

Violet....let go....
Indigo....indigestion...."blues"....
Blue....blue sea....sea green....
Green....green corn....ripe corn....
Yellow....yellow fruit....
Orange....orangemen....fights....blood spilt....blood-red....*Red*.

ORDER OF THE ENGLISH SOVEREIGNS.

The true Method of learning the Order and Dates of the English Sovereigns, as of the American Presidents, or of any other list of Rulers, is to deal with them only in the course of reading. When met with in History, all the facts are before the reader, and, if he fails to hold the *order of succession* clearly in mind in any case, he can easily correlate the Names together. And if he fails to retain some of the dates, he can readily make forgetfulness impossible by correlating names to date-words—or, as the details of the reigns are known to him, he can at once find analytic date-words. The reader wishes to infallibly remember that the date of the beheading of Charles I. was 1649. The formula is "Charles I.—Too sharp (1649)." If the reader's memory-training is imperfect, and he is ignorant of the facts, he had better correlate. If his memory-education is complete, and the facts are within his knowledge, he will need no aid, or he will use analytic date-words as in above case (1) *Then* (6) *Charles* (4) *rightly* (9) *beheaded*. If he feels that he needs some advice to help him remember the order of succession of the Kings, he can refresh his recollection by turning back and reading the method already given.

EXERCISE.—CASES IN EVERY-DAY LIFE.

The student must exercise his judgment as to what is the *best known* to which he will Correlate an *isolated fact*.

The following anecdote is taken from the ERA ALMANACK, 1882, p. 36. The actor, whose name was Taylor, could not remember the name assigned to him in his part of the play. We shall see how Mnemonics helped him.

ASSOCIATION OF IDEAS.—Macready was once victimised in *Virginius*. The Numitorius could not remember the

name given him in the play. "You will remember it, sir," said the tragedian, carefully pronouncing it for him, "by the association of ideas. Think of Numbers—the Book of Numbers." The Numitorius did think of it all day, and at night produced through "the association of ideas" the following effect :

Numitorius—"Where is Virginia? Wherefore do you hold that maiden's hand?"

Claudius—"Who asks the question?"

Numitorius—"I, her uncle—DEUTERONOMY!"

The actor should have correlated the word "Numitorius," which he could *not* remember, to the word "Uncle" as the BEST KNOWN that preceded it, which he could remember, or to his "cue" the word "Question" thus :

UNCLE [2] Nephew [1] You [1] You *knew*—NU-mitorius. Or,
 UNCLE [2] Niece [1] Neat [1] Neat and New [1] *A new mitre d'er us* [1] NU-mitorius. Or,
 QUESTION [1] Wants to know [1] Know [1] Knew [1] *knew my story* [1] NU-mitorius. Or,
 QUESTION [1] Quest [1] Guessed [1] Knew [1] *Knew a mighty Tory* [1] NU-mitorius.

Had the actor memorised either of these Correlations, he would *not* have forgotten Numitorius in his performance. In all similar cases mere In. by sound, like the word "Numbers" which Macready proposed, and which is really *not a genuine In. by sound*, is of little service to a poor memory. A Correlation would have been much better.

To any conceivable "*Isolated Fact*" you can find a *Best Known* to which you can correlate it, and thereby always have it at command. This is true, even in cases of *anticipatory* memory. Instead of tying a string round your finger to remind you to buy something when you get to the bazaar, and when you get there forgetting to notice the string or forgetting what the string was intended to remind you of, correlate the name of what you wish to purchase to the name of something you are sure to *think* of at the place you are going to, and memorise the Correlation. When you see the *Best Known*, the thing you correlated to it will at once occur to mind. I will add only one more illustration :—A commercial traveller was in the habit of putting his watch under his pillow, and also in the habit of forget-

ting that he put it there ! After losing two watches in this way, he came to me to improve his memory, and asked me if my System could aid him to think of his watch and where he had put it. "Infallibly," I replied, "if there is anything you can mention which you are *certain* to think of when you get up, such as boots, trousers, hat, &c." "There is one thing," he rejoined, "I am more certain to think of than any article of clothing. I always think what a shame it is I have to get up." "Well, you are sure to think of the words 'get up ;' that then is your *Best Known*. Correlate the word 'watch' to it. . thus : 'GET UP'—Spring up—Watch Spring—WATCH." After a tour of four months he reported he had always thought of his watch the moment he awoke.

SPEAKING WITHOUT WRITTEN OR PRINTED NOTES.

After the clergyman has decided on his text, or the speaker on any subject he has selected for his special topic, the next step is to *think it out*—to make his plan—his mode of development of his ideas—their order and sequence, illustrations, &c. All this will constitute an outline—the SKELETON OF THE DISCOURSE. This should usually be *committed to paper*. If he possesses the requisite command of language to enable him to express his views, all he now requires to do is to *thoroughly memorise* this Skeleton.

When this is done, the orator will have no occasion to have any notes *before him to refer to*, and thereby to remind his audience that he is merely rehearsing fervour a week or more old ; but, having the exact order of ideas in his memory, he can proceed to speak on each *successive* topic until he has exhausted all the points and illustrations that he had intended to use.

A young clergyman is very apt to imagine that he will correlate together 20 to 100 propositions in every discourse—a theoretical conjecture never verified in fact. In *practice*, he will find that he will very rarely correlate more than ten propositions together, and he will correlate sub-propositions, citations, or illustrations to the respective propositions

to which they belong. Instead of correlations, *he may unite his propositions together by analysis*. Each person will manage this matter as he finds most convenient to himself ; or, if he desires to literally memorise his discourses, he can do so in the manner pointed out in learning sentences, or by two or three careful perusals. But, by one who speaks without notes is generally understood one who has only memorised his leading ideas, and it is always a judicious practice for a beginner to rehearse his leading topics and their amplifications in private, *that he may test his memory*, and then *become familiar* with a procedure *in private* in order to be sure to be *perfect in it before the public*. This private discipline is all the more necessary in the early stages of extempore speaking—if the speaker is at all troubled by nervous anxieties or mind-wandering.

Suppose a teacher of the Art of Expression has studied Moses True Brown's [see his Synthetic Philosophy of Expression] reduction of Delsarte's Nine Laws of Gesture to Brown's One Law of Correspondence—and suppose this teacher wishes to explain to his class, or to an audience, how Mr. Brown proceeded. If he desires to do this without notes, he must memorise the order of those Nine Laws ; they are abstractly stated and difficult to correlate, but it can be done. The Laws are as follows :—

Motion,
Velocity,
Direction or Extension,
Re-action,
Form,
Personality,
Opposition of Agents,
Priority, or Sequence,
Rhythm.

The teacher must correlate these heads or topics of his discourse together, and so memorise his correlations that he can recall the series in the exact order. Perhaps he may proceed thus :

MOTION.
[Rate of motion.]
VELOCITY.
[Relation of motion to time and *space*—.]

DIRECTION or Extension.
 [Direction reversed.]
 RE-ACTION.
 [Mould of Action.]
 FORM.
 [Form of the Human.]
 PERSONALITY.
 [Its extremes.]
 OPPOSITION OF AGENTS.
 [First opponent.]
 PRIORITY or Sequence.
 [Periodicity of Sequence.]
 RHYTHM.

Knowing these Nine Laws in the above *order*, he can discuss them one after the other. When he has finished his explanation of the reduction of the three Forms of Motion [Concentric, Poise, and Eccentric] to the Law of Correspondence, he can proceed to the consideration of the sub-topics under Velocity, and so on. When he has fixed the other of his topics in mind, he has a mental chart or map to guide him in his exposition, and similarly in other cases.

EXERCISE.

Learn some of the "Antidotes," and at least two of the following series. Do *not* learn the extracts from Quain's Anatomy unless you understand what is meant, or are a medical student.

DISTANCES OF PLANETS FROM THE SUN.

MERCURY—36,000,000 [*Mercury Shines*].
 VENUS—67,000,000 [*She's a Goddess*].
 EARTH—93,000,000 [*Planetary Mother*].
 MARS—141,000,000 [*This World's Outsider*].
 JUPITER—482,000,000 [*Rather Flattened Ends, or, A Roundish Form Unequalled*].
 SATURN—885,000,000 [*Floods of Light*].
 URANUS—1,780,000,000 [*Disturbances Caused Fruitful Searchings*].
 NEPTUNE—2,789,000,000 [*Neptune Constitutes a Frontier Boundary*].

1. How many planets are here mentioned? Make your own correlations between each.

EXTRACTS FROM QUAIN'S ANATOMY.

TO BE STUDIED BY NONE BUT MEDICAL STUDENTS.

"The Branches of the External Carotid Artery are eight in number, *viz.*, three directed forwards, the superior thyroid, the lingual, and the facial; two directed backwards, the occipital and the posterior auricular; and three extending upwards, the ascending pharyngeal branch, together with the temporal and internal maxillary, the two terminal branches into which the artery divides."

Dissect, or study a model or diagram of these branch arteries, and then the facts are easily learned by means of Correlations:—

CAROTID....rotten....ruinous....IVY (eight branches)
growth....advance....go forwards....
 FORWARDS....lead forwards....conduct....ductless....THYROID
spheroid....earth....many languages....LINGUAL
tongue....mouth....face.....FACIAL
front....back.....
 BACKWARDS....back of head....occiput.....OCCIPITAL
occult....secret....confession.....AURICULAR
ocular....eye....high up.....
 UPWARDS....ascending.....ASCENDING PHARYNGEAL
congeal....frozen Thames.....
temporary.....TEMPORAL
pour out shot....Maxim gun
 or "be temperate"....maxim....MAXILLARY

To memorise the attachments of muscles, first of all familiarise yourself by diligent dissection with the aspects of the muscles and the actual facts of their attachments. It is possible to memorise their origins and insertions by my System, merely from their written descriptions; but this is not *learning*. It is a vicious system of cramming, which can do no good. When you have thoroughly familiarised yourself with the actual facts proceed to fix these

1. Are all students required to learn extracts from Quain's Anatomy? 2. How many branches are there of the External Carotid Artery? 3. Describe them. 4. Is it an advantage in studying Anatomy to dissect or study a model? 5. How are the facts, then, easily learned? 6. Make original correlations for this Extract. 7. Do you use any unfamiliar words in your correlations? 8. How do you memorise the attachments of muscles? 9. Is it possible to memorise their origins and insertions by my System? 10. Is this *learning*? 11. What is it then?

facts in your memory by my System. In dealing with facts of such complexity as the origin and insertion of muscles, it may be needful to have free recourse to the assistance of homophones, &c. In the whole of anatomy there is no task so difficult as that of learning the precise attachments of the muscles of the back. Few students master these attachments thoroughly, and those who do, fail to retain them long.

By the System it is easy to learn facts of Anatomy. But the System is no substitute for *dissection and experiment*. You can get a COMPREHENSION of anatomical facts only by *actual experience*, and to attempt to require an *understanding* of them from books is to substitute a knowledge of words for a knowledge of things.

The following will indicate one way in which you may proceed in memorising the attachments of the muscles of the back :

- (1) First make a homophone of the name of the muscle.
- (2) Indicate each attachment of the muscle by two words.

The initial letter of the first word should indicate the part of bone to which the muscle is attached, *e.g.*, Sp = spinous process, T = transverse process, R = rib, &c. The second word should indicate by its consonants the *numbers* of the bones to which the attachment is made.

- (3) Correlate the homophone of the muscle to the first pair of words, and the first pair to the second pair. For example :

"The SPLENIUS COLLI is attached, inferiorly, to the spinous processes of the third, fourth, fifth, and sixth dorsal vertebræ, and superiorly to the transverse processes of the first two or three cervical vertebræ."

spleniUS COLLI (homophone) SCOLD.
SCOLD...cold...marble...SPENDID IMAGE...
gold statuette...chimney ornament...clock...TIS TIME.

In the first pair of words the initial of Splendid shows

1. Do you need to use Homophones in this study?
2. What is the most difficult task in Anatomy?
3. Do students generally master this thoroughly?
4. What makes the learning of Anatomy easy?
5. Is my System a substitute for dissection?
6. How can you get a comprehension of anatomical facts?

that the attachment is to the Spinous processes, and the word Image indicates that the vertebræ implicated are the third to the sixth. The second pair show that the transverse processes, from the first to the third, are those into which the muscle is inserted.

"The SPLENIUS CAPITIS arises from the spines of the seventh cervical and two upper dorsal vertebræ and from the ligamentum nuchæ. It is inserted into the lower and back part of the mastoid process, and into the outer part of the superior curved line of the occipital bone."

spleniUS CAPITIS (homophone) ESCAPE.
ESCAPE...flight...projectile...trajectory...conic section...
SPLIT CONE.
split...spliced...ligatured...LIGAMENTUM NUCHÆ.
new keel...ship...mast...MASTOID.
masticate...eat...drink...sip...OCCIPITAL.

POISONS AND ANTIDOTES.

Narcotic poisons are neutralized by vinegar :—NARCOTICS...torpor...strong wine...sour wine...vinegar.

Wine, brandy, coffee, and camphor may be used to rouse those who have taken laudanum or any other preparation of opium...OPIUM...opium eater...intemperate...brandy...wine...beverage...coffee...cough...cold...camphorated spirit...camphor.

Mucilage, camphor, and oil may be taken to neutralize cantharides :—CANTHARIDES...hair-grower...oil...smooth-running...ease...comfort...camphor...fur cat...mew...mucilage.

Ten drops of ammonia in a glass of sugared water sobers a tipsy man :—DRUNK...alcohol...volatile spirits...volatile...alkali...ammonia...to moan...to sigh (10)...pathos...sweet tears...sugared water.

ACONITE...night boat...sea sick...emetics...exhaustion...stimulants...hard drinking...spontaneous combustion...animal charcoal.

1. Are antidotes for Poisons easy to remember?
2. Should not all persons have a knowledge of the antidotes for the ordinary poisons?
3. What method have I given to obtain such knowledge?
4. What is the relation between "Narcotics" and "torpor"?

CHLORIDE OF LIME...bad smell...bad egg...*white of egg*...fowl...grain...*flour*...flour and water...milk fluid...*milk*.

Oil, milk (any fatty mucilaginous substance), may protect the coats of the stomach against oil of vitrol and other acrid poisons :—ACRID...curd...curdled milk...*milk*...butter...melted butter...*oil*.

STRONG ACIDS [Sulphuric Acid (oil of vitriol), Nitric Acid, Hydrochloric Acid]...alkali...lemon kali...effervescing draught...citrate of magnesia...*Magnesia*...antacid...*Bicarbonate of Soda*...potash...potash soap...*soap suds*...emollient...*Emollient Drinks*.

CARBOLIC ACID...liquid...oil...*sweet oil*...*castor oil*...aperient...*Epsom Salts*...white...*white of egg*.

Prussic acid (Hydrocyanic Acid) is neutralized by alkalis and freshly precipitated oxide of iron :—PRUSSIC ACID...tartaric acid...carbonate of soda...*alkali*...lie on the side...*oxide of iron*...steel file...*rasp*...*artificial respiration*. [HYDROCYANIC ACID...cyanotic...asphyxiated...no respiration...*Artificial respiration*...perspiration...hot...*cold effusion*...exposed to wet...rust...*fresh precipitated oxide of iron*.]

Soap and Sulphide of Potassium are antidotes against arsenic and other metallic poisons : METALLIC...lick...cat-lick...wash...*soap*...potash soap...potassium...*sulphide of potassium*.

TARTRATED ANTIMONY...tartar emetic...vomiting...irritating...*emollient drinks*...ladies drink...*strong tea*...bitter infusion...*tannic acid*.

NITRATE OF SILVER...silver sand...seashore...*sea water*...common salt...white...*white of egg*...fowls...barley...*barley water*...warm water...vomiting...*emetics*.

PERCHLORIDE OF MERCURY...quicksilver...white...*white of egg*...piecrust...*wheat flour*...flowers of sulphur...milk of sulphur...*milk*.

STRYCHNINE...nerve stimulant...nerve sedative...*Bromide of Potassium and Chloral Hydrate*...organic compound...

1. Can you discover more than one relation existing between "grain" and "flour"? 2. Why could we not use the single word "white," to connect "white of egg" to "flour"? 3. What is the relation between "liquid" and "oil"? 4. What two relations exist between "vomiting" and "irritating"? 5. What one, between "fowls" and "barley"? 6. Why? 7. What is the relation between "wheat flour" and "flowers of sulphur"?

heated organic compound...charcoal...*animal charcoal*...charcoal fumes...asphyxia...*artificial respiration*...perspiration...tea...*tannic acid*...acidity...dyspepsia...vomiting...*emetics*.

BELLADONNA...deadly nightshade...deadly sick...*emetic*...*mustard and water*...brandy and water...*stimulants*...hot...perspiration...*pilocarpine* [p. injected hypodermically causes profuse perspiration].

THE TWELVE PAIRS OF CRANIAL NERVES.

The following list is worked out for practice *much more fully* than a medical student would do if he were learning the list in his studies. The medical student would doubtless first objectively identify these nerves in dissection, and then use correlations to help him remember those which his natural memory could not carry. If not a medical student, my pupil may omit this and the previous examples from Quain's Anatomy.

THE TWELVE PAIRS OF CRANIAL NERVES.

CRANIAL NERVES...within the skull...*within* (12 pairs) ...withdrawal...draw oil...oil factory...OLFACTORY (1st pair) ...manufactory...smoke...*smell*...scent-bottle...glass...optical glass...OPTIC (2nd pair)...optician...eyeglass...*sight*...eyewitness...ocular demonstration...OCULO MOTOR (3rd pair) ocular motions...*move the eye many ways*...tear in the eye...TROCHLEAR or PATHETIC (4th pair)...moving...*move the eye obliquely*...obtuse angle...triangle...TRIGEMINAL (5th pair)...gem...sparkling...*eye*...eyetooth...*jaw*...talk...*tongue*...*taste*...good taste...good feeling...*feeling*...feelers...*motion*...ocean...sailors...absent from home...ABDUCENT (6th pair)...sent out

1. Between "perspiration" and "tea"? 2. Why so? 3. Explain the relation between "Belladonna" and "deadly nightshade." 4. What advice is here given the medical student? 5. Are you required to learn the twelve pairs of cranial nerves if you are not a medical student? 6. What do the words printed in italics indicate in this exercise? 7. Is it essential for the medical student to know these uses? 8. What word indicates the number of pairs of cranial nerves? 9. Through what consonant?

...see out...*moves the eye outwards*...face outwards...FACIAL (7th pair—motor to muscles of expression)...face...audience ...AUDITORY (8th pair, sensory for hearing and equilibration)...ear-ring...shiny...glossy...GLOSSO-PHARYNGEAL (9th pair, taste, swallow) .. congeal .. unfixed .. vague ... VAGUS (10th pair, pneumogastric)...gusty...blown back...backbone ..SPINAL ACCESSORY (11th pair, moves head) *and motor*... spines...sharp criticism...hypercritical...HYPOGLOSSAL (12th pair)...glossary...foreign tongue...*Tongue Muscles*.

PROTOPLASM.

Albumen, gluten, fibrin, syntonin, are closely allied substances known as proteids, and each is composed of carbon, hydrogen, oxygen and nitrogen.

PROTEIDS...Protector...commonwealth...for all...*albumen* ...all men...liars...fibs...*fibrin*...brindled...spotted...sin...*syntonin*...toe nails...hoofs...glue...*gluten*.

The foregoing exercises show that there are no facts of Science, &c., or in Daily Life, with which the System cannot cope—thus proving the greatest saver of Labour and Time if the pupil makes an application of it to his studies or business when once he has mastered the system.

BOOKS LEARNED IN ONE READING.

For the past ten years I have printed in my large prospectus a general view of my meaning. I will reproduce most of those views here, premising that I have never suggested that books are to be *learned by heart*, but only the *important, useful* portions of them—such as are new to the reader and which he may desire to retain.

I do not mean such books as Bradshaw's Guide, the London Post-Office Directory, or any other mere collection of names, addresses, statistics, &c., which one may have occasion to *consult*, but which it would be the mere bravado of Memory to learn by heart—though even this is possible enough to the master of my System. What is one's object in reading a book? Simply to retain the IDEAS in it that are NEW and USEFUL to him, as well as the NEW USES that are therein set forth of *old* and *familiar* ideas. If the reader is already partly acquainted with a book, there will be fewer new ideas in it than in one with which he is unacquainted. Now, what do I mean by Learning either of these books in one reading? I mean exactly what I say. All that you desire to remember shall be retained—all the leading or subordinate ideas, propositions, illustrations, facts, &c., &c.

There are only two ways of learning a book in this thorough manner :

(1) The *first* is the traditional method of learning by *rote* or endless repetition. A celebrated Coach in Anatomy says that no one can learn Anatomy until he has learned and *forgotten* it from three to seven times! In learning any book in this way, each sentence would be repeated over and over again, and then reviewed and *relearnt* and forgotten and learned again! And then at last the Pupil if he possesses a first-rate *cramming* memory might answer questions on it. In learning a book by *rote*, the number of times that each sentence and section is repeated, if actu-