time means when the compiler is putting a program together. A runtime decision is like, when on vacation, choosing what sights to see depending on the weather and your mood at the moment, whereas a compile-time decision is more like adhering to a preset schedule regardless of the conditions.

Runtime decisions provide the flexibility to adjust to current circumstances. For example, consider allocating memory for an array. The traditional way is to declare an array. To declare an array in C++, you have to commit yourself to a particular array size. Thus, the array size is set when the program is compiled; it is a compile-time decision. Perhaps you think an array of 20 elements is sufficient 80% of the time, but that occasionally the program will need to handle 200 elements. To be safe, you use an array with 200 elements. This results in your program wasting memory most of the time it's used. OOP tries to make a program more flexible by delaying such decisions until runtime. That way, after the program is running, you can tell it you need only 20 elements one time or that you need 205 elements another time.

In short, you make the array size a runtime decision. To make this approach possible, the language has to allow you to create an array—or the equivalent—while the program runs. The C++ method, as you soon see, involves using the keyword new to request the correct amount of memory and using pointers to keep track of where the newly allocated memory is found.

The new strategy for handling stored data switches things around by treating the location as the named quantity and the value as a derived quantity. A special type of variable—the pointer—holds the address of a value. Thus, the name of the pointer represents the location. Applying the * operator, called the indirect value or the dereferencing operator, yields the value at the location. (Yes, this is the same * symbol used for multiplication; C++ uses the context to determine whether you mean multiplication or dereferencing.) Suppose, for example, that manly is a pointer. Then, manly represents an address, and