

National
Policy *and*
Resource
Center *on*
Women
and Aging

Your Memory: What Changes and What You Can Do About It

by Margie Lachman, Ph.D.

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From the Author

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Established in 1995, the National Policy and Resource Center on Women and Aging (NPRCWA) works to improve the quality of women's lives as they age, through policy analysis, research, and the production of educational materials for women across the country.

The Center's work focuses on the needs of midlife and older women in the areas of health, economic security, caregiving, housing, and the prevention of crime and violence.

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I. The Importance of Memory

***“Memory is the
treasury and guardian
of all things.”***
Cicero, 55 B.C.

Throughout the ages, memory has played a central role in human life. Memory touches almost everything we do and is involved in many of our daily activities. We want to remember people’s names, where we put things, when to pay our bills, when to take our medicine, when to acknowledge our friends’ and family birthdays—the list goes on and on. While everyone, regardless of age, experiences memory problems from time to time, such problems are of particular concern to us as we grow older. Many older adults are concerned about their ability to remember important things in daily life.

Recently, approximately 15,000 Americans 55 and older were surveyed. Three out of four (74%) reported they had some difficulty remembering things during the past year (Cutler & Grams, 1988). Importantly, in most cases, just because you forget certain things *does not* mean that you have a serious problem. Many adults become needlessly worried and upset when they experience some forgetfulness. Since there is good evidence that

anxiety alone can interfere with memory, keeping a positive attitude about remembering can be very important and beneficial. Those who are optimistic about being able to improve their memory or compensate for their memory problems are usually the ones who are able to remember best.

Unfortunately, many people hold negative attitudes about memory, and these negative expectations often turn into reality. If you expect to forget something, you often do! This is because when you are preoccupied about forgetting, you don't focus on the necessary skills needed to remember information. Suppose someone gave you her phone number, and you couldn't write it down. If you tell yourself that you can't possibly remember it, you will not use your mind to concentrate on the numbers; instead you divert your attention to the negative thoughts about forgetting. It's hard to do both at the same time—to tell yourself you won't remember *and* to remember the numbers. If you begin with a positive

attitude, concentrate on the numbers, and repeat them over and over again, you will be much more likely to be successful in remembering them.

Given the role of negative attitudes in the ability to remember things, it is important to find ways to confront and challenge these self-defeating beliefs. Being more positive about your ability to remember things can be the first step toward a stronger and more effective memory. As we get older we also become wiser because of the great experience we have in life. Wisdom involves not only the mental ability to see different sides of an issue, but also the capacity to draw on past experience to make an informed judgment or decide on a course of action. We can use this acquired wisdom to help us deal with memory losses.

This publication looks at how memory works, what happens as we age, and some things we can do to help improve our memory skills.

II. Some Facts about Memory and Aging

There are many facets of memory and each may change in different ways with aging. For example, we use our memory:

- to recall information, such as our address;
- to remember things that we did in the past, such as where we put something; and
- to remind us of things that we need to do in the future, such as to take medicine or go to an appointment.

Sometimes we need to remember something that happened or something we learned a long time ago. These events or facts are stored in *long-term memory*. Other times we must recall things that we learned only recently—within a few moments or the same day. These are stored in *short-term memory*. Our common experiences are well supported by research. For example, the ability to remember things from short-term memory declines with age, more so than does the ability to remember things from long term memory. However, some people may experience

problems with long term memory as well. For example, they may not remember someone's name after not seeing them in several years.

Working memory is another aspect of memory that appears to decline in later life. This kind of memory involves doing two things at once. For instance, it is used when you are trying to remember one bit of information while, at the same time, using or processing another bit of information. This seems to create a drain or an overload on our memory capabilities. An example is when you try to subtract large numbers that require "borrowing" in your head. You need to hold the numbers in your memory at the same time you are making the computations. You may forget the numbers you were working with while you focus on the subtraction.

Scientists who study memory have many ideas or hunches about what leads to declines in memory in later life. While there is no single, proven explanation, here are some current theories:

1. **Slowing down.** As we get older there is a change in the central nervous system which leads us to become slower at processing information. Because of this change, we have more difficulty remembering especially if we need to do it quickly.

2. **Accumulated Clutter.** Some people have likened the aging mind to a cluttered filing cabinet—the older we get the more information we have stored. Thus, we have trouble remembering because we have more files to search through.

3. **Distractions.** Another explanation involves the inability to ignore excess information. As we get older we may have trouble blocking out irrelevant facts, or we may get distracted by unrelated information. Thus, we may not remember important information

because there is interference from information that we do not need to remember.

4. Disuse. According to this view, our mental functioning is not as good at older ages because we are not challenged to use our memories enough in later life. For example, we may have stopped working or may no longer be taking any classes.

5. Motivation. We do better at the things that are important to us. If we really want to remember something, we usually find a way. We remember the things that are meaningful but not something trivial, such as the details of a movie.

6. Physiological Changes. There are many theories about how changes in the brain contribute to memory problems. There is new research which looks at neurotransmitters and changes in different regions of the brain. This new area of research is beginning to shed light on the physiological changes that may

contribute to memory problems associated with normal aging. Of course, there are also changes in the brain that are due to diseases, such as Alzheimer's, or to strokes.

Each of these theories about what contributes to memory problems in later life are probably correct to some extent. It is likely that memory changes in later life are due to some combination of influences. It may be some time before we know just how memory changes and what leads to these changes. However, there are things we can do *right now* to improve our memories at any age. Here are some steps to take to help you improve your memory skills.

III. Strategies and Techniques for Memory Improvement

Step 1: *Recognize your attitudes about memory and understand how negative attitudes can be counter-productive.*

Let's consider your attitudes about memory. Do you have an optimistic or pessimistic view of memory? Take this quiz to find out:

The Memory Controllability Inventory (MCI)

(Based on Lachman et al., 1995)

Circle *True* or *False* to each of the following statements:

- | | | |
|---|---|--|
| T | F | 1. There's not much I can do to keep my memory from going downhill. |
| T | F | 2. No matter how much I use my memory, it is bound to get worse as I get older. |
| T | F | 3. Alzheimer's disease is a common problem among the elderly. |
| T | F | 4. As I get older, I'll need to rely on others to remember things for me. |
| T | F | 5. I'm not good at remembering things. |
| T | F | 6. When I forget something, I am apt to think I have Alzheimer's disease. |
| T | F | 7. I can't remember things even if I want to. |
| T | F | 8. When it comes to memory, there is no way I can make up for the losses that come with age. |
| T | F | 9. If I want to have a good memory, I need to have others to help me remember. |

Count the Number of “*Trues*” You Circled...

**If You Had
This # of *Trues*....**

**Your Attitude About
Memory Is....**

0

Exceptionally Positive

1-3

Mildly Negative

4-6

Moderately Negative

7-9

Very Negative

Is your attitude about memory positive or negative? A negative attitude about memory has four main components:

1. You believe your memory ability is poor.
2. You believe there is nothing you can do to improve or maintain your memory.
3. You believe you will need to depend on others to remember for you.
4. You believe that Alzheimer’s disease is more common than it is, and that memory problems in later life are irreversible.

Older adults are more likely than those who are younger to believe that they cannot do anything to improve their memories and to believe factors that affect memory performance are

beyond their control. This kind of thinking is pessimistic and harmful, because you may believe that there isn't anything you can do to improve your memory.

The attitude you have does make a difference! Often when you forget something, it's because you have not done what is necessary to remember. When we are younger, we do not notice and it does not bother us. But when we get older, we often see it as a sign of aging. As you work on skills to improve your memory, you should feel more positive about your capabilities and more in control of your memory functions.

Step 2: *Identify your common memory problems and what might be causing them.*

What are some of the memory problems that you are experiencing? Figure 1 shows the results of a survey of older adults in which they named things they would like to improve about their memories. See if you have similar concerns:

Figure 1.

The Top Ten Things We Would Like to Remember Better:

1. People's names
2. Household items
3. Important dates
4. Meetings and appointments
5. Phone numbers
6. Paying bills
7. Medicine
8. Errands
9. Grocery items
10. Feed pets/plants

(Based on Leirer et al, 1990)

These are all important things we may wish to remember better. Being aware of what causes forgetting is an important step to improving one's memory. Research shows that many different things affect how well we remember, *at any age*. Think about these reasons, and which may help explain some of your memory problems:

1. *Emotional factors, such as anxiety or depression.* People who feel anxious have trouble remembering,

and so do people who are depressed. When we're upset, it is hard to concentrate. Instead of memory problems, we may be having problems concentrating. For example, some people have many memory problems right after becoming a new parent. They have a lot of things to keep track of because of the new baby, and the anxiety of being a new parent can affect memory capabilities. In some mothers, post-partum depression can lead to problems remembering important things.

2. *Sensory losses: vision and hearing.* Another problem occurs when you are not getting all of the relevant information you need to remember something. You may not see or hear something completely, and therefore you won't remember it accurately. If the information did not register to begin with, one cannot be expected to remember it.

3. *Distraction.* Sometimes we do not remember something because we were *distracted* at the time it occurred. If we were going into a room to get

something and suddenly the phone rings, we may forget what we went into the room to get. Maybe our memory isn't really to blame. We just simply got interrupted when we were in the middle of our thought.

4. *Fatigue.* When we are *tired*, we cannot pay attention to things as well as we can when we are rested. If we are sleepy when we are trying to remember something, our memory will not be as sharp as if we were well-rested and alert.

5. *Medication.* Some *medications* may cause drowsiness and may cause our mental functioning to slow down. Even some common cold medicines can cause drowsiness.

6. *The importance of what we are trying to remember.* It is harder to remember things that are not important to us, or that are not meaningful. When we are motivated to remember something, we are more likely to do so.

7. *Having many things to remember.*
We cannot expect that our memories will be perfect all of the time! If we have a lot of things we are trying to remember all at once, it will be more difficult.

Being aware of the things that affect our memory is important. If we understand the conditions influencing when we remember or forget, we can take some steps to improve our memory.

Step 3: *Improving your memory by exercising your skills*

Many people wish they had a better memory but do not realize that there are things they can do to make it better. Or perhaps they do not know what specific actions to try. When we forget things, we need to ask ourselves if we really tried to remember.

Remembering takes effort. Think of your memory the way you think of your muscles. If you are going to be in good physical shape, you have to make the effort by exercising.

Likewise, if we want to keep our memory in shape, we need to exercise it.

We can stretch our memory the way we stretch our muscles, but it takes time and effort to achieve results. We don't get into shape overnight, but we can "shape up" if we take the time to do so and put in the effort. The same thing happens with our memories. There is no magic pill or cure. Let us look at some examples from our everyday experiences:

Example 1: You stop to get directions to go someplace in your car. You make a couple of turns, and then you no longer know where to go. It may be that you heard what the person giving you the directions was saying, but that you were not really listening.

Much of the time our memories work like this—we are on automatic pilot. We need to become more aware of the times when we need to consciously try to remember—to shift from

“automatic pilot” into “manual” or from “mindlessness” to “mindfulness” (Langer, 1989).

Example 2: Again, think of driving your car. You are driving along. You find yourself someplace, but you do not remember how you got there. The route was familiar to you, and you got where you were going. However, you do not really remember making the turns. You were on “automatic pilot.”

The same thing happens with memory. If we are on automatic pilot and are not paying attention, we are not as likely to remember as we will when we pay attention to what we want to remember. We can actually *learn* to remember, rather than just passively hoping that we will remember. First, we need to attend to the information so that it gets into “the system.” Then, we need to process it if we want to remember it. If we do nothing to process the information, it is unlikely that we will remember it. In other words, to have a “healthy memory,” we need to exercise our memory skills, just as we need to exercise our muscles to have a healthy body.

The importance of attention. Paying attention takes effort, and of course, there are times when your attention cannot be sustained. But when you *can* pay attention, that will make a big difference in what you remember.

Think of when you are rushing out the door and you forget to take something. You are rushed, and your mind is racing ahead. In times like these, you need to slow down, to pause. One needs to pay attention to what one is doing.

Another example of a situation many people face is not knowing whether they turned off the oven when they left the house. If you pause and pay attention to the act of turning it off, you will register that in your memory. In this way you make an automatic act conscious—as if you are shifting from “automatic pilot” to “manual” control.

The role of processing information. Information comes in through our senses, and enters our *short-term* memory. We need to attend to the information, and concentrate on it; otherwise, it will slip from our minds.

We also need to actively process the information so it will have a better chance of being retained in our *long-term* memory. Actively processing information may involve:

- elaborating on the information;
- relating it to what you know; and
- rehearsing it by repeating it several times to yourself.

The more deeply you process the information, the more likely that you will retain it and be able to recall it later on.

Examples from daily life.

Here are some examples of applying these steps.

Phone numbers. Most of us have had the experience of remembering a phone number for a short period of time because we paid attention to the number when the operator gave it to us. Because we concentrated on what the operator was saying, we remembered the number long enough to dial it. However, if we want to be able to remember the phone number

later on that day, or several days later, we need to do something more in order to remember it.

Names. Many people complain that they often forget someone's name right after they have been introduced. Most of the time, we hear the name and it goes in one ear and out the other! We do not remember it because we actually did not learn it in the first place. We cannot expect to remember a new name after hearing it only once, unless we do something to actively put it in long-term "storage." We must *process* the information. In other words, we need to repeat it, write it down, or make an association with the name. Then we may be better able to recall it because we actually have *learned* the information.

Movie Plots. Have you ever seen a great movie, and the next day when you want to tell your friend about it, you cannot remember much of what happened? That happens to many of us. It would be inefficient for the brain to remember *everything*, so it only remembers the things we *actively*

“tell” it to remember. If you really want to remember a movie plot, you usually need to review the details soon after seeing it. You can write down your thoughts, or discuss your impressions with a friend right after the movie ends. Then you will find that you are better able to recall details in the future. To further guarantee remembering, you can choose to focus on the things you are really interested in.

There are some specific exercises you can do to help sharpen your memory:

Exercise 1: Visualization

One important skill to assist in remembering is visualization. To visualize means to recreate in your mind a picture of an object you have seen or imagined in the past. By becoming aware of your potential for imagery, you can improve the “recording” of your memories and their recall. If you focus attention on a

clear image of an object, you will carry it in your mind long after you perceived it.

Visualizing takes work, and may not come naturally to everyone. But we can all practice our visualization skills, and if we practice, they will come more naturally. Here is an exercise in visualization:

Get a clear mental picture. Start off by visualizing something familiar around your home, such as your refrigerator. Close your eyes and try to recreate in your mind a picture of your refrigerator. Try to get a clear mental picture of it. Focus on the shape, size, color, and texture. Think about actually seeing the refrigerator...

- What color is it?
- How many doors does it have?
- Where are the handles?
- Is there any writing on it?
- How many shelves does it have?
- Where is the light?
- What do the temperature controls look like?

This is something that we see every day, but we may not really pay attention to it very closely. We may have trouble creating a clear mental image. If we are to have a clear image, we need to focus on the object, to pay attention to details.

Practice visualization. Some people have difficulty really seeing the objects. If you do, then you can practice. Do this by actually looking at and studying the object. Then look away and try to picture it in your mind. When you have done all you can to visualize, then look and repeat the process again. Keep in mind that it is harder to visualize something with more detail, but we have the skills to visualize and we can all “train ourselves” to improve those skills.

Exercise 2: Association and Imagery

Another exercise that demonstrates the power of mental imagery in memory deals with associations.

Below is a list containing pairs of words. Take a moment to study them. Then, cover up one side and see if you can remember the matching word.

This won't be easy!

spider	book
milk	train
clock	necklace
radio	glass
pan	apple
cake	ear
lamp	telephone
piano	necklace
camera	frog
car	egg

You may have found that it was difficult to remember the word pairs. This is normal, and there is a skill we can develop which will help in tasks like this. This is the skill of forming *mental connections* or *bonds* between sensations, ideas, or memories. Associations are useful in memorizing; they help organize what we are trying to remember.

You can practice *image associations* by visually imagining two things together. Start off by visualizing one item at a time, and then visualize them together.

- First visualize a book. Try to visualize a specific book. Now visualize a specific spider.

- Now try to visualize the two together. Make it as concrete as possible. Visualize the spider crawling on the book.
- Now make a comment to yourself: “I don’t like that spider crawling on my book,” and add an emotional association: “I will be frightened if the spider crawls onto me from my book.”

By visualizing the objects relating to each other, and by adding an emotional association, you will help yourself remember them.

To practice this exercise, go back through the list of paired words. Visualize the two objects together in a way that they relate to each other, and then make a comment to yourself that conveys emotion. Emotions of humor, joy, sorrow, fear, or surprise will help you process the two items more deeply.

Exercise 3: Selective Attention and Differentiation

Another skill that we can develop is our ability to selectively attend to the

things that we want to remember. There is a huge amount of information in the world, but we only want or need to remember some of it. The way we do this is through selective attention.

Selective attention refers to the ability to be *attentive* to whatever you *select* (or choose) to concentrate on. When you see something, you will remember best the things that you selectively analyze and pay attention to. Most of us assume that we will remember things automatically, but research shows that you will remember those things that you carefully analyze. When there is something you want to remember, you can look at it, analyze it, and ask yourself some important questions. Say you went to a movie, and you want to remember it well enough to tell your friends about it the next day. You might start by asking yourself:

1. Did I like it or not?
2. What did I like about it?

If you want to remember a precise detail, you will need to analyze more. The more analysis you undertake, the better you will remember. What you “record” in a systematic way, you will remember. What you bypass, you will not remember. Active selection of what you want to analyze is very important. You can choose to focus on some things and leave other things out. The elements you focus on and analyze, you should remember.

Differentiation. A key way to analyze information is through differentiation. For example, when you go to a party everyone looks similar to you at first glance. In order to remember individuals, you will need to find ways in which people differ—such as through clothes, hairstyle, or sound of voice. The key is to look for what is unique and different about each person. Like our other memory skills, we can sharpen our skills of *differentiation* through attention and practice.

The Importance of Practice, Repetition, and Organization

Many people do not realize that memory can improve just by using it. Think of your brain as you think of your muscles or your cardiovascular system. To improve or maintain our memory, we have to exercise our minds. We have all heard of aerobics. When you learn new things or stretch your mind, think of it as doing mental aerobics! The kinds of exercises we have mentioned can provide the materials needed to challenge your mind and your memory. Many of us get mentally lazy as we grow older. We realize it takes more effort to remember things, just as it takes more effort to climb the stairs. Sometimes we just do not bother to use our minds to their fullest capacity.

Physical fitness takes time and practice. We do not get into shape if we only do leg lifts or sit-ups or go walking once in a while. The repetition of these activities helps us to get into shape and stay that way. Likewise, “memory fitness” takes time and practice. It is through using our memory that it stays in shape.

When we think of getting into physical shape, we think about doing many repetitions of an exercise. When we want to improve our piano playing skills, we do various exercises such as playing scales over and over again. Practice and repetition are important for getting into shape or improving our performance.

With memory, practice is also very important. There is a good deal of evidence showing that adults over the age of 60, including those well into their 80s and 90s, can improve their memories significantly with practice. The key is to take the time to become familiar with the memory tasks, and to practice them. Practicing helps to improve speed as well. Those who practice can remember the information more quickly. Practice also allows a person to develop memory strategies that can be useful for remembering a lot of detail. We have been successful finding useful ways to remember information all of our lives. Why should now be different? The same kinds of techniques are useful, and perhaps even more important, as we get older.

Think about the ways to remember you have developed over the years. Do you make lists, make a daily schedule, keep an appointment book, or write yourself notes?

Here are some helpful hints for remembering things. These strategies make use of repetition, organization, and practice. They also facilitate memory because they place fewer demands on memory by creating routines or habits.

1. Write it down. Lists, schedules, and diaries help you to record information. This helps you to remember better, and you can always refer back to what you have written. A recent study we found that writing things down in a list form helps remembering, even when the list is not used for recall. (Burack & Lachman, 1996). This is likely because just making the list helps in thinking about the information in a careful way and may also lead to better organization of the material (such as writing a shopping list by categories or by section of the store).

2. Put things in the same place. Have a place for everything and always keep it in the same place.

3. Repeat information over and over again. When you hear directions and can't write them down, repeat them at least once with the person who is giving them and try to visualize the path.

4. Make associations. If you want to remember something you need to buy at the store, think about for what you will be using it. For example apples are needed for that juicy apple pie.

5. Try to trigger your memory. For instance, you can hang the umbrella on the door knob right after you learn about the rainy weather forecast.

Summary

In this manual we have presented information about memory problems that are commonly faced as we grow older. Preserving our memory is crucial because memory is an integral part of our lives. Maintaining a healthy, independent existence requires keeping our memories intact.

We discussed some of the common misconceptions and concerns about memory. Many of us hold negative attitudes about memory and aging. Such attitudes can interfere with effective memory functioning, thus, it is important to address them.

We also presented some of the current thinking, based on research, about what contributes to memory problems. The good news is that there are things that we can do to maintain and even improve memory. We presented a number of strategies and techniques that can easily be adapted for memory needs.

At the end of this booklet, we include a brief bibliography. If you are interested in learning more about any of the topics addressed here, you may find these sources helpful.

Appendix

Advanced Memory Exercise

We offer this additional information for readers with a serious interest in memory and memory exercises.

The Method of Loci: A Memory Strategy for Remembering a List in Order

Remembering a list of unrelated things, such as words or numbers, can be a difficult and challenging task; it is hard to use logical groupings to relate the items. Thanks to the insights of ancient scholars, there is a way to remember items in an ordered list, by using a memory strategy or trick known as the *method of loci*. In Latin, the word *locus*, and its plural *loci*, mean *place* or *places*. The *method of loci* strategy works by relying on a fixed set of places. These serve as reference points for images and associations made in connection with the items to be remembered from a list.

Before you learn the strategy, it may be useful to read a little about the history of the strategy and how it was first used.

A long time ago in Ancient Greece, there was a banquet planned to honor the famous orator Cicero. He was going to be giving a speech at a very lavish affair in a banquet hall. Before he was able to deliver his speech, there was a terrible accident; the ceiling of the banquet hall collapsed, killing all of the guests. After the accident, the officials needed to identify the casualties, but they could not because the ruins were so great. At that moment, a poet named Simonides came forward and said that he could help them generate a list of the guests because he knew who was there. Fortunately, he had stepped outside just before the ceiling collapsed.

He could give them a list of the guests because he was able to *associate* who each person was with where they sat in the room. Associating the place with each person was easy for him because the banquet hall was a very common place for him to visit. Remembering the banquet hall was EFFORTLESS for him. He had been there so many times that whenever anyone mentioned the word “banquet

hall” to him, he would get an image or flash of the banquet hall in his mind. When he was helping the officials, he thought of the banquet hall and saw the image of the banquet hall in his mind. As he mentally traveled around the room, he saw the tables as they had been arranged, and he saw each guest sitting at the tables. He wrote down the name of each guest as he visualized them. Because of his success, he realized that remembering people and things—concrete things—could be done systematically by associating them with a particular place. However, *the place should be effortless to remember*. For the poet, picturing the banquet hall was so effortless that he needed only to concentrate on the guests that he needed to remember.

Applying the Method of Loci to Daily Life

Cicero’s experience suggests that the first step in this process is to set up familiar places to act as the basis for what you need to remember. Some people use famous landmarks in a city (e.g., the Old North Church, The John Hancock Building in Boston) or rooms in their house.

Let us say you want to use your apartment as the familiar location. You can imagine that you are approaching your neighborhood and park your car on the STREET, you walk up the SIDEWALK in front of your building, see the OUTSIDE DOOR of the building, and go inside and see the MAILBOXES. Then you go up the STAIRS, and see the INSIDE DOOR, go in the door, and see the ENTRANCE FURNITURE, and then you see the LIVING ROOM RUG, and so on.

The locations in this example should be effortless for you to remember, since you would see them every day. All of the locations are connected to each other, and you can not get to one location without going through the previous locations. So, let's say that this is your list of familiar locations:

1. Street
2. Sidewalk
3. Outside door
4. Mailboxes
5. Stairs
6. Inside door
7. Entrance furniture
8. Living room rug

The second step involves taking a word that you need to remember and associating it with the place. Let us say that you have a list of three words to remember (as shown below). To use the method of loci strategy, you would imagine that you see each thing on the list at each of the familiar locations. Form a mental image, or visualize the first word on the list at the first location, the second word on the list at the second location, and the third word on the list at the third location. The first word is CHURCH. Imagine that you see a church sitting right on the STREET. The next word is BOTTLE. See a bottle laying on the SIDEWALK. The third word is TOAST. Imagine that there is toast dangling right on the OUTSIDE DOOR. When you make the associations, it is as if you take each object and really place it at each location—but, of course, you really only imagine doing that. Here is the list of three words, and the loci you would use:

Items to Remember	Loci (Place)
1. Church	1. Street
2. Bottle	2. Sidewalk
3. Toast	3. Outside door

When you want to remember those objects later, you take a mental walk through your set of familiar places, and see each item at the place you imagined it to be earlier. So, if you tried to remember the three words, you would go to the first location, the street, and you would see a church on the street. Go to the second location, the sidewalk, and see a bottle laying on the sidewalk. Then go to the third location—the outside door—and see toast dangling on the outside door.

With just three words on the list, you may be thinking to yourself that you do not really need to use the method of loci strategy to remember those words. You may be right. With longer lists, the method of loci can help you to remember the words, and it is also useful for remembering the words for a *long period of time*.

**Try A More Difficult
Method of Loci
Exercise**

Now you can try this strategy by using places in your home to form your list of familiar locations, since your home is a very familiar place for you and you can probably visualize locations in your home fairly easily.

Step 1:

Establishing your set of places, or loci. For the purpose of this exercise, you'll need 15 locations. In principle, you can use any route to move from one location to the other in your home. However, it is most useful for people to choose a particular route, so that they will not retrace their steps and use a location more than once. So for now, use a route from outside your home to your bedroom.

You can start from your driveway, front door, or any other location that you would see upon arriving home. Close your eyes, and visualize the route that you would take to go from outside your home to your bedroom. Concentrate on making a clear mental image of the route that you would take and begin to think about the

things that stand out for you on your route. In a moment you will go back through your “route” and write down the locations.

Take your time with this, as coming up with a permanent set of loci is the most important step. If your loci are not clear and in a “natural” order, you will have difficulty retracing them later on.

Step 2: Write down your loci

When you feel that you can visualize locations in your route, take out a blank sheet of paper, and write down your loci. Be sure to number each location from 1 to 15. If you live in a large house, your loci may be whole rooms, such as:

1. Living room
2. Hallway
3. Dining room
4. Kitchen
5. Back stairs

...and so on. If you live in a studio apartment, you will need to choose more detailed locations within in the room, such as:

1. Mailbox
2. Entrance door
3. Corridor
4. Rocking chair
5. TV set
6. Bookshelves

...and so on. In general, the more specific the image of the place, the easier it is to make an image association with the item to be remembered. Remember to see locations, rather than thinking about actions that you associate with those locations. You want to *visualize your kitchen sink*, rather than saying that you do dishes in the sink.

Step 3: Review Your List

Once you have written down your 15 locations, go back through your list and make sure that all of the locations make sense. You want the route to be as natural as possible. You want these locations to be effortless, so that you

can use them to help you to remember what you really need to remember. Look through your list now and visualize each location. As you reread your list, try to visualize each place clearly and distinctively. Each location should be easy to picture. Make changes if you need to, making sure that the locations are clear and distinct and that the order is natural.

When you have established a list that you feel comfortable with, try covering it up and saying the locations to yourself to make sure that you know the list. It should not be too hard to learn your selection of places, since you are following the layout of your own home. If you have any trouble saying the list to yourself without looking at it, study the list again. If you need to, make changes in the list. The order of the locations is very important, as this is the route you will take when learning a list of words, as well as when you are trying to remember those words later on. *Remember, the list should be natural and effortless for you to remember!*

Step 4:**Apply your list**

Now that you have established a list of 15 loci, you can try to use the strategy. Ideally, you will not need your list of familiar locations in front of you. But if you would like, you may keep the list of locations out until you are more comfortable using the strategy, and then put it away later. Start with the list of three words from the earlier example:

1. Church
2. Bottle
3. Toast

You want to visualize a church at your first location, a bottle at your second location, and toast at your third location. Try to make the images of the items and locations as clear as possible. When you have each of the images in your mind, cover up the list and see if you can go back through your first three locations and see the image of the words on the list. Write down the words from the list above on a sheet of paper as you visualize them at each location.

Hopefully, you can begin to see how this works. Before moving on to the next list, keep these two important things in mind:

1. The method of loci works by relying on already familiar information (the locations in your home) to learn new information. The technique allows you to remember a list in order, since you will rely on the order of your familiar locations. Keep in mind that you will associate the first word with the first place, the second word with the second place, and so on. When you mentally travel through the route to see the objects you placed in the locations, you will be seeing each location as it flows in the route, and you will see the word in its corresponding room. You will be using the same route of locations to learn the words and when you try to remember the words later on.

2. Some of the pairings will not appear to be very logical. You may think to yourself that a particular word in this list would not be placed in a particular location in your home. Do not worry about that, as some of the craziest

associations can be the best ones, as they often help you most to remember the things on the list. So try to imagine even the most illogical pairings, even if they seem silly.

Next, try using the method of loci to help you remember a list of 10 words. You will start by seeing the first word on the list at your first location, the second word at the second location, and so on, until you see the 10th word at the 10th location. When you have the images in your mind, cover up the list, go back through your locations, and try to write down the list of 10 words. Then try using the strategy with a list of 15 items. For that list, you will need to use all of your locations to form the associations. Start by seeing the first word at the first location. Then go through the list, visualizing each pair until you see the 15th word at the 15th location. When you feel that you know the words, cover them up and write them down on a blank sheet of paper. Here are the lists of words:

List of 10 words

1. Pipe
2. Sugar
3. Dove
4. Trumpet
5. Letter
6. Beaver
7. Clock
8. Monk
9. Insect
10. Vest

List of 15 words

1. Meadow
2. Picture
3. Cigar
4. Arm
5. Tank
6. Queen
7. Butter
8. Geese
9. Headlight
10. Iron
11. Oats
12. Dollar
13. Foam
14. Shoes
15. Wine

For Future Exercises

Here are three more lists of words which you can use to practice the strategy either now, or at another time. You can use all 15 words in the lists at once, or if you would like to practice using the strategy on shorter lists, you may divide up the lists.

- | | | |
|----------------|------------|------------|
| 1. Door | shell | plane |
| 2. Tooth | river | stamp |
| 3. Glass | vase | wolf |
| 4. Baby | penny | radio |
| 5. Letter | knife | banana |
| 6. Book | hat | fly |
| 7. Bed | pigeon | shirt |
| 8. Rose | king | flag |
| 9. Snow | mirror | hose |
| 10. Cabin | stool | leg |
| 11. Truck | photograph | motorcycle |
| 12. Cart | apple | chicken |
| 13. Newspaper | soap | shovel |
| 14. Chalk | turtle | chair |
| 15. Television | pan | candle |

**A Realistic
Application of the
Strategy**

Now that you have had some practice using the method of loci strategy, try using it to remember the things you'll need to take with you on a trip, or try it to remember your grocery list. To get you started using the strategy in your everyday life, here is a list of things that you might need on your next trip:

1. Wallet
2. Itinerary
3. Check book
4. Medications
5. Sunscreen
6. Raincoat
7. Tickets
8. Eyeglasses
9. Map
10. Telephone numbers
11. Sweater
12. Sneakers
13. Shampoo
14. Book
15. Hat

Hopefully you can begin to see the benefits of using the method of loci strategy. If it still seems awkward, keep in mind that learning any new technique or skill takes time and patience. With practice, it should become easier to use, and you may think of other uses for the strategy. You may even invent new strategies of your own.

Using memory strategies can become a very natural part of your everyday life, and daily practice using strategies will help you to maintain your memory throughout life. Even if you never use the method of loci again, what is important to learn is that you can improve your memory by using techniques like this because they facilitate deeper level processing. You also now realize that you can improve your memory with effort!

Brief review of the strategy:

1. Establish a list of familiar locations found in your home that are in a natural order. Be sure that the list is effortless for you to remember. Take your time in establishing your set of loci (places). Try to avoid choosing two similar loci (e.g., two tables that are similar) as you may confuse them and the order of your loci may be lost.

2. Visualize your first place and your first item to be remembered. Make a clear image in your mind of the two things. Then visualize your second location and the second item to be remembered, and so on. You may find that it will help to comment to

yourself on each pairing. For example, if the item is *banana*, and the location is *doormat*, you may want to say to yourself as you picture the banana on the doormat “I hope no one slips on the banana on the doormat!”

3. Keep in mind that the crazy, silly pairings can be the best ones. Just think of how funny it would be to come home one day and find a zebra in your hallway! Now that’s an image that would be hard to forget!

4. When you want to remember your items, take a mental walk through your route of familiar locations and “retrieve” the image that you had formed earlier on. Your route should be effortless, so all you need to do is to concentrate on what you really need to remember!

5. Most importantly, keep trying! It often takes time for the new technique to become “automatic.” Have patience and remember that you can improve and maintain your memory throughout life by using effective memory strategies! Challenging your memory is one way to maintain it!

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