

## CHAPTER 16

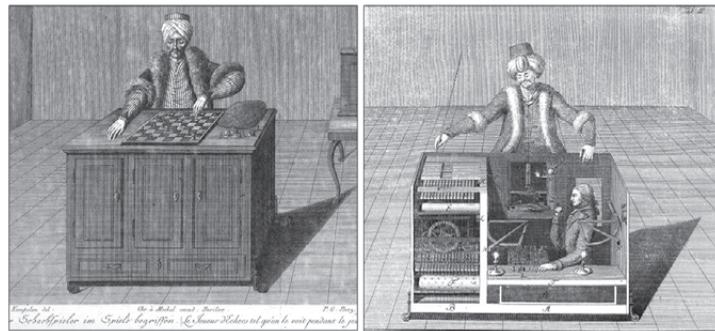
# AUTOMATION

**THE EXERCISES IN** this chapter will explore the automation features of the Adobe Photoshop Actions panel. They will compare tasks that can be automated in Photoshop with a task that mandates human collaboration with the application. You'll duplicate and save copies of a single file, and then you'll use Adobe Bridge to rename and view your work. The final result will be a set of files for the construction of a printed flipbook, which you'll explore further in Chapter 17, *Pagination and Printing*.

As you'll learn in this chapter, some aspects of image production can be automated. However, there are commands that require human decision-making that cannot be easily expressed in code. Using the Photoshop Actions panel, you'll create macros (called *actions*) to apply a set of commands to a single file or group of files. This programming alludes to the complexity of artificial intelligence: if only Photoshop were "smart" enough to edit images without our involvement, we could be on perpetual holiday.

# ARTIFICIAL ARTIFICIAL INTELLIGENCE

Although studies in artificial intelligence are constantly evolving, the field's history includes paranoia and hoaxes. The automated chess-playing machine, also known as *The Turk*, was a notable artificial intelligence hoax created by Wolfgang von Kempelen in the 18th century. Benjamin Franklin and Napoleon Bonaparte each played chess against *The Turk*, losing the game to what appeared to be a robotic chess-playing device. In reality, the game was orches-



**FIGURE 16.1** Karl Gottlieb von Windisch, copper engravings from the book *Briefe über den Schachspieler des Herrn von Kempelen, nebst drey Kupferstichen die diese berühmte Maschine vorstellen*, 1783.

**LINK** See Tim Gruchy's *Scout* at <http://youtu.be/WPM8u8i3xBE>.

**REFERENCE [1]** Patricia Marx, "Outsource Yourself," *The New Yorker*, [newyorker.com/reporting/2013/01/14/130114fa\\_fact\\_marx](http://newyorker.com/reporting/2013/01/14/130114fa_fact_marx).

trated from within the body of the table on which it was set—by a human (FIGURE 16.1).

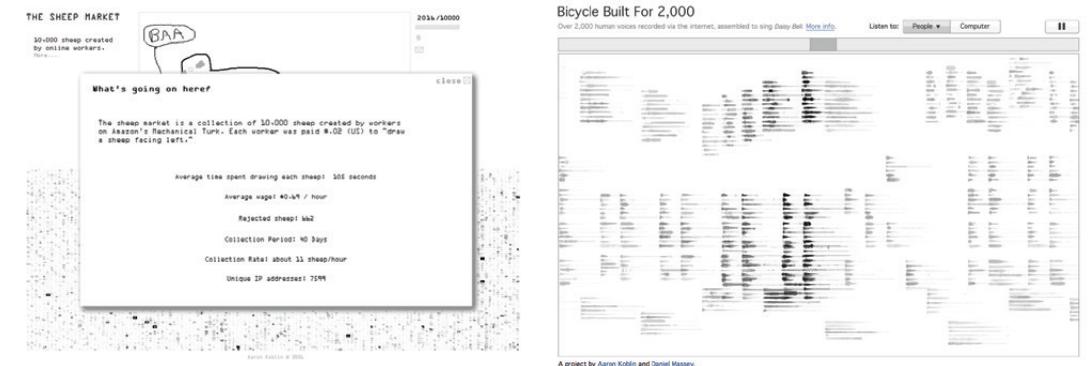
Fast-forward to November 2005, when Amazon.com launched the Mechanical Turk website ([mturk.com](http://mturk.com)), a virtual job board with the tagline, "Artificial artificial intelligence." The Mturk website alludes to Von Kem-

pelen's Turk hoax, whereby instead of humans moving chess pieces, humans are hired (usually for pennies) to complete tasks that are simple for humans but too complex for a computer to be programmed to fulfill. Anyone can sign up as a worker or employer to engage in this "crowdsourcing" phenomenon. Crowdsourcing is similar to outsourcing. While outsourcing implies hiring people from other geographical locations, the crowd is, similarly, a virtual mob of others. As an analogy to the Photoshop Actions panel, the types of jobs offered on Mturk.com belong in the category of commands that cannot be programmed as a Photoshop action. The difference between programmable actions or commands and those that require human interaction for proper completion is extremely complicated. Artists have created work responding to this complexity in the form of performance (see the work of the artist Stelarc), collage (see Constructivist collages such as El Lissitzky's *The Constructor*), video (such as Tim Gruchy's *Scout*), and web projects, as described below.

Websites facilitate Mturk.com's crowdsourcing initiative in a variety of ways. Patricia Marx offers a witty narration of her use of the Task Rabbit website, and mentions Get Friday, Catch Friday, Ask Sunday, and Tasks Everyday in "Outsource Yourself" [1].

Aaron Koblin uses the workforce available on Mturk.com to create collaborative multimedia projects (FIGURES 16.2 AND 16.3). For both *The Sheep Market*

(2006) and *Bicycle Built for Two Thousand* (2009), Koblin asked workers to contribute one small human action (a drawing of a sheep facing left and a voice recording that matches a few notes, respectively), for which the contributors were paid in pennies through Amazon's interface. These small actions (drawings and voice recordings) were then compiled into a larger project that required further editing by the artist.



**FIGURE 16.2** Aaron Koblin, *The Sheep Market*, 2006.

**FIGURE 16.3** Aaron Koblin and Daniel Massey, *Bicycle Built for Two Thousand*, 2009.

## READY, SET, ACTIONS!

While there are many ways to accomplish a single task in Photoshop, efficient practices include using key commands and, when appropriate, the Actions panel. There are three basic stages in developing Photoshop actions:

1. Record an action. Actions are created by recording a set of file manipulations in an open Photoshop document. The Actions panel is an important tool for production artists, as the repeated application of a set of commands (for instance, specific to file output) is a common task. Imagine preparing hundreds of high-resolution images for display on the web. This process would take hours if you approached the task one file at a time. Your workflow would be more efficient if instead you created an action that saved the series of repetitive commands and applied it to all images in the group. Once the action is recorded and saved, you can apply it to the entire group of images while you take a coffee break.
2. Stop recording the action. Many new students make the mistake of forgetting that the Actions panel is still recording, while they've moved on to other things. When you're recording an action, focus on the task at hand. Once you've finished the steps you'd like to include in the recording, click the Stop icon to stop and save the action.

3. Play the action. Photoshop actions can be played on a single, open file in Photoshop or on a selection of files or even a folder of files from Bridge.

In Chapter 17, *Pagination and Printing*, you'll learn to assemble your book using Adobe InDesign.

The following exercises demonstrate creating actions and the types of tasks that cannot be automated. The result is a short flipbook or faux stop-motion animation. Your flipbook will be only 10 pages in length for the purpose of keeping these exercises to a minimum time allotment. A longer book of approximately 60–80 pages would flip more easily.

## WHAT YOU'LL NEED

Download the following source materials to complete the exercises in this chapter:

- ✓ The **chapter16-start** folder from the Chapter 16 downloads area on the companion website includes the **chapter16-start** file housing a **Background** layer and **balloon-original** layer group.

Pay close attention to details as you create, save, and play your new action.

## WHAT YOU'LL MAKE

In the exercises in this chapter, you'll start with one Photoshop file and end up with a folder of TIFF images for printing as a flipbook. You'll use the Actions panel to facilitate a sequence of

programmable steps and modify each file by hand when you reach a point in the workflow that is not programmable (FIGURE 16.4). You'll use the folder of images created in this chapter to begin the exercises in Chapter 17.

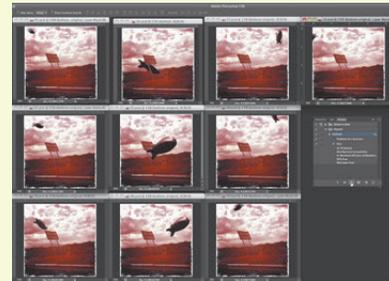


FIGURE 16.4 In these exercises, you'll create an action to duplicate files and then add unique modifications to each individual file.

## EXERCISE 1 CREATE AN ACTION

The Actions panel includes presets (none of which I've ever used) in the Default Actions folder. For the following exercises, you'll create a new folder (or "set") to store your flipbook actions.

1. Open **chapter16-start.psd** in Photoshop and display the Actions panel by choosing the Window menu > Actions.
2. Collapse the Default Actions set (FIGURE 16.5).
3. Click on the Create New Set icon in the bottom of the Actions panel, name it **flipbook**, and click the OK button (FIGURE 16.6). Notice the new set in the Actions panel.

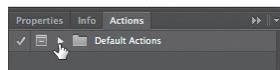


FIGURE 16.5 Expand and collapse sets in the Action panel.

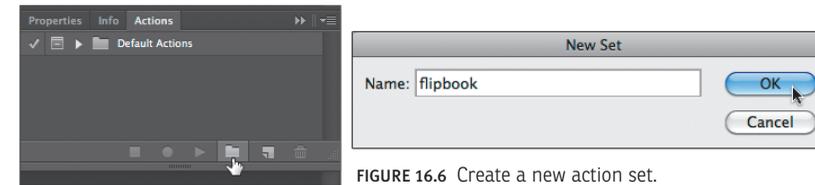


FIGURE 16.6 Create a new action set.

**WORKSPACE > ESSENTIALS**  
Open Photoshop and set the workspace to Essentials using the pull-down list in the Application bar or by choosing the Window menu > Workspace > Essentials.

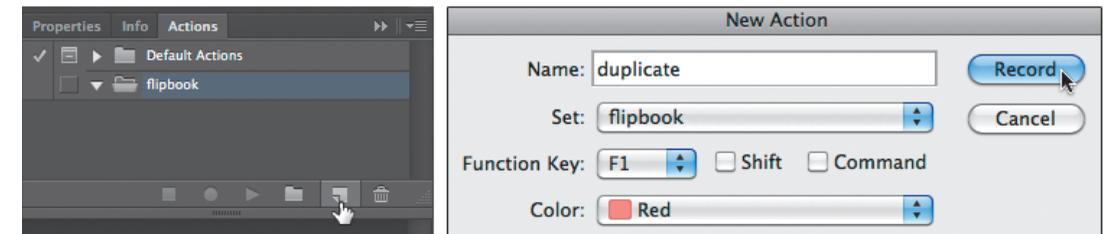
## SCREENCAST 16-1 REVIEW OF THE PEN TOOL, LAYER MASKS, AND ADJUSTMENT LAYERS

The file you'll use to develop your flipbook action has been somewhat prepared for you to save time and reduce redundancy in the text. View this chapter's screencast to see how I used the Pen tool and a layer mask to isolate the balloon and make the color modifications within the balloon-original layer group. This material is introduced in Section 3, *Digital Manipulation and Fair Use*.

All screencasts are available on the companion website, [www.digitalart-design.com](http://www.digitalart-design.com), or on the YouTube playlist, [www.youtube.com/playlist?list=PLAy6P5IoEjy2v3kZKct8spqJ50nLb2XQl](https://www.youtube.com/playlist?list=PLAy6P5IoEjy2v3kZKct8spqJ50nLb2XQl).

**KEY COMMAND** If the F1 key is unavailable (perhaps it's being used for something else on your system), you can choose any available function key. However, in Exercise 2, Step 4, you'll need to substitute pressing the key you assigned in lieu of F1.

4. Click on the Create New Action icon in the bottom of the Actions panel, name it **duplicate**, assign it the function key F1 and the color red, and click the Record button (FIGURE 16.7).



5. Notice that you're now recording! There is a red Recording icon in the bottom of the Actions panel that you probably didn't notice was gray before now (FIGURE 16.8).

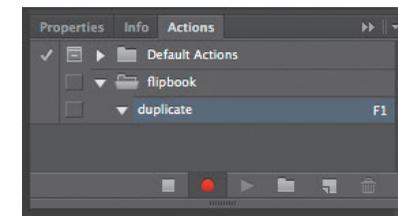


FIGURE 16.8 The Recording icon is red when you're recording your action.

FIGURE 16.7 When you create a new action, you'll exit the dialog box by clicking the Record button. Don't forget to stop recording when you're finished!

6. In the following mini-steps, you'll create or record or program (use whichever verb will help you remember to stop recording when you're done) your action:

- Choose the Image menu > Duplicate. Don't change the default name. (It will be the same name as your current file with an added dash and the word "copy.") Click the OK button.
- Choose the File menu > Save As and **do not rename the file**. Instead, click the Save As a Copy button (FIGURE 16.9). The name of the file will be **chapter16-start copy.psd**. Click the Save button.
- Click the Stop icon at the bottom of the Actions panel to stop recording your first action (FIGURE 16.10).

**WATCH OUT!** If you're new to creating Actions, you'll inevitably forget to stop recording when you first try doing this on your own. Be mindful of this common mistake.

FIGURE 16.9 If you use the Save command when you record an action, make sure that you don't change the name of the file.

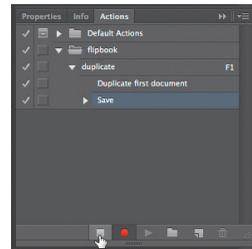
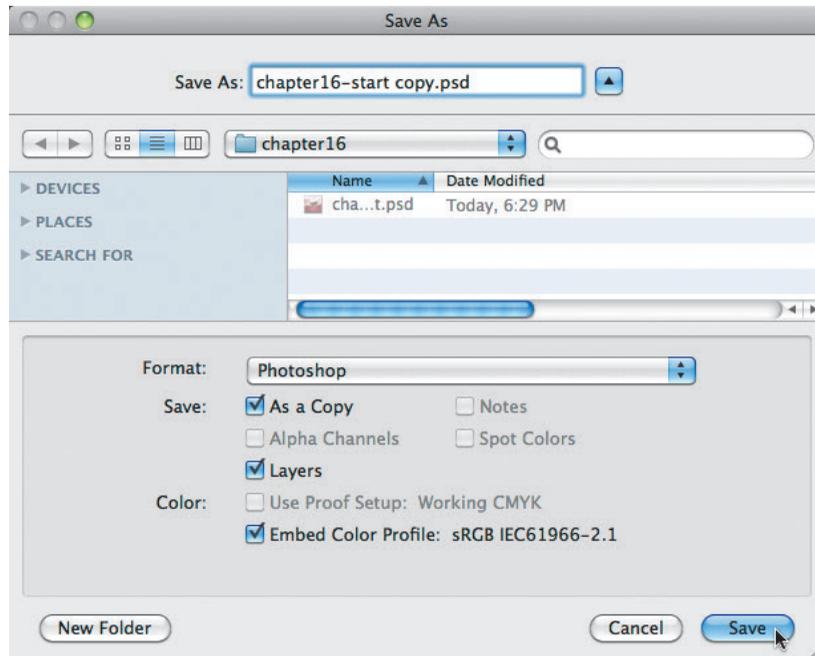


FIGURE 16.10 Click the Stop icon to finish making an action.

## EXERCISE 2 PLAY AN ACTION

You can play an action on a single open file or on a folder of files in what's called a "batch." For this exercise, you'll simply apply the Duplicate action repeatedly, using two methods on an open file. In Chapter 17, you'll learn to apply an action to a batch of files.

## SAVING WHILE CREATING AN ACTION

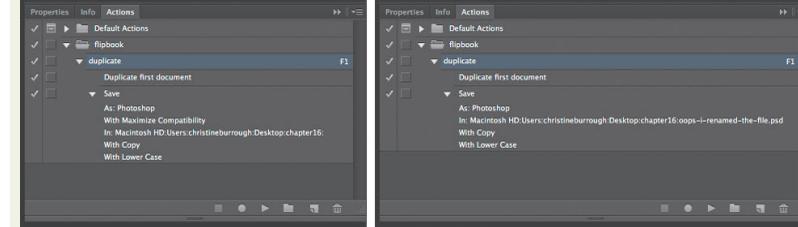


FIGURE 16.11 Expand the Action panel to see the file path if you've included the Save command in your action.

Be careful about applying the Save or Save As commands when you're recording a new action. Here are some tips to keep in mind:

- If you record the Save command (File menu > Save), then you'll overwrite the original file.
- If you don't change the file name, it's safe to record the Save As command (File menu > Save As).
- It's common to record the Save As command and change the location where the new files will be stored. (That is, choose File menu > Save As—don't change the file name, but save the file in a new folder.)
- If you add the Save As command to your action, you can always check the path in the recorded action once you're finished to see where the file is saved and whether you accidentally assigned a name to it (FIGURE 16.11). If you notice that the Save or Save As command includes a file name, delete and re-record this part of the action. Click the Trash icon in the bottom of the Actions panel to delete an action or a part of an action and click the Record icon to record within an action. (Don't forget to click the Stop icon when you're done!)

- Notice that you now have the original start file open, as well as a copy. Close the original start file to preserve it. (You may want to start anew.)
- With the **chapter16-start copy.psd** open and active, click once to activate the Duplicate action (it's probably already active since it's the last action you worked on); then click the Play icon in the bottom of the Actions panel (FIGURE 16.12).
- Within a second or two, a new tab is created for the duplicate document, named **chapter16-start copy 2.psd**.
- Now play that action again using a different method: instead of clicking the Play icon, press the F1 key on your keypad. Remember: Mouse clicks are less effective than keystrokes. Now you have a third tab for **chapter16-start copy 3.psd**.

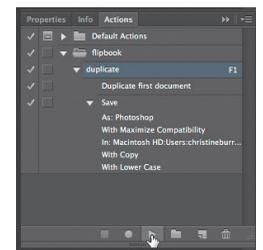


FIGURE 16.12 Play an action using the Play icon in the Actions panel.

**KEY COMMAND** If the F1 key was unavailable when you created your action in Exercise 1, Step 4, you may have assigned a different function key to this action. Press that key instead of F1 to play your action.

5. Play the action one more time using a different method before deciding which way you prefer to work. Click the top-right Actions pull-down menu and choose Button Mode to display each saved action as a clickable button (FIGURE 16.13). Yours will likely be at the bottom of the list of buttons—remember that you set it in red, which should make it easy to spot. Click the Duplicate button one time (FIGURE 16.14). Now you have a fourth tab for **chapter16-start copy 4.psd**.
6. Choose which work habit you find most effective and use the Duplicate action to create six more copies of the file. You'll have 10 copies of the file in total. (The last file will be named **chapter16-start copy 10.psd**.)



FIGURE 16.13 Enter Button Mode from the pull-down menu in the Actions panel.

FIGURE 16.14 Play an action by clicking its button.

### SAVING AND LOADING ACTIONS

The Action panel will store sets of actions that you create on your computer. But, if you're working in a shared computer lab or need to reinstall or reinstall Photoshop, you won't see your actions. It's wise to save your actions for later use, regardless

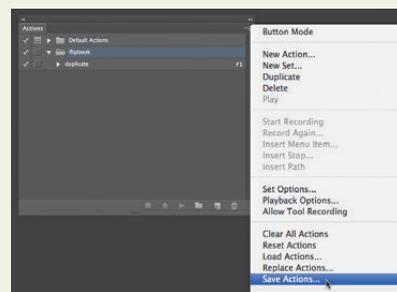


FIGURE 16.15 Save a set of actions from the pull-down menu in the top-right corner of the Actions panel.

where you're working. Saving and loading actions to the Actions panel is simple. Just click on the top-right pull-down menu in the Actions panel and choose Save Actions to save a set of actions as an .atn file (FIGURE 16.15). Load Actions is also visible in this menu—choose it to open (or "load") a saved action file (.atn) from your hard drive.

## EXERCISE 3 BATCH RENAME REVISITED

Do you remember renaming a set of files using Bridge from the exercises in Chapter 4, *Creating and Organizing Digital Photographs*? If not, review Chapter 4, Exercise 7, or watch Screencast 4-1 *Renaming Files in Bridge* to complete the next steps.

1. Close all of the open files in Photoshop—they're all saved to your chapter16 folder. Do this quickly by pressing Command (⌘)-W to close the window and ⌘-D to activate the Don't Save choice.
2. Open Bridge and navigate to the chapter16 folder where you saved these new images.
3. Select the 10 copies of the **chapter16-start.psd** file.
4. Choose the Tools menu > Batch Rename.
5. Rename the files in the same folder and set the new file name to simply show a two-digit sequence number (FIGURE 16.16). You may need to click the Minus icon to the right of the list of naming conventions to simplify the file name. Click the Rename button.

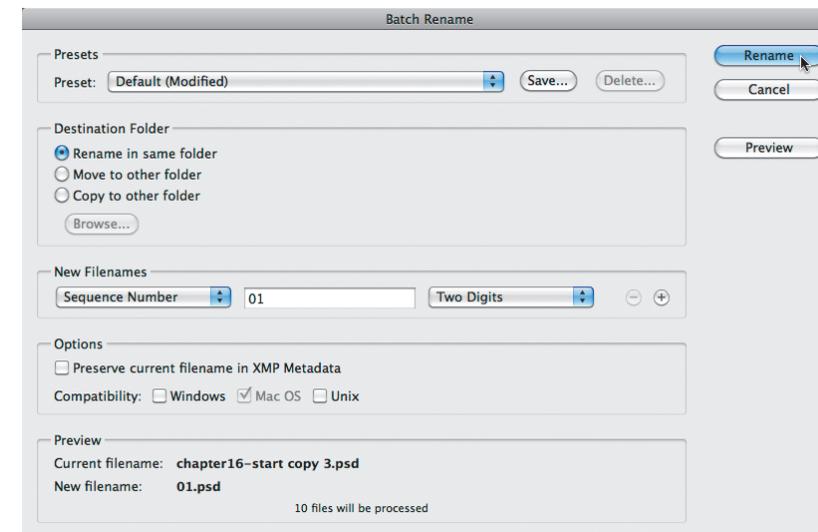


FIGURE 16.16 Use the Batch Rename dialog box to create a new file name with two-digit sequence numbers.

6. Open all 10 files (now named **01.psd**, **02.psd**, and so on, through **10.psd**) in Photoshop. If your setup is similar to mine, you'll be viewing all 10 selected files in Bridge upon renaming them. Simply double-clicking one

If you're working in a computer lab, your lab technician may not have set the preferences in Bridge such that the files open in Photoshop. You can use whatever technique is effective to open all 10 files in Photoshop.

of the selected files will prompt Bridge to open all 10 files in Photoshop. (Click OK through the warning message.)

## EXERCISE 4 FLOAT FILES IN WINDOWS

In theory, you could have simply selected Window menu > Tile without floating the images, but I've found that for some reason my files appeared out of order when I excluded the float step. Watch out for this in Step 5.

You'll begin this set of steps by setting up your workspace to see each document as if it were the frame of a movie (or in your case, a flipbook).

1. With all 10 files open in tabs, choose the Window menu > Arrange > Float All in Windows.
2. Choose the Window menu > Tile.
3. Activate any of the windows and reduce the zoom so you can see the entire composition in the space. (I ended up at 25%, but you may reduce to a lower or higher percentage depending on your screen resolution.)
4. Choose the Window menu > Match Zoom. Now all 10 documents are open, and you can clearly see each composition (FIGURE 16.17).

FIGURE 16.17 Use Match Zoom to see all the open documents at the same zoom-level when they're tiled in separate windows.



5. Look at the layout of your documents. Where is **01.psd** located and where is **10.psd** on the screen? Mine are in order if I view the documents as columns to be read from left to right. If yours are out of order, choose

the File menu > Close All Documents and then try this exercise again from Step 1. Alternatively, click and drag to rearrange the document locations so the order makes sense to you.

## EXERCISE 5 NONPROGRAMMABLE MODIFICATIONS

The final steps are to modify where the balloon appears in each composition. This is something that you can't program with an action, as it requires your eye and brain to perceive and sculpt the space.

1. Click on the document **01.psd** to activate it. Make sure that the **balloon-original** layer group is selected. Use the Move tool combined with Edit menu > Free Transform to move, scale, and rotate the balloon in whatever way you like. I started my flipbook with the balloon coming in from the left side of the document, high in the sky. You might also apply a layer mask to blend the balloon into the clouds.
2. Press **⌘-S** to save **01.psd** when you're finished modifying the composition.
3. Activate **02.psd** and manipulate the balloon on the composition to suggest movement. Save the file when you're done.
4. Repeat these manipulations in each of the 10 documents. You might add masks; reduce the opacity of the balloon; change the balloon's rotation, placement, or size; or add imagery or color to the documents (FIGURE 16.18).
5. Make sure that all of your files are saved, then choose File menu > Close All.

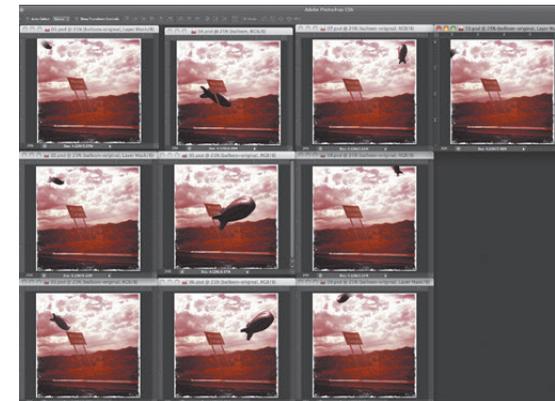


FIGURE 16.18 Modify each document separately to craft your story.

## EXERCISE 6

### WATCH THE SEQUENCE PLAY IN BRIDGE

While the final result will be a printed booklet, you can preview how your balloon “actor” moves across the “stage” (the background layer) using the Filmstrip workspace in Bridge.

1. If Bridge is still open, press **⌘-Tab** (Mac) to toggle to Bridge. Otherwise, open Adobe Bridge.
2. Navigate to the **chapter16** folder. Activate the Filmstrip workspace. Click the Filmstrip button in the Application Bar or choose the Window menu > Workspace > Filmstrip.
3. Select the files that will appear as pages 01.psd through 10.psd by clicking once on the 01.psd file, holding the Shift key, and clicking once on the 10.psd file. With all 10 files selected, press **⌘-5** to apply a five-star rating label to the files (FIGURE 16.19).
4. Deselect all files by pressing **⌘-⇧-A** or by choosing the Edit menu > Deselect All.
5. Display only the files with a five-star rating by clicking on the five star icons in the Filter panel (FIGURE 16.20).
6. Click once on the first file, **01.psd**. Press the Right Arrow key and hold it as Bridge displays each subsequent file in the Preview area.

**FILTER PANEL** The Filter panel lets you sort your view of files in Bridge. You can add the two remaining files to your Filtered View by clicking No Rating. Notice that two files have been assigned No Rating, and 10 files have a rating, or label, of five stars.

## LAB CHALLENGE

Develop an action to create a story that you plan to illustrate in a flipbook. Your story should be one that’s not physically possible in the analog world. Use digital manipulation tools to create a visual narrative that defies the rules of gravity, permanence, or time.

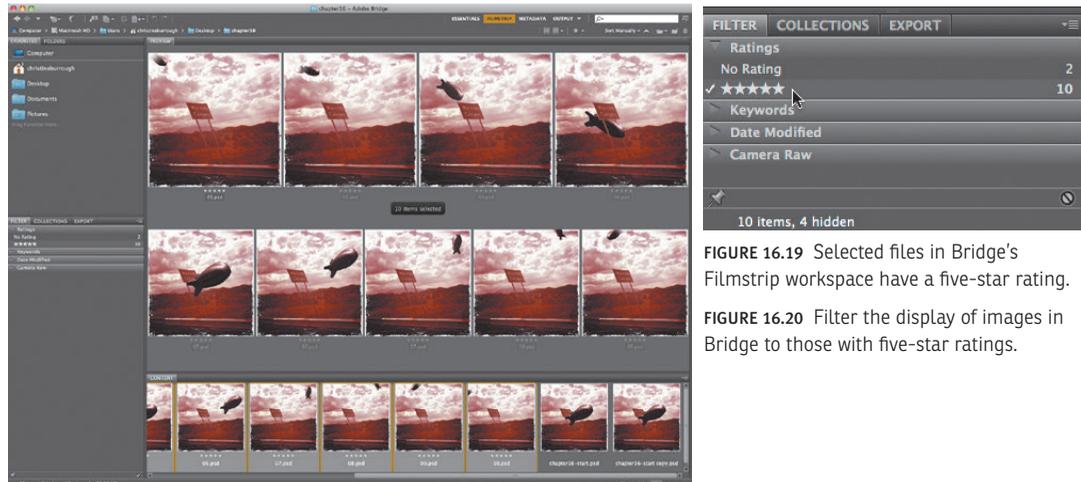


FIGURE 16.19 Selected files in Bridge’s Filmstrip workspace have a five-star rating.

FIGURE 16.20 Filter the display of images in Bridge to those with five-star ratings.