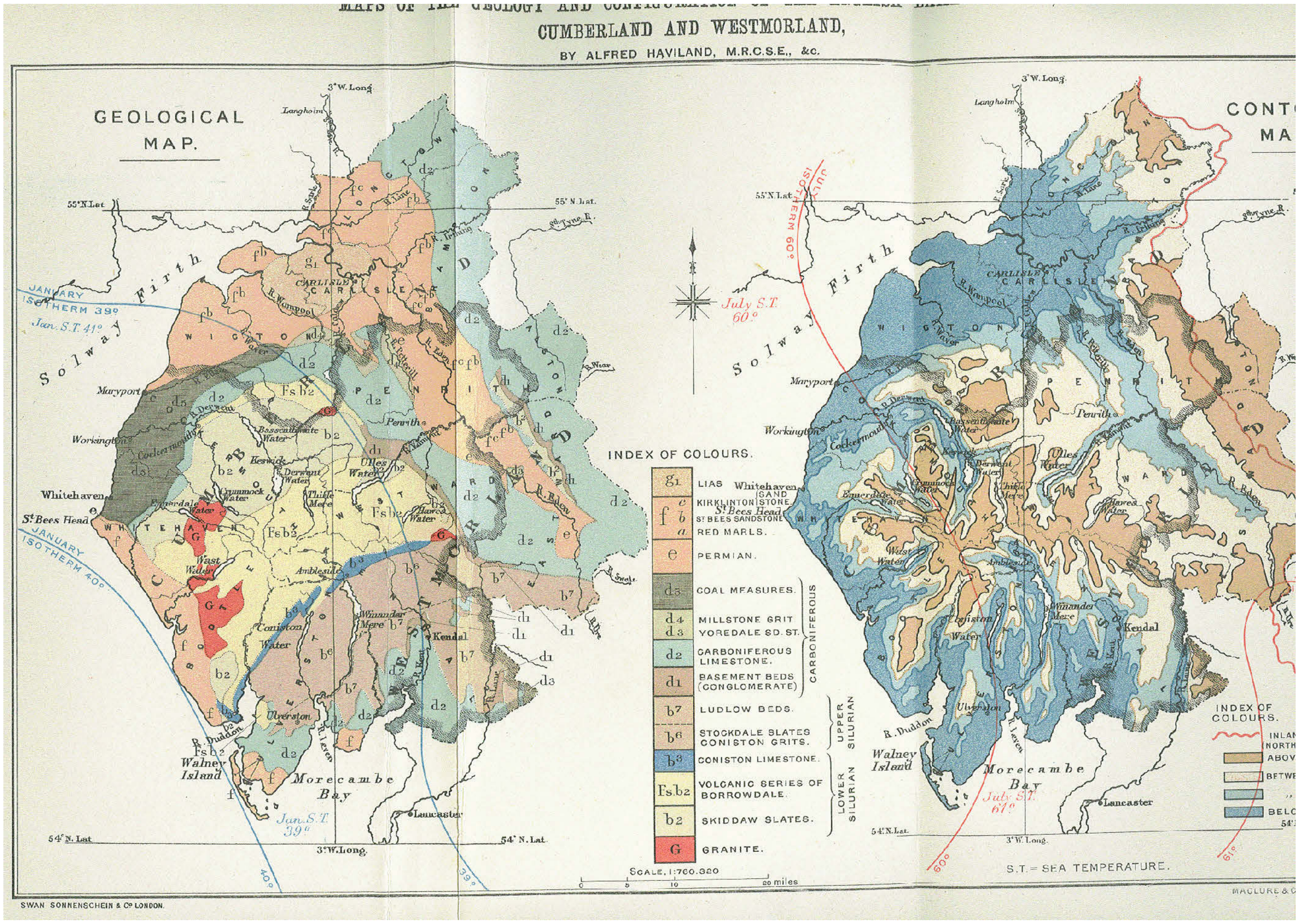

Figure 17. A. Haviland's map of geology of select British districts as part of an explanatory thesis in medical geography. Local soils and airs were used to explain patterns of greater and lesser disease incidence. Source: Rare Books and Special Collections: University of British Columbia.

Attention on Maps

Robert Lloyd

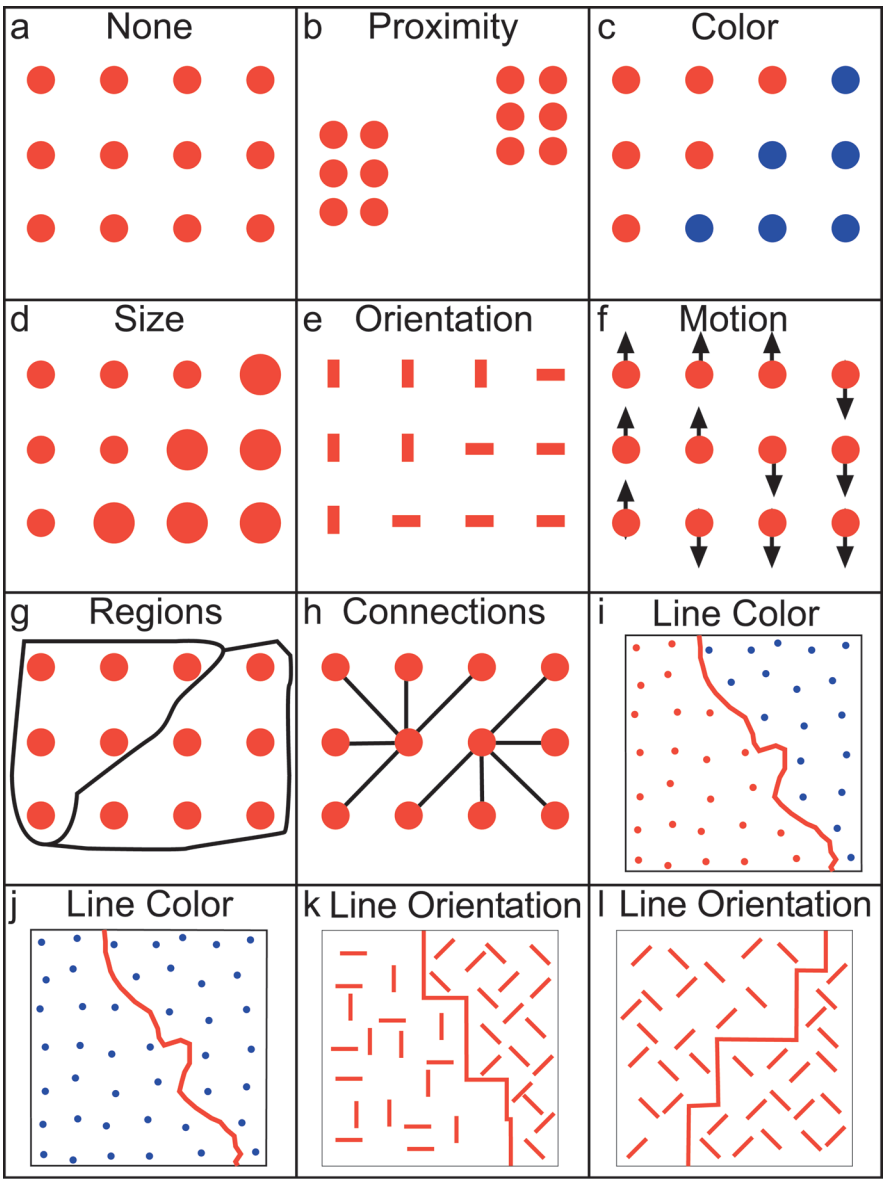

Figure 6. Visual grouping with map symbols. Simple examples show no differentiation (a), and two groups based on proximity (b), color (c), size (d), orientation (e), and motion (f). More complex examples show two groups based on common regions (g) and connections (h). Figure selection (i) and no figure selection (j) based on common line and texture color and figure selection (k) and no figure selection (l) based on common line and texture orientation.

Looking Closer : A Guide to Making Bird's-eye Views of National Park Service Cultural and Historical Sites

Tom Patterson

Figure 1. Johnstown Flood National Memorial, Pennsylvania. The South Fork Dam as it appeared when newly constructed (left), in a state of disrepair (middle), and breaching (right). Art by L. Kenneth Townsend.

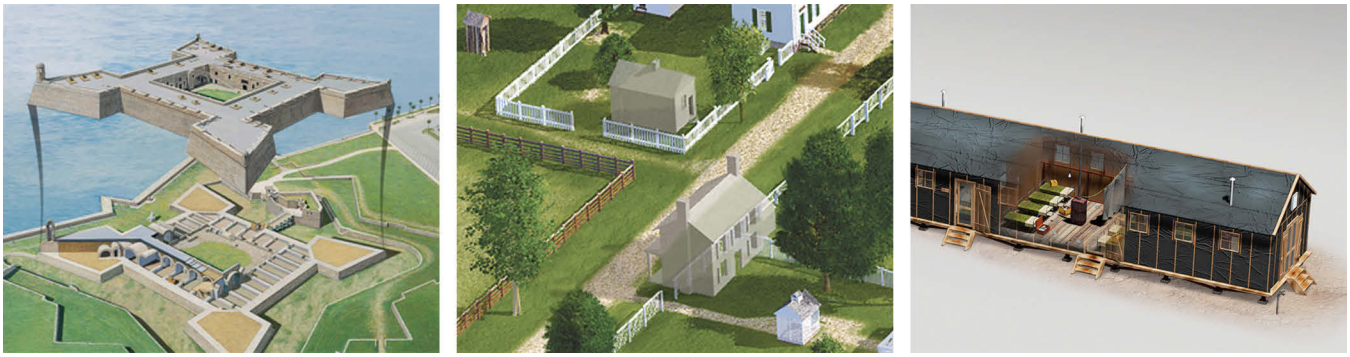

Figure 2. Building visualization. (left) The Castillo de San Marcos, St. Augustine, Florida, lifted off its foundation. (middle) Buildings at Appomattox Court House, Virginia, that no longer exist, shown in ghosted form. (right) The interior of a barracks at Manzanar, California, revealed in an "X-ray" or cutaway view. From left to right, art by L. Kenneth Townsend, Chris Casady, and Don Foley, respectively.

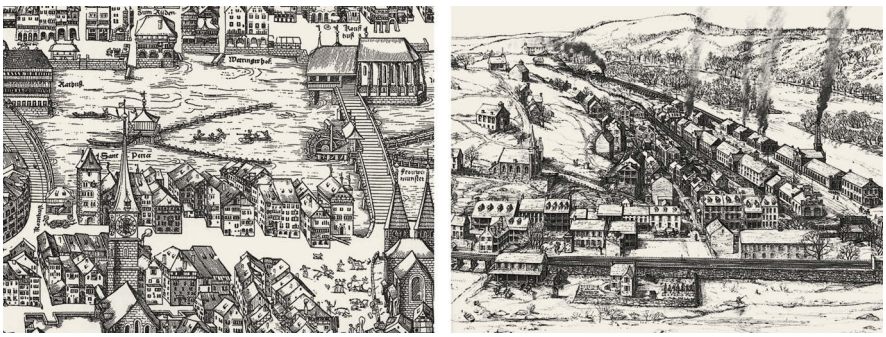

Figure 3. (left) A 1576 map of Zurich, Switzerland, by Jos Murer. (right) A map showing Harpers Ferry, West Virginia in 1860, drawn by Richard Schlect circa 1980. Zurich map source: Imhof, 1963.

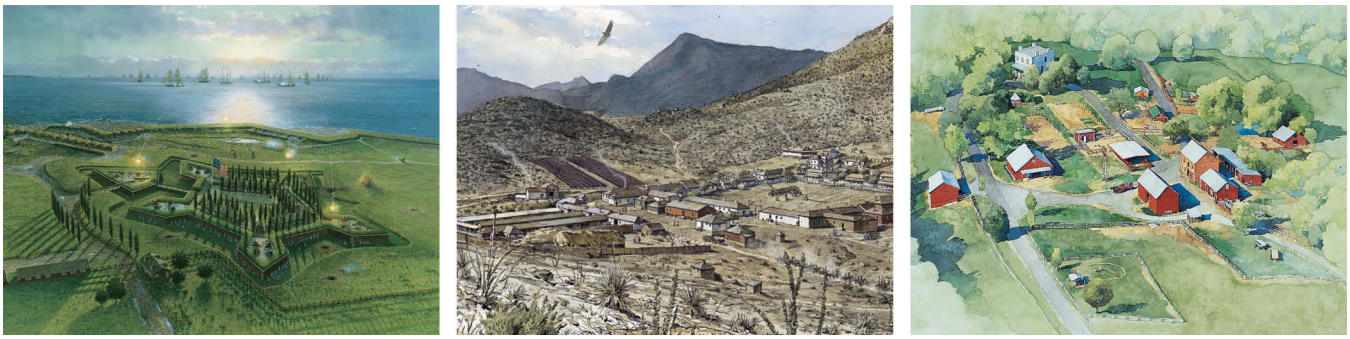

Figure 4. Some of the varying artistic styles found in illustrative NPS bird's-eye views. (left) Fort McHenry, Maryland, by L. Kenneth Townsend. (middle) Fort Bowie, Arizona, by Richard Schlect. (right) Oxon Hill Farm, Maryland, by Greg Harlin.

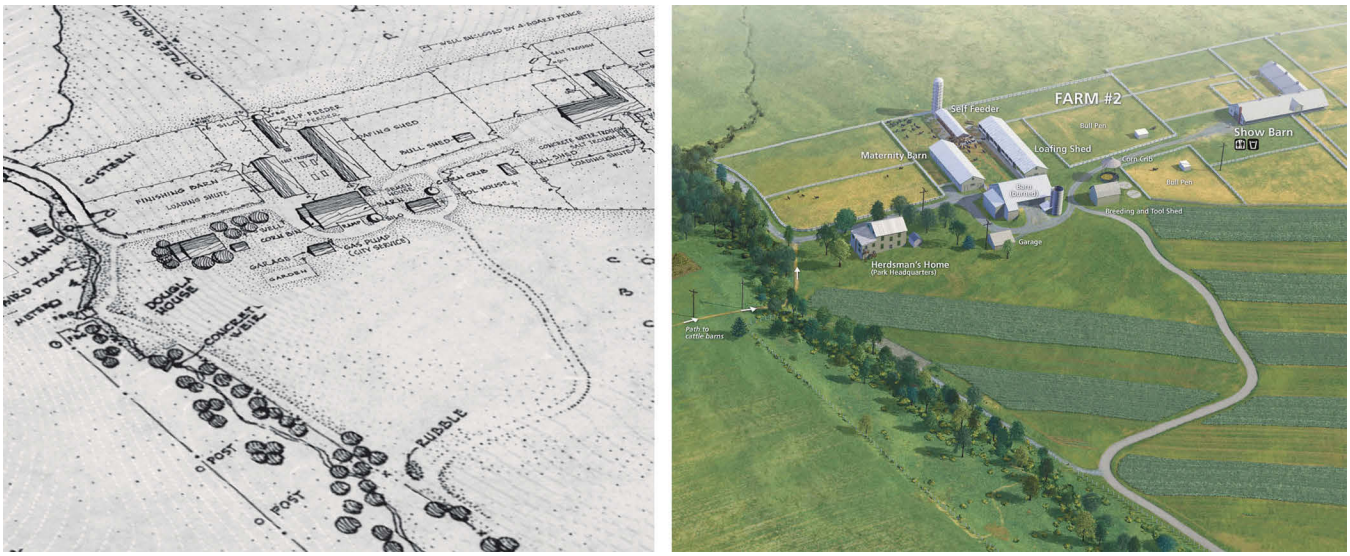

Figure 5. A portion of Eisenhower National Historic Site, Pennsylvania. (left) A plan map draped on a DEM and viewed obliquely in Bryce. The park approved this view as the basis for final production. (right) The final bird's-eye view. Art at right by Chris Casady.

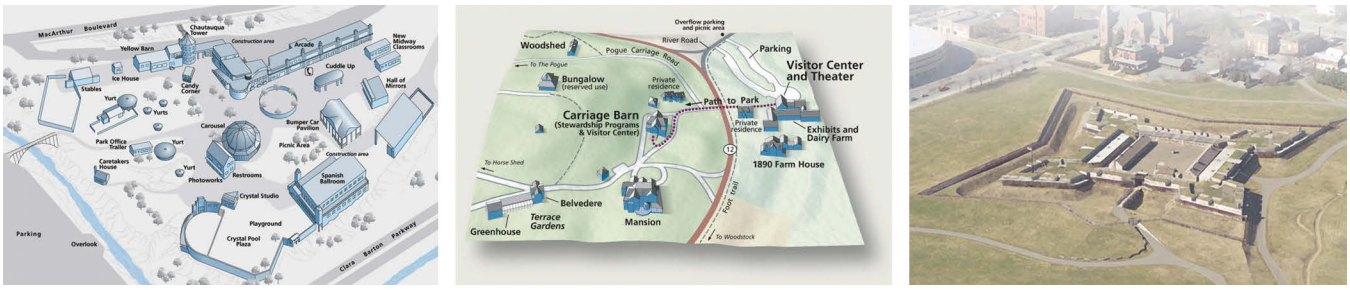

Figure 6. (left) Glen Echo, Maryland, was sketched in Adobe Illustrator using an older inked map as a guide. (middle) Marsh-Billings-Rockefeller National Historical Park, Vermont, was made from a 3D terrain base upon which buildings were drawn in 2D in Adobe Illustrator to appear three-dimensional. (right) Fort Stanwix National Monument, New York, derives from an oblique aerial photograph artistically filtered in Adobe Photoshop.

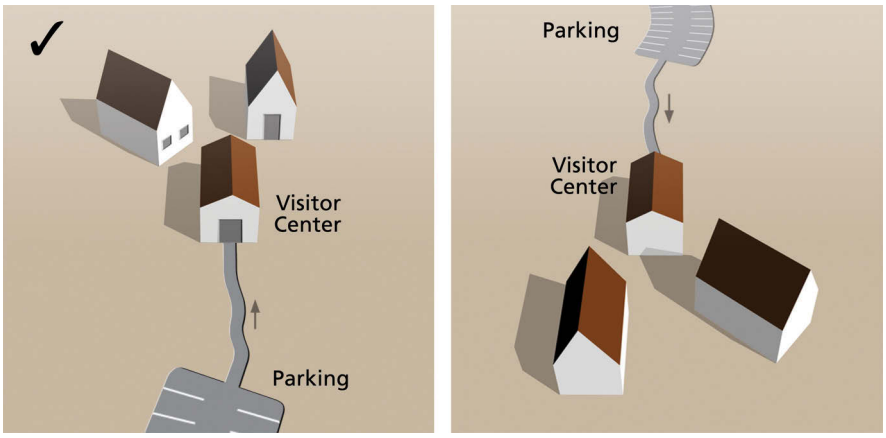

Figure 7. Direction of view. (left) A bird's-eye view should approximate, from a raised vantage point, what a visitor sees when entering a site. (right) A view from the opposing direction makes it harder for visitors to orient themselves because left and right, and, front and back, no longer corresponds to what they see on the ground.

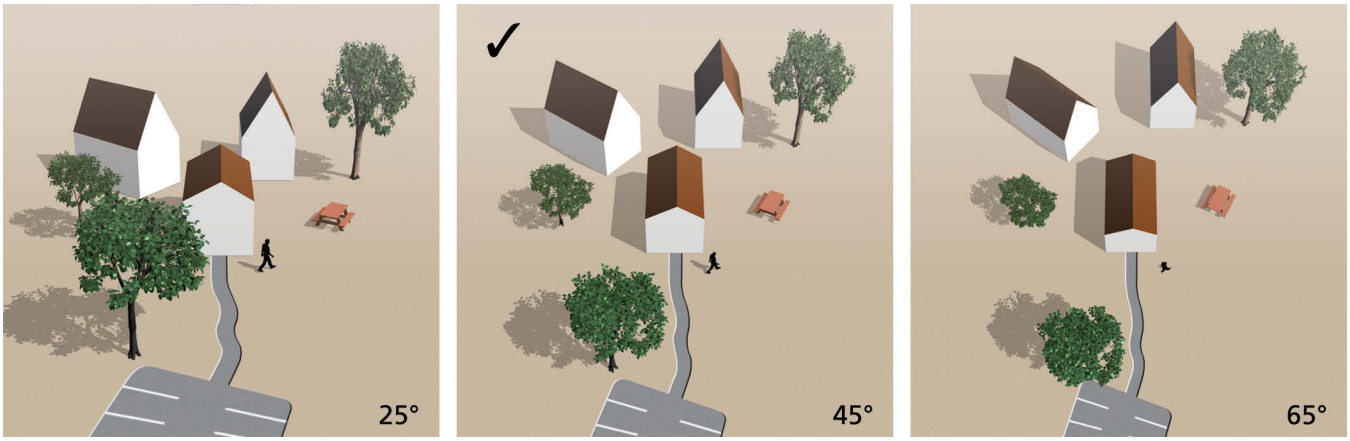

Figure 8. Viewing angle. (left) When the viewing angle is too low, tall objects in the foreground obscure lower objects in the background and spatial relationships are difficult to judge. (middle) An angle between 40 and 60 degrees generally works well. (right) Higher angles of view place too much emphasis on the tops of buildings and trees.

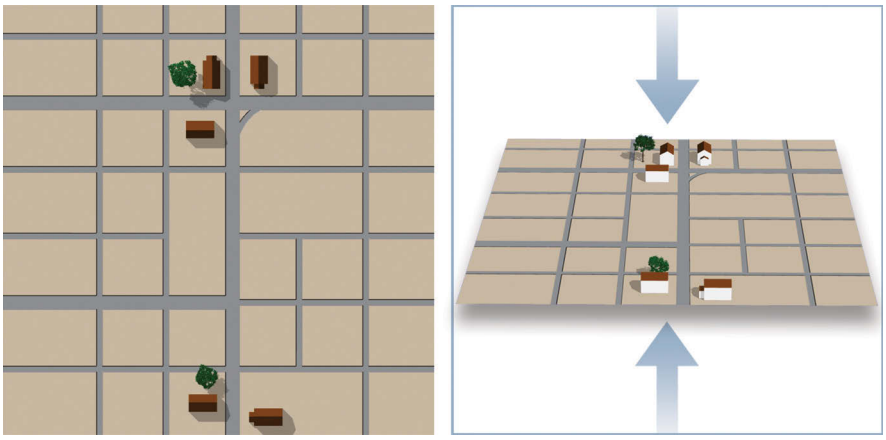

Figure 9. (left) A plan map. (right) Because of foreshortening a bird's-eye view needs less space to show the same area.

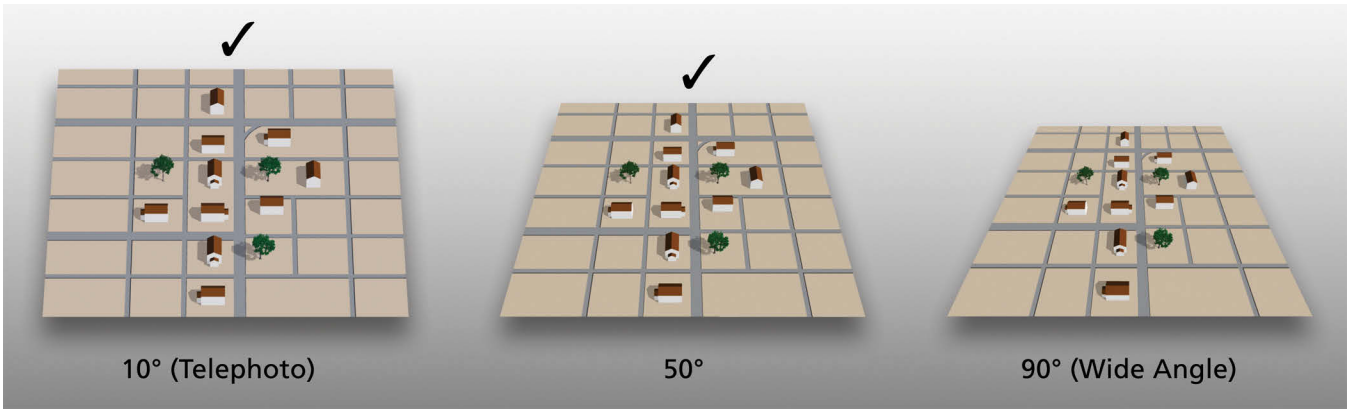

Figure 10. Adjusting the Field of View (FOV), which is a camera setting in 3D applications, controls the amount of perspective in a scene. From right to left the examples become increasingly orthogonal.

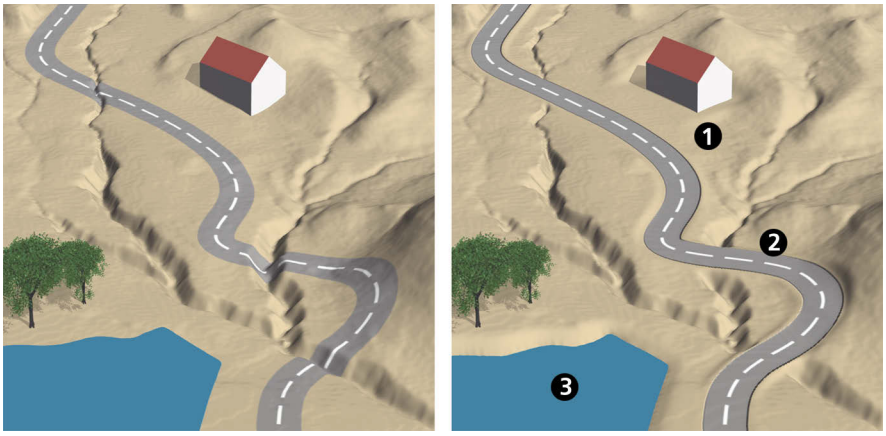

Figure 11. (left) A scene created from a DEM without supplemental modification. (right) The same scene with modifications, which include (1) building site leveling; (2) road cuts and fills; and, (3) pond lowering.

Figure 12. This scene shows the counter-clockwise flight of the Wright Flyer in 1908 over the Huffman Prairie Flying Field, Dayton, Ohio. The foundation of the scene is a custom DEM at 3-meter resolution derived from contour lines processed in ArcGIS software. A second hand-made DEM with a bumpy dark-green texture extrudes upwards through the surface of the first DEM to depict background trees. Art by Chris Casady.

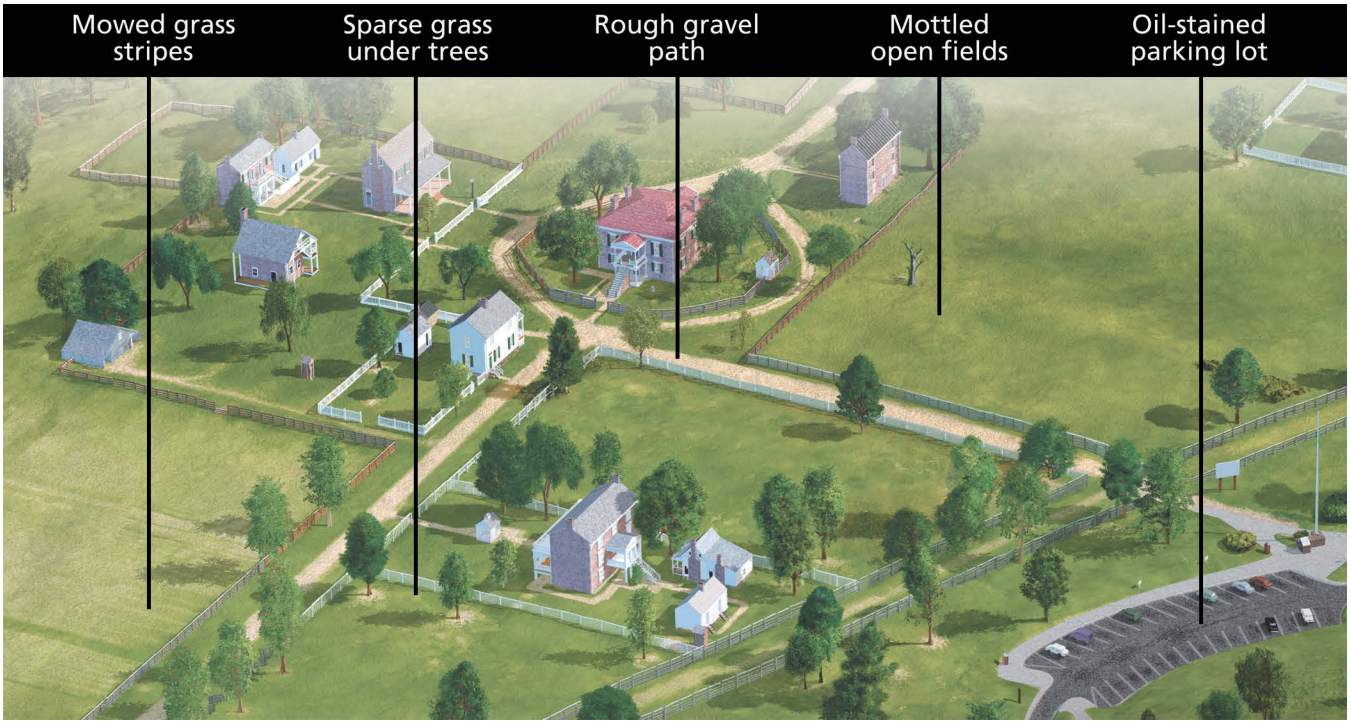

Figure 13. Custom landscape textures bring subtle realism to the bird's-eye view of Appomattox Court House, Virginia. Art by Chris Casady.

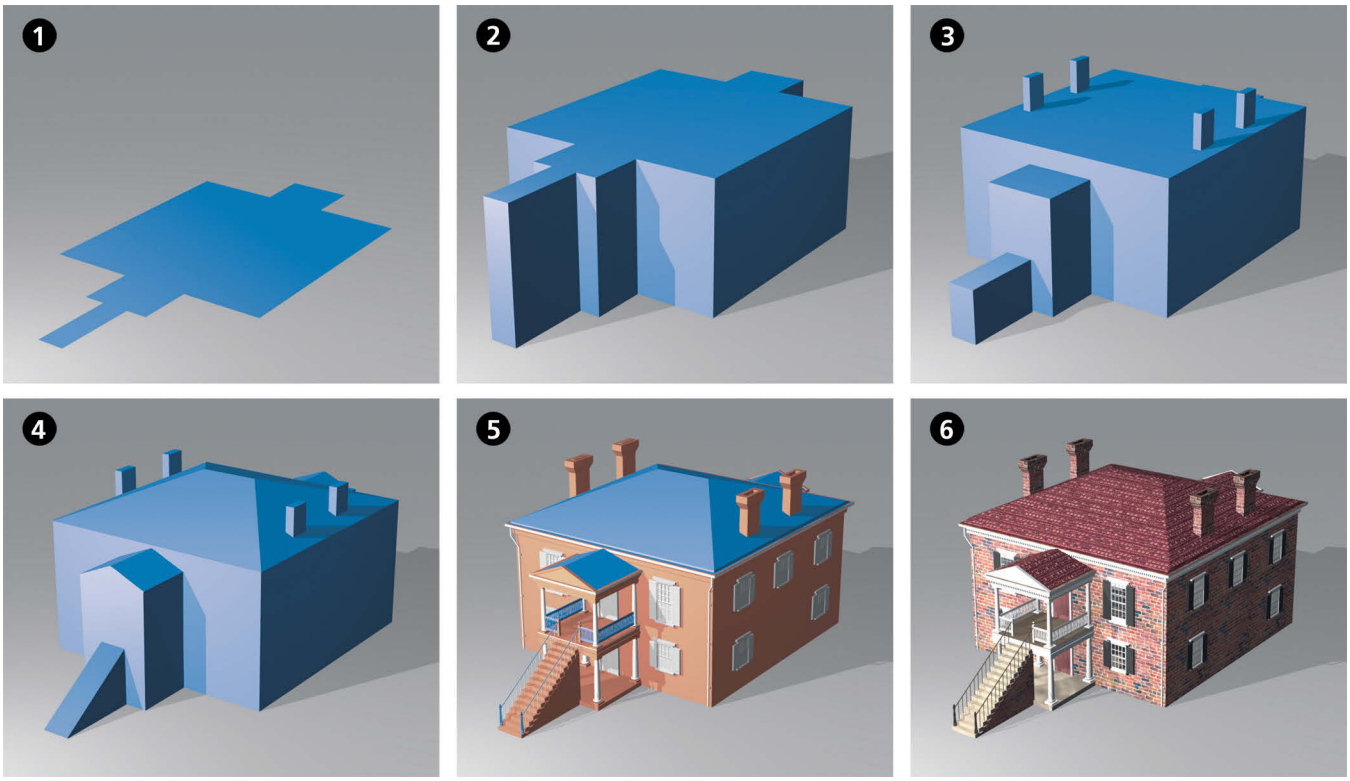

Figure 14. Starting with a simple footprint (1), building depiction becomes more realistic with each successive image. The most critical steps are going from a blocky "prismatic" model (3) to a model with angled roofs and flat-shaded detail (5). Building model by Chris Casady.

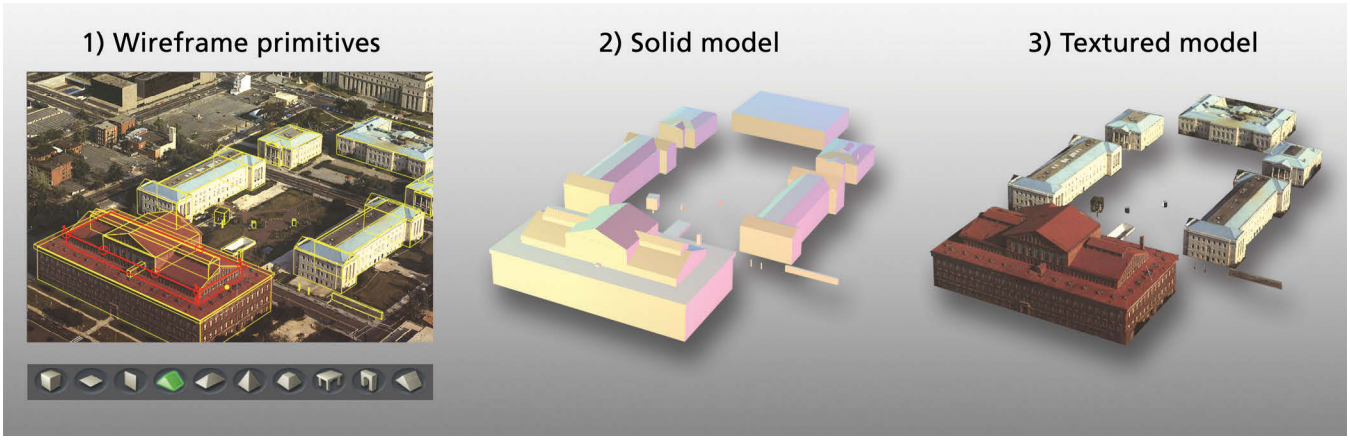

Figure 15. Canoma 1.0 software uses photogrammetric methods to create 3D models from oblique aerial and terrestrial photographs.

Figure 16. (left) Meeks Store is one of 55 buildings, scores of trees, and perhaps a mile of fence found in the bird's-eye view of Appomattox Court House National Historical Park, Virginia. (right) The exploded view of Meeks Store reveals that it is comprised of 308 separate objects. Building model by Chris Casady.

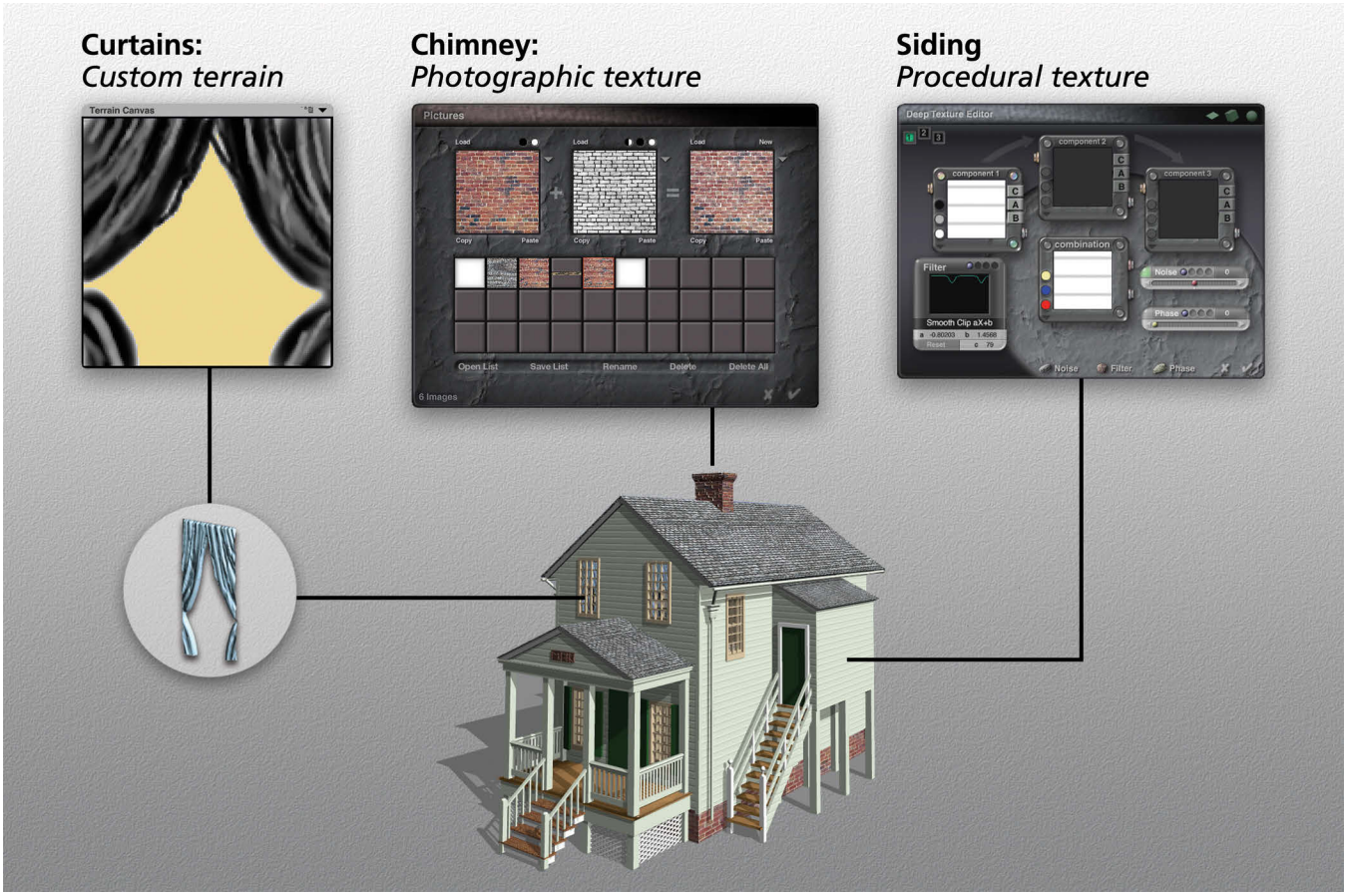

Figure 17. The custom textures applied to a model of Meeks Store. Building model by Chris Casady.

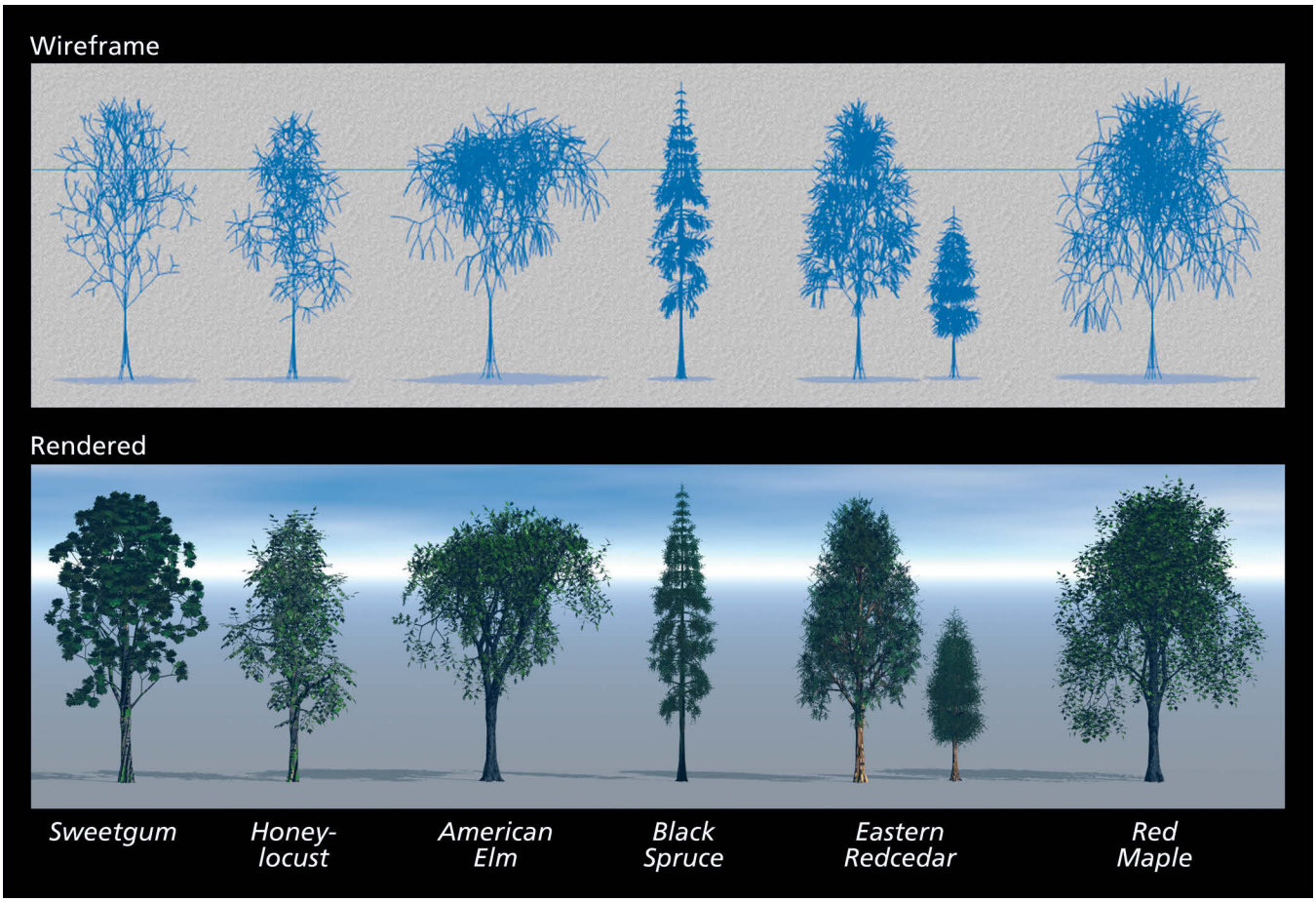

Figure 18. 3D tree models created in Bryce's Tree Lab.

Figure 19. Slimming down. Clones of a 2D tree picture and 3D tree model arranged from background (top) to foreground (bottom) in a perspective scene. The 2D tree becomes less visible in the foreground because of the steeper viewing angle and its lack of volume.

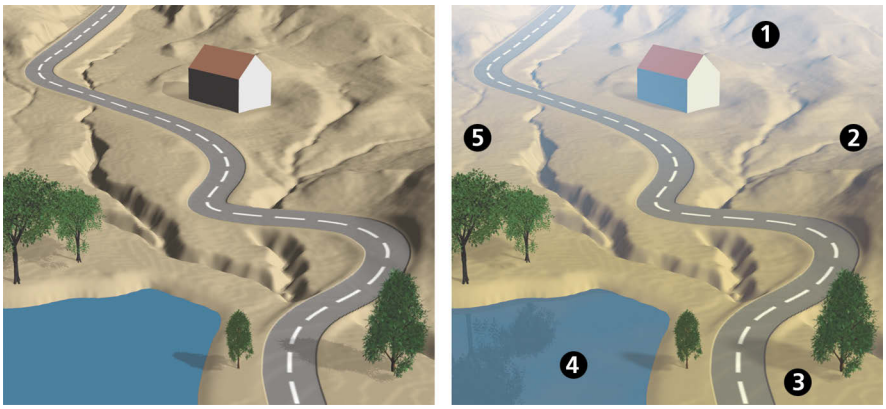

Figure 20. (left) A simple scene rendered without environmental special effects. (right) The same scene with exaggerated special effects, which include (1) background haze; (2) pale yellow illumination coming from the lower right; (3) soft cast shadows; (4) reflective water surface; and, (5) secondary blue light coming from the left. Environmental special effects come at a price; the scene on the left took 12 minutes to render compared to 2 hours and 18 minutes for the scene on the right.

Figure 21. (left) A bird's-eye view with cast shadows. (right) The same view without cast shadows.

Figure 22. Appomattox Court House, Virginia, without (left) and with (right) environmental effects. The effects include background haze (1) and foreground darkening (2). Art by Chris Casady.

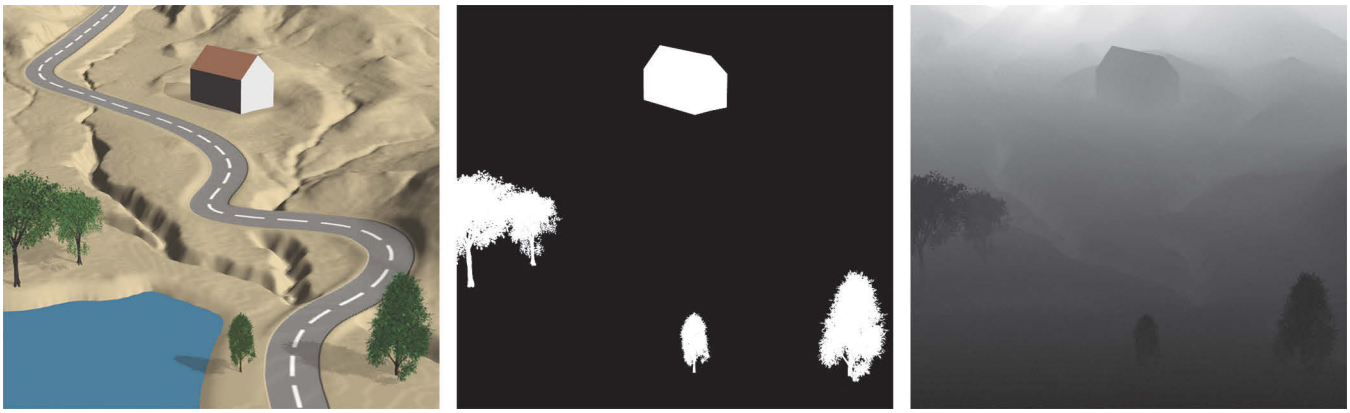

Figure 23. Multiple renders. (left) A simple scene rendered in 3D. (middle) A high-contrast object mask of the building and trees used for selective color edits. (right) A grayscale distance mask used for adding background haze.

Figure 24. A portion of the bird's-eye view for Eisenhower National Historic Site, Pennsylvania. Note that the view contains a north arrow but not a scale, which would be inappropriate because of the perspective view. Art by Chris Casady.

From Drawer to Digital: A Statewide Collaboration for Building Digital Historic Map Collections

Peter Michel, Linda Newman, Katherine Rankin, Vicki Toy-Smith and Glee Willis

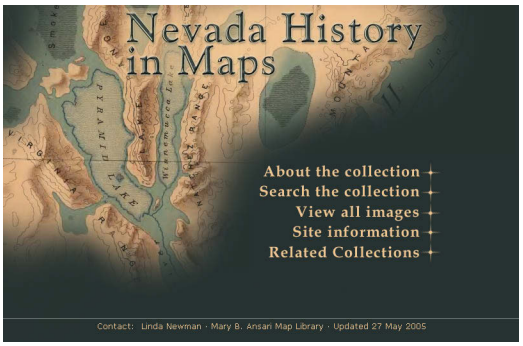

Figure 1. Opening page for UNR's digital historic map collection (http://www.delamare.unr.edu/maps/digitalcollections/nvhistory/).

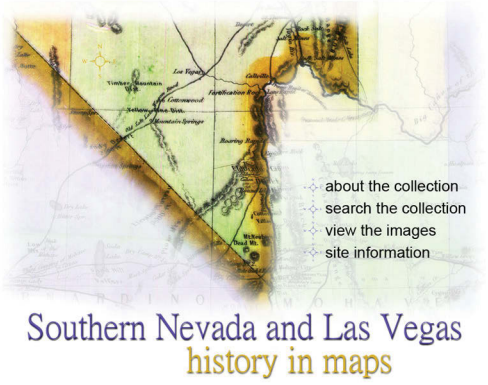

Figure 2. Opening page for UNLV's digital historic map collection (http://www.library.unlv.edu/maps).

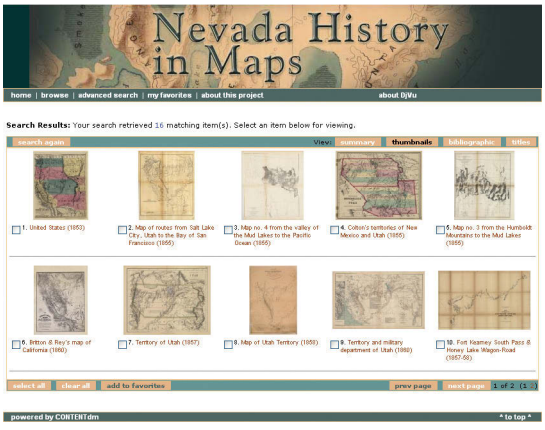

Figure 3. Thumbnails display for a CONTENTdm digital collection.

Figure 4. Example of the "View map image" field including multiple URLs for various formats for scanned historic map files in a CONTENTdm record.

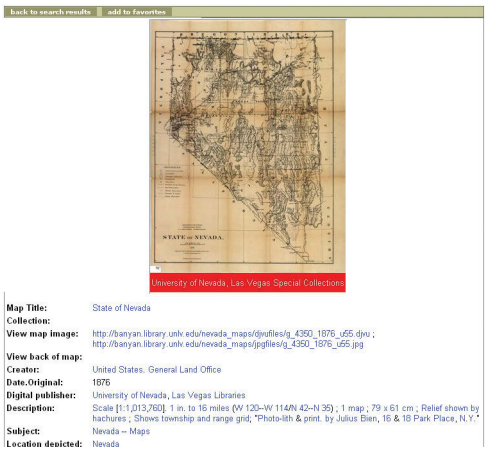

Figure 5. Sample record display from UNLV's digital collection.

Figure 7. UNR's search page for its digital historic maps collection.

CONTENTdm Field Properties

Click on a field name to edit the properties for that field:

Field Name	Dublin Core Mapping	Data Type	Large field	Searchable	Hidden	Controlled Vocabulary
Title	Title	Text	Yes	Yes	No	No
View map image	Identifier	Text	Yes	No	No	No
Creator	Creator	Text	Yes	Yes	No	No
Date Original	Date	Date	No	Yes	No	No
Electronic Publication Date	Date	Date	No	Yes	No	No
Original Publisher	Source	Text	No	No	No	No
Electronic Publisher	Publisher	Text	No	No	No	No
Description	Description	Text	Yes	Yes	No	No
Map Type	None	Text	No	Yes	Yes	Yes
Geographic code	None	Text	No	Yes	Yes	No
Subject	Subject	Text	Yes	Yes	No	No
ResourceType	Type	Text	No	No	No	No
Location Depicted	Coverage-Spatial	Text	Yes	Yes	No	No
Rights Management	Rights	Text	Yes	No	No	No
Contributing Institution	None	Text	Yes	Yes	No	No
Format	Format	Text	No	Yes	No	No
Digitization Specifications	None	Text	No	No	No	No
Contributors	Contributors	Text	No	Yes	Yes	No
Language	Language	Text	No	Yes	No	No
Relation	Relation	Text	Yes	Yes	No	No
Audience	None	Text	No	Yes	No	No

Figure 6. Field properties definition screen in CONTENTdm®.