STANDARDIZED BARBERS' MANUAL

Revised and Adopted by

THE NATIONAL EDUCATIONAL COUNCIL

of the

ASSOCIATED MASTER BARBERS *of* AMERICA

PRICE $5.00

REVISED JANUARY 1, 1928
by
THE NATIONAL EDUCATIONAL COUNCIL
of the
ASSOCIATED MASTER BARBERS
OF AMERICA

THE BARBER PROFESSION

EVERY professional should know the history and the individuals who have been or are contributors to the advancement of his profession, therefore the effort has been made to place before you in this Textbook all of the present day national leaders and the organizations which they represent, and to the memory and honor of these men and the organized barber interests of America who have made this edition possible this volume is dedicated.

The fact that barbering is a profession necessitates this Standardized Textbook, that the student may not only acquire a practical knowledge, but that he may learn the *Theoretical, Ethical, Legal* and *Scientific* principles or elements of the profession in order to be skilled professional practitioners.

The Kansas Supreme Court, in the 63rd Kansas 471, July 6, 1901, held that barbering is a professional service. Among other things the court said: "Like the surgeon and dentist, when the barber moves he attracts to himself those having confidence in his ability, and the greater his professional skill the more difficult it is to alienate from him those to whom his services have given satisfaction."

CONTENTS

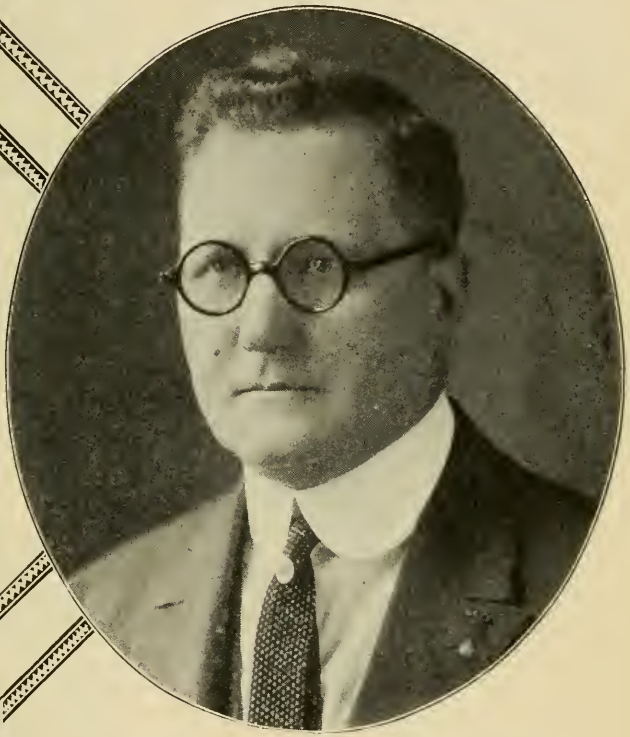
Sponsors of Better Instruction for Barbers

J. B. RIGGS
Akron, Ohio
President, Standardized Barber Schools Association

Mr. Riggs has 27 years in the profession to his credit, 15 of which have been spent in the barber school business, as well as two years in the study of medicine.

A. B. MOLER
Chicago, Illinois
Secretary-Treasurer, Standardized Barber Schools Association

A. B. Moler bears the distinction of being the founder of the first barber school in the world. His schools constantly keep abreast of the latest developments applicable to the profession.



DR. EDGAR B. WILSON, D. C., Ph. C.

The barber profession owes much to Dr. Wilson for the thorough knowledge of the human anatomy and the proper manipulation of the muscles and nervous system which he has been so instrumental in spreading throughout the profession. He is a Doctor of Chiropractic, thus possessing an anatomical understanding that proved of inestimable value while assisting the National Educational Council in promoting its standardized barber school curriculum and program.

Dr. Wilson is no stranger to the barber profession, as he served therein for 25 years before taking his place in the chiropractic field, and to him must be given the credit for the scientific material contained in this textbook.

Origin of Standardized Barber Schools

THE Associated Master Barbers of America, in convention assembled at Des Moines, Iowa, November, 1926, adopted a resolution creating a National Educational Council of three members, with instructions to investigate and determine the methods used by other professions in controlling their educational institutions. C. B. Hypes of Topeka, Kan., C. N. Good of Elgin, Ill., and F. H. Tramp of Memphis, Tenn., were elected as members of the Educational Council. The Council organized by selecting C. B. Hypes as Chairman, C. N. Good as Vice-Chairman, and F. H. Tramp as Secretary. This Council made its investigations and submitted its report to the Executive Board on January 16, 1927, and the two foregoing pages contain the program proposed by the Council and approved by the Executive Board.

The National Barber Schools Association, Inc., was formed in Cleveland, Ohio, September 18, 1922. J. B. Riggs of Akron, Ohio, is President, and A. B. Moler of Chicago, Ill., is Secretary. This Association meets annually.


CLASS A. NO.

STANDARDIZATION

Certificate

This Certifies That:

of State of

Owner and Proprietor of Barber School at

Street State of

has complied with all the requirements of The National Educational Council of The Associated Master Barbers of America for Standardization of Said School for a period of years to 192

This Certificate May be revoked, annulled and forfeited by the Council for violation of Contract of Agreement

THE NATIONAL EDUCATIONAL COUNCIL

Secretary by Chairman

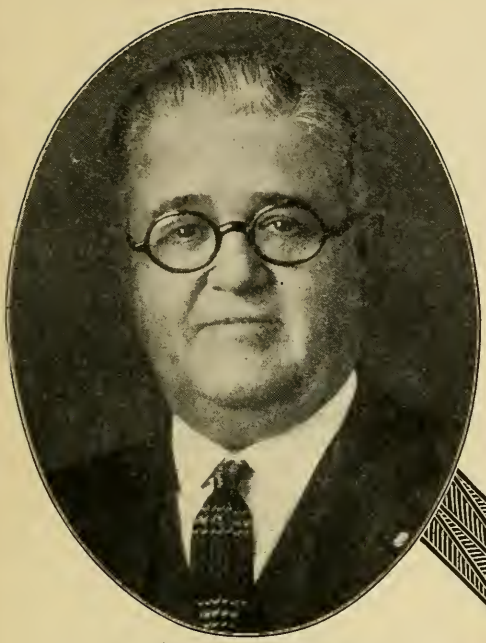
Reproduction of Certificate Issued by National Educational Council to Standardized Barber Schools

At a meeting of the National Barber Schools Association of America, held in the Stevens Hotel, Chicago, October 31 and November 1, 2 and 3, 1927, 42 of the leading barber schools of the country signed the Council's contract making the standardized school program a reality. Other schools have since signed the contract until the number is well over half a hundred.

For a student to receive a diploma signed and sealed by the National Educational Council it is necessary that he complete the full six-month course in a standardized barber school, and that he then work under an approved Master Barber as an apprentice for 18 months. These regulations are not for the purpose of penalizing or discouraging barber students but to assure them that they will receive adequate and proper instruction and training to make them efficient and professional practitioners. Every student in a standardized barber school should insist upon the school complying with all of the Council requirements as they may affect his education.

National Educational Council

Associated Master Barbers of America



C. B. HYPES
Topeka, Kansas
Chairman

Mr. Hypes is an advanced thinker and an educational enthusiast, and is responsible for much of the program of the National Educational Council. He was elected chairman of the Council at Des Moines in 1926.

F. H. TRAMP
Memphis, Tennessee
Secretary

Mr. Tramp was elected to the Educational Council in 1926, was made secretary of the body, and was re-elected at the Detroit convention.

C. N. GOOD
Elgin, Illinois
Vice-Chairman

Mr. Good has always been a consistent advocate of higher education, was elected to the Educational Council at Des Moines in 1926, and re-elected at the Detroit convention in 1927.

THE NATIONAL EDUCATIONAL COUNCIL
OF
The Associated Master Barbers of America

AGREEMENT

THIS AGREEMENT, made this ..... day of ....., 192....., between

....., owner and operator of a barber school or college, at

..... St. in the city of .....,

County of ....., State of ....., party of the first part, and The National Educational Council, of The Associated Master Barbers of America (Incorporated), of 440 South Dearborn St., Chicago, Cook County, Illinois, party of the second part.

WITNESSETH, That the said ....., party of the first part, hereby covenants and agrees, that he will accept, establish, and enforce the Curriculum, Regulations and Supervision (a copy of which is hereto attached and made a part of this agreement) of The National Educational Council, party of the second part, in his barber school or college for a period of ..... year ..... from date

And the said The National Educational Council, party of the second part, in consideration of the prompt and faithful performance of this agreement by the said ....., party of the first part, agrees to furnish the said ....., party of the first part, with a certificate of standardization for said school or college and to permit said school or college to be advertised as a Standardized school or college by and with the consent of TheNational Educational Council, party of the second part, during the life of this agreement.

The second party further agrees to, in every way consistent, to aid and co-operate with said first party in the conduct and operation of a standardized barber school or college as is herein defined and agreed upon.

This agreement shall be binding upon the successors, heirs, executors and assigns of the parties hereto

IN WITNESS WHEREOF The parties to these presents have hereunto set their hands and seals, the day and year first above written

.....
First Party

THE NATIONAL EDUCATIONAL COUNCIL.
Second Party

By ....., Chairman.

....., Vice Chairman

Attest ....., Secretary

THE ASSOCIATED MASTER BARBERS OF AMERICA
SEAL

.....
Witness.

.....

THE NATIONAL EDUCATIONAL COUNCIL
OF
The Associated Master Barbers of America

CURRICULUM, REGULATIONS AND SUPERVISION OF STANDARDIZED BARBER SCHOOLS

ENROLLMENT.

Preliminary Requirements—Over 16 years of age; an eighth grade grammar school education or its equivalent as determined by the Council by an examination; good moral character and temperate habits.

Matriculation—Tuition fee of not less than $150, payable in advance, or at least $50 in advance and the balance in weekly or monthly installments over a period of six months or less.

COURSE.

Time—Two years is required to complete the course. The first six months must be in the school or college proper as a student apprentice. After six months as a student apprentice, and on making satisfactory grades the student apprentice shall be advanced to the grade of Junior apprentice and farmed out to an approved Master Barber for practice and to earn wages for six months, when he shall be advanced to the grade of apprentice on a satisfactory showing of skill and knowledge, and continue to practice and earn wages under an approved Master Barber for one year

After one year of study and practice as an apprentice under an approved Master Barber, he shall take a final examination by the Council and if passing grades are made he shall have issued to him a DIPLOMA of graduation and the degree of BARBER. Said diploma shall designate the school or college with the proper official signatures and seal of the college and the signatures and seal of THE NATIONAL EDUCATIONAL COUNCIL.

Subjects—Barbering; Practical; Theoretical; Business and Ethics; Scientific: and Treatments
Practical; Shaving; Hair Cutting; Shampooing; and Massage.
Theoretical; Personality; Art; and History.
Business and Ethics; Bookkeeping; Management.
Scientific: Anatomy; Bacteriology; Elementary Chemistry
Treatments; Dead Hairs; Acnae; Sycosis; Ringworm: Alopecia; Seborroeh; Eczema; Syphilis; and Sorisis
Sub-Subject, Shaving; Tools; Kinds; Materials; and Technic.
Hair Cutting; Tools; Kinds; Materials; and Technic.
Shampooing: Tools; Kinds; Materials, and Technic
Massage: Tools; Kinds; Materials; and Technic.
Personality: Education; Sociability; Confidence; Movements; and Touch
Art: Contour; Outline; Mental Photography; and Hair Gravitation
History: Ancient, Medieval and Modern History of Barbering.

Supervision—The National Educational Council shall supervise all Standardized schools and colleges, prescribe the curriculum, texts and courses of study, sanitary rules and regulations, hold and pass on all examinations for advancement or graduation, furnish or prescribe application blanks for Master Barber wishing permits to work apprentices and pass on said applications and prescribe such other regulations as supervision may from time to time require.

Supervision Fees—Preliminary examination for entrance	$3.00
Junior apprentice examination and certificate	1.00
Apprentice examination and certificate	1.00
Barber degree examination and Diploma	20.00
Total	$25.00

Inspection—The National Educational Council shall, by its supervisor; or individually, inspect all standardized schools and colleges and order necessary changes in equipment, conduct or management to meet the Council's requirements, and shall withdraw its supervision and standardization from any institution failing to comply with its require ments.

INSTRUCTORS.

Qualifications—All instructors must be of good moral character and temperate habits; free from contagious or infectious diseases, and of clean personal habits and life.

All instructors will have six months time, from the date of standardization, to fully equip themselves as standardized instructors; if not already equipped, by taking a course in an approved training school or college of higher instruction

Classification—Instructors shall be classified into three classes viz, Primary Intermediate, and Advanced

Sub-Class—Primary: Instruction in practical barbering.

Intermediate: Instruction in theoretical and business and ethics of barbering

Advanced: Instruction in scientific and treatments of barbering

Primary instructors must also be qualified in the intermediate and advanced class and Intermediate instructors must also be qualified in the primary and advanced, altho they may teach in only one classification, and all must wear the regulation uniform when on duty

INSTRUCTION, 1,000 Hours

Classification—Primary 750 hours; 5 hours per day for 150 days within a period of not less than six months. Practice and Demonstrations.

Intermediate: 100 hours; 2-3 hour per day for 150 days within a period of not less than six months Recitations and Lectures.

Advanced: 150 hours; 1 hour per day for 150 days within a period of not less than six months Recitations, Lectures, Demonstrations and Laboratory clinics.

REGULATIONS

No. 1—All standardized barber schools may divide the six months student-apprentice course into four semesters of six weeks each. Students leaving school after one semester may return at any time to complete the full course and receive credit for each semester completed; or they may transfer from a standardized school in one city to another city and receive credit for semesters completed, but switching from one standardized school to another in the same city will not be allowed without the consent of the supervisor.

No. 2—Standardized schools may establish a preliminary course of instruction for students who have not finished the eighth grade grammar school requirement, to enable them to make the preliminary examination to be conducted by the Council's Supervisor

The Associated Master Barbers of America

FOLLOWING a growing sentiment among leaders in the profession for the organization of a national association, the first convention, which was practically a meeting for organizing purposes, was held at the Sherman Hotel in Chicago, November 17, 18 and 19, 1924. Enthusiasm was the keynote of this convention, and it was plain to be seen that the future of the organization was assured. Immediately after the Chicago convention the work of issuing charters began, and by the time of the Kansas City meeting, a year later, the Associated Master Barbers of America had 2,800 members on its rolls.

The 1926 convention was held in Des Moines, Iowa, and that of 1927 at Detroit, Mich. At Detroit the delegates present represented a membership of nearly 10,000, evidence of the recognition by the shop owners of the United States of the need for such a national association and of their increasing support of the organization and the principles upon which it functions.

These principles are defined in the preamble to the Constitution and By-Laws of the Associated Master Barbers of America. We give them here, that the student may become aware of the high ideals which permeate every action of the members thereof:

The purpose of organizing nationally is to get that strength and intelligent unity necessary to accomplish nation-wide needs and reforms. These are in part as follows:

First, to elevate craft ideals. That is to say, to implant in all craft workers a higher appreciation of themselves and their work.

Second, to increase the phases of shop service (widen the field of service) to promote uniform shop practices and to establish uniform fees for such services throughout the entire country.

Third, to promote neighborly tolerance among all branches of chirotonsory. That is, to establish a working co-operation of barbers, hairdressers and cosmeticians, especially for the purpose of educating the public to a wider appreciation and patronage and to establish uniform, just, nonconflicting laws governing the business.

Fourth, to assist toward technical craft education to an extent sufficient to compel, or at least to command and hold public confidence.

Fifth, to propagandize the newspaper press of the country through recognized journalistic channels, that is, to inject into the literary current of the day a stream of reading matter in behalf of modern chirotonsory.

Sixth, to sustain a line of scientific and economic investigations up to the limits of current research in behalf of the craft.

Seventh, to unify the craft by means of full nation-wide mutual information and dependable craft news.

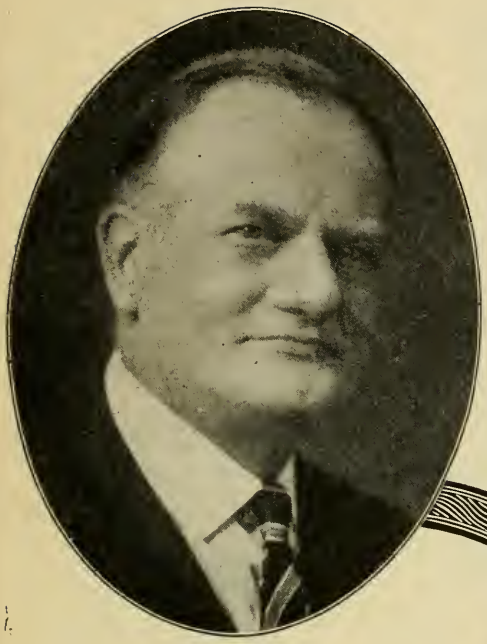
Eighth, to declare and make clear that this program is not a program of selfish and commercial interests, but a legitimate cog in the wheel of better things.

Final Declaration

In the furtherance of these ends The Associated Master Barbers of America declares its determination and its eagerness to co-operate honestly and fairly with all creeds, all organizations, and all crafts connected directly or indirectly with the barbers' work.

President, Secretary and Treasurer

Associated Master Barbers of America



OTTO EWERT
Chicago, Illinois
General President

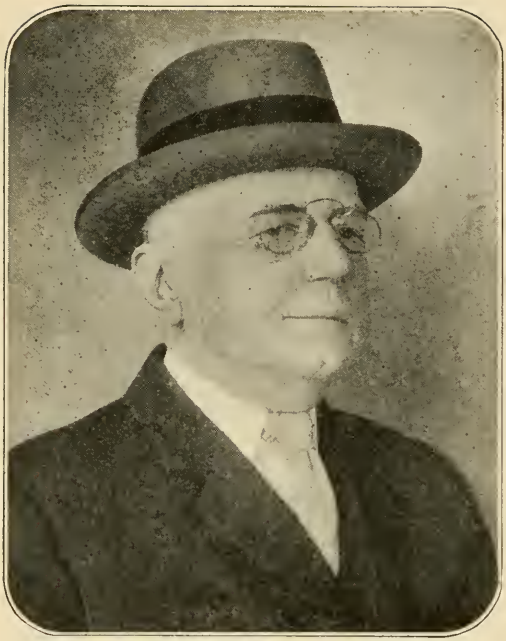
At Springfield, Ill., in 1923, Mr. Ewert was elected temporary president to form the National Association. At the first national convention in Chicago in November, 1924, he was elected General President, and has been re-elected at each convention since.

LOUIS E. McILVAIN
Chicago, Illinois
General Secretary and Organizer

At the first national convention, held in Chicago in November, 1924, Mr. McIlvain was elected General Organizer, and at the 1925 convention, held in Kansas City, he was elected General Secretary and Organizer. He continues to hold these offices.

JAMES H. MANTLE
Bloomington, Illinois
General Treasurer

Mr. Mantle became affiliated with the Associated Master Barbers of America in November, 1924. He was elected treasurer of the national organization at that time, and each succeeding convention has seen him returned to office.



HENRY WEVER

Chicago, Illinois

Henry Wever was born August 29, 1849, at Liberty, Ohio. In his early youth the profession of barbering claimed his attention, but later years saw him turn to other activities, which included teaching, writing, selling in the commercial field, and editorial work. In 1921 he became editor of *The Reflector*, which was then the name of *The Master Barber Magazine and Beauty Culturist*, and in the years following his contributions to the profession by reason of a tremendous amount of research work, inspired and backed by several years spent in the study of medicine, have been of invaluable aid to the profession in the raising of its standards. His writings and teachings have brought out a mass of informative data which has in this way been translated into shape for practical use by barbers everywhere, and the inspiration of his teachings has been a beacon light marking the shining goal toward which the face of modern barbering is turned.

Their Editorial Pens Have Done Much for the Barber Profession

JULE GORDON

Des Moines, Iowa

Jule Gordon was born in Chicago, Ill., September 25, 1900, and was educated at McKinley high school, Chicago, and Northwestern university, Evanston, Ill. Mr. Gordon is editor of *The Square Deal*, a magazine devoted to the barbers and beauty operators of America, published by the Square Deal Publishing Company of Des Moines, Iowa. This publication has a national circulation and has done much to pave the way for nation-wide organization, and Mr. Gordon and his editorials have done much to bring to the barbers of America a realization that a better and higher education is needed in order to secure and hold the confidence of an enlightened public. The barber profession owes much to Mr. Gordon for his untiring efforts and intelligent, unselfish devotion to their cause.

General Vice-Presidents

Associated Master Barbers of America

T. C. MacDUFFEE

Des Moines, Iowa

First Vice-President

Mr. MacDuffee joined the Associated Master Barbers of America on January 21, 1926, and was elected as First Vice-President at Detroit in 1927.

ALDEN WARMELIN

Chicago, Illinois

Second Vice-President

Mr. Warmelin attended the 1924 convention in Chicago, where he was elected Second Vice-President, and he has continued to hold that office.

ANTHONY PANASCI

Buffalo, N. Y.

Third Vice-President

Mr. Panasci was elected Third Vice-President at the second annual convention at Kansas City in 1925, and has been re-elected since.

C. A. BELMONT

Sacramento, California

Fourth Vice-President

Mr. Belmont was made Fourth Vice-President of the organization at Kansas City in 1925, and has been returned to office each year.

Educational Committee

National Beauty and Barber Supply Dealers' Association

W. L. SCOTT
Peoria, Illinois
Chairman

C. A. GREEN
Lincoln, Nebraska

A. H. SCHROEDER
Fort Wayne, Indiana

The National Beauty and Barber Supply Dealers' Association has always formed a harmonious unit in the cycle which constantly strives to educate the profession as a whole and elevate its status in the world of affairs.

To the Student Barber

THE ultimate success of our great cause, and the ideals for which it stands, depends on three great qualities, namely, the quality of Confidence, the quality of Courage, and the result of the union of these two qualities, which is Harmony. Each depends on the other, and all three form the perfect triad. They should be acquired by all who wish to succeed in their chosen line of endeavor, and strict adherence to these principles will bring success to him who makes their practice part of his daily conduct. Knowing this, we unhesitatingly recommend them to the students with the hope that they will become his guiding spirit all through life.

Confidence comes from a complete belief in the justice and virtues of the line of endeavor you are choosing for yourself. It cannot be acquired in ignorance, for ignorance never bred confidence. Rather, it is the result of knowledge, and this essential knowledge of your chosen profession must come from those who have preceded you, and who have, by hard-won experience, gathered that wisdom, so it is the better policy to heed their teachings and gain profit thereby. Knowledge is gained by exchange of thought, and it is only through organization that this can be accomplished. Organization means a method whereby the recipient of that knowledge gains the most from it, to an immeasurably greater extent than could he, as an individual, working alone.

Courage is the result of confidence, and confidence in yourself and your ability will supply the courage which will inspire you, and which will never fail.

Confidence is the very foundation of life itself. A man's strength to work and to enjoy his daily existence depends on confidence. A man must have confidence in his home, confidence in his friends and confidence in his business. Applied to business, it is this confidence that supplies the courage to face his every problem with the strength and bearing of a conqueror. The man with confidence is the winner in the great game of life. It is the breath of life of courage, its inspiration, the reason for its very existence.

If you have confidence and courage you are in harmony with life itself. Harmony means a willingness to submerge self and let common welfare rule supreme. Harmony comes when self is forgotten and the common cause for forward movement becomes the only motive. Harmony means the one accord of each, and all taken together. It is the music of life, the satisfaction of soul which characterizes freedom from all discord and a united seeing of the common welfare. It is at last the recognition and the appreciation of harmony which completes the circle and governs the working conditions in our great profession.

It is the due recognition of these cardinal principles which supplies the need for and the existence of the Associated Master Barbers of America. Our organization is built on the foundation-stones of Confidence, Courage and Harmony, and our every effort is to perpetuate in practice the benefits to be derived from their observance. These principles lie behind the issuance of this Manual, so that the ambitious student may have placed in his hands the accumulated knowledge that comes from organization, that he may derive, in his status, the incalculable benefits that organization makes possible, and so assimilate in his daily duties the inspiring lessons contained in the three principles which are the constant guide of our organization.

We wish to acknowledge the whole-hearted co-operation of the National Beauty and Barber Supply Dealers' Association in the educational work in which our association is engaged. On the opposite page we reproduce the pictures of the Educational Committee of that association. This committee has labored long and well in the work of education and uplifting of our profession, and is deserving of much praise and the fullest confidence for its efforts.

History of State Barber Laws

THE first state barber law enacted in the United States was passed in Minnesota in 1897, and since that time the following states have passed statutes governing the profession: Illinois, Wisconsin, Kansas, Maryland, Michigan, South Dakota, California, Iowa, Missouri, North Dakota, Colorado, Oregon, Delaware, Utah, Connecticut and Washington. On the following pages are shown pictures of the members of various state boards as of January 1, 1928.

The model license law, which is used as a basis for the formulation of beneficial legislation in the various states of the Union, was drafted and approved at a joint session of the general executive boards of the Associated Master Barbers of America and the Journeymen Barbers' International Union of America, together with representatives of the National Association of Barber and Beauty Culture Schools, in Chicago, Illinois, on July 19 and 20, 1926.

The Minnesota law, as passed, provided for perpetual licenses. The statute was amended in 1921 and again in 1927.

The Wisconsin law was passed in 1903.

The Kansas law was enacted in 1913 and was amended in 1927.

Michigan's first barber law was passed in 1899, and superseded by a new one in 1927.

The South Dakota law was passed in 1927.

The California law, containing all the best features of the model bill, was passed in 1927.

The Iowa law, passed in 1927, contains many features of the model bill.

The Missouri law dates back to 1899.

The North Dakota law, enacted in 1927, contains many of the more important features of the model bill.

The Colorado law was enacted in 1909.

The Oregon law was first passed in 1899, amended in 1903, 1905 and 1925. This law was repealed and a model law enacted in 1927.

The enactment of legislation looking to the betterment of the barbering profession and the members thereof is the result of organized effort along these lines, and of the combining of many ideas of many supporters of a belief that barbers should and could have these things. That their faith was sound and the labor fruitful may be readily seen today, when from the working of this legislation is apparent the many benefits contained in the various state laws.

"IT PAYS TO LOOK WELL"

MINNESOTA STATE BARBER BOARD

P. H. Timmins
Minneapolis

J. P. McGill
St. Paul

Walter Dunlop
Duluth

ILLINOIS STATE BARBER BOARD

Frank J. Bishop
Chicago

J. H. Hoyt
Peoria

James H. Mantle
Bloomington

WISCONSIN STATE BARBER BOARD

Chas. E. Mullen
Madison

Wm. L. Smith
Milwaukee

John W. Hacker
Kenosha

KANSAS STATE BARBER BOARD

H. P. Miller
Topeka

Chas. H. Cook
Concordia

W. M. Roberts
Manhattan

MARYLAND

Louis Reuling
Baltimore

MICHIGAN

Glenn Brown
Belding

SOUTH DAKOTA STATE BARBER BOARD

Chas. P. Bowell
Aberdeen

Judson Miller
Sioux Falls

F. C. Foster
Rapid City

CALIFORNIA STATE BARBER BOARD

J. T. Haywood
San Francisco

C. E. Rynearson
Marysville

C. L. Butts
Los Angeles

IOWA STATE BARBER BOARD

John T. McGruder
Des Moines

Frank O. Moffitt
Sioux City

MISSOURI STATE BARBER BOARD

John H. Parshall
Kansas City

George A. Luce
Jefferson City

Wm. F. Rebsamen
St. Louis

NORTH DAKOTA STATE BARBER BOARD

MELVIN T. SIMLEY
Finley

CALVIN P. WICK
Fargo

FRED K. ODE
Bismarck

COLORADO STATE BARBER BOARD

CARL E. BRUHN
Denver

R. W. LICHTENHELD
Denver

OREGON STATE BARBER BOARD

ROY NEER
Portland

ED. L. JOHNSON
Oregon City

C. D. WINSTON
Corvallis

PRELUDE

Barbering

Ancient, Medieval and Modern

For much of the following article we are indebted to the F. W. Fitch Co.

THE word "barber" comes from the Latin word *"barba,"* meaning beard. It may surprise you to know that the earliest records of barbers show that they were the foremost men of their tribe. They were the medicine men and the priests. This was because primitive man was very superstitious and the early tribes believed that every individual was inhabited by good and bad spirits which entered the body through the hairs on the head. The bad spirits could be driven out only by cutting the hair, and so various fashions of hair cutting were practiced by the different tribes and this made the barber the most important man in the community. In fact, the barbers in these tribal days arranged all marriages and baptized all children. They were the chief figures in the religious ceremonies. During these ceremonies, the hair was allowed to hang loosely over the shoulders so that the evil spirits could come out. After the dancing, the long hair was cut in the prevailing fashion by the barbers and combed back tightly so that the evil spirits could not get in or the good spirits get out.

This rule by barbers was a common thing in ancient Asia. In fact, wherever there were legends and superstitions about the hair, the barbers flourished. To this day in India, the veneration of the hair continues and those who cut and dress the hair are important characters.

SHAVED HEADS AND BEARDS

In Egypt, many centuries before Christ, barbers were prosperous and highly respected. The ancient monuments and papyrus show that the Egyptians shaved their beards and their heads. The Egyptian priests even went so far as to shave the entire body every third day. At this time the barbers carried their tools in open-mouthed baskets and their razors were shaped like small hatchets and had curved handles. The Bible tells us that when Joseph was summoned to appear before Pharaoh, a barber was sent for to shave Joseph, so that Pharaoh's sight would not be offended by a dirty face.

In Greece, barbers came into prominence as early as the fifth century, B. C. These wise men of Athens rivalled each other in the excellence of their beards. Beard trimming became an art and barbers became leading citizens. Their shops were frequented by statesmen, poets and philosophers, who came there to have their hair cut or their beards trimmed or curled and scented with costly essences. And, incidentally, they came to discuss the news of the day, because the barber shops of ancient Greece were the headquarters for social, political, and sporting news. The importance of the tonsorial art in Greece may be gathered from the fact that a certain prominent Greek was defeated for office because his opponent had a more neatly trimmed beard.

In the third century, B. C., the Macedonians under Alexander the Great began their conquest of Asia and lost several battles to the Persians who grabbed the Macedonians by their beards, pulled them to the ground and speared them. This resulted in a general order by Alexander that all soldiers be clean-shaven. The example of the soldiers was followed by the civilians and beards lost their vogue.

Barbers were unknown in Rome until 296 B. C., when Ticinius Mena

came to Rome from Sicily and introduced shaving. Shaving soon became the fashion and the barber shop became the gathering place for the Roman dandies. No people were better patrons of the barbers than the Romans. They often devoted several hours each day to tonsorial operations, which included shaving, hair cutting, hairdressing, massaging, manicuring and the application of rare ointments and cosmetics of unknown formulas. The great ladies of Rome always had a hairdresses among their slaves and the rich nobles had private tonsors, as they were then called. Barbers were so highly prized that a statue was erected to the memory of the first barber of Rome.

When Hadrian became emperor, beards became the fashion again—and for a very good reason. Hadrian had a face covered with warts and scars. He allowed his beard to grow to cover these blemishes. The people of Rome imitated the emperor and grew beards whether they needed them or not.

The fashion changed again to clean-shaven faces. We know that Caesar was clean-shaven. As we will see repeated in history many times, the leaders of the state were the leaders of fashion and the people were always ready to follow the prevailing styles.

There are many passages in the Bible referring to the barber profession. Moses commanded that all who recovered from leprosy should be shaved. This was done as a health precaution, because throughout history the Jews have honored the beard as a badge of manhood. To this day, the orthodox Jews have little respect for clean shaven men. During periods of mourning, the ancient Jews allowed their beards to go untrimmed, but ordinarily their beards were trimmed regularly.

The prophet Ezekiel refers to an ancient custom in these words: "Take thou a barber's razor and cause it to pass upon thy head and upon thy beard." The razors of those days were made of flint and oyster shells.

ASSISTANTS TO CLERGY

During the first centuries of the Christian era, the barbers of Europe practiced their profession wherever it was the custom to shave the face and trim the beard. Charlemagne made long, flowing hair the fashion, but each new conqueror changed the fashion according to his whim and personal needs. During the first ten centuries after Christ, the great majority of the people and even the nobles were uneducated and could neither read nor write. The most learned people of the times were the monks and priests who became the physicians of the dark ages. There were no professional surgeons at that time. Most of the diseases which are easily curable now, were fatal then. "Bloodletting" was the popular method of curing all ills. This was first done by the clergy who enlisted the barbers as their assistants. This was the first step in the upward progress of the barber profession.

Barbers continued to act as assistants to the physician-clergy until the 12th century. At the council of Tours in 1163, the clergy were forbidden to draw blood or to act as physicians and surgeons on the ground that it was sacrilegious for ministers of God to draw blood from the human body. The barbers took up the duties relinquished by the clergy and the era of barber-surgeons began. The connection between barbery and surgery continued for more than six centuries and the barber profession reached its pinnacle during this time.

FIRST BARBER ORGANIZATION

The earliest known organization of barbers was formed in 1096 in France when William, archbishop of Rouen, prohibited the wearing of a beard. The barber-surgeon, or chirurgeons, began to thrive all over Europe. They were the doctors of the times and the royalty as well as the common people came to the barbers to have their ills treated as well as for shaving and haircutting. The physicians proper

were in continual conflict with the barber-surgeons. The barbers embraced dentistry as well as surgery and this brought down on them the enmity of the dentists of the times. A long strife, whose settlement required the interference of kings and councils. followed between the barbers and the regular surgeon-dentists. But the barbers retained the privilege of practicing dentistry and surgery for several centuries.

FOUNDED SCHOOL OF SURGERY

In the middle of the 13th century, the barber companies of Paris, known as the Brotherhoods of St. Cosmos and St. Domain, founded the first school ever known for the systematic instruction of barbers in the practice of surgery. This school was later enlarged and became the model for schools of surgery during the middle ages. Many of the foremost surgeons of the times were students of the School of St. Cosmos and St. Domain. The establishment of this school was one of the greatest contributions ever made toward the progress of humanity.

The oldest barber organization in the world, still known in London as the "Worshipful Company of Barbers," was established in 1308. Richard le Barbour, as the Master of the Barbers, was given supervision over the whole of his trade in London. Once a month he had to go the rounds and rebuke any barbers whom he found acting disgracefully or entering on other trades less reputable. The master of a city company not only had this power, but he successfully prevented unauthorized persons from practicing the barber profession. The Barbers Guild of the 14th Century was undoubtedly more powerful than any of the modern unions. The Guilds were sanctioned by the king and council and so they could enforce their regulations. It was not uncommon for violators of Guild regulations to suffer prison terms for their misdemeanors.

BARBERS AS SURGEONS

Up to the year 1416, the barbers were not interfered with in the practice of surgery and dentistry. But it was soon evident that they were attempting too much. It was impossible to expect ordinary human beings to competently practice surgery, dentistry and the various tonsorial operations. People began to complain that the barber-surgeons were making them sick instead of well. Many barber-surgeons resorted to quackery in order to cover up their ignorance of medicine and anatomy. These abuses came to the attention of the mayor and council of London, and in 1416 an ordinance was passed forbidding barbers from taking under their care any sick person in danger of death or maiming, unless within three days after being called in, they presented the patient to one of the masters of the Barber-Surgeon's Guild.

Until 1461 the barbers were the only persons practicing surgery. The practice of surgery was still in its primitive stage, but new discoveries were being made regularly and the barbers found it impossible to keep up with the new discoveries and at the same time maintain their skill in dentistry and barbering. The surgeons began to forge to the front and became increasingly jealous of the privileges accorded the barbers. But for a long time they could do nothing to prevent the barbers from acting as surgeons.

In 1450, the Guild of Surgeons was incorporated with the Barbers Company by act of parliament. Barbers were restricted to bloodletting, tooth-drawing, cauterization and the tonsorial operations. However, the board of governors, regulating the operations of the surgeons and barber-surgeons, consisted of two surgeons and two barbers. Every time a surgeon was given a diploma entitling him to practice his profession, the diploma had to be signed by two barbers as well as two surgeons.

The surgeons resented this, but the barbers were very much favored by the monarchs and preserved their priv-

ileges until the middle of the 18th century. Henry VIII, Charles II and Queen Anne presented the barber-surgeons with valuable gifts and raised many of them to high offices. Under a clause in the Act of Henry VIII, the Barber-surgeons were entitled to receive every year the bodies of four criminals who hod been executed. The dissections were performed four times a year in the Barber-Surgeons Hall which still stands in London.

ORIGIN OF BARBER POLE

The modern barber pole originated in the days when bloodletting was one of the principal duties of the barber. The two spiral ribbons painted around the pole represent the two long bandages, one twisted around the arm before bleeding and the other used to bind is afterward. Originally, when not in use, the pole with a bandage wound around it, so that both might be together when needed, was hung at the door as a sign. But later, for convenience, instead of hanging out the original pole, another one was painted in imitation of it and given a permanent place on the outside of the shop. This was the beginning of the modern barber pole.

ALLIANCE DISSOLVED

As the science of medicine, surgery and dentistry advanced, the barbers became less and less capable of performing the triple functions of barber-surgeon-dentist. The surgeons wished to be separated entirely from the barbers and they petitioned parliament to sever the ancient relationship of the barbers and surgeons and compel each profession to adhere strictly to its own provinces. A committee was appointed by parliament to investigate the matter and the petition was favorably reported to parliament. By an act of parliament, which received the sanction of the king, the alliance between the barbers and surgeons was dissolved in June, 1745. Two separate companies were formed and the property, formerly owned by the barbers and surgeons jointly, was divided among the two companies.

PROFESSION DECLINES

This marked the decline of the barber profession. Similar action was taken in France under the reign of Louis XIV. Toward the end of the 18th century the barbers of Europe had completely relinquished their right to perform any of the operations of surgery and dentistry, except in the small towns and out-of-the-way places where doctors and dentists were not obtainable.

After the barbers were prohibited from practicing medicine, surgery and dentistry, they became mere mechanics and servants, subject to the whims of fashion. When wigs became the fashion during the 18th and part of the 19th century, barbers became wig-makers. Their profession had lost its ancient dignity and barbers had become laborers, instead of professional men.

In England, America and all over the civilized world, the decline of the barber was a spectacle for all to see. Barber shops became hangouts, places where low characters assembled. Smutty stories, malicious scandal and gossip of all kinds characterized barber shops until a few years ago. A barber shop was a place where men showed their lower instincts and where women dared not enter.

AN UPWARD TREND

Late in the nineteenth century there were several noteworthy events in the barber profession that gave it an upward trend, and the effects are still carrying onward and upward. How long it will be before the barber may be looked up to as a professional man, taking his place by the side of the dentist, chiropodist, chiropractor and other kindred professions, cannot be foretold, but it would seem both the public and the profession are ready for better things.

In 1893 there was established by A. B. Moler in Chicago, a school for barbers, the first institution of its kind in the world, the success of which was apparent from its very start, for it stood for higher education in the

ranks, and the parent school was rapidly followed by branches in nearly every principle city of the United States.

In the beginning of schools, simply the practical work of shaving, haircutting, facial treatments, etc., was taught as neither the public nor the profession were ready to accept scientific treatments of hair, skin and scalp.

Not until about 1920 was much effort made to professionalize the work.

The Manual, for instance, the textbook, issued by the Moler System of Colleges, included a brief study course and a compend of diseases.

From time to time as the public would accept, this was increased and elaborated upon until today the curriculum of the Moler System of Colleges embodies elementary chemistry, histology, bacteriology, and anatomy in addition to the practical training course.

In 1916 there was another advance of importance enacted, a system of barbering known as the "Terminal Methods." It had its origin in the mind of a Mr. Schuster, an Austrian by birth, who came to New York City and seeing the great advancement in barbering over that of the old country, was inspired to do still greater things, and with the assistance of Mr. McAdoo, who was then in charge of the Pennsylvania Railway, established a super-sanitary shop in the Terminal Station in New York City. The shops throughout New York that were later established by this system, were known as the "Terminal Methods," and now embrace most of the leading shops of the large cities everywhere. The work of the Terminal Methods included the boiling in water of every instrument used in plain view of the customer; the sealing of brushes in airtight glassine bags after the instruments had been thoroughly sterilized, either by baking, boiling or dipping into a sterilizing solution; and it carried this strict sanitation and more professional work into every act of the barber.

Altogether it was apparent Terminal Methods would eventually win the hearts of the public. It was not until 1924 that the Moler System endorsed and put into effect this service in their Post Graduate Departments.

Another event, the most recent and probably the most important of the twentieth century, was the establishing in 1924, by the Master Barbers of America, an educational Council whose duty it was to pass on the qualifications of graduates from recognized schools, and to recommend them to standard shops for employment.

The work of this Council doubtless had more to do with the standardization and uplift of barbering than any other act in recent history, for it not only provided the service but looked after the application of it.

Too much cannot be said regarding this Association whose foresightedness led to so effective a work.

Lesson One

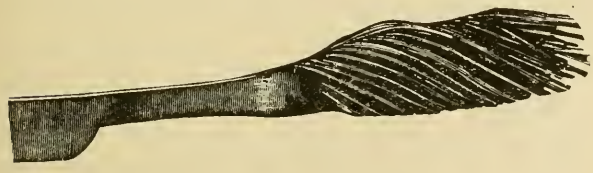
Subject
TOOLS

Selection and Care of Tools

THE fact that a barber can be no better than his outfit, makes the selection of tools second in importance only to the actual work, for no one, no matter how well trained, can do good work with poor tools.

Razor

Let us talk of the razor first. In selecting a razor, you have this to consider; the style of grind, the width and length of the blade, the handle that gives it a general balance, the material in the blank from which the blade is ground and the finish or polish.



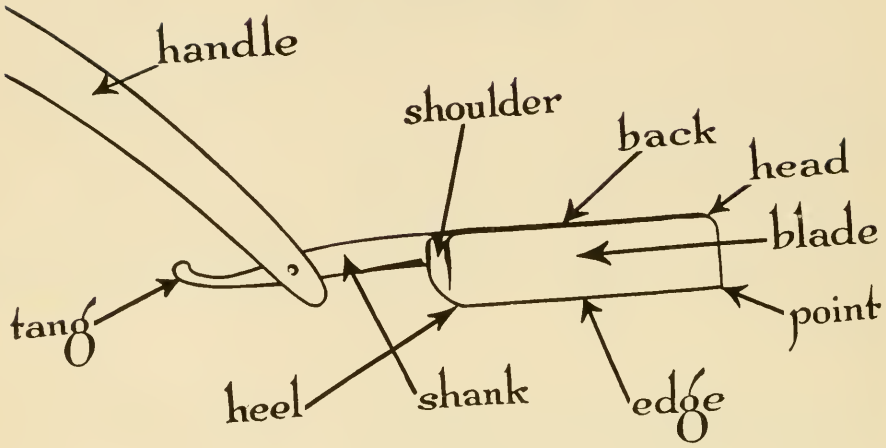
Razor blank made of welded steel wire

I show you here the razor blank and you will note, by the twisted ends at the shank, that a razor is not made of one solid piece of metal, but of a number of twisted wires welded into one. The object of making blanks in this way is that the ends of the wires brought to the edge of the blade,

Things to Remember

Heat expands and cold contracts; both affect the fine edge of razors.

Steel will retain poisonous germs that can best be eliminated by boiling.



Names of razor parts

Things to Remember

A razor blank as it comes from the forge is wedge shaped and may be ground into any concave desired.

gives a better grain or a blade that will be less susceptable to the climatic conditions, heat and cold.

It may be information to you to know that nearly all razors are made from very much the same blanks. While it is true some factories may have a better process of making blades than others, many razors of

Things to Remember

many processes and names are made from exactly the same blanks, the differences in prices generally being made up in the better or lesser methods of tempering, grinding and finish.

Only the expert can detect the hardness, softness or temper of a razor blade. A barber is not competent to judge.

In selecting a razor, you have nothing to be guided by as to the softness or hardness of the steel, for the manufacturers themselves will tell you they are not able to actually detect this, yet you will see barbers making all kinds of tests and telling the dealer it is too hard or too soft with absolutely no way of proving their statement.

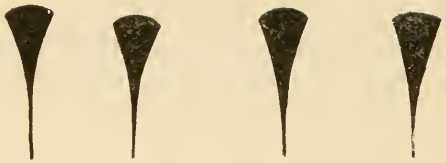
There are few barber razors or those of national reputation handled by the dealers throughout the country that are not properly tempered. They are so carefully scrutinized and selected in the process of manufacturing that seldom or ever is a defective barber's razor found on the market.

This is probably not true of the general hardware or department store razors, but it holds good with the razors in which you, as a barber will come in contact, if you are buying through the regular barber supply dealers, so you have little that need concern you regarding the temper.

A poor blank could not be full concave and give satisfaction.

The style of grind, however, has much to do with the cost of the razor. A full concave is the highest priced grind we have and you will be able to detect this grind by looking at the blade from the end, which shows a thinner part of the blade next to the heavy back and a heavier point between this thin metal and the point.

Things to Remember



Showing degree of concaves

The most delicate razor is the full concave. The most undesirable is the wedge.

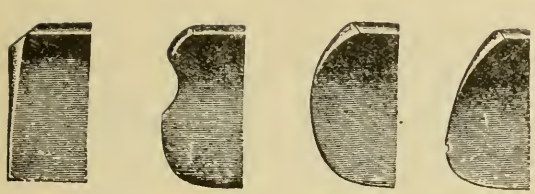
It is easy to detect the concave towards the point of the razor, but frequently the razor is concaved only at the point and remains heavier toward the heel. This can be detected by running the finger and thumb from the back towards the point, first at the end nearest point, and continue to make the same test each time a little farther back on the blade until you reach the heel.

If you find by the feel of the blade, that it is not quite as thin towards the heel, it need not necessarily follow that it is a cheaper razor, but it should have a fairly good concave from point to heel.

There is a small gauge made by which the exact concave can be tested, but this would be of little value to you as your selection is made from the blade that balances well in your hand and in general size and make-up.

To test the flexibility of a blade by running the thumb nail along the side of the blade detects nothing and frequently spoils the edge. Dealers object to this.

A half concave blade is less of a hollowing than the full concave and the three-quarter or plain grind has still less or none. There is on the market now, an old-fashioned type known as the Wedge that has no concave and it is having more or less recommendation with the younger barbers



Showing different shape points

Things to Remember

The practice of grinding or breaking off the point of a razor denotes lack of skill.

who do not know it was an old obsolete type many years ago.

If, however, it seems to suit best there is no serious objections to using it. It does, however, require a good deal more honing to keep in condition, is heavier and more awkward to use.

The point of the razor may be square or rounded, but we always recommend that even though a square point seems more difficult to use that you accustom yourself to it right from the beginning for there are so many places in the shave that you need the square point that you are working at a disadvantage if you allow the point to be ground off.

There are different styles of head, square and round, but the round head is much more desirable than the square. It does not scratch the strop, gives a nicer balance to the razor and generally a better appearance. Nearly all high priced razors have the round head and square point.

The illustrations above show old fashioned heads and points, not the modern styles.

The finish can be either a polished steel, crokus or, in some instances, a nickel finish. The crokus finish on a razor is the most

Things to Remember

Frequently an expensive polish is given to a cheap blank. Most barber razors are plain steel polished.

expensive. It has the brighter, more polished appearance, but for real value has nothing to do with the cutting qualities, although when the razor is new it enables you to hone it a little *easier*.

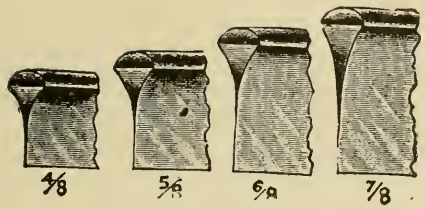
The plain steel finish that frequently shows that bluish tinge that gives the name of blue steel to many a razor, is for all practical use just as good as the crokus and a little less expensive. If you see a bluish caste here and there through the blade, do not be led to believe it is a defect or a burned spot, rather it denotes good steel.

The nickel finish should always be avoided, as it is almost impossible to re-hone a nickled blade. This is the finish that you frequently see on hardware razors and the cheaper grades that are made for looks rather than service.

The length of the blade should be selected simply to your own liking. If a short blade seems most likable in your hand, select it, or if the longer blade seems to have a better feel, use it, for there is really nothing to choose as far as the real shaving is concerned in the longer or shorter blade.

The longer the blade, the more cutting surface you have, and the less frequent honing required.

The width of the blades are gauged by eighths, such as 4/8, 5/8, 6/8, etc. The 5/8 is generally selected in purchasing a new blade even though it may be a trifle larger than you like to work with for razors always grow smaller with use and



The several sizes of blades

Things to Remember

The wide blade has greater expansion and contraction than the narrow one and more frequently loses its edge by changing temperatures.

if too small a blade is purchased in the beginning, it shortens the life or the usefulness of your razor.

That is why the professional razor trader, who visits the shop is always desireous of getting the bigger blades for in his rounds he is loaded up with the blade that has become too small. The professional trader, however, should be avoided. He lives off the man who is notional not professional, for barbers, like every artist, frequently become temperamental and lay their faults to the instrument.

The handle of a razor is generally selected by the manufacturer to properly balance the blade and seldom, if ever, can you change the handle and be as satisfied as before.

If a razor handle warps, causing the edge of the blade to strike, it can be straightened by heat, either moist or dry.

In purchasing a razor, one should guard against the handle that may warp and allow the blade to strike the handle in closing, but we seldom find this fault in a barber's razor. The ornamentations on a handle, as you know, is solely for looks, but the one who takes pride in his outfit will select with an eye to beauty as well as practicability.

Things to Remember

A hone will "steel-bind." Washing in gasoline or like material will free it.

Hone

Razor hones are of two varieties—quarried and manufactured. The quarried hone is sometimes called a lather hone, sometimes a hickory and sometimes an oil stone. This hone comes from the quarries of Belgium and is found deep down in the earth's crevices or caves of that country. It is a formation of seepage through the rock and has the appearance on the inside of the cave of icicles.

Belgium hone

The one illustrated is of two colors, all in one piece of material. That is the one that is sawed from the rock next to the alkali deposits caused by the seepage.

There are others of this variety where the two colors are glued together. This is where a part of the rock is sawed and simply furnishes a foundation of strength of background to hold the cream color part of the stone, the real hone.

The grain of a hone can be tested by running the finger or thumb nail endwise on the surface.

The rock is not a hone, simply the strength of the cutting part. This hone is not as popular at this time as it has been in the past, mainly because it does not do this work as fast, but it does give a more lasting edge than the faster cutting hones.

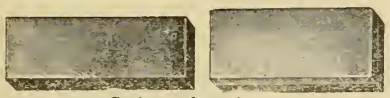
Water hone

The dark colored hone is known as a water hone and also comes from Belgium and Germany. It is also a quarried hone and is obtainable in a number of grades, usually called blue, dark blue, green or yellow green, and is without doubt the best hone for a beginner as it cuts very slow, does not over hone and enables one to practice honing without ruining the razor, as with the faster cutting hone used by one not familiar with their work or who knows when his blade is taking an edge.

Swaty hone

The manufactured hone is of a number of varieties. Some are made to cut reasonably slow while others are made to cut medium or over fast, but none of the manufactured stones have the real soft cutting edge of the quarried stone.

However, this need not condemn them for the fast cutting hone is used successfully by many barbers, however, nearly every barber has one fast cutting and one slow cutting hone in his kit.



Carborundum hone

Among the manufactured hones is the Swaty, a stone imported from Austria, the Carborundum, made in this country and the composition made from oil residus under a great many names. However, I believe the Swaty gives the most universal satisfaction of all manufactured hones.

Things to Remember

Selecting a good hone is largely speculative except by experts of which there are but few.

S. R. Drocscher, New York, is our authority.

A hone while in use should be kept at the temperature of the room as should also the materials used with it. Otherwise the edge of the razor will be effected by the change of temperature.

Things to Remember

A shear should balance well in the hand, not fit the finger or thumb. Ferrule must fit loosely and the knack of handling acquired by practice.

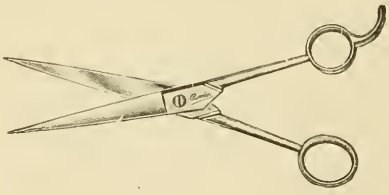
Shears

The barber's shear is generally the type known as all steel, which, according to the name, is one solid piece of steel from point to ferule.

There was a time when steel laid shears and cast steel was tried out in the barber shop, but you find very few of this make now in the barber's hands.

The all steel shear may be hand forged, which means hammered out as the blacksmith would sharpen an instrument or it may be stamped in shape and not hammered in shape.

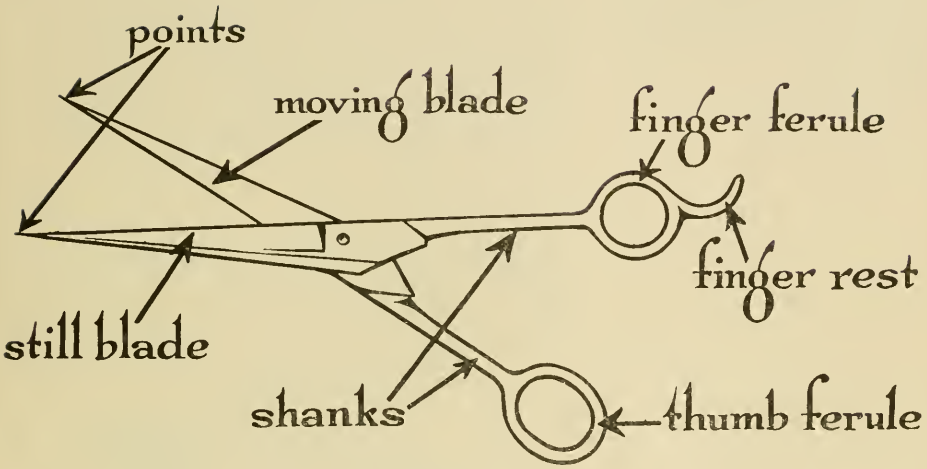
A steel laid shear is one in which a thin layer of steel is welded to a blank giving only a partial steel blade. The cast steel is the cheaper variety such as the household shear.



French pattern hair cutting shear

A shear blade will spread disease as readily as a razor and should be boiled as frequently.

The pattern of the shears vary more in regards to handles and ferules than in blades. The all steel shear may be ground to a thinner blade and be serviceable than would be possible with the steel blade or cast, but the handles and ferules are known as the French type or the German type, although the French type is made in German shears as well as of French manufacture.



Names of shear parts

The French type ferules are the small round ferules illustrated, while the German type is the flatter or broader ferule made to fit the finger and thumb. The French type is most in demand and finds general favor among the barbers, for the German type, if it were to give the comfort for which it is designed, would really have to be made for each individual.

Things to Remember

The French patterned shear can be used for either the right or left hand. The only difference being that the sharp point is on the wrong blade. This, however, is not a serious objection.

Things to Remember

An inexperienced workman usually prefers rubber shear pads for the ferrule but will discard them when he becomes more skillful.

Another point in favor of the French pattern is it's lightness, general delicacy and refinement. Shears are made with a "set", which means a curve to each blade, that, when closed, brings the points close together enabling them to cut clear to the point and will show space between the blades with the exception of a little at the point when they are closed. You may be led to believe this is a defect. It is not, it is the spring or set they must have.

Shears like razors may have a plain steel finish, a crokus or a nickel and like the razor and for the same reason a crokus is the most expensive. The sizes may be 6½, 7, 7½ or 8 inch, but probably the 7 inch finds greatest favor. This, however, is according to your own likes or dislikes.

Shears should never be given to the grinder to be sharpened and it is not advisable for you to attempt to re-edge your own shear. If one is experienced, he may possibly renew an edge temporarily on a grinding wheel, with a small file or on the hone, but this is only a temporary relief for shears usually need a re-set if they need a re-grind and only the experienced grinder can give this. Do not give your shears to the street grinder, the barber supply house is the place to re-grind a barber shear.

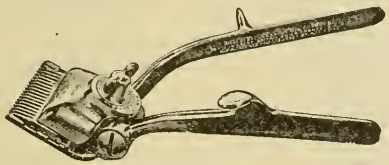
Any one aside from an expert grinder who advises he can re-edge or re-set a pair of shears properly, is to be avoided. The screw holding the blades should never be adjusted by the barber.

Clippers

Clippers are made of any number of styles, sizes and qualities, but the same rule that applies to the other instruments applies to the clipper, only the very best obtainable should be purchased.

A style most favored by the barber is the one with the coil spring that never breaks, the one that can be easily taken apart and put together and the one that has the best feel in the hands. By this, I mean the one that handles best.

There are many imitations to this pattern, but if the imitation was better it would not be made an imitation to this standard make.



High grade hand clipper

The size or length of cut is to be taken into consideration. Generally a barber will have in his kit, two or three sizes, but many use only one and do very good work. The sizes No. 1, No, 0, No. 00 and No. 000 are used, but probably the No. 0, if only one clipper is in the outfit, is best. The No. 00 and No. 000 cut proportionately shorter, the No. 1 is the longest cut the barber uses.

Illustrating corrugated bottom

Things to Remember

The clipper blade will innoculate as readily as a razor or shear and should be boiled as frequently.

The usual cause for clipper pulling is improper adjustment of the tension screw at the top of the plate. It can be too tight as well as too loose.

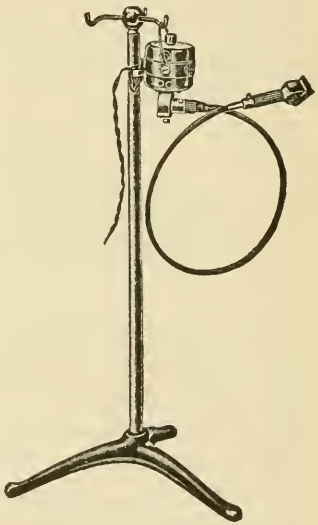
Things to Remember

Anxiety to use the electric clipper in place of the hand machine is the cause of much hair cutting trouble. The use of the hand clipper must be acquired first, otherwise when the electric fails the barber fails with it.

The corrugated bottom plate is so made that it will slide readily over the surface. A flat bottom plate will stick to the neck especially if the surface is moist, which is the case when a customer perspires.

The finish of the clipper is generally the polished steel not nickel. The cheaper varieties are made with a round spring in the mechanism that frequently breaks and has not the strength of the coil or barrel spring just referred to.

Electric hand clipper



Electric standard clipper

Magnetic clipper works successfully only in alternating currents. Standard clippers are universal and can be used on either direct or alternating currents.

Electric clippers are universally used, but a student must first learn to use the hand clippers very successfully before attempting to use the electric. Electrics are made to operate by motor and flexible shaft or by magnet like a doorbell.

Metal back hair brush. Permits boiling

Things to Remember

The metal back hairbrush can be boiled and is the best method of sterilization. Wood backs cannot.

Hairbrush

The hairbrush is the instrument that may seem less important but equally as great care should be given to the selection of it as any other instrument in the kit.

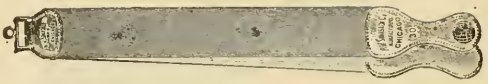
A hairbrush is dangerous because it is a germ carrier, difficult to sterilize and frequently harmful if too penetrating. Many states have passed laws forbidding a hairbrush in a barber shop unless as the customer's own individual property, and they are prohibited on all sleeping cars for public use.

Air cushion hair brush

In selecting a hair brush, size, shape, width and length of bristles must be taken into consideration.

It is, therefore, important that you select one that can be sterilized, the metal back or one with bristles set in vulcanized rubber that is detachable from the handle. I illustrate one of each that have passed most State Board examinations. Hairbrushes should be sterilized after each application.

Things to Remember



Leather and canvas strops

Strops

The "break in" of a strop is the biggest part of it, if you are breaking in on good material.

Strops should always be used in pairs, canvas and leather. The canvas strop should be a good quality linen hose, for when well broken in it will last a lifetime and becomes better with age.

Generally canvas strops are machine finished at the factory, but as a rule require additional work. Dry soap rubbed into the strop that may be fastened to a smooth surface and rubbed with a bottle is a good method of dressing strops, but this should not be done until the strop begins to be rough from use.

The strop should be kept as dry as possible for the moisture swells it and makes it rough. It is, therefore, not advisable to use lather in rubbing the strop unless it may be to remove the grit that accumulates on the surface of an old strop.

When this is done, apply the lather freely and immediately scrape it off with the blade of the shear before the canvas has time to soak up the moisture. It is well occasionally to wipe the surface of the strop with cotton saturated in alcohol.

Strops should never be folded closely, as it spoils the surface. Be especially cautious of this if carrying in a kit.

The leather strop is made of a number of grades of leather. The heavy Russia, the lighter weight Shell, and the Horse-Hide. The Russia leather gets its name from the imported article of years ago, but as we get little or none of the imported goods now, we use the American cow-hide

Canvas strop

or some heavy leather and give it the stamp on the back the same as the imported gives. This you will see is the red corrugated finish.

This heavy leather requires a great deal of work to break in or make satisfactory for the barber's use, as it continues to become rough by stropping until a great deal of work has been put on the finish.

Russia leather strop

The Russia Shell is simply a piece of shell leather which in reality is more a muscle over the rump of the horse than a leather, and as only a few strops can be cut from a hide, it makes this a rather expensive strop. It needs no work or breaking in to put it in condition. It has a smooth surface and remains smooth no matter how much service you give it.

It is frequently stamped on the back by manufacturers the same as the Russia strop, and this is what gives it its name, "Russia Shell."

A horse-hide strop is not desirable for barbers' use. It is the kind that is put in strops for private use, but does not have a sufficient grain to draw out the edge of a razor or a sufficiently smooth service to put on a good edge.

Things to Remember

A strop, like a violin, improves with age only if properly used.

A strop can poison your razor, therefore should be sterilized by treating with carbolized vaseline.

Things to Remember

The tip ends of the neck duster that come in contact with the individual, can be kept sanitary by frequently dipping into a mild sterilizing solution.

Neck Dusters

Neck dusters are made with and without a fountain handle. The fountain handle carries talcum powder that is discharged into the roots of the bristles by using the neck duster and enables the barber to powder the neck without the inconvenience of picking up the powder can to sift into the neck duster

Fountain neck duster, contains powder

The hair of the neck duster, if of good quality, is horsehair, but frequently cheaper grades are made of fibre. Neck dusters are made with wood handles without the fountain compartment, but as dusters must be washed frequently, the celluloid or metal handle is preferred.

Wood handle neck duster

A wide band of paper slipped over the hair of the neck duster will keep it straight when not in use.

The neck duster is cleansed by washing in a germicidal soap and warm water and the ends of the bristles dipped in a 3 per cent solution of carbolic acid and water, then dry thoroughly by whirling the neck duster between the two hands. Be sure the brush is thoroughly dry before putting it into your kit for if it is left moist and allowed to dry out of shape, it spoils its bristles.

Lather Brush

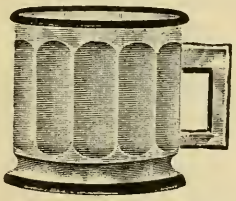
The lather brush should be one so made that it will stand boiling in hot water, which means that the bristles should be vulcanized in rubber and the handle of

Rubberset lather brush showing construction

celluloid or metal that could not be affected by the heat. The wood handle lather brush or the old-fashioned twine bound no longer have a place in the sanitary shop.

Mug

The plain glass mug, where mugs are used, has taken the lead over the china mug, for they have a more cleanly and sanitary appearance, but in using a glass mug one must be careful not to dash hot water into it. It can be poured in on the lather brush, but in no event should extremely hot water be used where soap is



Gold band crystal glass mug

in the mug for it scalds and renders the soap useless. Both the cup and brush should be thoroughly rinsed before each usage and it should be done conspicuously enough so that your customer can see he is getting fresh, clean lather.

Things to Remember

PREDICTION

Neither a lather brush nor a mug will be used in the barber shop of 1930.

A sloppy mug driveth away patronage.

Things to Remember

A number of threads held tightly between the fingers and thumb provides a good comb cleaner. Rough edges of the teeth may be smoothed by scraping with broken glass.

Comb

A comb of either rubber or horn is acceptable. Possibly the rubber is preferable as it does not warp or lose its shape and is equally durable as any other.

The horn comb, however, has its friends among the barbers and probably there is little to choose between them. They should

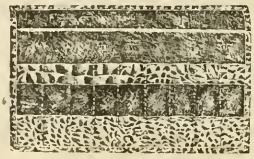
Hard rubber hair cutting comb

be thoroughly washed and dipped in the sterilizing solution after each customer. A comb with a thin end for close haircutting is the style that is necessary and one with one-half coarse and one-half fine teeth is preferred.

Leather Roll

A razor roll with pocket for combs, shears, etc., is convenient for carrying the instruments, but if a sterilizing cabinet is preferred for the barber, the roll is not needed on the workstand.

A razor pocket is a convenience, not a necessity. If used, must be kept clean.



Razor pockets

Uniform

Barbers should be uniformed in white, but many use only a white coat, still the white trousers and shirt or white trousers and jacket gives a much nicer appearance. The uniform in the high-class shop should be changed daily.

Many shops adopt a plan of sealing the brushes, combs, and other instruments in a glassine bag (a transparent container that keeps them free from dust), breaking the seal when the instrument is used for each customer. This requires a number of brushes and combs but the effect on a high class trade warrants the extra service.

Regulation barber uniform

Things to Remember

A long belted jacket gives a professional look, but in hot weather is burdensome. White shirt and trousers are appropriate.

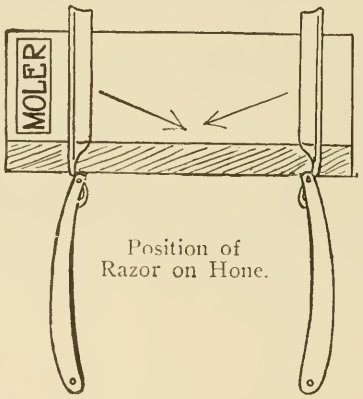
To encase instruments in sealed packages has a favorable psychological effect on patronage.

Things to Remember

A smooth even draw just heavy enough to feel the cut gives the best edge.

It is well to practice on an old razor or on a slow cutting hone that you do not damage a perfectly good instrument and continue to practice this until it becomes perfectly easy and natural.

After the mechanical skill has been acquired, the testing of the edge to determine its fitness is next in importance.

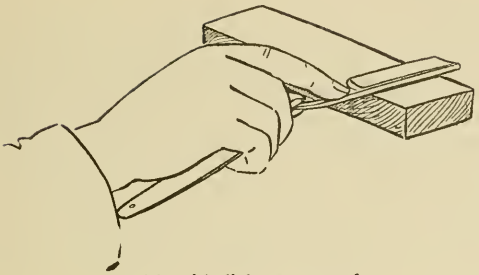


Line of direction for razor on hone

You determine the edge by testing it on the nail. Usually the barber moistens his thumb nail, and by drawing the edge over the nail lightly, it will tell you the condition. If a razor has a thick blunt edge, it will ride over the nail without making any impression as would any blunt instrument, but if it is honed thin, it will cut in and draw as you move it over the surface. If it has a rather gritty grating feeling, it will indicate that the razor is too rough and this may be when it is not quite honed to an edge or when it has been over-honed to the

An uneven edge cannot be kept sharp. Hone evenly from heel to point.

Things to Remember

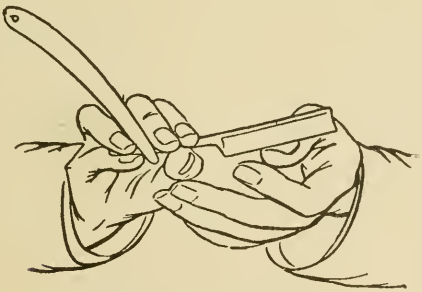


Finish with light even stroke

A nick in the edge of the razor causes it to jump as it is drawn over the nail.

degree where the edge breaks and crumbles giving it that disagreeable gritty feeling.

It is necessary to test the edge frequently as you hone, in order to detect its condition, and as you find it is taking an edge, hone



Testing edge after honing

An overhoned edge feels rough, like a file. It can be smoothed by drawing over a match or like surface, a few times, then rehoned.

very cautiously for an over-honed edge is as bad or worse than one not sufficiently honed. There is little danger of over-honing when a water hone is used. This is why it is recommended from the beginning, but as the water hone is a little too slow for the workman who wants to make time, the Swaty hone here has its place in the kit.

Things to Remember

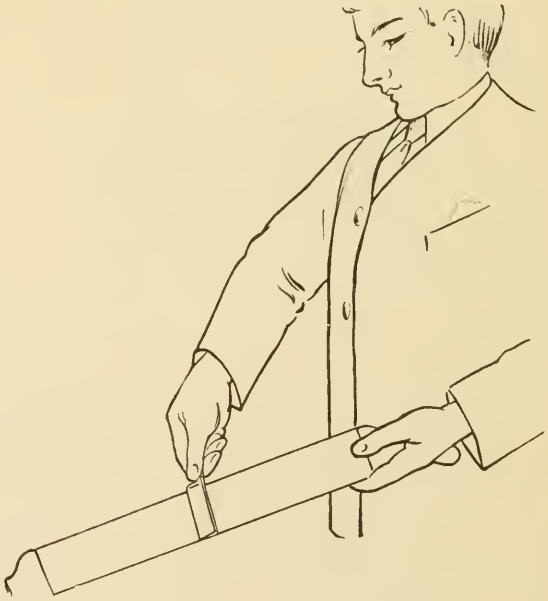
Neither the razor nor strop should be colder than the temperature of the room when stropping.

Stropping

A razor unless freshly honed should always be stropped on the canvas strop first just enough to draw out the edge and finish on the leather. There is a friction in stropping on the canvas that heats the metal, thereby expanding it and bringing it out to a keener edge so enough stropping should be given on the canvas to heat the blade, from one-half to one dozen strokes.

The strops should be held tight and a sufficient pressure given the razor on the strop to feel the draw and the razor must be held perfectly flat on the strop. It can be drawn perfectly straight, but there will be no harm if drawn diagonally on the sur-

Freshly honed razors need only the leather strop. A freshly honed razor is one just off the hone.



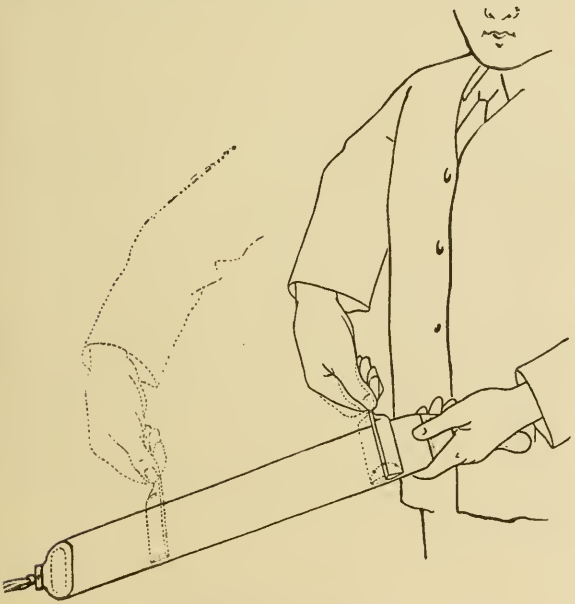
Stropping position

face and it should be turned on its back for each stroke without lifting it from the strop.

There is quite a knack turning the razor in the hand without turning the hand itself. It should be so held that it can be easily rolled in the hand, making the process of stropping much easier and more graceful.

After the proper number of strokes on the canvas, turn the strop over, bringing the leather side up, and strop on this the same as on the canvas, generally about the same number of strokes.

If a razor is freshly honed it should not be put on the canvas strop but should be



Turning razor on strop

Things to Remember

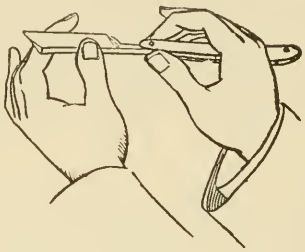
The more shaves you give, without honing, the more stropping will be needed. First with canvas, second with leather.

Too much stropping or too heavy is as bad as not enough, and too lightly.

Things to Remember

stropped immediately on the leather and usually a little more stropping at first than will be required after the edge has been smoothed.

A stropped razor gives its answer to the flesh, not the nail.



Testing edge after stropping

You test the edge of your razor after stropping by drawing it over the flesh or ball of your finger. Draw the razor carefully over the surface or you may draw your finger over the edge, to detect its condition.

If in perfect shape, it will have a smooth, keen cut that will not permit you to draw very far without cutting through, but if it is rough it will have a rather disagreeable feeling, although it may cut into the flesh just as quickly as the keen edge.

The razor should be stropped just before the shave; no other time. This is on account of the heat given to the razor by the friction of stropping. The heat expands the metal, giving a better edge.

This, however, would not give a satisfactory shave where the smooth, keen edge is necessary to do the work properly. If you were to look at the blade through a microscope you would find it has teeth like a saw and the honing and stropping is given to obtain just the proper set or size to the teeth.

Subject

SHAVING

Exercises

PRECEDING our lesson in shaving, we give a number of exercises that are essential in enabling one to take the proper positions in handling razor and to put the hands in proper condition for shaving.

These exercises can be practiced to advantage preceding the actual work at the chair but in your endeavor to put this into effect, if for home practice, be sure that you have followed instructions carefully.

You must note that a razor is never carried straight forward toward the edge; it must always be held so that the cutting edge will strike the object to be cut at an angle or like sawing, for it is the teeth or roughness in the edge (too fine to be detected with the naked eye) that does the work like the teeth in a saw, therefore every stroke with a razor blade must be a sliding stroke. Too much emphasis cannot be given to this particular point, for if not practiced properly, your exercises would be of no avail.

The several positions that one must acquire in getting at all parts of the face, are four in number called Free Hand, Back Hand, Double Back Hand and Reverse Hand. The object in using the left hand while working with the right is to imitate the actual shaving movements. The left hand is always used to draw the skin tight under razor and the exercises must be with the left hand, either back or in front, according to the number you are working on.

Things to Remember

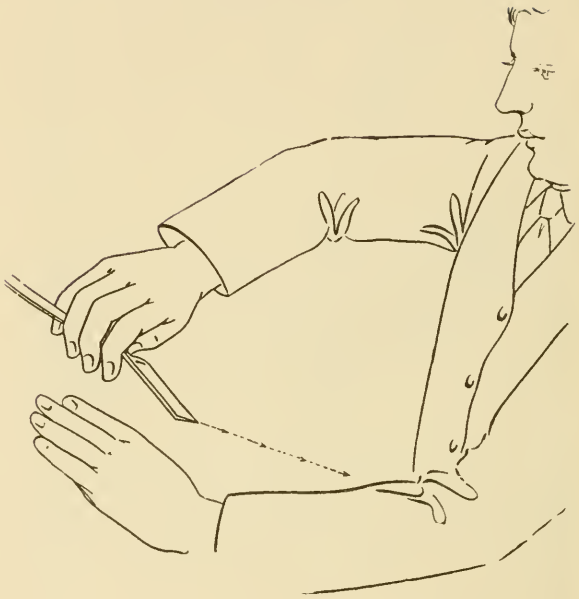
A razor is carried over the face, not dragged or pushed.

Cutting strokes like cutting remarks, penetrate if not handled skillfully.

Things to Remember

Shave Exercise No. 1

A cutting stroke is a movement straight forward, not a swing, with the point of the blade carried ahead.



FREE HAND

This movement is used in actual work at the chair for shaving the right side of the face, the left side of the chin, and the upward movement of both right and left sides of the neck. It is the most general and one of the easiest movements used in shaving.

No, you haven't it yet; try again.

Shave Exercise No. 1

Keep the wrist stiff, but bend the elbow.

EXERCISE NO. 1

Take razor in right hand, handle between little and third finger. Raise elbow nearly level with the shoulder. Take position as if shaving. Hold left hand back of razor as if stretching the skin tight under the razor.

Move razor in right hand toward you with a diagonal stroke toward the point, a sliding movement, then back and forth like sawing. The length of strokes should be from 8 inches to a foot.

Muscle control is acquired by continual practice.

Things to Remember

Shave Exercise No. 2

Keep the elbow up and carry the razor with a straight, sliding stroke, not a swing.

BACK HAND

This movement is used in actual work at the chair for shaving the right side of the chin, the left side of the face, the left side of the neck shaving down and the left side of the upper lip. It is one of the most difficult movements and next in importance to the Free Hand.

Do not get behind your razor and push. Give it a chance to cut by using a cutting stroke.

Shave Exercise No. 2

Keep the point ahead, carried at an angle.

EXERCISE NO. 2

Take razor in right hand with handle bent back, the shank of the razor resting on the first two joints of the first two fingers and held in place by the thumb on the back of the shank of the razor,—the blade from you and the handle pointing toward you.

Raise the elbow nearly as high as the shoulder, the back of the hand directly from you, the wrist slightly bent downward. Hold the left hand as if stretching the skin tight under the razor.

Stiffen the wrist and forearm to better control the stroke.

Things to Remember

Shave Exercise No. 3

Draw toward the heel, moving forward at an angle.

REVERSE HAND

This movement is used in actual work at the chair for either right or left side of the neck shaving up. It is not as generally used by the barber as the other two movements for it is one of the most difficult movements to acquire. It is a labor saver and should be mastered.

Keep the wrist and elbow stiff. Move up from the shoulder.

Shave Exercise No. 3

Do not let the blade swing. Carry it up, held at an angle.

EXERCISE NO. 3

Take razor in right hand with the edge toward you just the reverse of Movement No. 2. This will bring the handle between the ends of the little and third finger. The handle bent slightly back.

Move the razor toward you with a slightly upward movement drawing toward you and toward the heel in a diagonal direction. The length of the movement is from 4 to 6 inches.

Hold the left hand as if pulling the skin tight under the razor.

Both hands in position are necessary with all of these exercises.

Things to Remember

Shave Exercise No. 4

This is a hard position requiring a limber wrist and perfect muscle control.

DOUBLE BACK HAND

This movement is used in actual work at the chair for making the outline of the hair cut. It is used on the left side, back of the ear. The position is quite difficult, but practice will attain it.

This stroke when mastered, saves many steps.

Shave Exercise No. 4

This is not a sliding stroke, rather a chop.

EXERCISE NO. 4

Take razor in right hand as in Movement No. 2. Drop the elbow close to the side, turn the palm of the hand up with the razor in a position that will bring the point down.

Raise the left arm and hand in a position as if drawing the skin tight under the razor.

The movement is a slight forward movement toward the edge of the razor.

Practice is required to attain the position. The movement is not difficult.

This movement is a short downward stroke from the shoulder.

Things to Remember

Deviations from the chart instructions are made for growth of mustache, partial whiskers, etc.

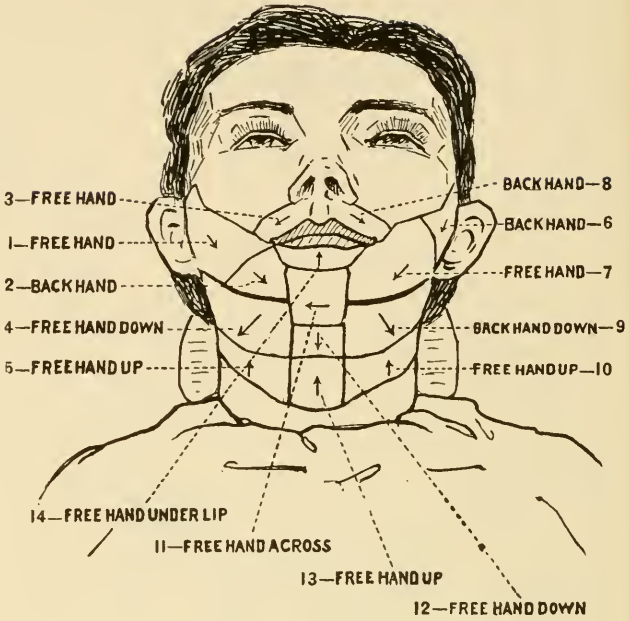


Diagram of Face for Shave.

As your customer takes your chair, raise the headrest several notches and try to turn the chair in a manner that will make it easy for him to be seated, and as you swing the chair in position, also recline it at the proper angle, making it comfortable for the customer, still easy for you to operate.

Don't recline your chair too speedily, or drop it with a slam.

Avoid letting the chair down to its extreme limit and pumping it up to height to suit you for the customer is never comfortable laying perfectly flat. The head should be higher than the feet. The chair will be partially reclined always.

Now cover the customer with a chair cloth by swinging it over the customer, not by standing back of the customer and swinging it over the head. There are conditions, such as extremely hot weather, when the chair cloth is not spread over the customer, but this is the unusual, not the usual procedure.

Things to Remember

A neat linen "set-up" is a good start.

Now take your face towel from the stack on your workstand right by your elbow, unfold it and place it diagonally over the customer's chest and with the first finger of the right hand lifting the neck band at the collar button and tuck the edge of the towel in at the neck band with a sliding motion with the first finger of the left hand.

Now cross the other end of your towel over, turn the customer's face toward you and tuck in the other side, changing hands.

See that the linen is smoothly and neatly spread for the manner of handling linen often decides in the boss's mind whether or not you will hold your first job. Now pick up your cup and brush and if you are working with an individual washstand in front of your customer, do the rinsing of the mug in a manner that will show your customer, if he may be looking, that you are giving him sanitary service. This should be done quickly and noislessly and only a little mixing after the water has been emptied from your cup, just a sufficient amount to fill your brush with a lather about the consistency of thick cream. If the lather in the brush is too moist, it will run down the customer's neck; if too

A man well lathered is half shaved.

Things to Remember

Lather brush in hand

Too many fingers in the froth spoils the broth.

stiff, it will dry quickly on the face and you will not get the benefits that the lather is intended to give to the operation.

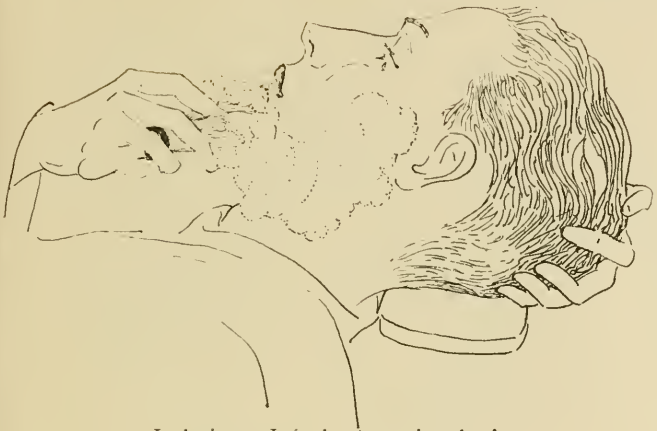
You apply the lather with the handle of the brush in the palm of the right hand, allowing the ends of your fingers to work down into the bristles to keep them from spreading too much and to enable you to handle the brush more easily. It must be used with a rotary movement, which not only works the lather into the roots of the hair, but enables the brush to make more lather in itself as you go over the face in a rotary movement.

Apply the lather to all parts of the beard that is to be shaved using care around the mouth at the nostrils and at the ears. After the face has a good coat of lather, take the brush between the thumb and finger of the left hand, holding the hand at the headrest, not at the customer's forehead, in a manner that will enable you to turn the head from right to left without raising it from the headrest, and with the right hand rub the lather well with a rotary movement so that the soap will be worked well into the roots of the beard.

To rattle your brush in the mug keeps your customer awake. If he wants to sleep, let him.

After a little rubbing, generally from two to three minutes, you re-place your lather brush in the cup, pick up a turkish

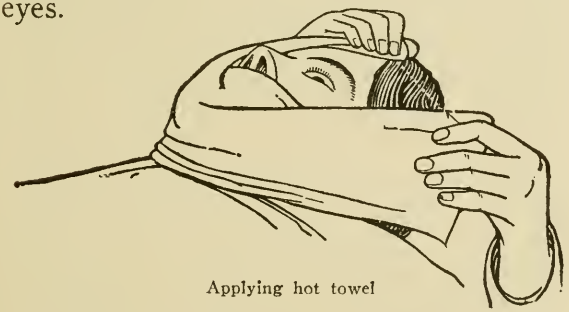
Things to Remember



Lathering. Left hand turning head

or steam towel. Fold it once lengthwise, hold it under the hot water until thoroughly saturated, wring it out reasonably dry, having it as hot as the hands will bear it comfortably, and spread it over the face by holding it at the two ends, bringing it from the lower part of the neck over the entire face, including the forehead and eyes.

There is a difference between a steamed towel and a soaked one. Steam your towels.



Applying hot towel

Allow the towel to remain on the face to steam while you strop the razor, then remove the lather and be careful not to rub against the grain of the beard. Relather the beard and proceed with the shave.

Cut and scald and you will have more time for the ball-game tomorrow.

Things to Remember

This illustration shows the improper position of the razor. The dotted lines show the proper position. This precautionary illustration should assist you to the right position.

Right side free hand (No. 1.)

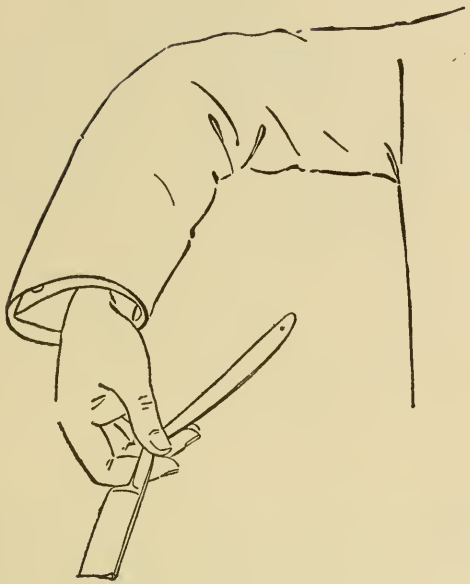
Movements

The razor is to be held in the right hand with the handle between the little and third finger and in such a manner that it will enable you to draw the razor forward with a diagonal cutting stroke. The razor must not be drawn straight while shaving, it must have a sliding, cutting stroke.

After stropping the razor start at the right side of the face at the hair line, shaving down with a free hand stroke to the jaw bone, holding the surface that you are going over smooth and tight with the left hand. As you continue to shave continue to bring the left hand close to the surface that you are shaving that you may draw the skin tight, and continue with the same kind of a stroke until the right side of the face has been shaved to the corner of the mouth. This is movement No. 1.

As much depends upon keeping the skin tight under the razor as does the condition of your razor, for comfortable shaving.

Things to Remember



Position for back hand

Another precaution regarding the back hand stroke may help. Keep the elbow up and carry the razor; do not push it.

Allow me to caution you at this point regarding the use of lather paper. The regulation size for lather paper is 4x6 inches. Always wipe your razor off in the center and *not* around the outer edge as you are apt to do.

At this point you use the back hand stroke, which is reversing the razor in the hand, and so held that it will enable you to give a sliding stroke with the point of the razor in advance and shave to the point of the chin.

The proper placing of a customer in a chair that he may be comfortable is as important as the actual shave. Avoid dropping the headrest too low or reclining the chair too much.

Also be careful that you shave the corner of the mouth with the back hand movement. This is movement No. 2.

Things to Remember

The left side of the upper lip is frequently shaved with the free hand stroke from the corner of the houth toward the nose, but it is not advisable in case of a heavy growth.

Back hand (No. 2.)

When you have completed this section of the face, which is from the corner of the mouth to the point of the chin as far down as the jaw bone, you will again use the free hand movement over the right side of the upper lip.

With the left hand you will touch the nose lightly to enable you to place the razor on the upper lip, shaving first the portion under the nose. Finish the right side of the lip with the free hand movement. This is movement No. 3.

The direction the hair points coming out of the skin is called "with the grain." The opposite is called "against the grain." Shave with the grain all that it is possible.

There is some question, by barbers, regarding the best manner of shaving the upper lip. Some prefer to shave against the grain, shaving from the corner of the mouth to the nose on either side, but experience has taught us the beginner can better master this stroke by using the free hand on the right side and the back hand on the left.

Things to Remember

Free hand down (No. 4.)

In shaving the upper lip, avoid pinching the nose with the left hand; just touch it lightly.

You now start at the point of the chin, holding the skin tight between the thumb and second finger of the left hand and shave down on the side of the neck as far as the grain of the hair will allow, being cautious always not to touch a hair against the grain. Continue to shave over this surface as far back as the ear. This is movement No. 4.

You will now step back of your customer for movement No. 5, a free hand stroke shaving the lower part of the neck up with the grain, stretching the skin on the neck between the thumb and fingers of the left hand, shaving on the surface that is so stretched.

If the finger of the left hand is placed lightly against the side of the nose and the thumb at the corner of the mouth, the skin on the upper lip can be stretched, making the shave much easier.

Things to Remember

In shaving the left side of the face, a great deal depends upon the position in which the customer's head is placed. It should be turned to the right but done without cramping the neck.

Left side back hand (No. 6.)

Now turn the face toward you with the left hand placed at the back of the head at the headrest. You turn the head while slightly lifting it and the customer will let it roll either direction you choose to place it, again strop your razor and re-lather—if the lather has become dry—and learn to use your razor and lather brush in the same hand. Take your position directly back of the chair and with the back hand stroke start at the hair line on the other side of the face, shaving down as far as the lower part of the ear. This is movement No. 6.

Keep the shave clean without scattering bits of lather over the shaved portion of the face. It looks mussy and interferes with your drawing the skin tight under the razor.

Now use the free hand and shave the side of the face to the point of the chin as far down as the jaw bone. Also be careful that you shave the corner of the mouth with this free hand movement. This is movement No. 7.

Left side down back hand (No. 9.)

Now with the back hand shave the opposite side of the upper lip, movement No. 8, then continue shaving the opposite side of the neck, starting at the point of the chin, shaving down as far as the grain will allow. This is the back hand stroke No. 9. Now step back of your customer, with the free hand stroke, shave the lower part of the opposite side of the neck up, No. 10.

Left side up free hand (No.10.)

Things to Remember

There is a knack in keeping the fingers of the left hand dry to better stretch the skin; and a knack in stretching the skin when the fingers are moist. Never use alum.

The careful barber watches carefully the grain of the beard on the neck, and shaves with it.

Things to Remember

The natural inclination seems to require the razor handle between the second and third fingers but it should be held between the third and fourth.

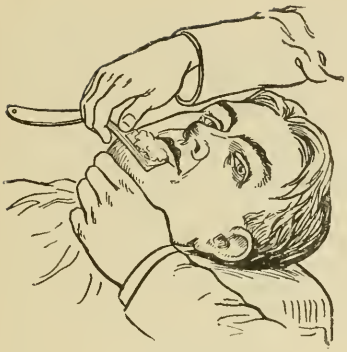
Across chin free hand (No. 11.)

Now turn the face up, always using the left hand for this purpose. Shave across the chin toward you with the free hand movement No. 11, and hold the skin tight under the razor by stretching it between the thumb and forefinger of the left hand.

Your first stroke is with the point of the razor, beginning at the upper part of the chin; your next stroke is with the center of your razor just a little lower on the chin, and the third stroke is with the heel of the razor still farther down. I wish to caution you here to be sure and use every part of your razor in shaving the chin.

There is a nicety in handling the shaving paper as well as the linen. It easily musses. Learn to keep it neat, and your sleeves out of the lather spread on it.

Now shave down with the free hand stroke No. 12 as far as the grain of the hair will allow, then step back of your customer and shave lower part of the neck up, free hand No. 13. Now you have left only the under lip to be shaved and you keep your position back of the customer, shaving up



Under lip free hand (No. 14.)

with the free hand and stretch the skin down by placing the finger of the left hand around the chin holding the skin tight. This is movement No. 14.

Things to Remember

Number fourteen is a peculiar sliding and dipping stroke. It can only be acquired by practice.

You now apply the hot towel as before and allow it to remain on the face while you strop your razor. Now hold your razor as for the free hand stroke except that you are sliding the razor further into the hand and with the ends of the fingers of the same hand, hold the water bottle and give a dash of water into the palm of the left hand, moistening it so it will slide over the surface of the face readily while going the second time over.

Water bottle and razor

If the floor is not to be scrubbed, confine the spray of water to moistening the hands, not the floor. Moisten only sufficiently to wet the palm. The customer may not be ready for his Saturday night bath.

Things to Remember

The difficulty here is to keep the finger and thumb from slipping on the moist surface of the skin. There is a knack to it. If there weren't, barbering would be easy.

Second time over

Remove the towel and start the second time by shaving rather crosswise of the grain, not entirely with it, as you did the first time nor entirely against it as most barbers do.

The first stroke can be on the right side of the face from toward the eye to the ear, continuing down the side of the face to the jaw bone. You now continue down the side of the neck with the grain and up on the lower part of the neck as you did the first time over. Turn the face toward you and shave the opposite side giving the first stroke on the side of the face from the ear toward the eye, always being careful not to scrape or use undue pressure. Just a firm steady stroke for it can be too light as well as too heavy.

Ascertain whether your stroke is too light or too heavy by trying on a true friend who will tell you the truth, then let him try on you, and you will learn a lot.

You will be able to use the free hand stroke over nearly the entire surface the second time over and there is no rigid or set rule about doing this part of the work. If your first time over has been carefully

performed, there should be little shaving necessary the second time. It is intended only to catch the rough spots.

Now lay your razor down, pick up the steam towel used before, saturate it again with hot water and place it over the face as hot as the customer can comfortably stand it. Sometimes a cream or menthol preparation is applied to the face before the hot towel that steams it into the pores of the skin, but this may be according to the method of the shop or your customer's desires.

You may now remove the steam towel, and this is the time to talk Facial treatments, but as it is not part of this lesson we will omit it. Now apply your face lotion, going through several of the facial movements, after which you remove from the breast the towel tucked in around the neck, straighten it, lay over the face and dry first by rubbing it over the face, always taking note of the spots that may be left moist, the corners of the eyes, around the nostrils, the lower parts of the ears, etc.

Always thoroughly dry the face before proceeding with any other part of the work, as it is uncomfortable for the customer if the face is only partially dry. Just a little fanning with the towel held at each end is sufficient and in many instances no fanning at all is the customer's wish.

You now apply talcum powder by sifting a very little into the towel folded in the hand.

Things to Remember

The art of turning the head on the headrest is an important one. In this, the customer detects the barber's disposition or state of mind. An easy, careful movement is necessary.

If a razor is put on the face too lightly, it denotes lack of confidence. If too heavily, it denotes carelessness. Have confidence without carelessness.

Things to Remember

Never lay a razor down open; close it carefully with the finger and thumb at each side of the shank to keep the edge from striking the handle.

HANDLING TOWEL

This movement in actual work at the chair is used not only for drying every part of the face but for washing it as well, and the properly trained barber never picks up a towel for this use that he does not handle it in this manner. There is a nicety in handling linen that commands business, and it should be practiced until all movements become easy and graceful. It can be practiced with a handkerchief or any cloth of convenient size.

Dry the customer's face well. You know how it feels to wash your face and let the wind dry it. Wipe dry, before fanning.

I wish to caution you about applying powder, do not pat a customer's face but go over the face in a downward stroke, and after having been applied, wipe off all you can with the dry towel or with the hands. If the face has been left moist, the powder will show in white spots. This is one reason why careful drying is essential.

Now raise your chair with the customer to an upright position in the chair, ascertain what other work may be desired, and

EXERCISE NO. 8

Hold the right hand directly in front of you with palm up, using the left hand to spread the center of the towel over the open palm. Now with the left hand, grasp firmly all of the lower folds of the towel and turn the fingers of the left hand toward the left, bringing them down underneath the left hand, raising the left hand as you turn, bringing the folds at the back of the right hand and at the same time turning the right hand over with back up.

The folds of the towel are now held in the left hand at the back of the right hand.

The towel is easily shifted in the hand as it takes up the moisture from the face by simply sliding it from the center of the towel slightly toward one or the other edges.

This enables you to hold the towel smoothly over the palm of the hand, thereby giving use of the entire palm of the hand with its naturally soothing effect.

if no tonics or scalp treatments are to be given, consult your customer as to whether he desires the hair to be combed wet or dry. If wet, apply the moisture from the water bottle, a sufficient amount of water to be used to moisten all of the hair, not a part of it, for it must all be moistened if any. Apply it with the bottle held in the right hand and with the left hand rub the moisture through the hair using a rotary movement.

Things to Remember

Tonic or even water can be so poorly applied to the scalp that it loses its effect. It must be carefully distributed through the hair and well rubbed in to be effective.

The reward for good hair combing is like the reward for painting a good picture. The pleasure of looking at it. Artistic temperament recognizes this.

Things to Remember

If hair is to be combed dry, a touch of brilliantine sprayed over the brush, with an atomizer before using will help hold the hair in place.

When you have a sufficient amount of water, set the bottle down on the workstand, step directly back of the customer and rub the hair and scalp until the moisture is evenly distributed through the hair. Be careful that you have not an overabundance that will run from the hair onto the customer's garments. If you have noted, when your customer comes in, how his hair was combed, you will not need to ask him this when you are ready for the combing.

If the hair is to be combed straight back, take your position back of the chair. Always use the comb in the right hand and the brush in the left, lean the head back just a little by taking the two hands and place it where you want it, still not in an uncomfortable position for your customer, start your comb and brush from the front, using them alternately until you have removed all of the tangles from the hair, and smooth it out.

If you are to part the hair, take your position back of the chair and take your comb and throw the hair forward over the forehead and then take your position on the side that your customer parts his hair and make the part with your comb, and be careful to make the part straight in itself and straight with the head. Then take your comb and simply throw the hair on the opposite side out of the way until you are ready to step around the chair to comb in position.

A friendly greeting may put a customer at ease and sell you more goods. A kindly parting word will have much to do toward bringing him back.

I wish to caution you to be sure and use the brush by coming down with the lower edge of the brush first. In this

way you are using the full width of the brush and will give a much smoother effect. As you walk around the chair, you follow your comb with your brush. Also, avoid your brush coming in contact with the ear, as this is very annoying to your customer.

You will note, you may comb the hair on this side down perfectly flat and smooth, or may roach it up in front to show the different effects.

Careful combing is as important as careful shaving for no matter how good the shave may have been, if your customer is not turned out improved in appearance, he is not satisfied.

If, at any time a customer steps into the shop, and you are not engaged, you attract his attention when you are through with your work and your chair is vacant by gently calling "next," or some movement that will signify you are ready to serve him. Avoid the loud, boisterous "next" that will have a tendency to scare him from the shop.

If he is an old customer whose name you have had an opportunity, in the past, to learn, speak his name as he passes you or as he looks in your direction deciding upon the barber he will select.

If he chooses another chair you may take your seat on the stool provided for you at the side of your workstand but never allow yourself to sit in the barber chair. This is one of the most unethical things a barber can do.

Things to Remember

To gracefully handle linen is high art. Get the swing of spreading the chair cloth and handling the towels. Often this is the part of your work that impresses the boss, and holds or loses your job.

Your thoughts are detected in the touch of your fingertips. Never wait upon the trade when in a bad humor.

Lesson Four

Subject

HAIRCUTTING

Pompadours

WE will divide our subjects of haircutting into two lessons, one the shorter trims and one the longer cuts. In this one I will give a Lesson on the longer cuts with their several variations.

Haircutting is an art and the degree of perfection that you attain will depend quite largely upon your artistic taste.

There is the same expression in the back of the head that you find in the face and the barber must use the same skill in forming his haircut that is displayed by the sculptor in molding a statue. A simple forming of a clay figure does not indicate art; it is the expression of the features or the pose that gives it the artistic touch, and so it is with the haircut. The trimming of a little here and there, bringing out the proper formation or expression, is the real art of the work, and this must be studied as well as practiced.

As clipper work is important with all haircuts, I give here an article on the use of clippers by courtesy of the Brown & Sharpe Mfg. Co.

How to Use Clippers

By A Head Barber

[*By courtesy of the Brown & Sharpe Mfg. Co. Providence, R. I., U. S. A.*]

DURING my twenty years or more of experience as a barber I have had the opportunity to observe a great many barbers at work; especially is this true in later years when, in the capacity of an employer of barbers, I have watched more keenly their methods and the completed work. In this time I do not recall ever having seen two barbers who work in exactly the same manner, each having his own method of cutting hair — a method which is peculiar to his own particular style.

In the olden days a first-class job was accomplished almost entirely with scissors, but since the introduction of hair clippers for cutting human hair the tendency has been gradually to use clippers more and more. We are now all acquainted with the present practice of using the clipper almost entirely for trimming the back of the neck and the sides of the head.

The early history of the hair clipper is interesting. As I understand it, about forty years ago, so the story goes, some boys in Providence, R. I., hit upon the novel idea of clipping their own hair with a pair of horse clippers to keep themselves cool. The experiment was a great success. Some wit called it "the pineapple clip" and it soon became the prevailing style for summer haircuts.

Of course barbers were not satisfied to use the heavy and awkward horse clippers that were operated with two hands and as a result a smaller and easier-working model was developed especially for the barber's use. The neat, handy clipper that you can buy today at almost any hardware store is the ultimate result of the improvements which have been made in the old style horse clippers.

As the use of clippers became more general, barbers quickly appreciated the time and labor saved in using them. Today clippers are an essential part of the barber's equipment.

Different Methods

As I have previously said, I believe no two barbers cut hair in exactly the same way. Consequently there may be some barbers who would advise other methods than mine. But as the result of my own practical experience I believe I am safe in offering the following general suggestions for the use of clippers.

How To Hold the Clipper

First of all I cannot emphasize too strongly the importance of holding the clipper properly because the balance of the clipper itself and the appearance of the finished job are largely dependent upon it. If you will examine the handles you will see that one of them is stationary and that they differ slightly in shape.

I suppose that they were so designed after a good deal of thought and experience in order to fit perfectly in the hand, and that is why I believe they should be held as illustrated in Fig. 1. Notice that the thumb is held flat along the handle and that the little "ear" comes just back of the first joint. The handle runs back along the thumb, with

Hold the clipper with a natural grip and use a full stroke

Fig. 1

its end well into the palm of the hand; thus, when the fingers operate the lever of the clipper, a good support is provided for the stationary handle. The lever should be operated by the fingers at approximately the first joint. Permitting the fingers to extend too far around the lever results in a cramped position that soon tires the hand. When properly held the clipper may be operated for a considerable length of time without fatigue and still maintain throughout a full stroke of the clipper blades.

I have observed barbers holding clippers in many different ways and yet all follow out more or less the method outlined above. The most common difference is the position of the thumb as some barbers have a tendency to crook it slightly about the ear on the handle.

Use a Full Stroke

The proper operation of the clipper depends to a great extent upon *taking a full stroke*. By taking a full stroke is meant that the operating lever

should be pressed in to the limit and, when released, be permitted to return to its extreme position. You will notice that the upper plate has fewer teeth than the lower. Therefore it is necessary to take a full stroke so that the upper plate may travel the full width of the lower plate, allowing all the teeth to cut, otherwise all the teeth will not cut and the clipper will "pull." This, as you undoubtedly know from experience, is unpleasant and is usually due to the barber's carelessness.

It is also very important to start operating the clipper with a full movement before entering the hair and to continue operating it until after it is out of the hair. I have acquired a little personal habit of operating the clipper when I take it from the cabinet. The few seconds it takes to walk from the cabinet to a working position beside my customers is sufficient to make sure that the clipper "feels" in good condition and that it is taking a full stroke before cutting the hair. If the operation of the clipper is stopped while the plates are in the hair, or if the clipper is fed or pushed into the hair too fast for the speed at which the handles are operated, it will surely "pull."

One of the difficult things for the beginner to learn is to feed the clipper into the hair steadily and at the right speed. Most barbers sprinkle a little talcum powder on the neck if the skin is moist, as it assists in obtaining a smooth and even "feed."

Clipping and "Tapering"

I begin clipping at the back of the neck, yet I know that many barbers prefer to start on the sides of the head. In either case the results obtained are the same and this is a matter of personal choice. With a No. 1 "Bressant" Brown &

In starting to clip up the back of the neck, the heel is raised slightly, being lowered gradually as the cut progresses

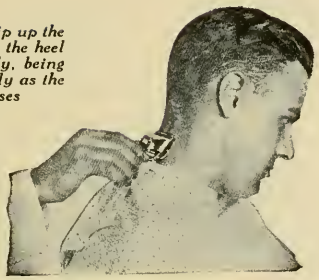


Fig. 2

Sharpe Clipper (and, by the way, I have used Brown & Sharpe Clippers exclusively for twenty years or more) I start to clip at the base of the neck as shown in Fig. 2 with the heel or the extreme back of the bottom plate of the clipper slightly raised, gradually lowering the heel as I clip upward. At the point where it is desired to begin to *taper* the hair, lift the front part of the clipper slightly from the neck by tilting the clipper so that it rests on the heel of the clipper, as illustrated in Fig. 3. This tilting motion should be gradual and increase in proportion to the amount

To taper, lift the front of the clipper slightly away from the neck, tilting the clipper so that it rests on the heel of th bottom plate

Fig. 3

Use the clipper this way when hair grows upward. Always run the clipper opposite to the way the hair grows

Fig. 4

of taper that is desired. Carry these upward strokes around the back of the neck from in back of one ear to the back of the other ear. This gives a very good finish to the back of the neck for all ordinary cuts. In doing a first-class job I usually change clippers, using a No. 00 "Bressant," repeating the same operations at the base of the neck to obtain a closer cut. This permits a little closer cut at the extreme base of the neck and gives the job a more finished appearance.

If the hair on a person's neck grows upward instead of downward, you should clip down the neck, as shown in Fig. 4. *Always run the clipper in the direction opposite to the growth of the hair.*

On the Sides

In clipping the sides of the head, practically the same method is employed. In commencing the cut for trimming the side in front of the ears, first hold the clipper with the heel slightly raised as shown in Fig. 5. As the stroke progresses upward and a taper is desired, gradually lower the heel and lift the front of the clipper by tilting it back in the

The hair in front and above the ears is tapered in the same way as the back of the neck by gradually tilting the clipper back

Fig. 5

same way as in clipping the back of the neck.

In trimming the sides around the back of the ear, hold the clipper in a slanting position as shown in Fig. 6. The taper is obtained by tipping the upper side of the clipper slightly outward—that is, the upper side of the clipper is tipped slightly away from the head and the lower side is held against the head at a point close to the ear. In cutting the hair directly above the ear some barbers hold the ear down and cut upwards from a point directly above the ear. Personally I prefer to cut from the front, going back as far as possible,

To clip above the ears, cut from the front as far back as possible and then cut forward from back of the ear as shown

Fig. 6

Often a comb is used to obtain the taper. The clipper is held flat against the comb which is tipped slightly outward as the cut progresses

Fig. 7

To obtain a taper on the sides and above the ears, a comb can be used in a manner similar to that shown in Fig. 7

Fig. 8

A good taper is also obtained in this way: Place the index finger beneath the heel, using finger as fulcrum to tip clipper as the cut progresses

Fig. 9

and from the back going forward as far front as possible, keeping the clipper tilted as previously explained. I consider this is much the easiest method to obtain the desired taper of the hair on the sides of the head.

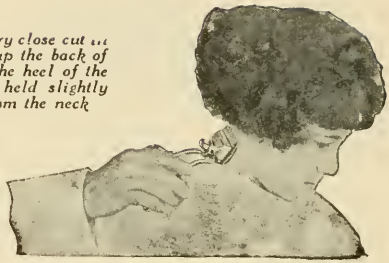
Methods of Tapering

The beginner may find some difficulty in tapering a haircut smoothly and evenly. Barbers use various methods to do this properly; the two most common are to use a comb or the index finger of the other hand. Figs. 7 and 8 show the clipper in use with the comb on the back and sides of the head. Holding the clipper plate flat against the comb and tilting the comb slightly outward at the top as the cut progresses upward will result in a very good taper. The second method is well illustrated in Fig. 9. The point of the index finger is held under the heel of the bottom plate, and as the cut progresses upward the finger is retained under the heel and the clipper is tipped outward at the cutting edge, using the finger as a fulcrum. In cutting very thick hair this method eliminates any tendency of the cut hair to roll up and interfere with the action of the clipper.

The finger at the heel of the bottom plate also serves admirably to help advance the clipper smoothly.

By pushing the clipper ahead with the finger at the heel, a steady, regular feed can be accomplished without "jumping" the clipper, especially if the skin is moist or sticky.

After finishing the taper, the result can be inspected by standing aside and looking at the outline of the head. The taper can be noted in this way and any roughness or "steps" observed and corrected.



To get a very close cut in trimming up the back of the neck, the heel of the clipper is held slightly away from the neck

Fig. 10

Bobs and Dutch Cuts

In recent years, with the style of bobbing girls' hair prevailing, I have always made use of the clipper in trimming up the back of the neck as shown in Fig. 10. This makes it possible to trim the hair very close as far up as the bob, and gives the job a very neat and finished appearance. The same is true in the case of a Dutch cut, as illustrated in Fig. 11.

With the Dutch cut, use the same method shown in Fig. 10 to trim the back of the neck closely

Fig. 11

THE method of using clippers as outlined is that generally employed by professional barbers. You will notice that I have mentioned using two sizes of hair clippers, as this is the common practice of barbers who want to do a quick job. For home use, however, satisfactory results can be obtained by using an intermediate size of clipper, such as the No. 0 Brown & Sharpe "Bressant" model.

The style of haircut determines to what extent the clipper can be used. For the average haircut it is used only in trimming the back and sides of the head as I have explained. Cutting or trimming the hair on the top of the head is usually done with the scissors, although some barbers claim that they can do a first-class job using the clipper only.

Cutting the hair with hair clippers is an operation that requires but little practice. The average person can very soon learn to operate a clipper sufficiently well to do a neat job of trimming the back of the neck or sides of the head between trips to the barber.

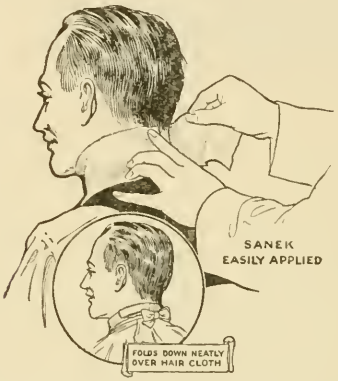
Several of my customers keep a clipper at their summer home or include one in their vacation outfit, as they like to keep their hair trimmed neatly for appearance and fairly short because it is so much cooler. Anyone who has a family of boys and girls will find a clipper especially useful.

As a last suggestion, I would like to emphasize three things: **Hold the clipper right, keep it operating a full stroke, and always cut in the opposite direction to that in which the hair grows.**

Things to Remember

To allow a haircloth to come in direct contact with the customer's neck is not sanitary unless a clean one is used, for each customer. State laws require protectors.

In this lesson here we omit the instruction given in another lesson on the barber's position at the chair. You will get that at another time, so we will proceed by seating our customer, spreading the hair cloth from the front, and by placing the protecting towel around the neck before bringing the hair cloth in contact with the customer.



Using prepared tissue for haircloth protector

Protection strips are less expensive than laundry work, and used with less effort than a towel.

If a towel is used for this purpose, it should be the face towel, and one side, the long way of the towel, tucked carefully under the neck band from the back toward the front on each side, then the balance of the towel raise and fold around the neck from the back and held in place under the chin with the left hand. Now bring the hair cloth up to the towel and with both hands hold it close to the towel. Pin at the back of the neck and fold the part of the towel that protrudes above the hair cloth down over the hair cloth, making a neat protection that in addition to protecting

the hair cloth prevents the cut hair from working down the neck.

If a cotton strip or a prepared paper protector is used the hair cloth is pinned over it in the same manner and the edges folded down as is the towel.

Now sift a little talcum powder from your neck duster around the neck to prevent the cut hair from sticking. Now use your brush and comb to straighten the hair and put in its proper position to be cut.

After having given the proper study, and frequently it requires your stepping back from the chair a distance to better observe the lines, you are ready for the actual work.

Generally the clipper is used on the lower part of the neck with all haircuts, but not elsewhere for the long trims.

Start at the lower growth of the hair on the left side and clip up to the point at which you want to leave off, then gradually bring the blades out from the hair as you continue to cut, thereby making a gradual taper at the clipping line.

After completing with the clipper you now use your shears and comb. The shear should be so held in the right hand with the points nearly toward you, as illustrated, and the comb held in the left hand parallel with the blade of the shear, which enables you to cut rather at one side instead of directly in front, and it enables you to get at the work more easily.

If you were cutting directly in front of yourself, there are many places in the trim

Things to Remember

Many barbers maintain the part need not be combed from the hair before cutting, but the writer's experience and advise is to the contrary.

With the prevailing styles, little clipper work is required. Hand made haircuts take the lead at present.

Things to Remember

Handling the shear and comb properly seems to be an awkward position, but the barber must learn not to cut directly in front of himself, or he will grow round shouldered in the service.

EXERCISE NO. 7

Hold shear in the right hand with the third finger in the ferrule and the little finger resting on the short lip that is made for it.

The first and second fingers are to be bent over the handle of the shears in such a manner that it will hold it firmly in the hand. The ferrule should never be allowed to pass beyond the second joint of the finger. The thumb in the other ferrule never allowed to pass the first joint.

that would require you to stoop very low to get the proper vision and to handle the instruments. Acquire this habit first of all, as it will save you much time in becoming a professional hair-cutter.

A shear and comb artist has the same opportunity to display skill as does the sculptor or painter; therefore acquire skill and become famous.

Start your shear and comb work on the right side at the lower edge just in front of the ear, cutting only a little at a time, and as you continue to cut up, gradually run out of the hair by turning the teeth out each cut, generally leaving off about the hat-band line. The comb must be so held that it can be easily turned in the hand to comb up while cutting and down through the hair to straighten it.

If while cutting up through the hair it tangles or folds under, bring the blade of the shear underneath the comb to hold the hair straight and comb up through the hair so that it will fall straight over the blade of the shear, then bring the comb underneath the shear again in place for the next cut.

Things to Remember

The hair line has more to do with the expression of a haircut than any other one thing. Draw graceful lines.

I wish to caution you here in the manner of using your shears. Always use the full length of the blade by starting at the end of the comb, with the heel of the shear, and close them quickly, which will give a smooth cut.

Continue around, changing the position of the shears and comb back of the ear from a parallel line to about a 45 degree angle back of the ear.

As you cut back of the ear, you are to change the angle of the shears and comb as you did on the other side back of the ear, to avoid cutting a bare spot as you would if you were to hold the shears and comb horizontally.

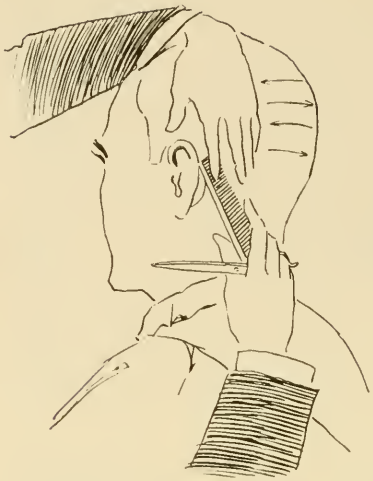
This is necessary on account of the change in direction of the growth of the hair back of the ear. Use the same care as you work over the ear and around in front of it, that you did on the other side, and keep the length of the hair on both sides as nearly the same as possible.

The gradual taper from the short hair to the lower edge to the longer hair at the crown is the most shapely. Avoid abrupt edges.

There will be a pronounced ridge at the point where you left off with the shears and comb. This will be reduced by cutting over the fingers. It is known as the finger work.

Things to Remember

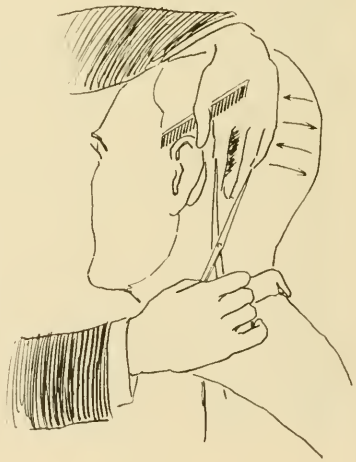
Styles are elastic. They admit of many variations in length, outlines, and tapers. It is the artistic haircutter who builds them to fit.



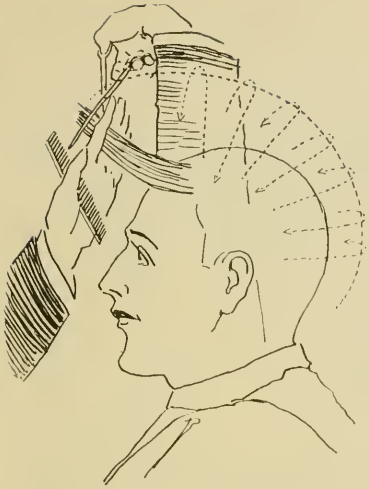
Trimming long pompadour. Shear and comb in right hand, bringing hair in position for fingers of left hand

The pompadour is trimmed by taking your position at the side of your customer, start your work back of the ear at the ridge and work from you, combing the hair up through the fingers, trimming it lightly, and work around to the other side of the head back of the other ear.

Good judgment in laying out styles is as important as the actual cutting.



Shear in right hand. Comb transferred to left. Fingers holding hair for cut, point of shears out, to increase length of hair going up



Trimming ends of long pompadour combed forward, working from right to left. Only slight trim required

Now start at the point where you have just left off and come back just the opposite direction from the way you have cut, cutting over the fingers in the same manner, working back and forth in this way cutting a little at a time until you have reduced the ridge, and if the entire top and front is to be shortened, continue to work in this manner back and forward until you have gone over the entire surface, finishing with the longer hair at the forehead.

If the long hair on top is not to be cut, you can use what is known as the reducing cut on the side of the head by combing all of the hair over to one side, picking up the ends with the comb the same as cutting over the comb, trimming the ends lightly. Comb the hair back in place and if the ridge still shows, repeat until the hair will lay smooth at the sides as it is combed back. Treat both sides alike.

When you have completed the cutting, use your neck duster quite briskly in brush-

Things to Remember

The more times over the same surface, not only spoils the original design in mind but adds that many more nicks.

To get proportion is more important than smoothing the surface.

Things to Remember

ing the cut ends of the hair from the head and especially around the neck.

Careless emptying of a hair-cloth disturbs waiting patrons and appearance of the shop.

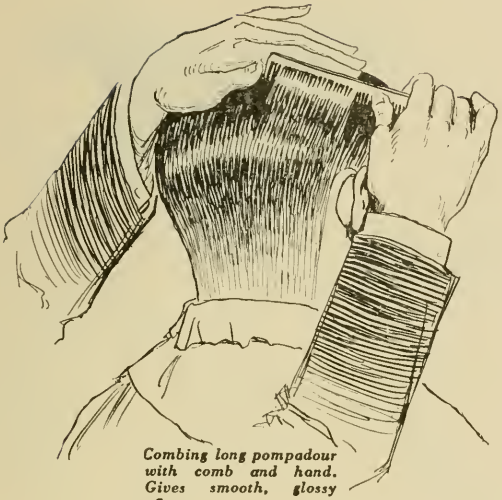
Empty the hair from the hair cloth by picking it up from the lower end, bringing it up to the upper edge, pick it carefully off the customer in order that the hair does not drop onto the garments, turn from your customer, drop the top edge of your hair cloth, holding to the lower end, and shake well to remove all of the cut hair. Now spread it again as before, bringing the hair cloth close up to the neck band, but do not bring it in contact with the customer's neck, and use the towel that you have had in use around the neck to tuck in over the hair cloth at the back of the neck. This is to protect the customer's garments while combing and shaving the neck.

Now use fresh lather around the hair line over the ears and down the back of the neck. Whether or not the neck is to be shaved clear around, it is best to lather the neck to avoid showing a high water mark on the sides where you have put the lather. Rub the sides a little to prepare them for the shave.

In most foreign countries barbers do not shave the neck. Why isn't this good practice? Only the primitive Chinaman shaved the scalp. Who wants to be primitive?

Strop your razor a little before shaving the neck. It will not need as much stropping as would be required for the face shave, for the hair on the neck is easier shaved.

Now shave the neck, starting in front on the right side, make the outline true and even and work carefully around the ear to the point where the shear has indicated the line, at the same time combing the hair to-



Combing long pompadour with comb and hand. Gives smooth, glossy effect.

ward the line. The free hand stroke will be used for the right hand side, but the back hand stroke will be used on the left side in front, and the double back hand, back of the ear.

This is the only place a double back hand stroke is used with the razor.

For the long pompadour we comb straight back, and you may do this by standing directly back of your customer, first using the brush and comb alternately.

After you have straightened the hair on the top and sides, untangling it all, laying it in its proper place, lay your hairbrush down and with the comb follow through the hair from the front to the back with the hand instead of the brush. This will give a smooth and more finished appearance and is pleasing to your customer.

Things to Remember

Careless combing is unforgivable; it is even more important than cutting.

Will it be an artistic finish or yours, with this customer?

Things to Remember

Because a certain style is becoming in one instance, do not use it in all. Learn to deviate. Increase your stock in trade by variety.

Full round effect in back, like college cut, with long pompadour front and short burnsides.

If the shape of the head seems to be rather long and narrow, it will be your attempt to broaden the appearance by leaving a sufficient amount of hair on the sides of the head to fill out and overcome the narrowness, at the same time combing the top of the hair rather flat, which helps broaden the appearance of the features.

If a head seems to be rather flat in the back and wide, a sufficient amount of hair should be left at the back of the head to fill out and give the head a longer appearance. If the head seems to be rather flat and wide on top, you must try to leave enough hair on top so that it may be loosely combed back from the forehead or roached up in a manner that will overcome the flatness, and if a head seems to be round like a ball an attempt should be made to so draw your lines that it will give it a longer effect.

Many barbers would be good haircutters if they did not so often run out of hair.

Side view, short pompadour shaved straight. Clippers slightly used on sides and lower neck. Avoid a ridge by cutting over comb with teeth turned out

Things to Remember

Cutting to overcome defects is a part of the barber's work. A trained eye detects defects at a glance.

MEDIUM POMPADOUR

This style is very popular, as is also the longer pompadour, and differs only as follows:

Use the clipper just at the very lower edge entirely around, and gradually taper with the shears and the comb from the clipper line, finishing the haircut as described for the long pompadour.

A haircut, to be most becoming, like a suit of clothes, must be built to order.

The combing of the long pompadour, in fact, the combing of any haircut—where a sufficient amount of hair has been left to permit of nice combing—is as important as the actual cutting, and this will prove your worth as a tactfully skillful barber.

Things to Remember

The time was when the barber who could cut the best pompadour was most in demand, but there is not much demand these days.

Trimming short pompadour. Position in front

In cutting a short pompadour, if you have trouble in keeping the hair on end, you must use hair dressing, or even a stick of mustache wax, applied by running the wax back and forth through the hair over the comb. The wax holds the hair in place while you make your form.

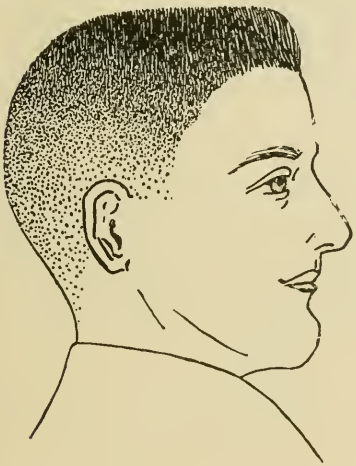
You take your position for this work on the left side of the chair and turn your customer's head slightly toward you and start your work at the forehead in the center, getting the length you desire, and cut straight back over the comb until you reach the crown, gradually running shorter as you comb back. You will notice you are combing and cutting from you in making your form through the center.

More time is necessary to trim a perfect short pompadour than any other style.

The pompadour should have a flat appearance across the top unless the head is unusually broad, so you must be careful about trimming the sides too close. Trim

Front view showing flat square effect, the style required by exacting young men

a little from the cut you have made, first on one side and then on the other to get the proper shape, and after you have it formed as illustrated, continue to cut lightly over the top to give it a softer and more velvety appearance.



Side view shows straight line effect from front to crown, gradualaly tapering to shorter hair at crown. Clipper line carefully trimmed away.

Things to Remember

The porcupine effect of a short pompadour probably quilled it.

An exact eye measurement is required for perfect pompadour work.

Subject

HAIRCUTTING

Things to Remember

Cutting over the fingers enables the barber to get his measurements. Going over the surface must be done systematically, not promiscuously.

The fault with most barbers in cutting a trim is in taking too much off.

Trims

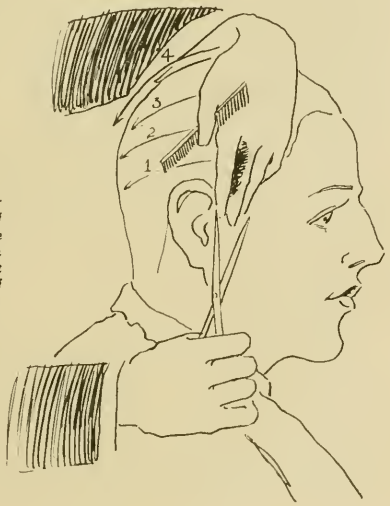
Trims vary in length according to the customer's wishes and that they may be better classified, we will call them long, medium and short trims, each cut by the same general rules or principles, the only difference being the length of the cut.

You will start the work at the lower edge, using the clipper just on the back of the neck if your customer prefers, or entirely around the lower part of the haircut, starting just in front of the ear on the right side, working around the lower growth of the hair to the opposite side, observing the instructions regarding the clipper that is given in the preceding article on clippers. Always be careful about using the clippers too high. The tendency is to do too much clipper work.

You will now start with the shears and comb cutting from the edge you left with the clippers, up through the hair, cutting close to the clipper line or scalp at first and gradually running out of the hair from two to three inches above the clipper line.

Cutting side over finger. Comb and shear in same hand. Comb just releasing hair shown in fingers

This is called the shear and comb work. When you have trimmed away the clipper line around the entire head you are ready for the part of the work called cutting over the fingers.



Right side cutting over fingers. Position back of customer, just the reverse from left side. Both right and left sides cut from front to center of head in back

Things to Remember

All haircuts must be proportioned. The trim, most exacting of all cuts in this regard.

Baldness, scalp scars and defects may interfere with the general rule of haircutting. Good judgment must be displayed in these cases.

Things to Remember

Allowances must be made for age, profession, countenance, etc. Study conditions.

Left side, cutting over fingers. Comb transferred from right to left hand before making cut. Position, facing customer

Make your start at the ridge you have left with the shears and comb, starting on the right side, working around the direction as illustrated for cut No. 1. You will work from front back to the center of the head in the back, then step around your chair and cut the opposite side just the same, working back with the second No. 1, just as you did the first one, then take No. 2, which is a cut just a little higher. Cut first one side and then the other, then follow by No. 3 and No. 4.

This covers the entire surface, but you must remember each cut, No. 1, 2, 3 and 4, is left a little longer than the one below it so that the longest hair will be on the top of the head.

A carefully made outline is like striping a painted job. It gives the expression.

There are variations from this rule according to the length of the hair, the size of the head, etc., but generally this is a very good rule to be guided by in all long or medium trims. Always avoid cutting it short directly over the crown.

Diagram of the cuts from one to four, showing position or direction of fingers for each cut.

The diagram above is intended to make the work more plain, but a good deal of practice will be necessary to enable you to acquire the positions for the several cuts.

As there is no diagram of exercises for this cut, about all that you can do for your benefit before actually doing the work will be to get your hands and wrists limbered and in condition to take the position easily.

Your position at the chair cutting the left side will be rather at the side in front of your customer, working from the front back, where your position for cutting the right side will be back of your customer, cutting from the front back or toward you, each time going to the center of the head in the back.

When you have reached the top of the head for No. 4, your fingers will be horizontal, one side of the top of the head, No. 4, should match with the other side, No. 4, and it is well to make an extra cut or a proof of your work by combing straight back over the top in the center of the head to see that both sides are cut evenly.

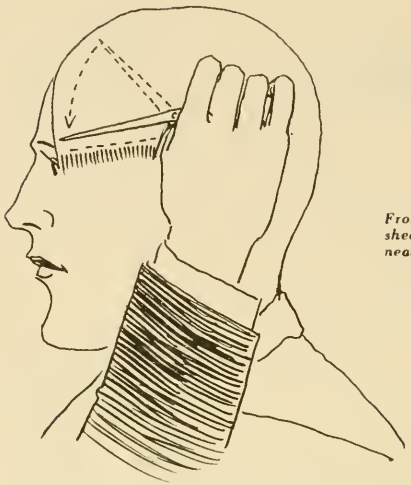
Things to Remember

In cutting over the fingers, they may be bent. The shape of the head and a slight curve given to each cut, with the shear blades to make a smoother job or a nicer fit.

A barber cannot judge all of his work at close range. He should step back frequently to get a better view of the work.

Things to Remember

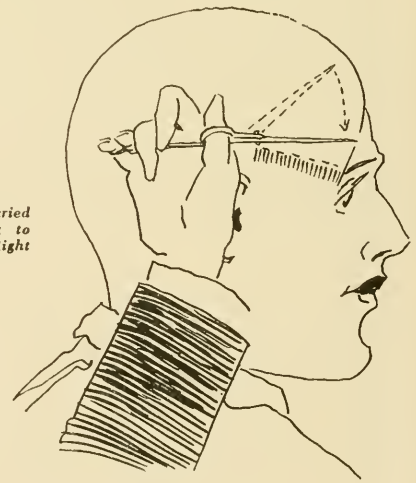
Many barbers disagree with the instructions given here for front outline, but there will be no mistake if this rule is followed.



Front outline. Heel of shear at temple, point near eyebrow. Left side illustrated

After completing the cut, you may make your front outline by combing all of the hair over on one side and trimming it just lightly at the edge, then comb it all over to the other side of the head and trim it lightly as shown in the illustrations.

A final touch may be given to the haircut with the shears and comb after combing the hair, but very little should be necessary.



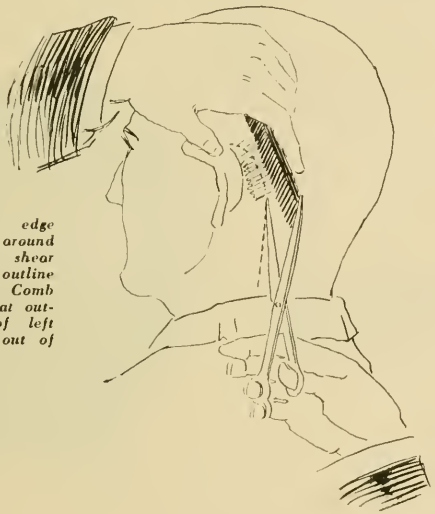
Front outlines. Varied in height according to length of hair. Right side illustrated

When work is properly done, front hair combs to a "V"

When it is combed down straight over the forehead, if the work is properly done, it will form a perfect "V." You may now trim the outlines back and over the ear as illustrated, making an even distinctive edge that gives the nicer finish to your haircut.

Things to Remember

If each front outline is trimmed while the hair is parted, and one side higher than the other, difficulty will arise the next time the hair is parted. Long, ragged edges will comb over the short ends.



Making feather edge back outline and around ear. Blade of shear must follow the outline cut by points. Comb holds hair ends at outline. Thumb of left hand holds ear out of the way

Unless the feather edge outline is combed toward the edge, there will be an irregular outline when the work is completed, that is difficult to overcome and is unsightly.

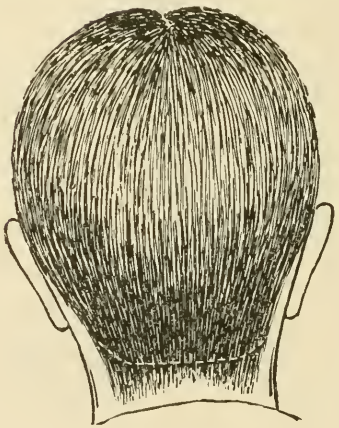
Things to Remember

Salesmanship is a much abused word. True salesmanship works best, if you are sold on what you are trying to sell.

Side view, short trim shaved neck, short burnsides, side part combed up

Back view, short trim with shaved neck. Styles now point to very little neck shaving

Customers do not want to be annoyed but are susceptible to suggestions. Have you a "good number" to offer?



Back view, medium trim. Neck may be shaved at dotted line, if required. Center part combed down and back

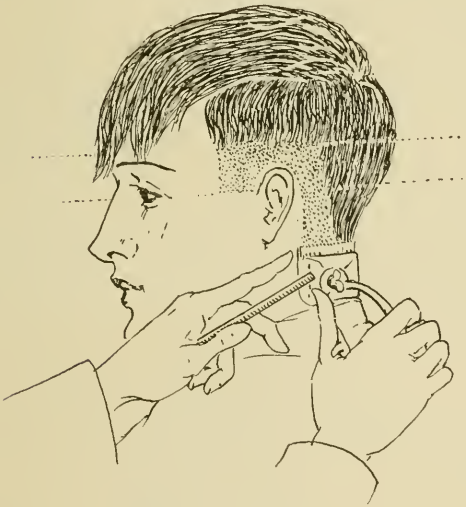
Subject

HAIRCUTTING

Half Crown

You have learned to handle your clipper in the exercises and preparatory training, so we will start by learning just how high we are to use the clipper for the half crown.

The clippers should be run about as high as the hatband line clear around the head,



Using clipper for half crown

Things to Remember

The difficult part is erasing the clipper line. This requires careful shear and comb work.

A shorter taper is necessary where clippers have been used around the lower edge of the haircut.

Things to Remember

The mind's eye is the barber's blue print, and like all blue prints is expensive to alter after the plans are laid.

although frequently the line is left a little lower for the style we will call the long half crown.

You will note that a long half crown differs only slightly from a short trim, but we so name them that you will be able to better classify styles.

If a medium or a short half crown is to be cut, you would, of course, cut the hair on the top and sides proportionately longer or shorter.

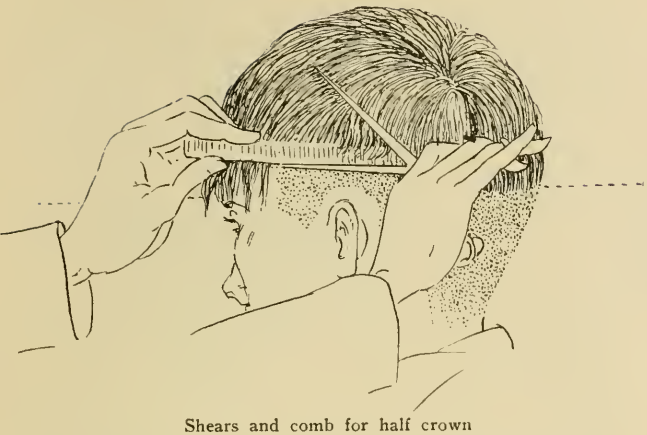
Clip clear around, being cautious to run the clipper out of the hair at the lower edge to taper it gradually. This saves work with the shears and comb.

After having completed the clipper work start with the shears and comb at the temple on the right side, cutting away the abrupt edge and tapering it with the short hair left by the clippers into the longer hair at the edge of the line.

In doing the shear work, you will note the shears and comb must be handled in a manner that will enable you to work more at one side of the work rather than directly in front of it. This avoids stooping to an awkward position in parts of the work that will be difficult to get at if you were cutting directly in front of yourself.

Until the fingers become accustomed to the shear ferrule there will be a desire to use rubber shear pads, but the experienced barber has learned they are only a handicap.

The cutting out of this clipper line is the most difficult part of this haircut, for if the pronounced ridge shows where the clipper left off, the haircut has the apearance of a wig placed on the head, and this you must overcome by carefully trimming away the lines. This is accomplished by using the fine end of your comb at the clip-



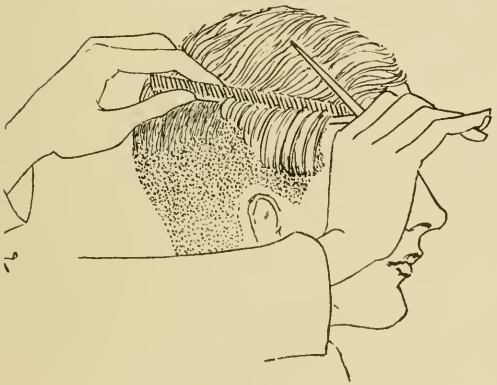
Shears and comb for half crown

Things to Remember

A wig effect must be guarded against in all half and full crown cuts. It is overcome by a carefully trimmed clipper line.

per line, running up and out of the hair as you cut. If the hair tangles underneath the comb, or folds under, place the blade of your shear underneath your comb, straightening the tangled ends before making the cut.

Always be careful to turn the teeth of the comb outward, as this will allow the hair to fall into the teeth of your comb, and pull your comb out of the hair sufficiently



A reducing cut for side of half crown

This illustration would indicate a quantity of hair being removed at one cut. Note the error and remove but a little each cut.

Things to Remember

This cut would indicate the finger work is being done before the clipper line is cut away. Note the error and trim the clipper line first.

Cutting over fingers, half crown

to enable you to work with your shears close to your comb.

Work around, keeping the taper the same in the back and on both sides. When completed, start cutting over the fingers, starting just a little above the temple on the right side and work back to the crown. Always avoid cutting it short directly over the crown.

A careful study of style is essential in all haircutting, and there is to be the same careful gauging of length in crowns and half crowns as there is in trims.

You will note we illustrate and describe this finger work for the longer trims, as cuts No. 1, 2, 3 and 4, but with the half crown we will eliminate No. 1, taking No. 2 at the side of the head just where you have left off with the shears and comb starting at the temple on the right side in front and work back to the center of the head in the back. This requires about six to eight cuts.

You now step around to the other side of your chair, starting at the temple in front cutting No. 2 back to the center of the head, just opposite on the No. 2 on the other side that we have just finished.

Now No. 3 which is just a little higher, working from the front back to the crown, usually from five to six cuts.

Next, No. 3 on the opposite side, being careful to get both sides the same length.

Now you use No. 4, which is directly on the top of the head on one side, cutting back from the forehead to the crown, each cut a little shorter than the last one, about four to five cuts in all. Now No. 4 on the other side is made on top, cut in the same manner about the same number of cuts, that both sides will be alike.

You have now gone over the entire surface and are ready to make your front outline. You will do this by combing all of the hair over to one side and make your outline about the height of the clipper line on the side and about parallel with it, although this will vary according to the length of hair your customer desires for the half crown.

Now step around to the opposite side and comb all of the hair over on the opposite side, leaving no part, and trim the front outline on the other side in the same manner and the same length.

After this is done, if the hair is combed down over the forehead, it will be a perfect "V" shape.

Things to Remember

No set rule will make an artistic haircut. It is only a foundation upon which to build. The finish is a matter of good taste.

Seasons of the year govern styles. A full or half crown is a summer haircut.

Have you ever sat in a barber shop and been sprayed by the sprinkle of cut hair from the haircloth? If you have, you won't do it to others.

You will now use your neck duster with a little powder sifted into it, if it is not a fountain neck duster, carefully brushing the cut ends of the hair from around the protecting towel, brushing the hair quite vigorously to remove all of the cut ends, and lightly brushing over the face to remove the ends that may have lodged there, and which are always disagreeable.

Now remove the haircloth by brushing and lifting one side at a time, then remove the protecting towel, carefully dusting the cut ends of the hair as it is removed. Now pick up the lower end of the haircloth, bring it up to the upper edge and carefully lift it off your customer, being careful not to drop the cut hair on the customer's garments.

You will now cover your customer again with the haircloth by spreading it from the front, being careful not to let the haircloth come in direct contact with your customer, and cover it from the back with the towel you have used as a protector, tucking in the edge of the towel, as you did previously. This protects the garments while shaving the neck and combing the hair.

If a customer desires the freedom of his arms above the chaircloth, so adjust it that he may feel free and at ease.

We will now shave the neck and you will use fresh lather to apply to the sides, over the ears, and down the sides, and you will lather clear around even though the neck is not going to be shaved across the back. We apply the lather in this way as it constitutes better barbering.

For shaving the neck you will strop your razor but slightly as the growth of hair is not as heavy on the neck as on the

Back view of low, full crown or short trim, a compromise between the two. Illustration shows too pronounced clipper outline, result of 00 clipper work

Side view shows effect of same exaggerated style, too abrupt taper; very dressy otherwise

face. Start on the right side, using the free hand stroke, generally making your outline straight back from the point of the eye, running into a graceful curve over the ear, just at the hairline, or the outline may be lower on the side in front of the ear, according to your customer's wishes. Shave straight down the back at the hair line, being careful that your line is drawn so that it will be the most becoming to the customer. There are variations here that only practice and study will enable you to accomplish.

Things to Remember

The reason a half crown cut is difficult is that there is so little chance to display real taste.

If the hair on the crown of the head is inclined to stand up when cut for a half crown, the use of hair dressing may be necessary to make it lay smooth.

Things to Remember

You have seen barbers wipe the lather from their razor blades onto their hands; a repulsive operation. Don't get that habit.

Now step to the other side of your customer and, with the back hand stroke, make your outline on the opposite side just the same height and as near the same shape as you did the other, making a graceful curve over the ear at the hairline, but we change to the double back hand stroke, to shave back of the ear. This is the only place the double back hand stroke is used.

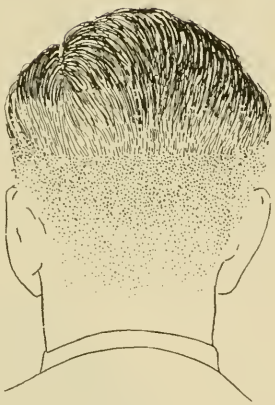
Now wash the lather from the neck with a hot towel, and dry with a dry towel. The same care must be given in drying the neck as in drying the face after shaving.

To comb the hair, moisten as you would for a tonic, thoroughly moistening and thoroughly rubbing the moisture through the hair. Replace the water bottle on the stand. Now step back of your customer and give a few light massage movements to thoroughly distribute the moisture.

Now take your position back of the chair with your comb in the right hand and brush in the left, take your comb and throw the hair forward over the forehead, and then take your position on the side that your customer parts his hair and make the part with your comb and be careful to make the part straight in itself and straight with the head, then take your comb and simply throw the hair on the opposite side, out of the way, until you are ready to step around the chair to comb in position. As you walk around the chair you follow your comb with your brush. And, also, avoid your brush coming in contact with the ear as this is very annoying to your customer.

Sometimes a part is straight in itself, but not straight with the head; and sometimes it is straight with the head but crooked in itself. It must be straight in itself and with the head.

Side view finished half crown. Hair roached up



Back view finished half crown

You will note, you may comb the hair on this side down perfectly flat and smooth, or may roach it up in front to show the different effects.

Now step around to the opposite side, brush and comb the hair smooth, and now comb the hair down perfectly smooth and observe the effect. Then again comb it up to get just the right artistic touch to the work.

This completes the half crown, and I want you to note, it is only a few degrees removed from a close trim.

Things to Remember

There are as many ways of combing the same head of hair as there are ways of cutting each. Learn the most becoming styles and comb becomingly.

Have you ever had a barber comb your hair to feel as well as you comb it yourself? If you can do this for your customer, he will come a long way to patronize you.

Things to Remember

Boys in summer time enjoy this cut. Mothers like it for their children as it requires little combing.

The barber names the full crown the "money maker." It is short in length and time.

Full Crown

We will now change this style to the full crown cut.

By again using the clipper, this time to the temple, leaving your outline from one to two inches higher than for the half crown. This brings the line about to the crown in the back of the head, and leaves this portion horse-shoe shape on top of the head. You will use the same care and skill in running the clippers out of the hair at the line, that you have been cautioned about using for other cuts.

You can make your work much easier if you use your clipper, starting at the temple with one side of the clipper blade up, working back and around to the crown. This so tapers the line that it makes your shear and comb-work much easier.

Using clipper for full crown

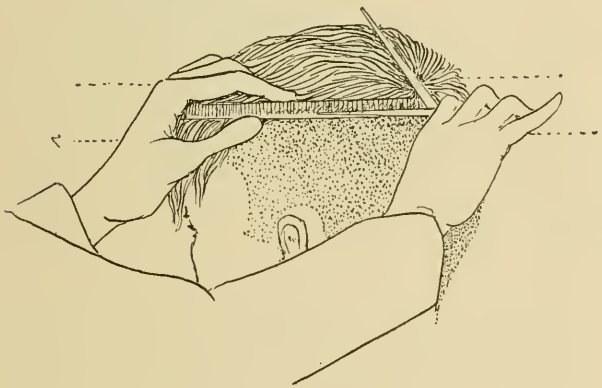
Frequently there is a curl on the back of the neck and the clipper must be turned in different directions to cut it properly. This is also true in cutting well up on the sides of the head where the grain of the hair changes.

You are now ready to cut over the comb with your shears, and the shear and comb work must be carefully done at the edge where the clipper has left off. Take your position at the side of your customer and start on the right side of the temple, cutting back to the crown.

You will note this is quite similar to the cutting of the half crown at the edge, but as the grain of the hair changes toward the crown, you must change the angle of your shears and comb accordingly, to cut against the grain. Trimming the outline is the biggest part of this haircut. As you note, there is little shear work to be done. The full crown is the easiest haircut that we have and requires the least work. It, however, is not adaptable to men

Things to Remember

A good clipper worker can do most of this cut with the machine, especially the electric. Boys enjoy the electric clipper more than grown ups.



Cutting over comb full crown

Be careful of the side outlines on the full crown. You frequently cut into the growth of the hair instead of the outline.

Things to Remember

of all ages. It is generally preferred for little boys or for laboring men who do not care to have the abundance of hair on their head to keep clean.

It is better to leave a pronounced clipper line than to cut nicks trying to get it out. Strike the happy medium by trimming smoothly and not overdo.

After both sides have been trimmed, comb the hair up between the fingers, working from the front back, cutting over the fingers instead of the comb.

You will note, with the other cuts we use cuts No. 1, 2, 3 and 4, but with the full crown cut, we will need only No. 3 and No. 4, or perhaps if it is a short crown cut, you will need only No. 4, starting from the front to the angle and position of No. 3, cutting back to the crown over the fingers, each cut a little shorter than the last, usually four to five cuts.

Now trim the opposite side in the same manner over the fingers from the front back, giving about the same number of cuts. Now you have No. 4 on one side of the head from three to four cuts and No. 4 again on the other side of the top of the head about the same number of cuts.

We have now completed the shear and comb work over the fingers and you will comb the hair all over to one side of the head as we did before, making the front outline about the height of the clipper line and at the same angle. This makes the outline just a little higher than for the half crown.

A full crown may be roached or combed flat. Judge the style from the countenance.

Now step around to the other side and cut your outline the same as the other side, the same height and the same angle, then comb the hair down over the forehead and

Things to Remember

if the work has been properly done it will form a perfect "V" with the longest hair in the center of the forehead.

We will now dust the hair and linen again, remove our haircloth, comb the hair to give you the effect. Moisten the hair as before, thoroughly rubbing the moisture through the hair and scalp, giving a light scalp massage, and brush and comb again. This time, you may comb all of the hair over to one side, making no parts, and this may be roached up in front or it may be combed flat. Study effects when combing hair and try to turn out the best looking job you can.

A double ought clipper may be used at the lower part of the neck, but should not go higher.

Now we will show another effect, this time making a part near the center or at the center, if your customer prefers, roaching both sides up, slightly back. The combing is the most fascinating part of barber business, and you must acquire a taste for this if you expect to enjoy your work.

Side view finished full crown. Hair roached back

As much pains should be taken in combing the short trims as the long. Frequently they are more difficult to make look well.

Things to Remember

There are many differences in ladies' and men's haircutting, but if one has become a good men's haircutter, it will not be difficult to acquire ladies' work.

LADIES' AND CHILDREN'S HAIRCUTS

THE proper cutting and arranging of bobbed hair has become one of the most important and profitable part of the barber profession, and we are extending a great effort toward the attainment of the best results in ladies' haircutting.

You will find that ladies are the most critical customers, and are expert judges on this class of service.

First, and the most important part, is to ascertain just what style hair cut your customer prefers, and after deciding on the style you should picture in your own mind just how that hair cut ought to look after you have completed the work.

Never make lower outlines the exact height you desire them; allow for retrim.

Outline for the first cut

Retrim for straight bob

Things to Remember

In all ladies' haircuts, ascertain whether or not the hair is to be worn straight or curled. If curled, allow for the shrinkage.

If you are trimming a long head of hair that is being bobbed for the first time, you will find out just how your customer desires the work. If it is to be a straight bob, see that the hair is properly parted and combed smoothly and evenly straight down all around before making the trim.

If the hair is to be curled later, you must allow for shrinkage, but if not your outline should be one-half inch lower than you intend to have it when you have completed for you will be obliged to trim around a number of times to even it after your first

Thinned outline with shear points

This illustration shows trimming with the points of the shears from the outer edge. This is only desirable for ragged edges, not for thinning.

Things to Remember

The English process is most desirable as it thins from underneath, leaving the longer hair on the outside to be combed into a swirl, if desired.

Thinning by English trimming

cut. This will shorten it about one-half inch.

If this head of hair is to be shingled, after making the first outline you will trim the heavy hair in the back by a method known to us as the English cut, holding a strand of hair in the left hand, cutting from underneath with a half open blade of the shear, closing it slightly each stroke as you slide the blades up the strand of hair.

The work of cutting over the shears and comb for ladies' work can only be used at the back of the neck, unless the boyish bob is given.

Back trimmed with shears and comb

Pointed outline

Things to Remember

If the lower hair line at the back of the neck grows irregularly, it may be scalloped with a pronounced edge, like drapery, but this is one of the extremes.

This thins the heavy hair away, leaving it fairly smooth, better than it can be done by working over the fingers as you do for the men's haircut.

You start about one-half inch back of the ear on the right side and thin around to within one-half inch of the ear on the left side. After having completed this thinning process, you may use your clipper on the back of the neck to the proper height either to an outline you may have designated, which may be a "V" shape or straight around or any other design your customer prefers, and from the clipper line trim the

Thin edge produced by outside cut

In lifting a strand of long hair as illustrated, it may be thrown out of the way and the shorter hair underneath, trimmed with the shears and comb.

Things to Remember

balance of the back of the head by cutting over the comb about as high as you would for a long trim.

If hair is to be combed straight back flat like a man's pompadour, it can be cut the same except that it should be longer on the sides and in combing back, partly cover the ears.

Now blend the sides just back of the ears by using the English trim slightly which will smooth the abrupt edge from the long hair covering the ears to the short hair back of them. If a heavy, blunt line is left on the sides, thin just the lower edges by using the English cut, but do not allow the shears to slide up the strand of hair more than an inch or two from the ends. This process is to thin away the underneath part of the blunt edge which will allow the outer edge to turn in, giving a better style to the cut.

Be careful that you have the hair combed out well around the ears as quite frequently the hair will fold around back of the ear and if it is not combed out when cutting it will show ragged ends later. And if you will part the hair around the ear, you will not only be getting these long ends but you can gauge your work better, as the lobe of the ear is your gauge in cutting the proper length.

An artistic ladies' haircutter must be an artistic haircomber. Water waving, finger waving and like waves are necessary for proper effect.

If your customer wears a dip on the side, be careful that you leave this hair that lies in front of the ear longer, as the dip will take up the length and blend in with the rest of the cut.

There are various styles of ladies' hair cuts, and I would advise that you study the charts carefully and become familiar with the various styles. However, after you have become a haircutter and have a

Heart shaped bang

Things to Remember

Bangs are dangerous. It is easy to make and unmake good effects.

fair knowledge of the work you will be able to cut any style if you will first consult your customer and ascertain the exact style that she wishes.

If bangs are worn, they may be trimmed in any manner your customer desires. You can part from the forehead about an inch back from the hair line, the amount you want to cut into bangs, and trim it the shape or style your customer desires. Sometimes the bangs are trimmed in what we know as the heart shape or they may be trimmed diagonally across the forehead or straight across or "V" shape, rounding or any other style your customer may desire.

If this were a child's haircut, I would bring the outline nearly to the top of the ear and use the clippers to that point. Children's haircutting does not vary greatly from the women's straight bob, except in the height of the outline.

To specialize in ladies' haircutting, one should also specialize in ladies' hair-dressing.

Lesson Seven

Subject
SANITATION

Embracing

1. Bacteria
2. Infection
3. Disinfectants
4. Antiseptics
5. Sterilization
6. Moist Heat
7. Dry Heat
8. Chemicals
9. Vapor
10. Solutions

This is one of the most important subjects to be considered in the work of the better barber and should be thoroughly understood, as it has to do with the cleanliness of your instruments, linens, and in fact your entire establishment. It involves Sterilization, Disinfectants, Antiseptics, and the use of Chemicals in the destruction of Bacteria that may cause infection.

BACTERIA

These are the lowest form of the vegetable kingdom and are the smallest living structures known. They are composed of single cells of protoplasm. They occur in the soil to a depth of several feet and in the air to a certain height.

They are usually found within all cavities of the body which are open to the external air. The majority of bacteria are not injurious or harmful to the human race; in fact, the great majority are helpful and useful to man and only a comparatively few are really dangerous and detrimental to bodily health.

On the other hand, bacteria of the pathogenic type are disease producing and are man's greatest scourge. Many diseases are now scientifically recognized as being entirely caused by the presence of bacteria.

There are certain well understood requirements for the growth of bacteria. These are: Food, Moisture and Temperature.

There are at all times produced in the bodies of persons, substances which are capable of hindering the growth of bacteria. These are spoken of as immunizing substances. When bacteria, capable of causing disease, finds lodgment in the body of an individual, the condition is known as one of infection.

In order to prevent infection, it is necessary to pay strict attention to the sanitation in your shop.

With the rigid laws exercised by the various health departments in all cities, the sterilization of all instruments, proper cleansing of the hands, use of clean linen, such as towels, jackets, chair cloths, and head covering, are necessities that must be carefully considered as being of utmost importance to the Barber Shop owner.

INFECTION

In implanting in the tissues of the body living pathogenic organisms, or germs, in such a way as to favor their growth and permit their toxins to impure the tissues. Infection of the body with micro-organism is means of entrance of these organisms into the body through certain ports of entry, the principal ones being the skin, the respiratory, alimentary, the genito-urinary tracts of the body. While some micro-organisms may enter the healthy and normal skin, this is rare and the usual mode of entrance is through cuts, abrasions, wounds. etc. The skin is a port of entrance and admits certain animal and vegetable parasites, such as fungus, scabies, etc.

Sanitation is classified as follows: Sterilization, Disinfectants, Antiseptics.

STERILIZATION

Sterilization means extreme cleanliness, destroying all germs by chemical or mechanical means. It is the destruction of all organic life, whether infective or not. This can be accomplished by different means, such as: Moist Heat, Dry Heat, Chemicals or Vapor.

MOIST HEAT

This means steaming or boiling instruments in water for twenty minutes. In order to accomplish this an electric heating element can be used. This attachment can be fastened to a glass of water and attached to an electric light socket. When the electricity is turned on it will boil the water in from one to two minutes. The instruments, after washing them in soap and water, are then dipped in boiling water and left there for a few minutes, after which they are placed in an air tight cabinet sterilizer until used.

Electric heating element for boiling instruments.

DRY HEAT

Only such instruments as will stand heat such as metal or glass are adaptable to this method.

Cabinet sterilizer.

This is used by means of baking in an oven for 20 minutes. The oven is heated to a temperature used for baking. This method is used for sterilizing linens, towels, etc.

CHEMICALS

This method is most commonly used in the Barber Shop work. A sterilizing solution should be placed in an open mouthed jar, the opening to be large enough to admit instruments easily. It should be tightly covered when not in use and the solution should be changed every day, as sediments begin to form at the bottom of the jar.

VAPORS

By this means, chemicals of a gaseous nature that produce a vapor, such as Formeldehyde, are used. A cabinet sterilizer is used for this purpose and after instruments are placed in it, it is kept tightly closed and air tight. A small glass tray is used on which a piece of blotting paper or piece of cotton is placed. On this blotting paper place

1 tablespoon borax.
1 tablespoon formaldehyde.

This creates the vapors necessary for the purpose of keeping instruments steril after they have been washed and dipped in a sterilizing solution, then dried thoroughly and placed in cabinet sterilizer.

STERILIZING COMBS AND BRUSHES

Combs, brushes and like instruments should first be washed with soap and water. Common laundry soap will do if you have no other, and then dip instruments into the following solutions. The favorite solutions are:

10% solution of carbolic acid.

This is made by adding

Liquid carbolic acid, 1 part.
Water (boiled or distilled), 10 parts.

also

4% solution of formalin, or 5% phenol.

This is made by using

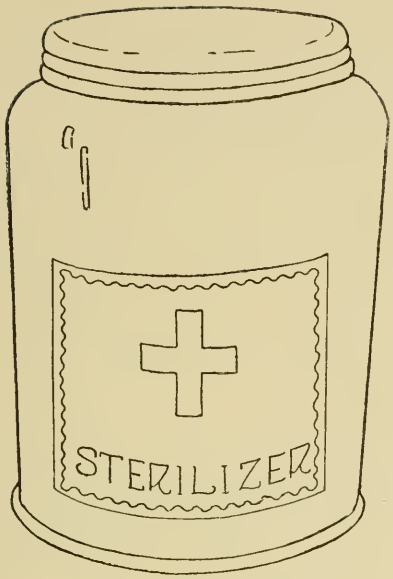
4 oz. formaldehyde.
½ gal. water.

WORK STANDS, LAVATORIES, BOWLS, TOPS OF TABLES, ETC.

These should be washed well and the same solution used as for combs and brushes.

MANICURE INSTRUMENTS

Manicure instruments should be dipped in a 2 per cent solution of Formalin or by use of moist heat. They should be freed from



Jar for sterilizing solution.

all foreign substance before sterilizing. A solution for this purpose can be made by using.

2 oz. formaldehyde
½ gal. (boiled or distilled) water

Then place them in the sterilizing cabinet until they are to be used.

DISINFECTANTS

Disinfectant is an agent capable of destroying germs. Disinfection differs from sterilization in this regard. Sterilization is the absolute destruction of all organic life whether infective or not. It is, therefore, more than a disinfectant which destroys the germs of infection only. Infection is defined as disease spread from sick to well by direct or indirect innoculation.

A room may be disinfected by fumigation with Formaldehyde or similar gasses. Linens can be disinfected by boiling in hot water and soap. The hands and skin can be disinfected by washing with a germicidal soap or using a light solution of Formalin. A 1 per cent solution is used for this purpose and is made by adding

1 oz. formaldehyde
½ gal. water (boiled or distilled)

ANTISEPTICS

Antiseptics are agents which restrain the growth of Bacteria. A disinfectant must be an antiseptic, but an antiseptic need not be a disinfectant.

Alcohol when used full strength is one of the best antiseptics known. It is also the safest and most economical cleansing medium that can be used and is especially good to cleanse electrical appliances such as electrodes for Hy Frequency, Faradic and Galvanic batteries. A pad of cotton is saturated with alcohol and used to cleanse them.

Alcohol will penetrate the layers of the Epidermis and destroy bacteria located between them.

Boric Acid is a powdered antiseptic which can be used for pads for eyes, also as a cleansing medium and for hot packs in infection. When used for this purpose prepare in the following manner:

Boric acid crystal, 3¼ oz.
Water, ½ gal.

When used in small quantities as a cleansing medium for Hydro-vacu, it can be prepared in the following manner:

1 teaspoonful of boric acid crystal
1 cup boiling water

Peroxide of Hydrogen is a mild antiseptic and can be used full strength. It can be used on the skin.

Rules for making solutions:

5 drops to 1 oz. makes 1% solution
25 drops to 1 oz. makes 5% solution
5 drops to 1 oz. makes 1% solution
8 drops to 1 pint makes 1 to 1000 solution
60 drops to 1 gal. makes 1 to 1000 solution
1 teaspoonful equals 60 drops
Ordinary glass, 8 oz.
Teacupful, 6 oz.
1 pint, 16 oz.
1 quart, 32 oz.

The Beauty Specialist is privileged to use the following chemicals in preparing solutions:

Alcohol, this is used full strength
Bichloride of Mercury, 1 to 1000
Carbolic Acid, 10%
Iodine, 75%
Lysol, 1%
Formalin, 4%

Formalin is considered the cheapest of the different solutions used for sterilizing. It does not stain or corrode metal.

The hands should be thoroughly disinfected; the nails should always be cared for especially if your work has been on the scalp or face. Personal hygiene is very important in a Barber Shop. Jackets should always be clean as the personal appearance of an operator adds much to the popularity of the shop.

Other methods of sterilization besides those already mentioned can be accomplished through

Decomposition, by strong acids,

Burning, with fire.

The Laws of Sanitation governing Barber Shops, prohibits the use of the fingers in removing cream from the jar. A small spatula or spoon that can be sterilized should be used instead.

Cosmetics must be removed by means of cotton gauze pledgets or paper tissue, or other sterilizable materials such as soft towels.

Powder must be in sifter top containers or covered powder boxes.

All creams and lotions and other cosmetics must be kept in a clean and closed container.

Hands must be thoroughly cleansed and sterilized before and after each patron.

DEFINITIONS

Asepsis—Absence of septic matter or freedom from infection.

Aseptic—Free from Septic Material. Absence of living pathogenic micro-organisms.

Antiseptic—A substance destructive to poisonous germs.

Bacteria—The lowest form of vegetable kingdom consists of a single cell, the basic principle of which is everywhere except in high altitudes, deep water and deep soil. It requires to live, food, moisture and temperature of 70 to 90 degrees.

Disinfection—The act or process of freeing from Bacteria by means of chemicals. You can sterilize instruments and materials, but you disinfect your hands by dipping in a 1% solution of Formalin.

Germ—A microbe or bacillus.

Germicide—A chemical agent, capable of destroying.

Infection—Disease spread from sick to well by direct of indirect innoculation.

Pathogenic—Germs that are disease producing.

Sanitation—The application of measures to promote public health.

Sterilization — Simply means extreme cleanliness, which prevents disease, by killing the germs or neutralizing their action.

Sterile—Free from germs.

Lesson Eight

Subject

ELECTRICITY

Embracing

1. Galvanic
2. Faradic
3. High Frequency
4. Negative
5. Positive
6. Voltage
7. Amperage
8. Lights
9. Red
10. Blue

ELECTRICITY is a current of motion or some other form of action of that form of matter called ether. Ether permeates all matter, pervades all space and is affected by the matter of the body in which it is. It cannot be weighed, seen or measured. As used in the work of the Barber Specialist it is available in the shape of dry cells as used for batteries or 110 voltage used for lights and power purposes.

Electricity as used in the work of the progressive barber is in three forms: Galvanic, Faradic, Hy Frequency.

GALVANIC CURRENT

Galvanic current is a current of electricity that has a decided chemical effect on the tissues. It is an uninterrupted current flowing constantly in one direction from the positive to the negative pole. It is always used in Electrolysis, also for cataphorisis introduction of medicines through the unbroken skin, or for coagulation (to form a clot).

Galvanic current is produced by immersing plates of zinc or copper in an exciting fluid, such as salt water or acid, and connecting them with a wire. A single cell of a battery is made. This cell produces the Galvanic or constant current.

The acid produces a chemical decomposition by attacking the zinc, causes a current to flow through the fluid from the zinc to the carbon and then out from the carbon through the connecting cords.

The galvanic current can be used through a wall plate which is an electrical instrument which turns electricity into galvanism or Faradism, or through the use of a dry cell battery.

It is often necessary to determine the polarity (this is the chemical action or reaction which takes place at the point where the current enters and leaves the

binding post, cell or battery). This is done by immersing the tips of the conducting cords in a glass of water, never metal. Observe the "bubbles" which appear on them. A few may appear on the positive and "stick," but the negative relcases them.

It is not necessary to test for polarity on a dry cell battery, as this is already determined by the wiring or construction of the battery. It is very important to remember that each pole has a definite action upon which we depend for results.

ACTION OF POSITIVE POLE IN GALVANIC CURRENT

This has a sedative effect. It decreases pain and also reduces inflammation; has an astringent effect and contracts the pores it hardens, also dissolves all metal except gold, platinum and aluminum. It is the pole to which the water or moist pad is attached in Electrolysis.

ACTION OF NEGATIVE POLE IN GALVANIC CURRENT

This dissolves, softens and liquifies, therefore, it is always used for the needle when electrolysis is done. It also increases inflammation, does not dissolve metals.

FORCING MEDICINES INTO THE SKIN

Forcing medicines or liquids into the unbroken skin can only be done with the Galvanic Current. It is necessary to reverse the polarity, that is, a patron would be required to hold the electrode which is attached to negative pole, rather than the positive as is usual, while the liquid is applied to the sponge, and is attached to the positive pole. This is called Castophoresis. A metallic taste in the mouth is usually experienced with the Galvanic current.

TO CONTRACT PORES WITH GALVANIC CURRENT

The galvanic current is often used by some operators at the close of an ordinary facial to contract the pores. When this method is used, it is applied over the entire face in a rotary movement for about 10 minutes with a felt electrode. The poles are reversed also for this purpose and this operation is called Galvanic Contractility.

CAUTERIZATION WITH GALVANIC CURRENT

Galvano Cauterization as used in Electrolysis, is the change of the galvanic electricity into chemical action and the cauterization is caused by the releasing of the acids and alkalies. This is the destruction of living tissue, as in the removal of warts and moles.

FARADIC CURRENT

The faradic current is an interrupted or induced current. It is an alternating current and has little or no chemical action on the tissues and is of high voltage and low amperage. It is especially beneficial in facial and scalp

work, through finger manipulations, the current passing through the fingers.

It is a current that develops the muscles, circulation is improved by it, sleep is induced and mental faculties are strengthened. Through it stimulation is supplied, and wasted tissues are built up.

HY FREQUENCY

Hy Frequency is a current of high voltage and low amperage. It is claimed that it produces stimulation and must, therefore, have sufficient electric force to "jump," but must be of such volume as not to be difficult to control, and when brought into contact with the skin, it produces ozone and antiseptic gas. The High Frequency generates great quantities of ozone during its flow, similar to phosphorus. This ozone is oxide of oxygen and one of the most beneficial and health-giving elements known to man. It also improves glandular activity, stimulates oxidation, increases elimination and has an anesthetic effect. It passes through the body without meeting any apparent resistance and does not stop anywhere in the body long enough to cause any discomfort to the nerves or muscles, yet this penetrating vapor-like current will saturate every cell in the body from head to foot, filling it with new life and renewed resistance, as it has a deep and superficial effect on the tissues.

It acts as a deep cellular massage. Cellular massage is more penetrating and beneficial than muscular massage. This current of electricity is applied through an insulator. This is of thin glass or an electrode that is silvered inside. When this electrode has been freed from air and then sealed by turning on a high voltage current, it throws off a purplish light within. It is through this light it gets its name of Violet Ray. When the bulb electrode is held a slight distance from the face it acts as a stimulant and as a germicide as in treatment of Acne, etc., and this stimulation is deeper and more lasting than any other method.

A Volt is a unit of push power and electro force.

An Ampere is a unit of current strength.

LIGHTS

Red Light has very strong heat rays. It has astringent and tonic effect on the tissues and renders it resistant to bacteria. It is used in the treatment of large pores to dry the mud pac. It also brings the blood to the surface and in this manner promotes the absorption of creams, etc.

Blue Light has an antiseptic effect on the skin. It has sedative effect on the nerves and can be used as a germicide. It also has penetrative qualities.

Caution—Never use electricity around water when attached to street current.

Lesson Nine

Subject

CHEMISTRY

Embracing

1. Elements
2. Chemical Change
3. Analysis
4. Nomenclature
5. Combinations
6. Reactions
7. Radicles
8. Acids
9. Volume
10. Stoichiometry

For this article we are indebted to
Victor Olsen, Chemist
And The Compend of Chemistry
By Dr. Leffmann

ELEMENTS

Chemistry is an abstract-concrete science that investigates the composition of matter.

Matter is anything that occupies space and has weight.

Changes may be *physical* or *chemical*. *Physical change* is in general that which occurs without change of composition. The development of magnetic properties in iron is a good example of a physical change. The most frequent instances of true physical change are those known as *changes of state*. Matter is considered to exist in at least three states—*solid, liquid,* and *gaseous*. The change from one of these conditions to the other takes place under the influence of change of temperature, and is not necessarily attended by any alteration of composition. Such is the case in the conversion of ice into water, or water into steam, or the reverse. In many cases the conversion of a solid into a liquid, or of a liquid into a gas, is attended by change of composition, and, therefore, is not merely a physical change. *Chemical change,* the proper study of chemistry, is that attended by alteration of composition. The rusting or iron, burning of coal, rotting of animal and vegetable matter are familiar instances of chemical change.

Forms of Chemical Change.—These are *combination, decomposition,* and *re-arrangement. Combination* is the association of substance to form a new substance; *decomposition* is separation into raw substances. *Rearrangement* refers to cases in which new substances are formed without combination or decomposition. Under present knowledge decomposition cannot be carried on indefinitely. No matter what substance is taken for experiment, limits will be reached that are incapable of further decomposition by any method known. For example, chalk may by heat be decomposed into two substances, one a colorless gas, called carbon dioxid; the other a white powder, called calcium oxid, or, commonly, lime. These products are different from the chalk and from each other, but they do not represent the limit of decomposition, for by special methods each can be made to yield two substances. The lime yields a solid (called calcium) and a gas called oxygen; the carbon dioxid yields a solid (called carbon) and a gas which is the same as that from the lime, namely, oxygen. The substances thus obtained are incapable of further decomposition by any process as yet known. By proceeding in this woy with all known substances, chemists have determined limits of decomposition, and have established that all

material objects may be regarded as formed from a limited number of substances. These are called *elements* and are generally supposed to be undecomposable bodies, not capable of conversion into each other, but this view has been modified by recent discoveries.

About eighty elements are now known. Each substance known is either one of these elements or an association of two or more of them. Consequently all substances are divided into two classes, *elementary* and *compound*. The main object of chemistry is to discover what elements are present in any substance and what are the laws governing the action of the elements upon each other.

Analysis and Synthesis.—When the composition of a substance is determined by separating and recognizing the elements contained in it, the process is called *analysis;* when substances are produced by combining elements the process is called *synthesis.*

Following is a tabulated list of the more common elements with their symbols and atomic weights.

Element	Symbol	Atomic Weight	Element	Symbol	Atomic Weight
Aluminum	Al	27.1	Magnesium	Mg	24.32
Antimony	Sb	120.2	Manganese	Mn	54.93
Argon	A	39.88	Mercury	Hg	200.37
Arsenic	As	74.96	Molybdenum	Mo	96.0
Barium	Ba	137.37	Neon	Ne	20.2
Bismuth	Bi	208.0	Nickel	Ni	58.68
Boron	B	11.0	Nitrogen	N	14.01
Bromin	Br	79.92	Oxygen	O	16.00
Cadmium	Cd	112.31	Phosphorus	P	31.04
Calcium	Ca	40.13	Patinum	Pt	195.2
Carbon	C	12.00	Potassium	K	39.10
Chlorin	Cl	35.46	Radium	Rd	226.96
Chromium	Cr	52.0	Rhodium	Rh	102.9
Cobalt	Co	58.97	Selenium	Se	79.18
Copper	Cu	63.54	Silicon	Si	28.3
Fluorin	F	19.0	Silver	Ag	107.88
Gold	Au	197.2	Sodium	Na	23.00
Helium	He	3.99	Strontium	Sr	87.63
Hydrogen	H	1.008	Sulphur	S	32.07
Iodin	I	126.92	Tin	Sn	119.0
Iridium	Ir	193.42	Titanium	Ti	48.1
Iron	Fe	55.84	Tungsten	W	184.0
Krypton	Kr	82.92	Uranium	U	238.5
Lead	Pb	207.10	Vanadium	V	51.0
Lithium	Li	6.94	Zinc	Zn	65.37

Chemists have been generally of the opinion that a limit does exist and that every substance is made up of particles of definite size and incapable of further division. Such particles are very small, and equally hard, no matter what the nature of the mass which they constitute. They are called *atoms* (a word signifying indivisible); any mass of elementary matter consists of a collection of a greater or less number of these atoms. It is believed that the atoms are rarely perfectly free, but associated in groups, called *molecules*. When, therefore, the sulphur is powdered, the molecules are merely separated from each other.

Molecules consisting of one kind of atoms are called *elemental* molecules; those containing more than one kind are called *compound* molecules.

Atoms and molecules are believed to be in a constant state of vibration, the rapidity of which increases with increase of temperature, and is, therefore, more rapid in the liquid than in the solid state, and still more rapid in the gaseous condition.

Atomic Weights.—Chemists have never been able to render visible individual atoms or molecules, but the progress of research has developed some general principles.

1st. That the atom of each element has a constant and definite weight.

2nd. That the atom of hydrogen is the lightest of all.

3rd. That combination takes place among most atoms under the action of chemical affinity.

Starting with the first two principles numbers have been obtained which are supposed to represent the weight of each atom compared to the atom of hydrogen. These numbers are called *atomic weights.*

In any compound the sum of all the atomic weights is called the *molecular* weight. Thus, its molecular weight is 40.

Na = 23
O = 16
H = 1
—
40

NOTATION

In chemistry, a *symbol* is an abbreviation of the name of an element; in most cases an initial letter is used, as C for carbon, P for phosphorous. Since some elements have names beginning with the same letter, proper distinction is obtained by assigning the single letter to the most common, and attaching small letters to the other initials. Thus C stands for carbon, Ca for calcium, Cl for chlorin, Cd for cadmium. Some elements have different names in different languages, and for these the symbol is formed from the Latin name. Iron, for instance, is represented by Fe (ferrum); lead by Pb (plumbum); silver by Ag (argentum); potassium by K (kalium).

To express combinations between elements—in other words, to express the composition of a compound body or of a molecule—the symbols are to be written together like the letters of a word. Such a collection of symbols is called a *formula.*

The symbol, however, not only represents the element, but one atom of it. The expression CaO not only shows a compound consisting of calcium and oxygen, but also indicates that it contains a single atom of each element. CaO_2 shows that two atoms of oxygen are present and one of calcium. In writing these expressions certain rules are followed:—

1st. To multiply an atom, a small number is attached to the lower right hand, as seen above, where O_2 indicates two of oxygen. The formula $C_2H_4O_2$ shows a combination consisting of two atoms of carbon, four of hydrogen and two of oxygen.

2d. To multiply several atoms by the same number, a large figure is placed in front. Thus 2HClO is equal to $H_2Cl_2O_2$; that is, the large figure multiplies the whole expression.

3d. To multiply a portion of an expression, several methods are in use. The part to be multiplied may be placed in parentheses, and the proper number attached to the right-hand corner. $Ba(NO_3)_2$, for instance,

equals BaN_2O_6; $C_6H_8(NO_2)_2O_5$ equals $C_6H_8N_2O_9$. The effect of the small figure is limited to the part within the parentheses. This method is especially adapted to multiplying symbols in the middle or at the end of a formula. To multiply the symbols at the beginning of a formula, it is usual to point off or punctuate the part to be affected, and place a large figure in front. Some irregularity prevails as to the particular sign used, the comma and semicolon both being employed. It is sufficient for the student to bear in mind that a punctuation mark or arithmetical sign in a formula will stop the multiplying effect of the large figure at the beginning of the expression. For instance, $2C_2H_5$, H_2N is equal to $C_4H_{10}H_2N$; similarly, in $2FeSO_4 + HCl$ the letters following the plus sign are not affected by the figure 2. If it is desired to carry the multiplying effect to the end of the expression, it is enclosed in parentheses; thus, $2(FeSO_4 + HCl)$. Here all the letters are equally influenced.

Since the symbol of each element represents one atom, it follows that every symbol carries with it an idea of quality. HCl means not merely that hydrogen and chlorin are in combination but that the amounts by weight are in the proportion of the atomic weights; *i. e.*, 1 (atomic weight H) to 35.46 (atomic weight Cl). When the symbol is multiplied, the weight is also multiplied. For instance, H_2O represents 2 parts by weight of H to 16 of O; $HgCl_2$ represents 200 parts of mercury and 70.92 (35.46×2) parts of chlorin.

Empirical, Rational and Structural Formulas.—When symbols are written so as to show merely the total number of each of the atoms present, the formula is termed *empirical.* When some arrangement of the atoms is indicated the formula is termed *rational.* A *structural* formula is one that is intended to show the supposed relative positions of atoms in space. H_3PO_2 is the empirical formula of hypophosphorous acid; $(HO)H_2PO_2$ is the rational formula.

NOMENCLATURE

The names of chemical compounds are regulated by a system which depends essentially upon the employment of certain terminations.

In the old division of the elements into metals and non-metals, the metals were usually distinguished by the termination *"um."* A change of this termination into *"a"* indicated combination with oxygen. Potassium (K) becomes by oxidation potassa (K_2O); sodium (Na) becomes soda (Na_2O); magnesium (Mg) becomes magnesia (MgO). As the names of many of the common metals do not end in "um" unless the Latin name is used, this rule is only of limited application. The tendency of the modern nomenclature is to make but little change in names ending in "um."

Chemical compounds which contain only two elements are called *binary compounds.* They are usually named by joining the names of the elements present and attaching to one of them the termination *"id."* This termination may be conveniently regarded as an equicalent of the phrase "nothing else;" that is, wherever it occurs it indicates that nothing else is present except what is expressly mentioned. Potassium iod*id*, for instance, can contain nothing else but potassium and iodin; copper sulph*id* can contain nothing but copper and sulphur.

PbO—Lead ox*id*.
NaCl—Sodium chlor*id*.
AgBr—Silver brom*id*.

The syllable "id" is usually attached to the members of the oxygen, chlorin, nitrogen and carbon groups, and preferably to those of the first two groups. Thus, a compound of iron and carbon is called iron carbid, but a compound of carbon and chlorin is called carbon chlorid.

In many books, especially in older works, the word "of" will be found frequently used in the names of compounds. Instead of copper nitrate, we see nitrate of copper, for potassium iodid, iodid of potassium. This is not regarded as proper form.

As elements may combine in several proportions, forming several different compounds, this termination *id* does not suffice. The bodies Cu_2O and CuO are both properly called copper oxid, because they contain only copper and oxygen, but they are different bodies. In the same way, SO_3 and SO_2 are both sulphur oxids. The distinction is made by prefixes,

Cu_2O—Copper *sub*oxid.
CuO —Copper *mon*oxid (formerly *proto* was used.)
SO_2 —Sulphur *di*oxid (formerly *deut* or *bin* was used.)
CO_3 —Sulphur *tri*oxid (also *ter*-oxid.)
CCl_4 —Carbon tetrachlorid or quadrichlorid.
PCl_5 —Phosphorus pentachlorid.

Some elements form compounds in which the proportion is as 1 to 1½, but as fractions are not allowed in formulas, the whole expression is multiplied by 2, which gives the proportion 2 to 3. FeO1½ becomes, therefore, Fe_2O_3. These are called *sesqui*-compounds. Fe_2O_3 is iron sesquioxid. The word *sesqui* means one and a half, and conveys the idea that the relation between the two elements is as 1 to 1½ (2 to 3).

In the case of few binary compounds especially when they are obviously supersaturated, the term *"per"* is employed in preference to syllables indicating number. Thus H_2O_2 is called hyldrogen *peroxid* rather than hydrogen *dioxid*. It is doubtful if anything important is gained by this method.

There is no uniform method for giving names to compounds containing more than two elements. Sometimes the system is the same as that just given; all the elements are mentioned and the termination "id" is attached. Thus KHO is potassium hydroxid, NaHO is sodium hydroxid. In other cases a portion of the compound is included under a group name, and this is joined with the names of the other elements according to the above rule. Thus KCN is not called potassium carbonitrid, but CN is called cyanogen, and the entire compound is called potassium cyanid.

Among the compounds containing *three elements are those which are called salts.* If zinc or zinc oxid be placed into sulphuric acid, a zinc salt is formed, in this case zinc sulphate; also by direct union of many oxids; for instance, when calcium oxid, CaO, forms with carbon dioxid, CO_2, we get calcium carbonate, $CaCO_3$, which is a salt.

Most salts contain *three* elements, of which *oxygen* is one, and the names are made by joining the names of the other two elements and adding to them certain syllables which not only indicate the presence of oxygen, but also partly the amount. These syllables are *ate* and *ite*. The former indicates the greater quantity of oxygen. The potassium sulph*ate* and potassium sulph*ite* both contain oxygen, but the former (sulph*ate*) contains the more oxygen. Sodium nitr*ate* and sodium nitr*ite* contain the same elements, but their composition is $NaNO_3$ and $NaNO_2$, respectively.

It has been pointed out that the syllable *id* could be regarded as equivalent to the phrase "nothing else." In the same manner, the syllables *ate* and *ite* may be regarded as meaning "something else", generally oxygen. Thus, while in sodium sulph*id* but two elements are present, sodium sulph*ate* and sulph*ite* will contain three.

These two terminations are not sufficient. Potassium, chlorin and oxygen unite in four dinfferent proportions, forming $KClO_4$, and $KClO_3$, $KClO_2$, KClO. In such cases the important or most common compound is distinguished by the termination *ate*, and the one containing the next lower amount of oxygen by the termination *ite*.

The other compounds are indicated by the use of certain extra syllables, *hypo* and *hyper*, the latter now generally abbreviated to "per."

LAWS OF COMBINATION

The great law of chemistry is the law of constant proportion. Every chemical compound is definite in its

nature, the proportion of its constituents being constant. Water, for instance, when pure, always consists of 11.2 *per cent. hydrogen and* 88.8 *per cent. of oxygen.*

Elements, however, are not limited to one proportion of combination, but in each proportion a different body is produced. Thus, there is a compound containing about 6 per cent. of hydrogen and 94 per cent. of oxygen. It is, however, very different from water. So, also, there are five compounds of nitrogen and oxygen, all different bodies. When the proportions present in different compounds are expressed in terms of atomic weight, it is generally found that a simple multiple relation exists. For instance, the two compounds of hydrogen and oxygen have the formula, respectively,

H_2O —Water.
H_2O_2—Hydrogen dioxid (peroxid.)

The five compounds of nitrogen and oxygen are N_2O, NO, N_2O_3, NO_2, N_2O_5.

The fact has given rise to a second law, or rather rule, called the *law of multiple proportion When elements combine in more than one proportion, the higher proportions are simple multiples of the lower.*

The same simplicity and constancy of proportion is observed in the combination of compound bodies. The combining weight of a compound body equals the sum of the atomic weights of its constituents. Thus, lime (calcium oxid), CaO, has the combining weight—

$$\begin{aligned} Ca &= 40.1 \\ O &= 16 \\ \hline CaO &= 56.1 \end{aligned}$$

When lime and water are mixed they combine in definite proportions of their molecular weight—

$$\begin{aligned} H_2 &= 2 \\ O &= 16 \\ \hline H_2O &= 18 \end{aligned}$$

56.1 parts by weight of lime with 18 parts by weight of water, forming 74.1 parts of slacked lime—

$$CaO + H_2O \rightarrow CaH_2O_2$$

Elements, as noted, may combine in several proportions. When compounds containing the same elements are compared, there is usually one proportion which seems to be the most natural; it is either most frequently or easily produced, or it is the one least liable to change. Hydrogen and oxygen combine in two proportions, thus:

2 parts by weight H }
16 parts by weight O }
$= H_2O$. Hydrogen monoxid.

2 parts by weight H }
32 parts by weight O }
$= H_2O_2$. Hydrogen dioxid (peroxid.)

These bodies are very different. The first is *water,* a compound not liable to decompose. The second substance is difficult to prepare and to preserve; it is liable to explode. It may be assumed, therefore, that the normal proportion of combination between H and O is H_2O. Carbon forms with oxygen two well marked compounds, CO and CO_2. CO is formed when carbon is burned in a deficient supply of oxygen, but CO_2 is formed when the carbon burns under natural conditions in a free draft of air or oxygen. CO, besides, shows a tendency to take up more oxygen, especially when heated, and it will combine with chlorin, even at ordinary temperatures. CO_2, on the other hand, shows no tendency to combine with either oxygen or chlorin.

The atom of hydrogen is taken as a point of comparison, and each element compared acording to the number of hydrogen atoms with which it forms the most permanent combination. For instance:

Cl combines with H, forming HCl.
Br combines with H, forming HBr.
O combines with H_2, forming H_2O.
S combines with H, forming H_2S.
N combines with H_3, forming H_3N.
As combines with H, forming H_3As.
C combines with H_4, forming H_4C.

These are not the only compounds that can be formed from these elements, but they are those which show only a slight tendency either to take new atoms or give up what they already possess.

The number of hydrogen atoms with which any element combines is called its *valency*.

REACTIONS

Chemical symbols are employed not only to show composition, but also to show exactly the nature of the chemical changes which occur when different substances are brought in contact. When so used, the expression is called a *reaction*. Strictly speaking, the statement in symbols is the "equation of the reaction", but the shorter term is generally used. Some compounds, much used for producing reactions, are called *reagents*. When vinegar is poured upon marble, it is usually said that the marble is corroded, but, in fact, the vinegar is equally acted upon. Both substances are changed in composition, both are rendered unfit for their original uses; in other words they have not only acted, they have reacted, and are, therefore, both reagents.

A reaction is substantially an expression of the result of an experiment, and, when correctly written, gives the proportion in which bodies are to be used and the proportion of the resulting substances. Speaking absolutely, the correctness of any equation is not assured until the experiment is made and the result analyzed; but the progress of chemistry has made known certain laws of change, which enable one to predict, or infer, many results without the necessity of actual observation. Every now and then, however, the analogy fails, and experiment disappoints the suggestions of theory.

Reactions are written by placing in proper proportion and connected by + signs the formulas of the bodies concerned, then writing the sign = or → and following this by the formulas of the resulting bodies. For instance,

$$AgNO_3 + NaCl \rightarrow AgCl + NaNO_3$$

expresses that on bringing together silver nitrate and hydrochloric acid, a chemical change occurs by which silver chlorid and nitric acid are produced. This statement also shows the exact relations by weight in which the substances react, so that if, for example, the amount of silver nitrate used is known, the amount of sodium nitrate and silver chlorid produced can be calculated. (See later, under "Stoichiometry.)

The sign = is still generally used with reactions, but to avoid suggestion of algebraic equations the sign → is coming into use. It will be used in this work; it should be read "produces" or "results in." In writing reactions, three difficulties are encountered: 1st. To know whether a given change will take place. 2d. To know the quantities of the bodies to be used. 3d. To know the nature of the resulting bodies. These difficulties may be taken up in order. 1st. In the simplest cases, the nature of the reaction will be determined by the affinities of the elements as governed by their electrical relations, the change taking place in such a way that the element having the stronger electric affinity will drive out and supplant the element of similar but weaker affinity. When chlorin acts upon the bromids they are decomposed, the bromin being expelled, and bromin, in turn, expels iodin from combination. Therefore, such reactions as

$$KBr + Cl \rightarrow KCl + Br$$
$$KI + Br \rightarrow KBr + I$$

are simply illustrations of the general electrical relations of elements concerned. If these affinities were the only active causes of chemical change, the subject would be quite simple, but circumstances may modify the play of affinities, so as to produce an endless variety of chemical action. All the modifying influences are not yet known but some of them are understood, and are of importance.

(a) *Insolubility.*—When in any liquid substances are brought together which are capable of forming a body insoluble in the liquid, that insoluble

compound will be produced in spite of the general relations of affinities This influence of insolubility is the basis of a large number of tests and other chemical operations.

When the formation of the insoluble compound would require a powerful chemical agent to be set free, the change will not take place, unless. of course, the added substance is stronger than the one to be liberated. Carbonic acid forms with calcium a body nearly insoluble in water, but this body cannot be formed by passing carbonic acid into calcium sulphate. The reason is shown at once by examining the conditions of the experiment. The reaction would have to be $CaSO_4 + H_2CO_3 \rightarrow CaCO_3$ (insoluble) $+ H_2SO_4$, that is, sulphuric acid would be set free. The activity of H_2CO_3 is under ordinary conditions, so much below that of H_2SO_4 (see pp. —, —,—,) that the former will not drive out the latter. The condition becomes changed if the action of the carbonic acid is assisted by some substance which will react with sulphuric acid and will prevent it being set free. $CaSO_4 + Na_2CO_3$ will produce immediate action resulting in $CaCO_3 + Na_2SO_4$. This reaction illustrates a common method of keeping the powerful affinities in abeyance, and thus allowing secondary influences full play. Some of the arsenic tests show the principle strikingly. Arsenous acid added to copper sulphate produces no action, because the affinity of the SO_4 is too strong, but by adding a little alkali, the strong affinity this has for SO_4 assists in breaking up the copper sulphate and immediately a precipitate of of copper arsenite falls.

(b) *Volatility.*—This is the second influence that disturbs ordinary affinities. If a body is capable of being converted into a gas, this fact will diminish its chemical power; fixed substances that have ordinarily less affinity will drive it out of combination. Boric acid, for instance, is one of the weak acids, yet at a red heat it will decompose sulphates. The cause is, in the main, that at this temperature sulphuric acid is volatile, while boric acid is fixed.

The ease with which hydrogen is driven out of combination may be regarded as due to its volatility, as it is a gas even at low temperatures.

(c) *Concentration.*—Chemical action is often governed by the proportion of substances. If water vapor is passed over red hot iron, iron oxid is formed and hydrogen is set free; if the hydrogen is passed back over the iron oxid, steam is formed and iron set free. In the first case, the water is in excess, and exerts an oxidizing influence; in the second, the hydrogen is in excess, and exerts a deoxidizing influence.

It will be seen to be a deduction from these statements that no substance can be set down as absolutely the strongest in affinity. Chemists cannot determine, for instance, what is the strongest acid or the strongest alkali, except under specified conditions. Under ordinary conditions, the greater the degree of ionization, the stronger the acid or base. Sulphuric acid ionizes readily, hence is a very strong acid.

2d. The proportion in which bodies react is determined by their valencies. Let it be required to write the reaction between mercuric chlorid and potassium iodid. The formulas are $HgCl_2$ and KI, but the bodies will not react in this proportion, for the Hg will require I_2 and Cl_2 will require K_2. The proper reaction is $HgCl_2 + 2KI = HgI_2 + 2KCl$. In the same way, antimonous sulphid and hydrochloric acid can only act upon each other in the ratio $Sb_2S_3 + 6HCl$ because Sb being a triad, Sb_2 will combine with Cl_6, and S being dyad, S_3 will require H_6.

3d. If a chemical change occurs when two given substances are brought in contact, the nature of it will depend principally upon the electrical relations of the ions concerned. In the reaction $HgCl_2 + H_2S$, the only possible result is the combination of S with Hg and H with Cl, as is shown at once by placing the proper signs over the elements,

$$\begin{matrix} + & - & + & - \\ HgCl_2 & & H_2S. & \end{matrix}$$

Such a combination as

$$\overset{+}{H}g\overset{+}{H_2} \text{ or } \overset{-}{Cl_2}\overset{-}{S}$$

is improbable, since like electrocitis do not attract. In beginning with reactions, the student will do well to place the proper signs over the ions and these will be useful guide and control. When acids or salts, containing three elements, are part of the reaction, the positive sign is put over the hydrogen or the metal, and the negative sign over the remaining elements—

$$\overset{+}{Ba}(\overset{-}{NO_3})_2+\overset{+}{K_2}\overset{-}{SO_4}\rightarrow\overset{+}{Ba}\overset{-}{SO_4}+2\overset{+}{K}\overset{-}{NO_3}$$

The placing of the single sign over two elements is simply an evidence of the fact that in ordinary reactions these two elements act as a unit, that is, an ion.

The following formulas will further illustrate the general principle:—

$$\overset{+}{Ag}\overset{-}{NO_3}+\overset{+}{Na}\overset{-}{Cl}\rightarrow\overset{+}{Ag}\overset{-}{Cl}+\overset{+}{Na}\overset{-}{NO_3}$$

$$\overset{+}{H_2}O+\overset{-}{Cl_2}\rightarrow 2\overset{+}{H}\overset{-}{Cl}+O$$

$$\overset{+}{Ba}\overset{-}{Cl_2}+\overset{+}{K}\overset{+}{H}\overset{-}{SO_4}\rightarrow\overset{+}{Ba}\overset{-}{SO_4}+\overset{+}{K}\overset{-}{Cl}+\overset{+}{H}\overset{-}{Cl}$$

In the last reaction, the electro-positives K and H may seem to be in union, but this is not the case. Each is independently united to the SO_4, which is a dyad. The formula showing the ionization might be written—

$$\begin{matrix}K,\\H\end{matrix}\cdot SO_4$$

Reversible Reactions.—Many reactions can take place in either direction, that is, the products under given conditions will under other conditions produce the original substances. The experiments mentioned in the paragraph on "concentration" onp. 21 are instances. When steam is passed over hot iron the effect is represented thus:

$$Fe_3+4H_2O\rightarrow Fe_3O_4+4H_2$$

When hydrogen is passed over the iron oxid the reaction is

$$Fe_3O_4+4H_2\rightarrow Fe_3+4H_2O$$

Both actions can, therefore, be expressed in one statement, thus:

$$Fe_3+4H_2O\leftrightarrows Fe_3O_4+4H_2$$

Usually one of the reactions is more likely to occur than the other and this may be indicated, if desired, by a heavier arrow.

RADICLES

A radicle is any group of atoms having unsatisfied valency; the number of the unsatisfied degrees is the valency of the radicle. The following formulas illustrate the principle. The degrees outside the parentheses indicate in each case the valency of the radicle, being the difference between the valencies of the constituent atoms:—

$$\begin{pmatrix}\text{V II}\\NO_3\end{pmatrix}^{\text{I}} \quad \begin{pmatrix}\text{V II}\\NO_2\end{pmatrix}^{\text{I}} \quad \begin{pmatrix}\text{IV III}\\CN\end{pmatrix}^{\text{I}}$$

$$\begin{pmatrix}\text{IV II}\\CO\end{pmatrix}^{\text{II}} \quad \begin{pmatrix}\text{I II}\\HO\end{pmatrix}^{\text{I}} \quad \begin{pmatrix}\text{I IV}\\HC\end{pmatrix}^{\text{III}}$$

The electrical relations of a radicle are generally determined by the electrical character of the preponderating valency, but not invariably. While the combining capacity and general functions are dependent on the unsaturated valency, yet, in chemical combinations, the whole molecule takes part, and hence the electrical character is influenced by that of each atom present. Thus in $\begin{pmatrix}\text{V I}\\NH_4\end{pmatrix}$ it may seem that the nitrogen valency would only give to the radicle indifferent or intermediate electrical relations, but experiment shows that this is a group having distinctly positive affinities; the four atoms of positive hydrogen, though insufficient to saturate all of the nitrogen valency, yet impress on the molecule their function.

In many cases the influence of the preponderating valency is more decided. Thus in $\left(\overset{V\ II}{NO_3}\right)$ the oxygen valency is in excess, and the radicle is negative.

The general chemical relations of radicles depend on ionization. If the compounds containing them ionize readily and to a large extent, the solutions will be active and each radicle will take part in reactions as an element. If the compound does not ionize the radicles will not react readily.

The compounds of carbon show very well the principle on which the valency of a radicle depends:

$\overset{I\ V}{H_4C}$....Saturated.
H_3C....Monad.
H_2C....Dyad.
HC ....Triad.
C ....Tetrad.

The last is the free element which might be regarded as the final radicle, so that there are elemental radicles and compound radicles, but the term is usually limited to the latter signification.

The following formulas give the compositions, valencies and names of some important radicles:

$\overset{V\ I}{NH_4}$....Ammonium .....Monad
$\overset{III\ I}{NH_2}$....Amidogen .....Monad
$\overset{I\ II}{HO}$ ....Hydroxyl .....Monad
$\overset{I\ II}{HS}$ ....Hydrosulphyl ....Monad
$\overset{IV\ III}{NC}$ ....Cyanogen .....Monad
$\overset{I\ IV}{H_3C}$....Methyl .....Monad
$\overset{IV\ II}{CO}$ ....Carbonyl .....Dyad

ACIDS, BASES AND SALTS

Acids are compounds that ionize so as to give one or more ions containing hydrogen only. In all of them, in the non-ionized state, the hydrogen is united directly to negative elements. Two important classes of acids may be distinguished.

Hydrogen acids—commonly called hydro-acids—

HCl....Hydrochloric acid.
HBr....Hydrobromic acid.
HI ....Hydriodic acid.
HF ....Hydrofluoric acid.

Oxygen acids—

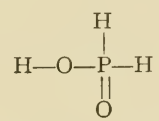
H_2CO_4....Sulphuric acid.
HNO_3 ....Nitric acid.
H_3PO_4....Phosphoric acid.
H_2CO_3....Carbonic acid.
$HClO_3$....Chloric acid.

Experiment shows that in each of the oxygen acids, the hydrogen is in more direct relation with some oxygen atoms than with the rest of the molecule, so that they may be formulated as follows:

$(HO)_2SO_2$ $(HO)NO_2$ $(HO)_3PO$
$(HO)_2CO$ $(HO)ClO_3$

It will be seen that in the non-ionized state all the hydrogen is in the form of hydroxyl.

Hydrogen which is not in this condition in a molecule is not easily replaced by a positive element. Thus in HCl the hydrogen is easily replaceable by a positive, but not in NH_3. The two conditions of hydrogen may co-exist in a molecule. In hypophosphorous acid, H_3PO_2, experiment shows that only one hydrogen atom is easily replaceable, and the arrangement is considered to be as follows:



Only one hydrogen atom is directly united to a strongly negative element.

It must not be overlooked that the above formulas represent merely the non-ionized acids, and, therefore, show them in the inactive condition. On

complete ionization, hydrogen becomes the positive ion, and the oxygen forms, with the other elements, the negative ion. Hydrogen, that is not associated in the original molecule with a negative substance or group, also remains in the negative ion. The number of hydrogen ions that are produced from any given acid determines the basicity of the acid. The above formulas are re-arranged thus on ionization:

Name	Empirical formula	Rational formula	Ionization formula + —	Basicity
Sulphuric acid	H_2SO_4	$(HO)_2SO_2$	H_2SO_4	dibasic
Nitric acid	HNO_3	$(HO)NO_2$	H,NO_3	monobasic
Phosphoric acid	H_3PO_4	$(HO)_3PO$	H_3,PO_4	tribasic
Carbonic acid	H_2CO_3	$(HO)_2CO$	H_2,CO_3	dibasic
Chloric acid	$HClO_3$	$(HO)ClO_3$	H,ClO	monobasic
Hypophosphorous acid	H_3PO_2	$(HO)PH_2O$	H,PH_2O_2	monobasic

Differences in the position and function of hydrogen in the same molecule are unusual in the inorganic acids, which generally have all their hydrogen in either the hydroxyl position or in some similar relation, but nearly all organic acids contain hydrogen which is not replaceable.

In thiocarbonic acid, H_2CS_3, in which sulphur takes the place of oxygen, the non-iodized arrangement is $(HS)_2CS$. Sulphur, selenium and tellurium may in the same manner take the place of oxygen in the molecule and render the hydrogen replaceable.

When the molecule contains bodies of high positive character, the power of replacing the hydrogen by other positives does not exist, unless several molecules of oxygen (or S, Se or Te) are also present. It appears then that as the proportion of oxygen is increased in any molecule, without other change, its acid character will be gradually developed. Thus, $Cr(OH)_3$ possesses no acid character, but if two atoms of oxygen are added to the chromium, making $(HO)_2CrO_2$, that is, H_2CrO_4, a well marked acid, chromic acid, is produced. It is then according to the number and position of the negative elements in any molecule that the function of the hydrogen is determined. When strongly positive elements are present, either without negatives or with only relatively few atoms of them, the hydrogen is not easily replaceable by positives, the body is not an acid, but has power to interact with acids and neutralize them. Thus the above mentioned compound, $Cr(HO)_3$, will dissolve easily in sulphuric acid and neutralize it, that is, take away the characteristic properties of the acid, the sour taste, effect on organic colors (see below) and generally chemical activity. Substances that act in this manner are called *bases*. The action in the case of chromous hydroxid and sulphuric acid would be thus represented:

$$Cr(HO)_2+H_2SO_4 \rightarrow CrSO_4+2H_2O.$$

The activity of these bases depends like the activity of acids upon the ionization. The hydrogen in the present case, however, does not become the positive ion, but remains with the oxygen (or other member of the oxygen group). The following examples will illustrate these points:

Name	Empirical formula	Rational formula	Ionization formula + —	Acidicity
Solium hydroxid	$NaHO$	$NaOH$	Na,OH	monacid
Barium hydroxid	BaH_2O_2	$Ba(OH)_2$	$Ba,(OH)_2$	diacid

When acids and bases are mixed, mutual re-arrangements occur. The hydrogen ions of the acid combine with the hydroxyl ions of the base; the positive ions of the base combine with the negative ions of the acid. The resulting compounds as will be seen by the annexed reactions are water and a compound derived from the acid by substitution of its hydrogen by some other positive. These latter compounds are called *"salts."* If the amount of base is not sufficient for complete reaction, only part of the hydrogen ion of the acid is removed, and an *acid salt* is produced. If the amount of base is larger than required, some of it is left unchanged. The reacting substances are largely ionized, but one of the products, water, is but slightly ionized; it follows that a discharge of energy must occur in such reactions. This is usually manifested in the form of heat, reactions of the type shown below being always attended by evolution of heat. Such a reaction is termed *exothermic*. Reactions attended by absorption of heat (which are unusual) are termed *endothermic*. Care must be taken not to confuse the term "salt" with the common name of sodium chlorid.

Illustrative reactions:

Base	Acid	Salt	Water
$NaHO$	$+HCl$	$\rightarrow NaCl$	$+H_2O$
$NaHO$	$+H_2SO_4$	$\rightarrow NaHSO_4$	$+H_2O$
$2NaHO$	$+H_2SO_4$	$\rightarrow Na_2SO_4$	$+2H_2O$
KHO	$+HNO_3$	$\rightarrow KNO_3$	$+H_2O$
$Cu(HO)_2$	$+H_2SO_4$	$\rightarrow CuSO_4$	$+2H_2O$
$BI(HO)_3$	$+3HCl$	$\rightarrow BiCl_3$	$+3H_2O$
$Fe_2(HO)_6$	$+3H_2SO_4$	$\rightarrow Fe_2(SO_4)_3$	$+6H_2O$

A salt may, therefore, be defined as the result of the interaction of an acid with a base.

Since the function of the base in these reactions depends essentially on the strongly positive element, it is not necessary to have it in association with hydroxyl. The formation of salts may take place by the action of acids upon oxids, upon the elements themselves, and also upon compounds containing weaker acid radicles than those existing in the acid employed. Zinc sulphate, for instance, may be made by any of the following methods:

$$Zn + H_2SO_4 \rightarrow ZnSO_2 + H_2$$
$$ZnO + H_2SO_4 \rightarrow ZnSO_4 + H_2O$$
$$Zn(HO)_2 + H_2SO_4 \rightarrow ZnSO_4 + 2H_2O$$
$$ZnCO_3 + H_2SO_4 \rightarrow ZnSO_4 + H_2O + CO_2$$

Theoretically, therefore, and frequently practically, there may be many methods of producing salt, but in many cases the affinity of the acid radicle is not sufficient to bring about the change, unless the positive is either in the form of oxid or hydroxid. Thus the reaction—

$$Ag+HCl \rightarrow AgCl+H$$

will not occur, but either

$$AgHO+ HCl \rightarrow AgCl+ H_2O,$$
$$\text{or } Ag_2O+2HCl \rightarrow AgCl+2H_2O$$

will occur.

Intimately connected with this subject is the meaning of the term *acid, alkaline* and *neutral,* as applied to the conditions of substances. If a drop of sulphuric acid is added to a solution of litmus, the liquid turns red; by the addition of sodium hydroxid the color will be restored. The sodium hydroxid is a base; it has interacted with the acid and deprived it of its chemical activity. By this combination the sodium hydroxid is also neutralized.

Litmus is a color much used for these tests. It becomes red on the addition of an acid, and has the blue color restored on the addition of a base. It is usually sold in the blue condition, and is used either in solution in water or in the form of *litmus paper*—strips of paper soaked in the solution and dried.

A number of artificial colors from coal-tar products are now used as substitutes for litmus. Among these are:

Phenolphthalein—red when alkalin, nearly colorless when acid.

Congo red—red when alkalin, blue when acid.

Lakmoid—similar changes to litmus.

Methyl orange—pale yellow with acids, pink with alkalies.

These color reactions are of importance in practical chemical operations, but they have little value in determining the theoretical relations between acids, bases and salts, since there are substances which are theoretically acids, yet act on the colors as if alkalin, and the reverse.

The ion of an acid is sometimes called the residue of the acid. For instance SO_4 is the residue of sulphuric acid; NO_3 is the residue of nitric acid. The acid radicle proper is the body obtained by deducting all the hydroxyl or hydrosulphyl, etc., from the acid. SO_2 is the radicle proper of sulphuric acid. This distinction in nomenclature is convenient in expressing some of the reactions of these acids. Some writers now use the word "ion" as a termination indicating a negative ion, thus, SO_4 is called "sulphion," NO_3, "nitrion."

Salts may be divided into four classes:

Normal Salts, in which the hydrogen of the acid is replaced by a single element, according to its valencies. The acids themselves are normal salts of hydrogen:

Na_2CS_3....Sodium thicarbonate
KNO_3 ....Potassium nitrate

Mixed Salts, in which two or more positives are present. When some replaceable hydrogen remains, the body is usually called an *acid* salt:

$HKCO_3$ ..Acid potassium carbonate
$KNaSO_4$..Sodium potassium sulphate

Double Salts, in which two complete salts of either of the above classes unite to form a definite compound, which is generally distinctly crystalline:

$FeSO_4,(NH_4)_2SO_4$..Ammonium ferrous sulphate

Oxy Salts (sometimes called *basic* salts or *sub* salts), in which oxygen takes the place of one or more of the acid radicles:

$BiNO_3O$....Bismuth oxynitrate
SbOCl ....Antimony oxychlorid

VOLUME COMBINATION

If equal volumes of elements in the gaseous state are weighed under the same conditions, the relative weights will, with a few exceptions, be in exact proportion to their atomic weights. For instance, a vessel which holds

1.008 grain of hydrogen (about 47 cubic inches) will hold the following quantities of other elements, it being understood that all the bodies are in the state of gas and at the same temperature and pressure:

Element	Atomic Wt.	Wt. of Vol. Equal to Vol. of H
O	16	16
S	32	32
Cl	35.46	35.46
I	126.9	126.9
Br	80	80

Some of the elements cannot be converted into vapor, and consequently cannot be compared on this system. Among these are carbon, silicon and many of the common metals. These practically resist the action of the highest temperature which can be used in such experiments.

A few elements show results which are exceptional; among these are—

Element	Atomic Wt.	Wt. of Vol. Equal to Vol. of H
As	75	150
P	31	62
Hg	200	100

In the case of phosphorus and arsenic the weight is twice as great as analogy would require; in the case of mercury, half as great.

The following general law has been established by mathematical and physical investigation: *Equal volumes of elementary gases contain equal numbers of molecules.*

The relative weight of the atoms of each element may be determined by this law. If a given volume of hydrogen contains, say, 1000 molecules, the same volume of oxygen will contain the same number; and as the oxygen volume is 15.88 times as high as the hydrogen, it is clear that the weight of each molecule of oxygen will be 15.88 times that of each molecule of hydrogen. The molecules of hydrogen and oxygen each contain two atoms, hence, the atomic weights will also be in the proportion of 15.88 to 1.

In gases the spaces between the molceules are very large in proportion to the size of the great molecules themselves. Elementary gases combine so as to produce a volume of gas *which is equal to twice the volume that would be occupied by one atomic weight of hydrogen.* The following instances are taken from among the commonest chemical compounds:

One volume of H and one volume of Cl combine and produce *two* volumes of HCl.

Two volumes of H and one volume of O combine and produce *two* volumes of H_2O.

Three volumes of H and one volume of N combine and produce *two* volumes of NH_3.

Some examples will make this plain:

47 cubic inches of H, weighing 1 grain, will combine with 47 cubic inches of Cl, weighing 35.5 grains, and produce 94 cubic inches (*i. e.*, 47 × 2) of hydrochloric acid (HCl), weighing 36.5 grains. The ratio of weights of equal bulks of hydrochloric acid and hydrogen is not 94 to 1, for the figure 94 is calculated for a molecule of HCl, while 1 represents an atom of H. Molecule must be compared to molecule, that is HCl to HH, hence 94 to 2 :: 47 to 1. By dividing 36.5 by 2 the weight of a quantity of hydrochloric acid equal to one atomic weight of hydrogen—viz., 18.25, is obtained. This figure 18.2 represents, therefore, the density or specific gravity compared to hydrogen.

94 cubic inches of H, weighing 2 grains, will combine with 47 cubic inches of O, weighing 15.88 grains, and produce 94 cubic inches of steam, H_2O, weighing 17.88 grains. Dividing 17.88 by 2, gives, as before, the density of steam compared to hydrogen—viz., 8.94.

47 cubic inches of N, weighing 14 grains, will combine with 141 cubic inches (47 × 3) of H, weighing 3 grains, and form 94 cubic inches of ammonia, NH_3, weighing 17 grains; and this weight, divided by 2, gives 8.5 as the density of ammonia compared to hydrogen.

These principles are employed in determining the formulas of bodies. N and O combine to form a body called nitric oxid, which is sometimes written NO and sometimes N_2O_2. The following calculation will show which is correct:

The formula NO requires—

One volume of N = 14
One volume of O = 16
30

30 ÷ 2 = 15

The formula N_2O_2 will require—

Two volumes of N = 28
Two volumes of O = 32
60

60 ÷ 2 = 30

In the first instance the formula would indicate a vapor about fifteen times as heavy as hydrogen; in the second case thirty times as heavy. Experiment shows that the gas is about fifteen times as heavy as hydrogen, and therefore justifies the formula NO.

Since the introduction of a large number of atoms into a molecule does not increase the bulk occupied by a collection of such molecules, it seems reasonable to assume that the intermolecular spaces are much larger than the molecules themselves.

STOICHIOMETRY

This term (from two Greek words, which together have, figuratively, the meaning "to measure primary things") is applied to calculations of the composition of compounds and of amounts required for reactions.

The exact quantitative relations which exist in compounds, and the fact that symbols refer to definite proportions of the elements, permits the use of the method of simple proportion to calculate the amounts involved in, or resulting from, any chemical combination. If it is required to know how much hydrogen is contained in 40 parts by weight of water, the formula expressed in quantitative ratio is as follows:

$H_2(2 \times 1) = 2$
$O = 16$
$H_2O = 18$

That is, 18 parts by weight of water contain 2 parts of hydrogen. Hence, 18 : 2 :: 40 : x; the fourth term will be the amount required. Percentage composition is ascertained by the same rule. The percentage of oxygen in water is obtained by the following proportion:

$$18:16::100:x$$

In ordinary calculations it is rarely necessary to use the exact fractional atomic weights. The nearest whole number will suffice. In a close calculation it would be necessary to use 1.00075 as the atomic weight of hydrogen.

In the last example, the fourth term will be found to be 88.8, which is therefore the percentage required. Any chemical formula or reaction may be calculated to exact expression of weight. To determine, for instance, how much potassium iodid is required to exactly precipitate 1 gram of mercuric chlorid, the reaction, that is, the equation, must first be stated. This is as follows:

$$HgCl_2 + {}_2KI = 2KCl + HgI_2$$

The proportions by weights are:

Hg	=200	K	= 39.1
Cl_2	= 70.92	I	=126.9
$HgCl_2$	=270.92	KI	=166.0

The proportion will be, as the molecular weight of the mercuric chlorid is to that of the potassium iodid, with which it reacts, so is the given weight to that of the iodid required. Care must always be taken to use the molecular weights in the full proportion. In the present calculation, for instance, the molecular weight of the iodid must be doubled, because the chlorid reacts with two molecules. Hence,

$HgCl_2$ 2KI
270.92 : 332 (166×2) :: 1 : x

Calculations of this character are of value to the student, who should practise them. Among other points of interest, they will serve to impress on the mind that formulas give only ratios by special factors, and do not convey directly the simple proportion. Thus, hydrogen iodid, HI, does not contain equal quantities of H and I, but only equal numbers of atoms. The calculation shows this:

$$\begin{aligned} H &= 1 \\ I &= 126.9 \\ \hline HI &= 127.9 \end{aligned}$$

Therefore,

HI I
127.9 : 126.9 : : 100 : 99.1 per cent iodin;

by which it is seen that hydrogen iodid contains less than 1 per cent of hydrogen.

GROUPS OF ELEMENTS

A table of known elements with symbols, and atomic weights will be found on p. 98. The following is a summary of the characteristics of some well-marked groups. Some elements have properties that ally them to several groups. They are "connecting links." Thus, fluorin connects the oxygen group with the chlorin group, boron connects the nitrogen group with the iron group, through aluminum.

1. The *Argon Group,* often called the *zero group,* on account of the apparent lack of chemical affinity, includes helium, neon, argon, krypton and xenon. They are gases, existing in minute amounts in the atmosphere. Helium occurs in some minerals and in the emanations from radium. The members of the group form, so far as is at present known, no compounds, and, therefore, the valency is zero.

2. The *Potassium Group* includes hydrogen, lithium, sodium, potassium, rubidium and sesium. They are positive monads, and have high affinity for members of the oxygen and chlorin groups. With oxygen most of them produce powerful corrosive compounds called the alkalies, and on this account are sometimes called the "alkali metals." In the periodic arrangement as usually given, copper, silver and gold are classed as an accessory sub-group. Of these three, silver shows the closest relation to the potassium group.

3. The *Calcium Group* includes calcium, barium, strontium and radium. They are positive dyads, and form oxids which are slightly soluble in water, but much less caustic or corrosive than the alkalies proper, and are often called alkalin earths. Their sulphates, carbonates and phosphates are practically insoluble in water. Magnesium, zinc, cadmium and mercury are classed as an accessory subgroup. Magnesium is closest in its resemblance to the main group. Mercury connects the group with the first group by the resemblances of copper and mercury in many of their chemical actions. Lead also has some relations to this group . In earlier classifications, the four elements, magnesium, calcium, strontium and barium constituted the group of "alkalin-earth metals."

4. The *Carbon Group* includes carbon, silicon and tin. They are tetrads, and generally positive. Boron, lead and platinum have some resemblances to this group.

5. The *Nitrogen Group* includes nitrogen, phosphorus, arsenic, antimony and bismuth. They are of uneven valency, triads or pentads; their electrical relations are irregular, but mostly positive. Boron and gold have some resemblances to this group.

6. The *Oxygen Group* includes oxygen, sulphur, selenium and tellurium. They are negative dyads. Chromium, molybdenum and uranium form an accessory sub-group.

This system of classification will not be rigidly followed in the description of the elements and their compounds; the most important substances will be described out of the regular order.

In the description of elements, the atomic weights are given to the nearest first decimal or when this is small, to the nearest whole number.

Lesson

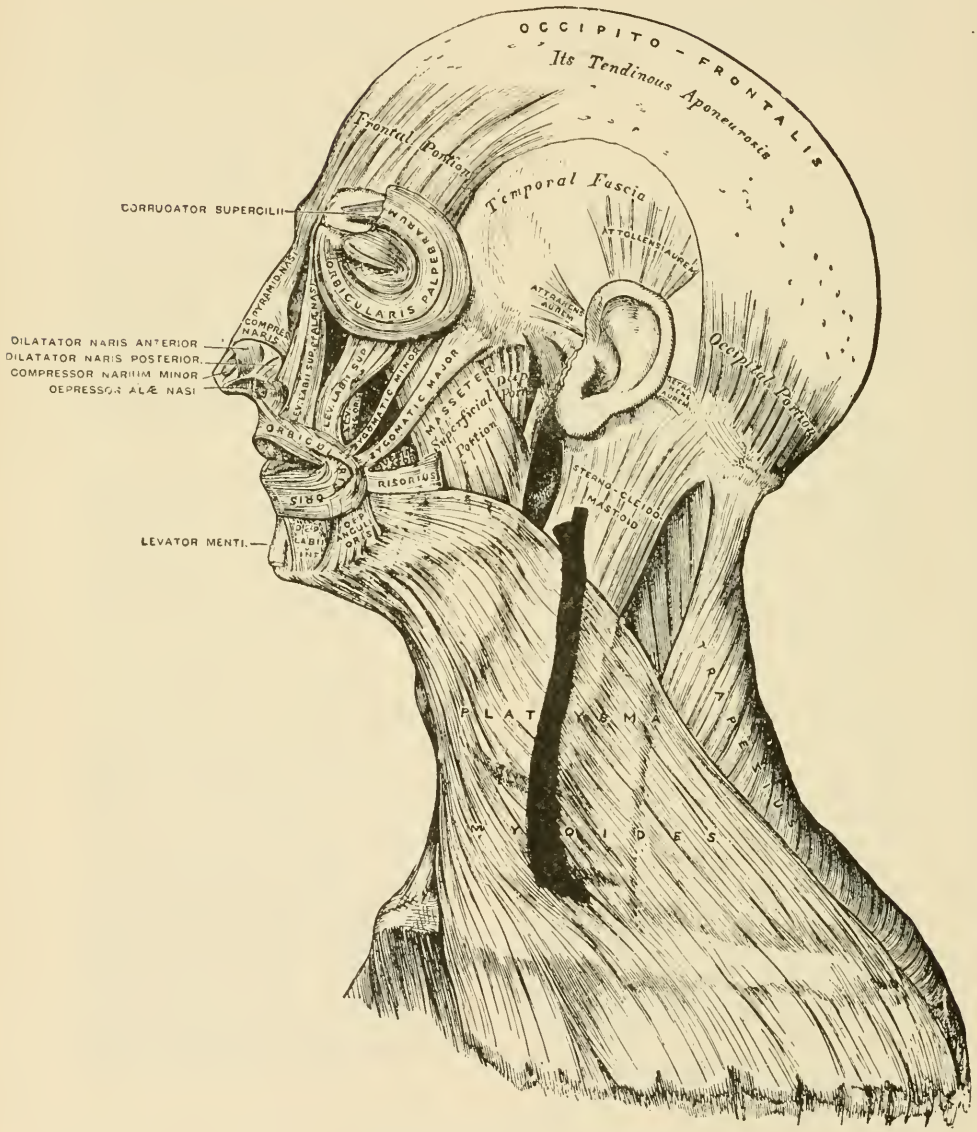
Ten

Subject

ANATOMY

Embracing

1. Muscles
2. Nerves
3. Bones of Face
4. Bones of Head
5. Salivary Glands
6. Muscle Chart
7. Nerve Chart
8. Bone Chart
9. Action
10. Location



Muscles of the head, face, and neck.

MUSCLES OF THE HEAD, FACE AND NECK

NAME	ORIGIN	INSERTION	ACTION
Epicranius, or Occipito-frontalis	Superior curved line of Occiput and Mastoid process of temporal bone, also from eyebrow to root of nose	The tendon which covers the vortex of skull	Moves scalp backward and forward
Orbicularis Palpebrarum	Internal margin of the orbit	External margin of orbit	Closes eyelids
Corrugator Supercilli	Superciliary ridge of frontal bone	Thick skin between eyebrows	Draws eyebrows downward and inward
Pyramidalis Nasi	Compressor nasi	Occipito Frontalis	To depress the eyebrows
Compressor Narium	Skin of the cheek	Insert in a thin skin over bridge of nose	Compresses nostrils
Levator Labii Superioris	Lower margin of orbit	Middle of upper lip	Elevates upper lip
Levator Labii Superioris Alae-que-nasi	Nasal process of submaxillary bones	Ala of the nose and upper lip	Elevates upper lip and dilates nostrils
Dilator Naris Anterior	Cartilage of ala	Border of integument of ala	Dilates nostrils
Dilator Naris Posterior	Nasal notch of upper maxilla	Skin at margin of nose	Dilates nostrils
Compressor Narium Minor	Located at upper portion of nose	Upper part of depressor ali-nasi	Compresses nostrils
Depressor Ali-nasi	Upper lip	In septum and wing of nose	Depresses nostrils
Levator Anguli-oris	Beneath orbital foranima	Inserted in upper lip	Raises angle of mouth
Zygomaticus Major	Malar bone	Angle of mouth	Raises lip outward
Zygomaticus Minor	Malar bone anteriorly	Angle of mouth	Raises lip outward
Levator Menti	Incissive fossa of mandible	Skin of chin	Elevates chin
Depressor Labii Inferioris	External oblique line of mandible	Angle of mouth	Draws lower lip downward
Depressor Anguli Oris	External oblique line of mandible	Angle of mouth	Draws angle of mouth downward
Orbicularis Oris	Surrounds mouth; is formed by fibers of several muscles	Into its fellow at angles of mouth	Presses lips together and pushes them outward
Buccinator	Alveolar arches of maxillae and mandible	Orbicularis oris; forms lateral walls of the mouth	Compresses and inflates the cheeks
Risorius	Fascia over Masseter muscle	Angle of mouth	Draws corner of month back
Masseter	Upper part of Maxillae	Lower part of inferior maxillary bone	Raises lower jaw, presses it against upper; also grinds
Temporal	Temporal fossa and fascia	Coronoid process of inferior maxillary bone	Raises lower jaw; presses it against upper
Platysma Myoides	On Deltoid and Pectaralis	In lower jaw and angle of mouth	Wrinkles the skin and depresses mouth
Sternocleidomastoid	Two heads from sternum and clavicle	Mastoid process of the temporal bone	Bends head forward and to one side; also rotates head
Omohyoid	Upper border of Scapula	Hyoid bone	Depresses and retracts hyoid bone and assists in swallowing
Retrahens Auriculan Posterior	Mastoid process	Cranial surface of the concha	Retracts ear tip
Attrahens Aurem Anterior	Rises from occipito frontalis muscle	Into projection in front of helix	Raises the tip of the ear
Attollens Aurem Superior	Occipito frontalis	In the upper part of ear	Elevates tip of ear
Trapezius	Dorsal vertebra	Inferior rig of occipito bone	Draws head backward or sidewise

Nerves Chart

NERVES

THE functions of the nervous system are numerous. It must control all visible movements; it must control many invisible activities such as the secretions of the glands, movements of intestines, and the beating of the heart.

However, it is more concerned with the higher functions, such as feeling, thinking, remembering, willing, and other mental acts.

The functions of the nerves are to convey impulses. A nerve is a cord-like structure bound together in a common sheath of connective tissues, which conveys impulses from one part of the body to another.

There are motor and sensory nerves. The motor nerves are the nerves that move arm, foot or muscle. Motor nerves are composed chiefly of motor fibres and operate while the body is in action.

The sensory nerves are the nerves that convey the sense of touch to the skin. Therefore, the nerves convey the sense of rest and relaxation in the facial massage.

There are two distinct divisions to the nervous system.

The Cerebro-Spinal and the Sympathetic Nervous System.

The Cerebro-Spinal Nervous System consists of the brain and special cord and spinal nerves. It controls the speech, taste, and the sight, and the voluntary muscles are governed by it.

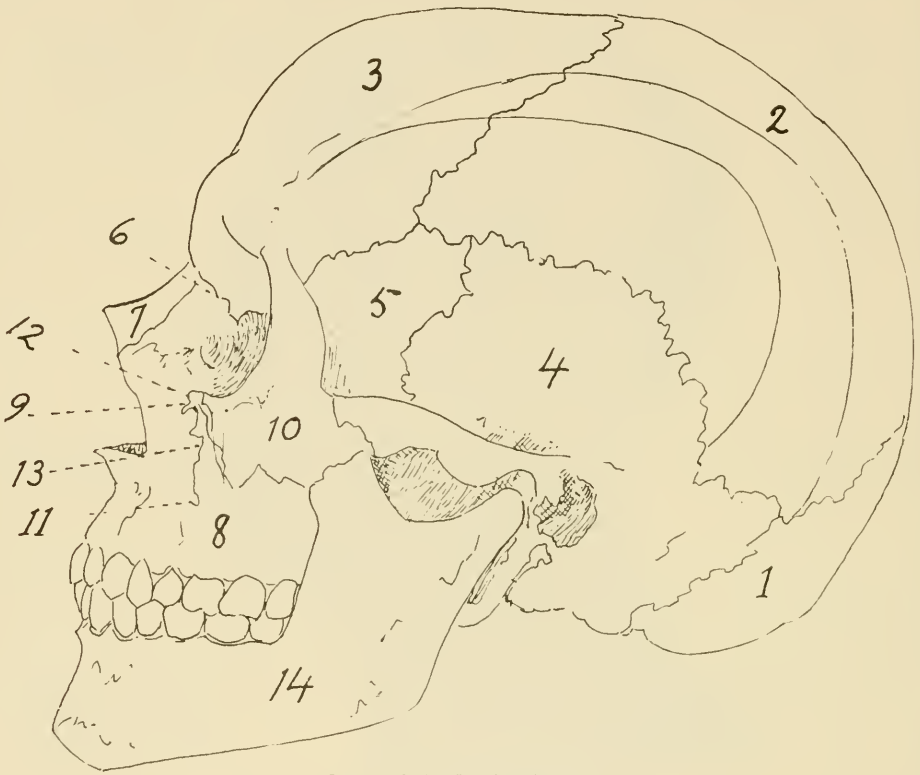
The Sympathetic Nervous System acts on the stomach and bowels, circulation, digestion, and skin, and the involuntary muscles are under its control.

Motions are voluntary and involuntary, but all are under the control of the nervous system. Each spinal nerve has two roots, the dorsal, which is sensory, and the ventoral, which is motor.

There are twelve cranial nerves.

NERVES OF HEAD AND FACE

NAME	FUNCTION	ORIGIN	DISTRIBUTION AND CONTROL	BRANCHES
1st Cranial Nerve, Olfactory	Special nerve of smell	Olfactory bulb	Schneiderian Membrane	20 branches
2nd Cranial Nerve, Optic	Special nerve of sight	Cortical center in Occipital lobe	Retina of eye	None
3rd Cranial Nerve, Motor Oculi	This is purely a motor nerve and has to do with the motion of the eye	Floor of Aqueduct of Sylvius	Muscles of eye except Superior Oblique, external rectus, Orbicularis palpegrarum	Inferior Superior
4th Cranial Nerve, Trochlear	Also nerve of motion. Acts upon superior oblique muscle of the eye	Floor of Aqueduct of Sylvius	Superior oblique of eye tentorium	Recurrent and terminal
5th Cranial Nerve, Trifacial, or Trigeminus	Nerve of motion, sensation and taste	Oblongata and floor of fourth ventricle	Lachrymal gland, skin of forehead, upper part of nose, cornea of eye, eyelid, eyebrow, tongue, teeth, and skin of ear	3 branches, Opthalmic, Superior and Inferior Maxillary divisions
6th Cranial Nerve, Abducens	Motor nerve	Fasciculus teres	Controls external rectus muscle of eye	
7th Cranial Nerve, Facial	This is a motor nerve. It controls secretion of mucous membranes of nose, supplies soft and hard palates. Controls taste	Floor of fourth Ventricle	Face, ear, palate and tongue	Tympanic, Posterior, Auricle, Digastric, Stylo, Hyroid, Temporal, Infraorbital, Buccal, Supermaxillary, Inframaxillary
8th Cranial Nerve, Auditory	This nerve supplies the inner ear; it controls hearing	Restis	Cochlea, Vestibule, canals	Cochlear, Vestibular
9th Cranial Nerve, Glossa-pharyngeal	This is a vasomotion nerve; controls the sense of taste. The pharynx assists in swallowing	Floor of the fourth Ventricle	Middle ear, phrynx, tonsils and tongue	Tympanic Cartoid, Pharyngeal, Muscular Lingual, Tonsillar
10th Cranial Nerve, Pneumogastric	This is a nerve of sensation and motion	Floor of the fourth Ventricle	Ear, pharynx, larynx, heart, lungs, esophagus, and stomach	Auricular Pharyngeal, Laryngeal, Cardiac, Pulmonary, Esophageal, Gastric, Pepatic, Communicating
11th Cranial Nerve, Spinal Accessory	This is a nerve of motion, controlling the vocal sounds.	Floor of the fourth Ventricle	Sternocleidomastoid, trapezius, pharynx, larynx	
12th Cranial Nerve, Hypoglossal	This is a motor and vasomotion nerve; controls the lips, also the tongue. It assists in mastication and articulation	Floor of the fourth Ventricle	Middle ear, pharynx, tonsils and tongue	Tympanic Carotoid, Pharyngeal, Muscular, Lingual



Bones of the Head and Face

BONES OF THE HEAD

CRANIUM, 8

1—Occipital, 1
2—Parietal, 2
3—Frontal, 1
4—Temporal, 2
5—Sphenoid, 1
6—Ethnoid, 1

Location: The Occipital is situated at the back of the head.

The two Parietals on either side of the head above the Temporal.

The Frontal is situated over the forehead and resembles a cockle shell in form and consists of two portions, one a Vertical portion, also a Horizontal portion.

The Temporals are situated on either side of the head, just below the Parietals.

BONES OF THE FACE

7—Nasal, 2
8—Superior Maxillary, 2
9—Lachrymal, 2
10—Malar, 2
11—Palate, 2
12—Inferior Turbinated, 2
13—Vomor, 1
14—Inferior Maxillary, 1

The Sphenoid is situated at the anterior of the base of the skull and articulates with all of the other cranial bones, which it binds firmly and solidly together.

The Ethmoid is situated at the anterior fossa of the base of the skull, and is received into the Ethmoid notch.

Inferior Maxillary is called by some authorities, the Mandible.

The nasal bones are two small oblong bones situated at the middle and upper part of the face forming the bridge of the nose.

Superior Maxillary are two on either side of the face and form the upper jaw bones. They are the largest bones of the face, except the mandible, and are the ones that contain the upper teeth.

Lachrymal are the smallest and most fragile bones of the face and are situated on either side at the front part of the inner walls of the orbit and resemble in form, size and thickness that of a finger nail.

Malar are two bones situated on either side of the face at the upper and outer part of the face. They form the prominence of the cheek, part of the outer walls and floor of the orbit, and part of the Temporal and Zygomatic fossa.

Palate are situated at the back part of the nasal fossa. They are wedged in between the superior maxillary bones and the Pterygoid process of the sphenoid bone.

Inferior Turbinated are situated one on each side of the outer walls of the nasal fossa. Each consists of a layer of thin spongy bone curled upon itself, like a scroll, hence it gets its name (turbinated), and extends horizontally along the outer walls of the nasal fossa immediately below the walls of the antrum.

The Vomor resembles a plow shear, is a single bone, and is situated at the back part of the nasal fossa, forming a part of the septum of the nose.

Inferior Maxillary, also called the Mandible by some authorities, is the largest and strongest bone of the face, and it serves for the reception of the lower teeth. It consists of curved horizontal portion of the body, and two perpendicular portions called the remi, which join the back part of the body nearly at right angles. It is convexed in its general outline and curved somewhat like a horse-shoe, and forms the lower jaw. Of these the upper and lower jaws are fundamental bones of mastication and the others are accessories for the chief function of the facial bones is to provide an apparatus for mastication, while subsidiary functions are to provide for sense organs (ear, nose, tongue), and a vestibule for the respiratory organs, and also the vocal organs.

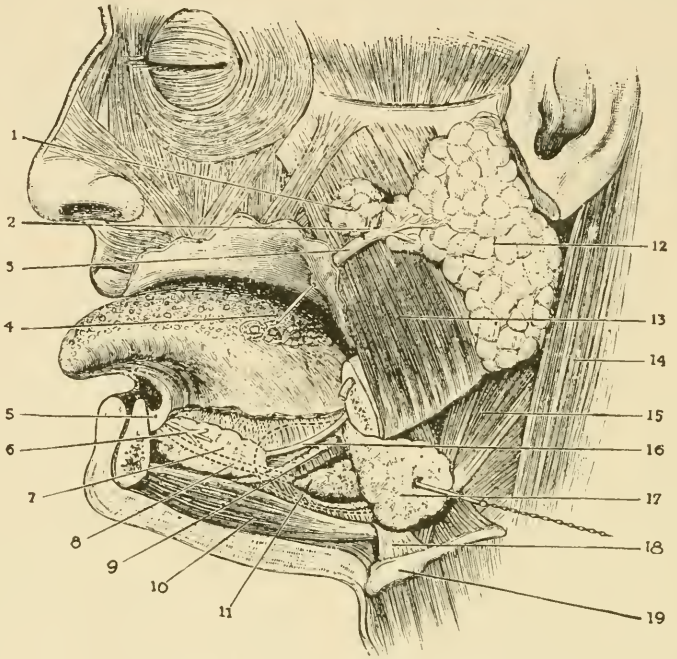
SALIVARY GLANDS

We have six Salivary Glands, three on each side which are very important, in the manipulation of the muscles of the face. These glands pass their secretion into the mouth. The names of these glands are as follows: Two parotid, two submaxillarys, and two sublinguals.

PAROTID GLANDS

The largest of the salivary glands varies from 15 to 30 grams in weight. It is located below and in front of the ear. From the Zygomatical arch above to the Ramus of the jawbone below. It is wedge shape with three surfaces and covered with the skin and fascia of the lower part of the platysma. The anterior front part overlaps the front of the masseter muscle, and extends back to the posterior or back of the Ramus of the Mandible, with the Posterior part of the Platysma muscle, the posterior or back part is in contact with Sterno-Cleido Mastoid muscle.

It receives its lymphatics from the external auditory. The soft palate, and the nasal fossae. The parotid gland has a duct known as Stetsons duct. This duct is formed by a number of smaller ones originating at the anterior border and forming one large one, about the size of a quill emerging from the anterior border of the gland crossing the massiter muscle and turns immediately forward between the mucous memberane and the ramus of the jawbone to penetrate the fatty portions of the cheek and terminates into the mouth opposite the second Molar tooth. It receives its sensory fibres from the Otic, Ganglion conveying fibres from the Glossopharyngeal, the Oricular Temporal branch of the fifth cranial nerve and the motor branch of the carotid-plexes.



Descriptive Locations of Salivary Glands

1. Internal Parotid.
2. Accessory Parotid.
3. Duct of Parotid Gland.
4. Bristle inserted into duct.
5. Frenulum Lingue.
6. Major Lingual.
7. Sub-lingual Gland.
8. Sub-lingual Duct.
9. Hyoid Muscle.
10. Anterior Belly of the Digastric Muscle.
11. Deep portion of Sub-Maxillary Glands.
12. Parotid Gland.
13. Masseter Muscle.
14. Sterno-cleido-mastoid Muscle.
15. Posterior Belly of the Digastric Muscle.
16. Lingual Nerve.
17. Sub-Maxillary Gland drawn back.
18. Loop of Fascia.
19. Hyoid Bone.

SUBMAXILLARY GLAND

This is considerable smaller than the Parotid. It only weighs from 7 to 10 grams and is about the size of an ordinary walnut flattened out. It consists of two parts, a superficial part and a deep process. The larger portion is located in the dia-gastric triangle, and presents three surfaces, superficial, deep, and lateral. Superficial portion lies just beneath the Platysma muscle and the deep fascia which forms a triangular socket around it. It is crossed by branches of the facial nerve. The lateral surface is smallest of the three. It lies about the middle of the mandible or the jawbone. The posterior or back portion is in contact with the Milohyoid muscle and behind the hyoglossus and inferior belly of the Digastric. It also contains a duct known as Wartons duct which springs from the deep portion and passes forward into the surface of the deep lobe and opens by a small orifice or opening of the side of the frenulum of the tongue.

SUBLINGUAL GLAND

The sublingual gland is the smallest of the three glands. It is situated beneath the mucous membrane of the floor of the mouth at the side of the frenulum lingue, in contact with the sublingual depression on the inner surface of the mandible. It is a narrow flat shape, somewhat like an almond and weighs nearly two grams.

Lesson Eleven

Subject

ANATOMY

Continued

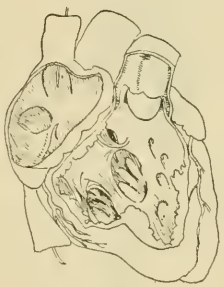
Embracing

1. Circulation
2. Heart Action
3. Lungs
4. Nerve Supply
5. Blood Vessels
6. Arteries
7. Pulse
8. Digestion
9. Respiration
10. Glands

We are indebted for this article to
Edgar B. Wilson, D. C., Ph. C.

THE GENERAL PLAN OF THE CIRCULATION

THE circulation of the blood is brought about by a complicated series of tubes and channels, extending through every portion of the body, and all communicating with each other and with a powerful muscular central organ called the heart. The tubes are called, according to their structure, size, and function, Arteries, Veins, and Capillaries.



Structure of Heart

THE HEART

The heart is a strong, hollow, muscular organ, lying behind the breast-bone with its greater portion to the left of it. It is shaped somewhat like a cone, with both ends rounded, and the larger end directed upward and toward the right. The lower end, or apex, is free to move in any direction, not being attached to anything, while the upper and larger end is held in place by the large blood vessels which are connected with it, and also with the spinal column. The whole organ is covered with serous membrane called the pericardium, and lies in a cavity which is also lined with a serous membrane. Its constant movements can go on with the slightest amount of friction.

In order to understand the action of the heart, it is necessary to know, first, that there is a double action or circulation going on in the body at the same time. At every contraction of the heart, a portion of the blood is thrown into the lungs and another portion into the remainder of the body, and these two portions never mingle with each other. To be more precise, and follow a particular mass of blood in its course through the body, we may state it thus: The blood starts from a certain part of the heart; it goes directly to the lungs; then it returns to the heart,

but to a different part of the organ; then it goes out of the heart to the arteries to what is called the general circulation, i. e., to all parts of the body, excepting the lungs. Thence it is collected by the veins, and returned to the heart. At the next contraction it goes to the lungs again, and begins the same process. So that in this way all of the blood passes through the lungs, and visits all parts of the body; but in doing this it visits and passes through the heart twice. In short, it flows (1) from the heart to the lungs; (2) back to the heart;

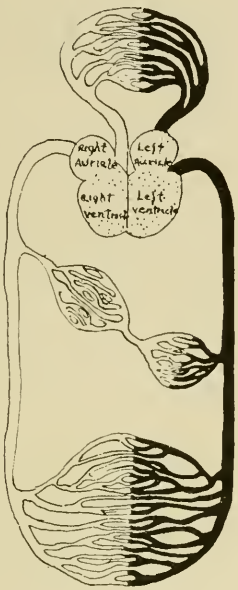
The Heart

(3) to the rest of the body; (4) back to the heart. Thus there are two systems of circulation, one called the pulmonary circulation, from the heart to the lungs and back again; the other, the general circulation, from the heart to the body and back again.

The double and simultaneous circulation cannot be brought about by a heart containing but one cavity. And, accordingly, we find that the heart is divided by a muscular partition, running lengthwise of the organ from front to the rear, into two parts of nearly equal size, called the right and left sides of the heart. The right side carries the pulmonary circulation, and the left side the general circulation. So that the course of blood is as follows: From the right side of the heart to the lungs; thence from the lungs to the left side of the heart; thence from the left side of the heart to all parts of the body; thence back to the right side of the heart. If this order of circulation be carefully observed, it will be seen that the right side of the heart never contains anything but dark venous blood, and the left side always contains bright or arterial blood.

Each side of the heart is divided into two cavities, making four in the whole organ. These cavities are called the auricles and ventricles. The ventricles constitute the greater part of the heart, and it is in their walls that the greatest muscular power is located. The auricles are the smaller cavities, situated on the upper extremity of the organ, and their walls are much thinner and weaker than the walls of the ventricles. The blood passes from the veins into the auricles, from the auricles into the ventricles, and from the ventricles it is forced out into the body. The course of the blood, then, is from the body in general through the veins to the right auricle; from the right auricle to the right ventricle; from the right ventricle to the lungs; from the lungs to the left auricle; from the left auricle to the left ventricle; from the left ventricle out to the body in general, whence it is collected by the veins and brought back to the right auricle, to begin the same course.

At the mouth of the veins, where they empty into the auricles, there are no valve, and they are not really needed at this point, for the auricles do not contract with much force, and as there is always a current in the veins running toward the heart, and as the ventricles lie below the auricles, the blood naturally flows into the ventricles, where it meets with no resistance, rather than backward, where it



Plan of Circulation

would meet with considerable, having to oppose the force of gravity and also the current in the veins. In this manner the ventricles become filled with blood, and, when they contract, the case is very different. Here there is an enormous pressure to overcome. The right ventricle must contract with force sufficient to send its contents into the lungs, pushing before it the column of blood already in the vessel. The left ventricle has to contract with a force sufficient to send its contents to the remote parts of the body, also pushing along the blood which is already in the vessels. On the other hand, the resistance backwards toward the veins is not strong, and, even supposing that the resistance were equal in both directions, it is plain that the circulation would soon come to an end. The ventricles in contracting would force blood backward into the arteries, and then, when the heart relaxed the blood would flow back again into the ventricles from both directions. This danger is averted by the introduction of four sets of Valves, one between each auricle and ventricle, and one at the opening of the ventricle into the arteries, through which the blood passes during its contraction. The valves of the heart are double folds of serous membrane which lines all the cavities of the organ, and are stiffened somewhat by a few fibers which run between the folds. All of the valves have three flaps, excepting the one which separates the left auricle from the left ventricle, and this has only two.

The Valves are all so constituted as to allow the blood to pass only in one direction. The valves between the auricles and ventricles will allow blood to pass from the auricles into the ventricles, but not from the ventricles back into the auricles; and the valve at the mouth of the arteries will allow blood to pass from the ventricles into the arteries, but not from the arteries back into the ventricles.

The large veins, by which all of the blood from the general circulation is poured into the right auricle, are called the Vena Cavae (i. e., the hollow veins). The larger artery, by which the blood passes from the right ventricle to the lungs, is called the Pulmonary Artery; the large veins, by which the blood returns from the lungs into the left auricle, are called the Pulmonary Veins; and the large artery, by which the blood goes out from the left ventricle to all parts of the body, is called the Aorta.

The blood then, coming from all parts of the body into the veins, enters through the Vena Cavae into the right auricle; when the auricle is filled, its walls contract, and the blood passes into the Pulmonary Artery, its return into the auricle being prevented by the closure of the valves between the auricle and the ventricle. The blood then goes through the lungs, and becomes changed into arterial blood. It returns to the heart into the left auricle, and passes from there into the

left ventricle. The contraction of the ventricle then forces the blood into the aorta, its return into the auricle being prevented by the valves, from the aorta at the mouth of the pulmonary artery and the aorta prevent the blood which has entered them during the heart's contraction from flowing back into the cavity of the ventricle which has become relaxed.

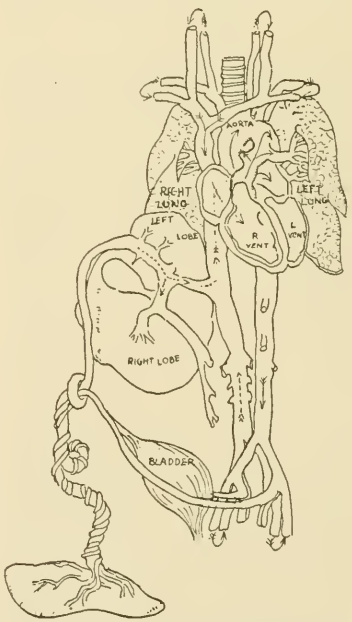
The contraction of the heart does not run successively from one auricle to the corresponding ventricle, and then from the other auricle to the other ventricle, but the contraction of both sides of the heart is simultaneous. It begins at the auricle and extends downward until the ventricles are both firm and hard and reduced to their smallest size. The organ then becomes relaxed, and is for an exceedingly short time quiet. During this stage of relaxation the auricles are being filled with blood from the veins, and there is also a current running into the ventricles from the auricles. During the stage of contraction the blood is being forced into the circulation through the aorta and pulmonary artery.

The alternate contractions and relaxations of the heart are accompanied by sounds, which are very audible to any one who applies his ear to the region of the heart in a living person. These sounds are two in number, the first beat being a prolonged rumbling sound, and the second sound is short and sharp. The first sound is made during the time the heart is contracting and the second sound is just at the end of the contraction or beginning of relaxation. The first sound is supposed to be produced by the closing of the Large Valves between the auricles and ventricles, which occurs just at the moment when this sound begins, and partly by the contraction of the muscular fibers of the heart. The second sound is positively known to be produced by the closing of the pulminary and aorta valves. It is by the variation in distinctness and quality of these sounds, and the addition of other sounds to them, that physicians are enabled to determine with wonderful accuracy the condition of the valves of the heart.

THE NERVE SUPPLY TO THE HEART

THE heart is plentifully supplied with nerves, which regulate its movement. One set belongs to the cerebro-spinal system and have the power to check or arrest the heart's action, and are therefore called the inhibitory nerves of the heart. Another set, having an opposite function, i. e., that of increasing the heart's function or action, rather, are called the accelerator nerves. If the inhibitory nerve is destroyed or temporarily paralyzed, the pulsations of the heart are suddenly increased. If the accelerator nerve is paralyzed, the heart ceases to beat.

The contractions of the heart take place with regulation, and average in the adult about seventy beats



Nerve Supply to the Heart

per minute. The rate is higher in women and children than in men. The heart pulsations appear to be slower in proportion as the individual is cool and deliberate in his judgment. The pulse of Napoleon Bonaparte is said to have averaged only forty-four to the minute, and is one of the slowest on record. Sudden emotions may increase its rapidity and force. On the other hand, they may cause it to stop for a moment altogether, to skip a beat, as it were, producing the sensation of "fluttering" at the heart. Although the action of the heart is thus affected by our feelings, it is beyond our control. Its pulsations are ceaseless and regular, until interrupted by disease or death.

BLOOD VESSELS

THE heart, although a very powerful organ, would not be able to force the blood through the whole body and back to itself again without assistance, and this assistance is furnished by the structure of the blood vessels themselves. The blood leaves the heart by the arteries and comes back to it through the veins, and these two systems of vessels differ very much in their structure.

The arteries are tubes with strong walls, described by anatomists as having three layers. The innermost is a delicate, smooth membrane. The middle one is composed of elastic fibers of non-striated or involuntary muscular tissue. The outer one is made up of strong connective fiber tissue. Thus the walls of the arteries are very elastic, and if the tube is distended, it returns to its former size as soon as the internal pressure is removed.

THE PULSE

WHEN the heart contracts, its contents are driven with great force into the arteries, and as the blood already contained there resists somewhat the advance of fresh supply, the walls of the arteries are stretched to accommodate the mass of blood which is thrown into them. When the heart relaxes and the pressure from that direction is removed, the elastic walls of the arteries react upon their contents, and, if it were not for the valves, would drive the blood, or a portion of it, back into the heart. At the slightest backward pressure, however, the valves close, and elasticity of the arteries thus gives the blood another impulse forward towards the surface of the body. The impulses given by the heart's action, together with that caused by the recovery of their natural position by the walls of the arteries, gives rise to the pulse, which can be felt at any point in the body where an artery runs near enough to the surface. The common place of feeling for it is in the wrist, merely because that is the most convenient and accessible; but it may also be felt in the neck, in the temple, or in the upper arm.

The large vessels, by which the blood leaves the heart, viz., the pulmonary artery and aorta, divide and subdivide continually, the branches grow smaller and smaller as they approach their termination. Their walls at the same time undergo a change in structure. The elastic tissue, which is so abundant in the larger arteries, gradually disappear as the vessel diminishes in size, and the muscular tissue becomes more prominent, until even this vanishes and the smallest blood vessels are called capillaries. They are composed of a thin membrane, not divisible into layers. Thus the large arteries are very strong and very elastic, while the smaller ones lose in elasticity, but from the amount of muscular tissue they contain, are very contractile.

The capillaries, in which the arteries finally end, are only about 1/3000 of an inch in diameter—just large enough to allow the blood corpuscles to pass through them, so to speak, in single file. Their number is beyond computation. They are so thickly strewn in the blood that the point of a pin or fine cambric needle can not anywhere be inserted between them. As ev-

eryone knows, it is impossible to find an instrument with a point so fine as not to wound a blood vessel if introduced through the skin. These vessels are entirely indistinguishable to the naked eye, and before the discovery of the microscope it was a great problem for the anatomists to explain how the blood got from the arteries to the veins, as they could find no direct communication.

After passing through the capillaries, the blood enters the veins. These vessels contain in their walls much less muscular and elastic tissue than the arteries, and more connective tissue. The consequence of this is, that the walls of the veins are flacid and yielding, and if they are cut across, the sides fall together and tend to close the opening. If an artery, on the other hand, is cut, the tube remains open and in a sense rigid, although, as will soon be shown, its caliber is somewhat diminished. The veins, very minute at first, gradually unite and become larger and larger, until finally all the veins of the general circulation form two large vessels called the Vena Cavae, which discharges its contents into the right auricle of the heart, one vena cava receiving all of the blood from the head and upper extremities, and the other that from the rest of the body.

The circulation of the blood in the veins is brought about in three ways. In the first place, the act of respiration has its influence. When the chest is expanded by muscular action, every fluid which is outside of it tends to rush in and fill the enlarged cavity. The chief space is filled by air, as that is more perfectly fluid and meets with the least resistance from friction. But the blood is also drawn in from the veins, and the real extent and power of this suction can very easily be seen whenever the entrance of air is impeded. In such cases the veins in the neck can very easily be seen to become swollen and full during expiration, and emptied again during exhalation.

In the second place, the contraction of the voluntary muscles aids in the return of the blood to the heart. While the arteries, as a rule, run deep in the body, out of reach of injury, the veins are largely near the surface, and the whole exterior of the body is more or less streaked by the blue lines which indicate their course. Now, during the contraction of the muscle, it not only shortens but becomes broader and thicker, and, of course, compresses to a greater or less degree everything near it. Thus the veins are continually being pressed upon here and there, in various parts of the body, during the whole of our waking hours, and even to some extent when we are asleep.

But merely pressing the blood out of the certain portion of the vein might send it in either direction. It would be almost as likely to send it away from the heart as toward it. This reflex of blood in the veins is prevented by valves, which allow the blood to pass through them readily toward the heart, but not away from it. The discovery of the valves and circulation of the blood was first made by Dr. William Harvey, who was a great physician to the king of England, just a few years before the pilgrims sailed across the Atlantic in the Mayflower. He died in 1657, about forty years after he discovered the circulation of blood. He was scoffed and ridiculed for his theory and disputed, at first, by the other doctors. These valves are particularly numerous in the lower extremities, for here the force of gravity acts in opposition to the current of blood and would seriously interfere with circulation if there were no special provision with reference to it.

Thus when blood is forced out of a portion of a vein by pressure, it cannot go backward on account of the valves, but must go forward in every case. This fact and the action of the valves may be beautifully seen in the arms of any person where the veins are not obscured by too much fat beneath the skin.

If a place be chosen where a vein is visible, with no branches for an inch or so, and one finger be placed upon it so as to stop the flow of blood, the portion of the vein on the farther side from the heart will be seen to fill with blood. This slight swelling marks the situation of the valve. If a finger be pressed along a vein toward the heart, pressing upon it all of the time, the vein will be seen to be filled behind the finger; while if the finger be pressed in the opposite direction, away from the heart, the vein will be empty and collapsed behind the finger, and perhaps hardly noticeable. This clearly indicates the direction of the current of blood.

But the third cause of the venous circulation, and the most important of all, is the blood which is constantly accumulating in the capillaries and exercising pressure on the column of blood already in the veins. This pressure is unceasing and powerful. These three causes acting together keep up a free and steady flow of blood in the veins toward the heart.

In both arteries and veins, there are numerous communicating branches, so that when the blood vessel is obstructed, the blood passes out into other vessels and around the point of stoppage, and, excepting in extraodrinary cases, the nutrition of the part is not interfered with.

The arteries, then, carry the bright scarlet, highly oxygenated blood from the heart out to all parts of the body for its nutrition. It is sent to the remote capillaries, partly by the contraction of the heart, and partly by the elasticity of the arteries. From the arteries it enters the capillaries, where the essential but very obscure processes of nutrition are carried on. It has been found that the current of blood rushes through the arteries with an average velocity of twelve inches per second, but, in consequence of the smallness of capillaries and their distance from the heart, as well as the magnitude of their combined areas as compared with that of the aorta, the blood moves through them very slowly, not faster, it is thought, than one-thirtieth of an inch per second. When the capillary circulation is looked at through a microscope, as it may be in the web of a frog, it is seen that the red corpuscles pass along through the minute vessels, sometimes together, but often in single file, and without much trouble; but the white corpuscles are affected by friction, and drag along, sticking fast here and there until they are started again by the current. During the passage of the blood through the capillaries, certain of its ingredients transede through the walls of the vessels, and lie in immediate contact with the tissues outside. These are the nutritive materials by which the various tissues of the body are kept in repair. The cells select their nourishment, and what is left, together with waste and used-up matters from the cells, is taken up by the lymphatic vessels and returned to the large veins near the heart. These matters constitute what is called the lymph. Changes in the gaseous constituents of blood also take place in this part of the circulation, and so we find that, when the blood emerges from the capillaries into the veins, it has become of a dark purple color, and unfit for further use in the body until it is refreshed. So the process which takes place in the capillaries is in some degree the reverse of that which takes place in the lungs. The blood enters the lungs of a black or deep purple color and comes out bright purple. It passes back to the heart through the veins, the steady flow being maintained partly by suction and partly by the act of respiration, partly by muscular contraction and consequent pressure of the veins, and mainly by pressure form the capillaries, which constantly forces the blood onward.

DIGESTION

DIGESTION is a physical and chemical process by which the food is introduced into the alimentary canal, is liquified, and its nutritive principles transformed by the digestive fluids into new substances capable of being absorbed into the blood.

The Digestive Apparatus consists of the alimentary canal and its appendages, viz., teeth, lips, and tongue; the salivary, gastric and intestinal glands, the liver and pancreas.

Digestion is divided into many different stages which are as follows: Prehension, mouth digestion, which is mastication and salivation; deglutition, which is swallowing; gastric and intestinal digestion, and defecation.

PREHENSION

The act of conveying the food into the mouth, is accomplished by the hands, lips and teeth.

THE MOUTH

Mastication is the mechanical division of the food, and is accomplished by the teeth, and the movements of the lower jaw, under the influence of muscular contraction. When thoroughly divided, the food presents a larger surface for the solvent action of the digestive fluids, thus enabling them to exert their respective action more effectively and in a shorter period of time.

MOVEMENTS INVOLVED

Though originating in an effort of the will and under its control, the movements are, for the most part, of an automatic or reflex character, taking place in the medulla and induced by the presence of food within the mouth. The nerves and nerve-centers involved in this mechanism are as follows: Lingual branches of the trigeminal nerve. The Glossopharyngeal are the sensory branches. The motor are as follows: The small root of the trigeminal, hypoglossol and the facial nerves. The impression made upon the terminal filaments of the sensory nerves are transmitted to the medulla. Motor impulses are here generated which are transmitted to the muscles involved in the movements of the lower jaw.

INSALIVATION

This is the incorporation of the food with the saliva secreted by the parotid, sublingual and submaxillary glands. The parotid saliva is thin and watery and is poured into the mouth through Stenos duct. The submaxillary and sublingual saliva is thick and viscid, and is poured into the mouth through Wartons and Bartholonis ducts.

Deglutition is the act of transforming food from the mouth into the stomach, and is divided into three stages as follows: First, the passage of the bolus from the mouth into the pharynx. Second, from the pharynx into the Esophagus. Third, from the Esophagus into the Stomach. In the first stage the movements are entirely voluntary, and the second and third movements are peristalic movements.

So the food is voluntarily taken into the mouth and passed from the mouth into the Esophagus and then from the Esophagus to the stomach, and from the stomach to the duodenum, from the duodenum into the small intestines, from the small intestines to the secum, thence to the ascending colon, then the transverse colon, thense the descending colon, and out by the way of the anis.

THE MOUTH (SALIVA)

The saliva found in the mouth is an opalescent, slightly viscid, alkaline fluid, having a specific gravity of 1.005. Microscopic examination reveals the presence of salivary corpuscles and epithelial cells. Chemically it is composed of water, protein materials, and inorganic salts. The amount secreted daily has been estimated at about 2 pounds.

Saliva moistens and softens the food, unites its particles into consistent mass, and thus facilitates swallowing, and converts boiled starch into sugar, known as Erythrodextrin and Maltose.

DEGLUTITION OR SWALLOWING

The Stomach lies immediately beyond the termination of the Esophagus. Here the alimentary canal expands and forms a receptacle for the temporary retention of the food, and this receptacle is called the stomach. It will hold about 1500 cc. or about two quarts. It presents two orifices, the cardiac or esophageal, and the pyloric. Two curvatures, the lesser and greater. The walls have three coats, the serous, muscular and the mucous. The mucous lies in folds or wrinkles, and is covered with tall narrow columnar epithelium. Embedded in the mucous membrane are the gastric glands, which consist of long tubes opening into a short, common duct, which opens by a large mouth onto the surface of the mucous membrane. There are about five million of these glands at the fundous of the stomach, and they secrete the gastric juices which digest the food in the stomach. These juices are of a clear, colorless fluid with a constant acid reaction, a slightly saline and acid taste, and a specific gravity of 1.002 to 1.005. The materials composing this fluid are Pepsin, Rennin, Lipase, and Hydrochloric Acid.

It has been established that the fact that production and discharge of gastric juice is under the control of a nerve center situated in the medulla. From this center nerve fibers pass by the way of the vagus nerve to the glands of the stomach. The production and discharge of gastric secretion, just preceding and during a meal, is the result of the action of two different stimuli, a primary and a secondary. The action of the gastric juice is the transformation of the different proteins of the food into peptones. As soon as any one of the proteins is penetrated by the acid it is converted into acid-proteins. After this is accomplished the pepsin becomes active and transforms the acid-protein into peptone. Then the ammonium and magnesium sulphates change it to protoses. From this stage it is capable of passing through animal membrane and is thus absorbed into the blood stream. Thus you see how the proteins are absorbed into the blood from the stomach.

INTESTINAL DIGESTION

The physical and chemical changes which the food principles undergo in the small intestines, and which collectively constitute intestinal digestion, are complex and probably more important than those taking place in the stomach, for the food is, in this situation, subject to the solvent action of the pancreatic and intestinal juices, as well as the action of the bile, each of which exerts a transforming influence on one or more substances and further prepares them for absorption into the blood.

To rightly appreciate the physiologic actions of the digestive juices poured into the intestines, the nature of the partly digested food as it comes from the stomach must be kept in mind. This consists of water, inorganic salts, acidified proteins, proteoses, starch, maltose, liquefied fats, saccharose, lactose, dextrose, cellulose, and the indigestable portions of meats, cereals and fruits. Collectively they are known as kyme. As this acidified mass passes through the duodenum its contained acids excite a secretion and discharge of the intestinal fluids, e. g., pancreatic juice, bile, and intestinal juice.

In as much as these fluids are alkaline in reaction they exert a neutralizing and precipitating influence on various constituents of Kyme. As soon as this has taken place gastric digestion ceases and those chemical changes are inaugurated which eventuate in the transforming of all the remaining undigested nutritive materials into absorbable and assimilable compounds which collectively constitute intestinal digestion.

THE SMALL INTESTINES

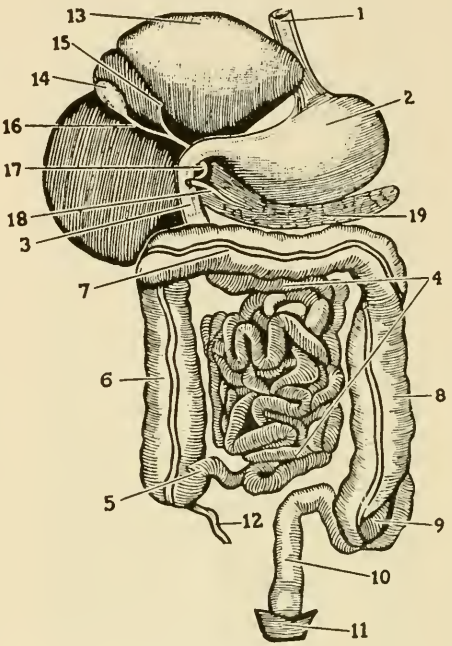
The small intestines is that portion of the alimentary canal which is a convoluted tube, measuring about 22 feet in length and extends from the pyloric orifice of the stomach to the beginning of the large intestines. The walls of the small intestine has four coats, viz; Serous, muscle, submucous, and mucous. The small intestines are supplied with blood and nerve supply as well as Lymph vesicles, which carry the nutriment from the food we eat into the blood stream, and is used to build up the broken down tissues, or replaces them with new, healthy tissue.

The glands of the intestines which secrete the intestinal juices are two those in the duodenal portion are known as Bruners glands, and those in the intestines are known as Lieberkuhan's glands. The pancreas is a very important organ lying immediately behind the stomach and secretes a juice which is transparent, colorless and strongly alkaline, and viscid, and has a specific gravity of 1,020.

It is one of the most important of all the digestive fluids as it exerts a transforming influence upon all classes of alimentary principles and has been shown to contain at least three distinct enzymes, viz., amylopsin, stepsin, or lipase. These juices are entered into the intestines through the pancreas duct to the common bile duct then in the duodenum.

THE BILE

This fluid is a product of the secretor activity of the liver cells, after its formation by the liver cells, it is conveyed from the liver by the bile capillaries which unite finally to form the main hepatic duct. This duct emerges from the liver at the transverse fissure. At a short distance it is joined by the cystic duct, the distal extremity of which expands into a pear shaped reservoir, the gall bladder in which the bile is temporarily stored. The duct formed by the union of the hepatic and



Digestive Organs

WHAT THE DIGESTIVE ORGANS ARE

1. Aesophagus or Gullet.
2. Stomach.
3. Duodenum or second Stomach.
4. Small Intestines.
5. Ilio-Caecal Valve.
6. Ascending Colon.
7. Transverse Colon.
8. Descending Colon.
9. Sigmoid Flexure.
10. Rectum.
11. Anus.
12. Vermiform Appendix.
13. Liver.
14. Gall Bladder.
15. Hepatic Duct.
16. Cystic Duct.
17. Bile Duct.
18. Pancreatic Duct.
19. Pancreas.

cystic ducts is the common bile duct and it passes downward and forward for a distance of about seven centimeters, and pierces the walls of the intestine and passes obliquely through its coats for about one centimeter and opens into a small receptacle, the ampulla of Vater. The flow of bile into the intestines are steady, but is greatly increased while eating, and after eating, it increases the flow of the pancreatic juice and mixes with it and neutralizes the gastric juices and increases the intestinal juices. If the gall bladder is removed you will find in the feces fats and other undigested materials that have not been digested, especially fats.

LARGE INTESTINE

The large intestine is that part of the alimentary canal situated between the termination of the ileum and the anus. It varies in length from one and one-quarter to one and a half meters which one meter is 39-37-100 inches in length. The diameter is three and one-half to seven centimeters. It is divided into the cecum, the colon; subdivided into an ascending, transverse and descending portion, including the zignoid flexure and the rectum the walls consisting of three coats, viz., serous muscular and mucous.

After the absorption of the prepared food in the intestine, the remaining of the contents of the small intestine, together with certain intestinal secretions pass into the large intestine, and here form the feces.

THE FUNCTION OF THE LARGE INTESTINE

Is therefore to receive, to reduce to a proper consistency, to temporarily store and subsequently discharge its contents, consisting of indigestable residue of food, together with excretions of intestinal glands, which have descended from the small intestines and which constitute in part, the feces.

ABSORPTION

The term absorption is applied to the passage or transference of the materials into the blood stream from the tissues, from the serous cavities, and from the mucous surface of the body. The most important of these surfaces, especially in its relation to the formation of blood, is the mucous surface of the alimentary canal; for it is from this organ that new materials are derived which maintain the quality and quantity of the blood. The absorption of materials from the interstice of the tissues is to be regarded rather as a return to the blood of liquid nutritive which has escaped from the blood vescles, for nutritive purposes, and which if not returned, would lead to an accumulation of such fluids and the development of dropsical conditions. The anatomic mechanisms involved in absorptive processes are, primarily, the lymph-space, the lymph-capillaries; secondary, the lympathic vessels and larger blood-vessels.

RESPIRATION

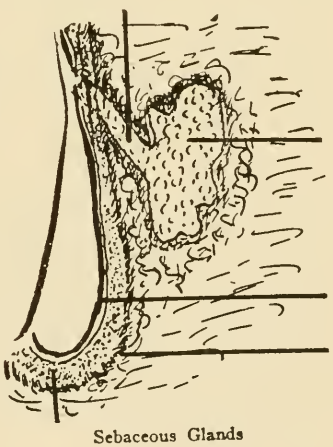
In spite of all the importance we have ascribed to the blood, food and water, they are equaled in importance by air. We could live from forty to sixty days without food, and about a week without water, but we can't live ten minutes without air. For in the air you breathe you get that very important element, Oxygen.

Every bit of blood in your body passes through your lungs every three minutes, therefore every one should take a breathing exercise every night and morning.

Get out into the open air if possible, and if you cannot do this, raise up the windows and stand as close to it as possible. During these three minutes every bit of the blood in your body passes through your lungs, and the Oxygen you have taken in will oxidize the poison out of your blood. It is just like washing your face in the morning, and it is just as necessary, for it washes your blood.

Your lungs are in the upper part of your chest, just under your shoulders. They are composed of about six hundred million little air cells and they are clustered together like so many toy balloons. They look very much like pink rubber sponges you see in the drug stores. In ordinary breathing very few people breathe deep enough to open up all the air cells in the upper part of the lungs. This is often the cause of much disease. To do this properly you must breathe with your arms well above your heads.

You should take into your lungs daily about sixty barrels of air. That is the amount of air that your lungs need. Very few people get this much air. People who work indoors in sedentary occupations never get this much air, and people who work out-doors seldom get this much air. If you work over a desk or bench or a piece of machinery it is impossible to get the proper amount of air, because you are leaning forward all of the time. That is why it is absolutely necessary for every one to take breathing exercise with their arms well above the head to get every air cell properly areated.



Sebaceous Glands

GLANDS OF THE SKIN

GLANDS are secretory organs of the body. They separate any fluid from the blood. They are arranged in two classes, tubular and saccular glands, and are developments of the epidermis, also appendages of the skin. Each gland has its function to perform, and while the Beauty Specialist does not treat the glands, she should know and be able to recognize the diseases resulting from the improper functioning of them, as a great many conditions arise in which the glands are involved. The skin has two kinds of glands, the Sebaceous or oil glands, and the Suderiferous or sweat glands.

The Sebaceous glands are a part of the hair follicle and are of the saccular type of gland. They are oval in shape and secrete an oily substance called sebum which keeps the skin soft and pliable and the hair glossy. They are situated in the deeper layers or corium of the skin.

When the sebaceous glands fail to function properly the following conditions arise: Comedones, Milia, Acne, Seborrhea, Steatoma or Cyst.

COMEDONES

Comedones, commonly called blackheads, are usually caused from an increased activity of the sebaceous glands. The duct of the gland is filled with plugs of waste matter, which prevent the gland from functioning properly. The underlying cause may be attributed to faulty elimination caused from Dyspepsia or Constipation. See treatment, page 186.

MILIA

Milia is a disease of the sebaceous glands and are small white or pearly elevations or nodules beneath the outer layer of skin. They are caused by a retention of sebaceous secretion and are usually found around the eyes or eye-lids, also on the cheeks. They usually occur in dry skin.

ACNE

The different forms of Acne are: Acne Vulgaris, Acne Rosacea, Acne Artificialis, Acne Cachecticorum, Punctata, Albida, Indurata.

ACNE VULGARIS

This is the most commonly found type of Acne and is a chronic inflammation of the sebaceous glands. It is generally found on the face. However, it is often found on shoulders, neck and back. The disease appears in the form of papules, pustules, and nodules. This disease clogs the excretory ducts leading to the surface of the skin, with an oily secretion called sebum. As the pores of the skin retain this sebum an inflammation takes place. The papules and pustules appear slowly and usually contain a germ. If these pustules are not properly taken care of pits and scars result.

A correct diet is of the utmost importance in the treatment of Acne Vulgaris as it shows an improper elimination through the regular channels. (For treatment see page 183.)

ACNE ARTIFICIALIS

This is an acute eruption and is attended by severe itching. It is usually caused from using cosmetics that irritate the skin. It is also caused from improper food.

The treatment consists of soothing lotions, such as zinc ointment or Lozzars paste and to discontinue what is causing it.

ACNE ROSACEA

This is a chronic congestion of the skin of the face. The blood capillaries are often broken and greatly dilated near the surface of the skin, causing tiny red lines especially near the nose.

The tip of the nose usually is red and congested. This condition is often attributed to the excessive use of alcoholics. Spicy foods should be avoided. Electrolysis can be used to treat the capillaries and in this way cut off the blood supply that causes the broken capillaries.

The treatment is the same as for Acne Vulgaris. However, in Acne Rosacea the treatment of the capillaries is very important as this is done with the Galvanic current.

A common sewing needle can be used for this purpose. It can be inserted in the needle holder. The face is then sterilized with Peroxide of Hydrogen or pure alcohol.

Needle is attached to negative pole, using water for positive pole. The flesh is then pressed between the fingers and needle is inserted into each capillary in the direction in which it runs.

Treat each one separately after which the face is bathed with Peroxide of Hydrogen and zinc ointment applied.

ACNE CACHECTICORUM

This form of acne is frequently found among persons that are greatly run down from illness. The skin lesions are usually very deep owing to the general health of the person. These lesions are usually found on the back. A physician should be consulted as this is not the work of the Beauty Culturist.

ACNE INDURATA

This condition of Acne shows very little on the surface as it is caused from the deeper seated sebaceous glands, but when they do they are in the form of tubercules with a large hard base. The treatment is the same as for Acne Vulgaris. (See page 183.)

ACNE ALBIDA

The skin is usually very dry in this condition of Acne, frequently pustules and comedones are found. However, Milia is found in profu-

sion. Treatment same as for Milia (see page 185.)

In all cases of Acne the High Frequency current is highly recommended as it assists in relieving the tendency to scar or pit.

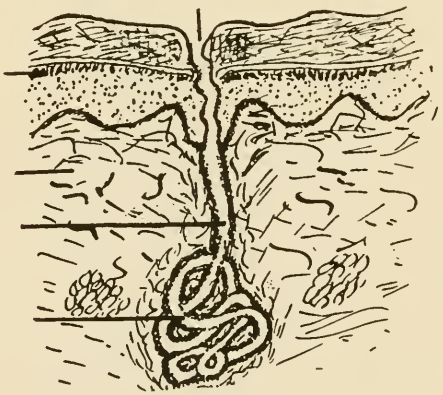
Acne on the face, is usually accompanied by Seborrhea on the scalp, as Seborrhea is one of the diseases of the Sebaceous glands.

WENS, OR STEATOMA, AND SEBACEOUS CYSTS

Wens or Cysts are formed beneath the skin and are often called Steatoma. In color they vary from white to pink and sometimes have a purplish hue. They are tumors or meinbrattons sacs, filled with an accumulation of sebaceous matter. They are usually located upon the scalp, face, neck or back and vary in size from a pin head to an orange. They are generally single but have been known to form in different portons of the body.

They are more frequently found in women. They are in shape either round, oval or flat, and are soft or hard to the touch, but are often movable beneath the skin.

They are usually due to the stopping up of the ducts of the oil glands. Electricity, galvanic current, can be used in removing them or an operation by a reputable physician.



Sudoriferous Glands

SUDORIFEROUS OR SWEAT GLANDS

THESE are the sweat glands and are located over the entire body in the subcutaneous connective tissues. They are the simple tubular glands and their work is to assist in the elimination of the waste matter from the body through perspiration.

The duct of the suderiforous gland enters the epidermis between the two layers of skin and finally opens into what is known as the sweat pores. Any disease of the sweat glands causes either a decrease or increase of the flow of the secretions and often has a bad odor. These glands are the most numerous on the palms of the hands and soles of the feet and they number 2,700 to the square inch, on the forehead, 1,200, and on the cheek about 500 to the square inch. The total number on the whole body about 2,400,000, which with an average body, if placed end to end, would make a chain 28 miles long. The skin eliminates one-sixtieth of the body in a day or two, or about two pounds of organic salts and 150 grains of Carbon Dioxide gas.

The diseases of Suderiforous glands are:

HYPERDROSIS

This is excessive perspiration and is a functional disorder. If it is localized it is usually confined to the face, hands, and feet. It is often caused by certain types of disease.

ANIDROSIS

This is lack of perspiration. In this condition the skin is very dry and at times there is a burning sensation. Anidrosis may exist from birth. If so, there is nothing that can be done. However, some physicians contend that hot baths and drinking a great deal of water will assist in relieving this condition.

CHROMIDROSIS

This condition occurs mostly in nervous persons and is manifested by a discharge of colored perspiration from the pores. It is not a common disease. A reliable physician should be consulted.

BROMODROSIS

This is a condition where the perspiration is fetid or foul smelling. It usually occurs under the arm pits or on the feet. Nervous disorders as a rule are partly the cause of this condition. Absolute cleanliness is essential.

URIDROSIS

This is a condition that is defined as the presence of urinous materials in the sweat, such as uric acid, etc.

SUDAMEN

This disease is characterized by whitish blisters due to the retention of sweat in the upper layers of the skin.

MILARIA RUBEA

This is commonly called prickly heat and is an inflammatory disorder of the sweat glands. It makes its appearance in small red sacs, or papules, and is attended by burning and itching. This usually makes its appearance in warm weather.

All of these conditions should be treated by a reputable physician. However, exercise in the open air, frequent bathing, electric and vapor massage are very beneficial.

Milia

Eczema

Lesson Twelve

Subject

AMPLIFIED FACIAL

Embracing

1. Exercise
2. Stimulation
3. Relaxation
4. Nerves
5. Glands
6. Circulation
7. Muscles
8. Sub-vibration
9. Twin forces
10. Make up

THIS treatment derives its name from the more ample and scientific system of exercise and manipulation, than has ever been given before, in any facial work, and when understood and practiced, we hope, will redeem much of the lost patronage that has resulted from lack of skill and the knowledge of the underlying principles of this work.

In order to give a Scientific Treatment, one that will build up, stimulate and relax the tense nerves and tissues, it is necessary to understand something of the functioning of the skin, nerves, muscles and glands, in order to give a beneficial, as well as enjoyable, facial to your patron. The skin in itself acts as a protection to the nerves, blood vessels and glands; also regulates the heat of the body, eliminates by means of the Suderiferous glands the impurities from the body; it also absorbs fatty substances such as creams or lotions, through massage; the skin also breathes; it expels water and gas, and absorbs oxygen.

The skin is supplied with sensory nerves, and therefore convey the sense of touch. However, the nerves have only an indirect relationship to facial exercises, they play their part in blood supply and stimulation, and are closely associated with the muscles of the face. They also convey a sense of relaxation and rest, so necessary in this work. The distribution of the nerves of the skin follows the same course as the blood vessels. However, the muscles of the face play the most important part in the facial treatment, owing to the fact that the face is peculiar in having attached to it many small muscles, whose movements, along with the movements of the eyes, causes the play of expressions on the face. It is the contraction of these facial muscles that cause wrinkles.

The face and body are also supplied with voluntary and involuntary muscles. The voluntary muscles are governed by the cerebro-spinal nervous system, and are controlled by the will, while the involuntary muscles are under the control of the sympathetic nervous system, and acts more upon the stomach and bowels and to a great degree upon the skin.

Each muscle is supplied by different arteries, and sends branches to the veins. They also act as a padding for the bones and as a support to the body. They are composed of white, fibrous cords, and are responsible for the movements and appearance of the facial expressions, and therefore play a very important part in this treatment, as the manipulations are for the purpose of blood supply, which gives nourishment to the muscles, and in this manner keeps them in good condition. When muscles lose their elasticity wrinkles result, therefore it is so necessary to know their location in order to work in the proper direction, for if you work against the muscles you pull them out of shape, or may flatten them and cause wrinkles or give the face an unnatural appearance, while proper manipulation

stimulates the circulation, yet this can be overdone with many of the movements, if one has not the correct understanding of them. The correct movements can be found elsewhere in our Manual, which describes minutely the location of the muscles, and all that is necessary to give complete and scientific facial treatments of all kinds. It describes in detail the treatment suitable for each individual case. It also gives complete

The Amplified Moler massage, twin vibrators in use

treatise on other branches of the art.

In giving the Amplified Facial, in which the twin vibrators are used (one vibrator works in opposition to the other) the proper amount of stimulation and blood supply is produced through artificial exercise rather than by the slow process of finger manipulation. The twin vibrators therefore produce a more complete vibration than the single, as it reaches the deep-seated blood vessels, nerves and glands, and all structures that go to make up the body. In order to give this treatment properly, it is necessary to prepare patron first, as described in Leson 13 of our Manual.

Always see that patron is thoroughly relaxed and comfortable before beginning treatment, then cleanse the face with a good cold cream (we use the Moler product which is a very pure cold cream) which penetrates into the pores of the skin and removes the secretions as well as the dust and grime from the outer surface, after which moist heat is applied either in the form of hot towels or a vaporizer. If towels are used, three are sufficient. The next step after an application of tissue food, is to use your twin vibrators; they are attached to the operator's hands by means of a specially constructed appliance which fits over the hands. This appliance is placed over the second and third fingers of both hands.

The deep soothing vibrations to the face are produced through the finger tips of the operator, with a firm, gentle pressure, following the outline as set forth in our Manual.

Briefly, the hands are placed on the forehead, going over the Occipito Frontalis muscle, which is located at the forehead, with an upward and downward movement, from temple to temple. The Occipito muscle moves the scalp backward and the Frontalis muscle draws the scalp forward, originates at the root of the nose and raises the eyebrows. You are also working over the Sinus, a hollow cavity in the forehead, and this action stimulates the nerve supply to the Sinus, and in this way relieves a headache or cold at once. It also stimulates the Frontalis muscle, thereby

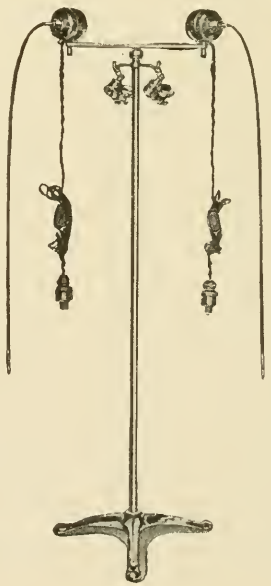
removing the lines which form on the forehead. This is followed by a deep rotary movement over the forehead, and from temple to temple, working again to the Frontalis muscle; also across the Semi Lunar Ganglion, which supply the impulses or life to the organ; then proceed with the exercise with an up and down movement on the temples, on the lines that radiate from the corner of the eyes back toward the hair. You are now working on the Temporal muscle; a deep vibration should be given at this point, then permit your hands to pass over the Masseter muscle by placing them at the lower portion of the jawbone, and then move them in an upward straight movement toward the temples three times, releasing the pressure as you glide down.

This stimulates the Inferior branch of the Fifth Cranial nerve and the Parotid glands, which increase the flow of saliva. However, care must be taken at this point not to overdo your work, as too much pressure could injure or bruise these glands. From this point you work back of the ear which brings you over the mastoid process. Glide your fingers back lightly in front of the ear to the ramous of the jaw.

Now work back over the lamina of the atlas to the spinous process of the axis. At this point avoid working too far down the neck as it would over stimulate the vagous nerve at the fifth cervical. Now proceed by giving a circular movement around the eyes, working over the Orbicularis Palpebrarum muscle. This muscle controls the opening and closing of the eyes. This movement may be repeated several times, but avoid undue pressure, as it might bruise or discolor the eyes. Great care must be taken to avoid getting cream into the eyes, as it would make the patron uncomfortable. The hands are again brought down to the Ramous of the jawbone, working back and forth under the chin with a stroking movement, stimulating the Omo-Hyoid muscle upward in a rotary stroke, on the expression lines, working on the Zygomaticus muscles, which draw the corners of the mouth up and back. The lack of natural exercise to this muscle is the cause of the deep lines near the corner of the mouth. Now proceed across the cheeks in a soothing stroking movement, over the Masseter muscle, which raises the lower jaw and presses it against the upper one. Then with a rotary movement back and forth, over the neck and chin, you stimulate the Platysma muscle and the Sublingual glands. Then move the hands backward to spine and back of neck, over the Sterno-Cleido-Mastoid muscle, which bends the head forward to one side; also over the Mastoid process and the Thyroid glands. Great care must be taken in working over these glands, not to over-do the exercise, as they secrete a poisonous fluid, and when over-stimulated throw this out through the system.

Now place the fingers over the jaw on each side and with a stroking movement of the thumbs on each side of the nose, you work down, repeating three times.

Now remove the cream from the face with a dry towel or cotton and proceed as with other facial finishes.



Lesson Thirteen

Subject

FACIALS

Finger Manipulations

We will proceed with this lesson. Place the customer in the chair, spread your haircloth from in front as you do for a shave, and place the towel straight across the back, tucked in over the customer's garments to protect them from the cream on the hands, while giving the manipulations on the back of the neck. Place a face towel over the head rest. Now recline your chair, spreading the towel diagonally over the haircloth, tucking one side in, folding it diagonally across tucking the opposite side, making a neat protection for the garments. Now bring the towel that you have on the head rest up and around the head in this manner and pin or fasten with a clamp, which forms a protecting cap for the hair.

A face to be properly treated should first be steamed, either with a hot towel or some other device, of which there are a

Things to Remember

A nice linen spread for a facial is as essential as for a shave.

The time will come when towels will not be used in facial treatments.

Things to Remember

A professional soothing touch is to be acquired if a facial treatment is more than a face wash.

number on the market. For the barber, the hot towel is generally used, and as you place the first towel over the face, ask your customer to relax and become just as passive as possible. If a shave has just been given, from two to three steam towels are used, but if not, from four to five are necessary to put the face in the proper condition, always being careful that the towels are evenly heated and to a temperature that will be comfortable, as a towel overheated will contract the muscles rather than relax them. The towel should be quite thoroughly wrung out to avoid water running down the neck, and it is advisable to carry the towel from the basin to the customer folded in such a manner that it will retain the steam and heat, and so it will be easily unfolded and handled as you spread it over the face.

Steaming the face before the manipulation is essential as it relaxes the muscles, opens the pores of the skin and generally puts the face in better condition to receive the treatment. I would suggest about two minutes of steaming.

The selection of proper face cream is important. This is where chemistry serves well.

We now apply the cream, but for this manipulation it must be a cleansing cream and skin food, not a rolling cream or a vanishing cream, as the rolling cream would roll from the skin too quickly, leaving it dry, and the vanishing cream would leave no lubricant for the manipulations. You will have in the palm of your hand, just a sufficient amount of cream to cover the

face well before removing the towel, in order to apply it quickly as the towel is removed.

Things to Remember

You will apply the cream by first quickly rubbing the two hands together to thoroughly spread it over the hands, then apply it to the face.

No exact or rigid rules can be adhered to in facial treatments. You must display judgement with skill.

You will start your manipulations over the Sinus at the center of the forehead. This Sinus is a hollow or cavity in the forehead and is the part that becomes infected when one has a cold. We are now working over the Frontalis muscle in a stroking movement, down to the temple and back to the center of the forehead, repeating this eight times on each side. This we call the Rotary Frontalis movement. This manipulation stimulates the nerve supply to the Sinus, often relieving a headache or cold at once. It also strengthens the Frontalis muscle by bringing it back to its natural healthy condition, thereby removing the lines of the forehead that form as the muscle contracts. There is little danger of over-exercising this muscle. Now start with a frictional movement with the balls of your fingers at the temples and with a rotary frictional movement work your way back to the forehead, repeating this about eight times.

The tendency is for a face to sag. Bear this in mind and let your movements be upward.

Now with a rotary frictional movement from the temple down to the Ramous of the jaw-bone, which is working over the Masseter muscle. This exercises the Masseter muscle and stimulates the inferior branch of the fifth cranial nerve and the

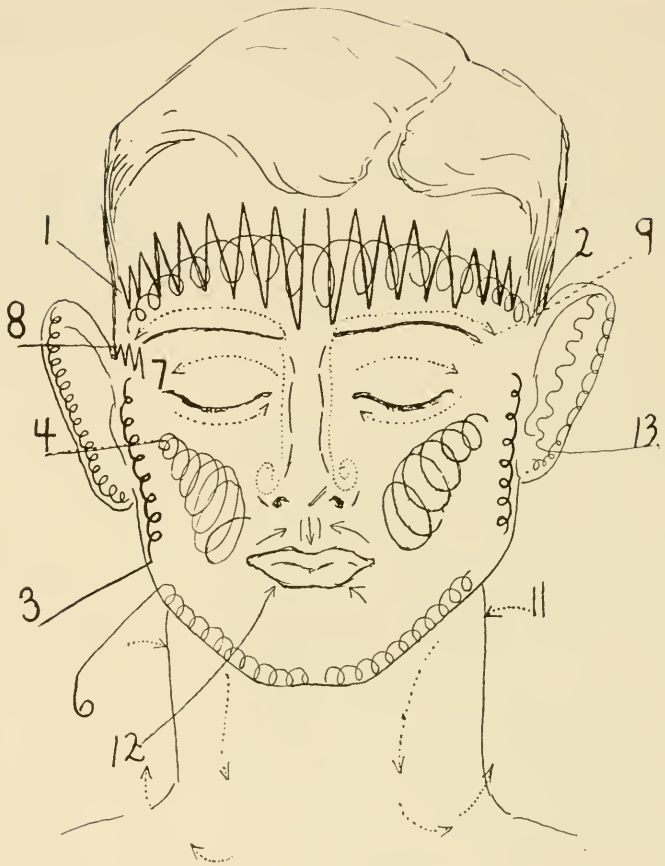


Diagram of facial movements for new Moler massage

1—Rotary Frontalis.
2—Up and Down Frontalis.
3—Rotary Temporal
4—Rotary Occipito.
6—Rotary Platysma.
7—Circular Orbicularis.
8—Straight Orbicularis.
9—Straight Nasal.
11—Straight Thyroid.
12—Orris Pick Up.
13—Helix.

Parotid gland. This is the gland that by manipulation increases the saliva of mastication. It is the one that is affected when one has the mumps. This manipulation we will call the Rotary Temperal and it should be repeated only about eight times. There is danger of overdoing your work at this point, as too much pressure would bruise and otherwise injure the glands, and again if this muscle is over-exercised it will give the face a stern or hard look.

From this point, work with a rotary frictional movement below and back of the ear, which brings your manipulation over the Mastoid Process. This gives not only a soothing effect, but is beneficial in case of inflammation at this point. We will repeat this eight times, stroking back each time with a sliding movement. In case of a headache or tired feeling, you will, from this point, work down with a rotary frictional movement over the Lamina of the Atlas to the back of the neck, which is manipulating the Occipito muscle. This movement we call the Rotary Occipito.

We will now start again at the temple, working with a frictional rotary movement over the cheeks toward the nose. This is manipulating the zygomatic major and minor muscles, the two muscles lying over the cheeks, whose uses are to draw back and raise the corner of the mouth. Repeat this eight or more times according to the face. If fat, ten to twelve times will not harm and will reduce the fatty secretions, but if the face is thin, too much manipula-

Things to Remember

Be sure that you do not converse with your customer when giving a facial. A treatment without rest or relaxation is valueless.

Pleasant thoughts are detected in the touch. Keep a smiling disposition.

Things to Remember

tion on the muscles will give it too muscular a look.

The heavy double chin is the result of high living. It denotes rich field for operation.

We now start at the Ramous of the jawbone at the point of the Parotid gland and work with a rotary frictional movement forward to the point of the chin. This is manipulating the Platysma-Myodes muscle which raises and lowers the chin, also the Sublingual glands that secrete the saliva for mastication, thus not only improving the facial expression, but, if present, would remove the double chin and improve the general health of the body. In the event of a heavy double chin, you could give ten to twelve or more of these movements without injury to the muscles or glands, but avoid using too heavy a pressure as the object now is to work on the fatty portion rather than on the muscle. In the event of a fat face, generally no muscle exercise is needed, but if it were a thin face, needing a better muscle elasticity, the object would be to work on the muscle, but in this event repeat each movement only about eight times. This movement we call the Rotary Platysma.

Extreme care must be displayed in working over and around the eyes. They are easily discolored.

We now work over the eye. This is on the Orbicularis Palpebrarum muscle that opens and closes the eye, and the movement is a straight stroking movement, starting at the inner corner of the eyes, rubbing out to the outer corners over the eye-ball and in to the inner corners underneath the eyeball, always being careful to avoid pressure that might discolor or allowing the cream or materials to be worked into the

eye. Repeat this movement about eight times. This we call the Circular Orbicularis.

Now with the second finger and thumb of the left hand stretch the skin at the outer corners of the eye and with the first two fingers of the right hand manipulate with a vibrating movement from the corner of the eye back to the ear over the Temperal muscle. This is to remove the crows-feet at the corners of the eyes and to further exercise the muscle. Repeat this about eight times, but there is little danger of injury by over-exercising at this part. This movement we call the Straight Orbicularis.

Straight nasal. Movement No. 9

The nasal movement is next and covers a series of strokes downward from the inner corners of the eye down to the base of the nose, up over the lip back to the base of the nose, up to the end and straight back over the nose, continuing over each eye-brow, finishing at the outer corners of

Things to Remember

Hands must be kept flexible and under absolute muscle control to give proper manipulation.

A body masseur spends three years preparing for a license. The same skill is required in facial work.

Things to Remember

We frequently see the untrained barber removing blackheads between the thumb nails. This is malpractice.

the eyes. This manipulation is with the thumbs as you see and repeat each about eight times. This assists in removing blackheads, should they be present, helps to remove the sebaceous matter from the side of the nose, helps to reduce the expression lines and helps shape the nose. I wish to caution you here against too much pinching or rubbing to remove blackheads as it frequently tears the tissues which is more injurious than beneficial. This movement is called the Straight Nasal.

Straight thyroid. Movement No. 11

Proper muscle exercise builds it up. Improper manipulation tears it down.

Our next manipulation is from the point of the chin with both hands, down, back, under and up. This is operating on the Sterno-Cleido-Mastoid muscle. This muscle's action is to rotate the head and move it forward and backward. We also manipulate over the Thyroid glands, one of the most important glands in the body. In connection with this is the motor and centuery nerves, but unless manipulation is properly done it may result in injury to the general health of your cus-

tomer for if the manipulation extends down too far at the back of the neck, the manipulation may be on the motor nerve that may excite the gland and cause it to discharge a poisonous secretion in the system. This movement we call the Straight Thyroid.

You will now manipulate on the upper lip with a straight stroking movement from the corners of the mouth to the nose. This is exercising the Orbicularis Orris, the muscle that closes the lips and pushes them out. In your manipulation of the upper lip, be careful that you preserve the cupid's bow or natural shape of the lips by pressing with the first finger of the right hand into the hollow of the upper lip as you work with the finger and thumb on the lip. In exercising this movement, avoid too much pressure on either the upper or lower lip, for too continuous a pressure on the muscle would serve to flatten it, spoiling the natural shape of the mouth. This movement we call the Orris Pick-Up. Repeat about eight times.

Things to Remember

It is claimed that personal magnetism has much to do with the success of a treatment. This magnetism is kindly thoughts.

The barber sometimes pulls and wools and mauls his customers. This is acrobatic, not scientific.

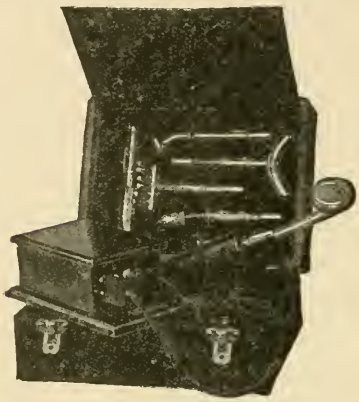
Things to Remember

ELECTRIC FACIAL

High Frequency

This conveys electricity directly to your customer through the electrode or glass tube, and as electricity is a germicide, this instrument is especially desirable in cases of facial blemishes or skin diseases, such as Acne, Milia, Comedos, etc.

There is a springtime odor to a high frequency treatment. Fresh ozone is beneficial.



High Frequency or Violet Ray, a germ destroyer

Pedestal vibrator with hand attachments

In giving this treatment it is necessary to move in the general direction of the nerves as electricity follows the nerves as it would an electric wire. However, if you were not to do this scientifically, the electricity would jump to the nerves as it has an affinity there. But to have a knowledge of the nerves you are enabling it to operate with the nerve you seek to reach.

A lasting blemish may be the result of carelessness with this instrument.

In using the High Frequency, it must be kept constantly in motion while passing over the face, and one must be cautious not to overdo or overextend the period of this treatment, for if the instrument were to be left in one spot too long, it would burn the tissues, and even much greater dam-

ages have been known as a result of ignorance as to the handling of this instrument. Not over five minutes should be devoted to work with the High Frequency and the flow or current should be so regulated that there will be no severe stinging or burning as the electrode is placed on the face. The strength may be increased after the electrode is put to work if the customer requires it. If this precaution is taken there can be no damaging results following a treatment.

Things to Remember

Test the strength of the current on your own flesh before trying it on your customer.

We will start our treatment over the Semilunar Ganglion to the center of the forehead and back, now down over the inferior branch to the Otic Ganglion and back, now operate over the Medial branch with a rotary movement over the cheek. Now the opposite side in the same manner over the Semiluner Ganglion to the center of the forehead and back, now down over the inferior branch to the Otic Ganglion and back, then over the Medial branch in a rotary movement over the cheek, now down over the Sterno-Cleido-Mastoid muscle, over the Thyroid glands, and the same on the opposite side. Now under the chin over the Digastric muscle.

In working over the Orbicularis Palpebrarum you soften the current by working over the fingers as we did with the vibrator, working around the Orbicularis Orris and the nasal movement as you see. Never use the High Frequency on the back of the neck for the same reason that we do not use the vibrator.

Avoid direct contact with the electrode over the eye.

Things to Remember

A single vibrator is a farce if not properly manipulated.

We will use the skin food again and proceed with the vibrator. We start operation over the Sinus, working with a back and forth movement to the temple and back, which is operating over the Frontalis muscle. Do this twice and then with a rotary movement over the forehead to the temple. Continue now over the temperal muscle moving down to the Ramous of jaw-bone or Parotid gland. Now continue back to the ear three times. This is stimulating the Mastoid Process. Now move below the jaw-bone, work back and forth over the Platysma muscle and Sublingual glands. You now return and manipulate the cheek, working with a rotary movement over Zygomaticus muscle. Now to the opposite side of the face in the same manner, going over the Frontalis Temperal and Mastoid Process. Now again over the Platysma muscles, which also stimulates the Sub-lingual glands, again over the Zygomaticus muscle and sub-maxillary glands. Now we will exercise the Orbicularis Palpebrarum muscles by placing the hand over the eye with the vibrator used in a rapid rotary movement to soften the vibration over the Orbicularis Palpebrarum.

A soft rapid stroke is preferred to a longer one given with less rapidity. Watch carefully the adjustment of your machine.

Great care must be exercised that this treatment over the eyes is not heavy enough to blacken or discolor underneath the eye-ball.

Now continue over the nose. I wish to caution you against using the vibrator directly over the nose as it frequently causes the customer to sneeze. We now operate over the Sterno-Cleido-Mastoid muscle by moving down and up with a rotary movement, repeating on each side about three times.

Now work underneath the chin over the Platysma muscle in a rotary movement, repeating about three times. Now move up to the mouth, moving across over the upper lip and back over the under. This is exercising the Orbicularis Orris muscle.

Complete by a slight manipulation of the ears. This completes the vibrator.

You now complete the treatment by removing the cream, carefully avoiding too much pressure, but generally with an outward and upward movement to avoid giving the face a drooping effect. You now use one or two hot towels folded and put on as we did the first ones, being careful that they are not uncomfortably hot. There is quite a little knack in placing of the hot towels that should be practiced. If simply put on to cover the face without pressing it down with the hands, it has not the same steaming effect and is less comfortable. You should, of course, always give your customer breathing space at the nose and mouth.

Now we will apply the cold towels and the number will be according to your customer's wishes. Always let your customer know before applying the cold towel that

Things to Remember

A small piece of cotton is desirable for removing cream from the face, and it saves linen.

Avoid shocking your customer with the sudden application of a cold towel. Advise him first of your intent.

Things to Remember

A certain amount of make-up is desired by most men at the finish of the treatment.

you are doing this, for if he does not know of the change from the hot to cold, it is too sudden a shock. The cold towels are to close the pores and harden the tissues before the customer leaves your chair.

Now the manner of general finish is according to the shop practice. An astringent is recommended after the cold towels, and I wish to caution you against the inferior grades. Lotions can contain too great a quantity of alcohol to be beneficial or so little that there is no benefit. The well-known brands are usually satisfactory for this purpose.

After applying the lotion, the face should be carefully dried, and in this regard many barbers are rather careless. Not too much rubbing with the towel over the face, but rather the hand over the towel as it lays on the face is a better method, and care should be given to every part to be thoroughly dried before the powder is applied.

Now as to the matter of powder, a straight talcum would be satisfactory, but as with women, so with men, a tinted and scented powder of a higher quality than straight talcum is preferred, so I suggest that you give some thought to the buying of better powders to finish your facial treatments, and use a little more care in applying them. There is something to make-up in men's facial massage as well as women's.

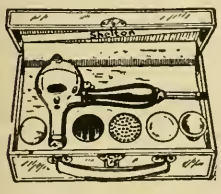
Do not hesitate to use the eyebrow pencil, lipstick, or rouge if your customer desires it. It is a part of modern barbering.

We will now raise the chair and remove the protecting towel from the head and

lather the back of the neck and wipe off with a hot towel. This is to remove the cream that may have collected on the neck from giving this treatment. Be sure and dry the neck thoroughly before applying powder. Now is the time to suggest your tonic or scalp treatment while you are going over the head with a few light finger manipulations, but as it is not part of this lesson we will omit it and proceed in the combing of the hair. Careful combing is as important as any other part of the barber profession, for no matter how scientifically your facial may have been given, if your customer is not turned out improved in appearance he is not satisfied.

There are many other methods of giving the facial treatment, those that are put into effect for women's work, but there has been nothing devised for the barber—until the present—that in any way resembles a scientific treatment, and the abuse that has been imposed upon the trade has well nigh ruined one of the best paying parts of barbering.

It is to be hoped the graduate will be able to reclaim this part of the professional service by showing the old barber how to give scientific treatments.



Hand vibrator

The Vibrator is used the same as the Violet Ray but does not convey electricity to the customer. Electricity simply furnishes the power to drive the machine.

Things to Remember

If you have given a good treatment, you have sold yourself to your customer and only a reminder will be necessary to sell your goods.

"Tell me not in mournful numbers,
Life is but an empty dream,
Nor the soul is dead that slumbers,
And we are what the barber makes us seem.

Subject

FACIAL TREATMENTS

Continued

Things to Remember

The clay pack is not beneficial unless the material is quite heavily applied and thoroughly dried.

Remember your customer is muzzled with your face mask; do not encourage him to talk.

Packs

THE facial packs are of two kinds, the clay and bleach. The application of the clay packs should be given after the face has been prepared as for cream, as previously described.

We will also omit the instructions in preparing your customer and arranging your linen as this will be identically the same as the instructions set forth in our lecture on Scientific Facials. The face should be steamed and put in the same condition as was described to you in the lesson on facials.

As soon as you apply your first steamed towel, kindly ask your customer to relax and become just as passive as possible so he will receive the full benefit of the treatment. Do not carry on a conversation with either your customer or any one else in the shop, as you should concentrate your whole mind on your work.

Try to convey a magnetic cycle from yourself to your customer. This can be accomplished through your hands, which are the greatest instruments we have to produce a magnetic power if you will learn how to use them.

Facial pack

Now cover the eye-brows, eye-lashes and lips with a thin coat of cold cream or cover with a thin layer of cotton as the pack will bleach the eye-brows and lashes if it comes in direct contact with them.

Spread the pack on in a heavy mask from 1/16 to 1/8 inch thick giving it a sufficient body to allow it some drawing strength and require a sufficient length of time to dry so that it will have its bleaching effect. It can be spread with the fingers while the face is hot, so the work should be done quickly.

If your customer has time, you can let the treatment remain on until it dries of its own accord, but if it must be hurried, you can use light fanning with a towel. Do not use an electric fan. From 15 to 25 minutes should be given, but it is often limited to 5 and 10 minutes. This, however, does not give the benefit that the treatment is intended to give.

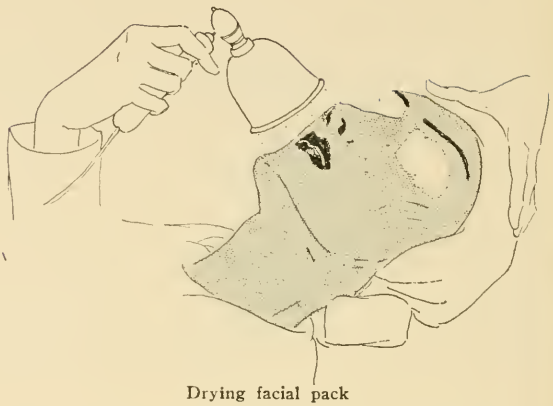
Things to Remember

The slightest attention given to other things rather than the treatment, will be noticed by the customer, even tho the eyes are closed

Slow drying gives the materials time to do their work. On again, off again, out again, never comes back again.

Things to Remember

A dermal lamp consists of a colored light with strong reflector. It has astringent qualities.



Drying facial pack

If you wish to hasten the drying of the pack, you may use the Dermal Lamp, as the rays of the light have heating properties that can be equalled by no other process.

This treatment is considered one of the most beneficial that can be given and is endorsed by many leading physicians throughout the country. It stimulates the nerves and increases the circulation.

A series of treatments should be sold to derive benefits.

You must also inform your customer that they can not expect to derive much benefit from a single treatment. But if they will take a series of treatments, of about two treatments each week for several months, they will notice astonishing results.

If you were ill and would send for a physician and he would prescribe medicine to be taken every two hours, you could not expect a noticeable change after the first dose, but if you would follow the

physicians instructions, undoubtedly you would become well. The same rule applies to our profession and it is up to the barber to convey this message to his customer. Otherwise, you will not attain the degree of success that the profession entitles you to.

History tells us that clay packs were given centuries ago, but it is only in recent years that these treatments have been given scientifically, and in the past few years these treatments have increased the receipts of Barber Shops and Beauty Parlor establishments more than any other known treatment, as the public have learned to know the benefits derived from them, providing, however, they are given properly, and I ask that you follow the instructions we set forth.

When perfectly dry remove with a moist towel. You may lay the towel over the face to thoroughly moisten, then wipe off as you would the cream. This can be done with one towel at one operation if properly handled. Start at the forehead, remove the clay from forehead, then from nose and cheeks working down, taking all of the clay as you go.

You finish under the chin with the face practically free from the treatment. Now apply one or two hot towels and then the special cold cream that goes with the treatment. The special cream usually is a part of the set.

Things to Remember

Remember when you were a little boy and you pulled a chunk of dried mud off your leg, what a nice little pink and white spot it left. This is the principle of a clay treatment.

Don't make a muss removing the clay from the face. It can be done with one towel, and that not badly soiled.

Things to Remember

Avoid here severe astringent lotions. The skin is now tender.

Give a light massage with the cream, then remove with the towel or paper tissue that is frequently used for this purpose, apply another hot towel and give a lotion, dry and use the powder that is a part of the set and that completes the operation. The best results are obtained where the complete set is used.

Face Bleach

A bleach is frequently desired to remove sunburn, freckles and tan, and the treatment is the same as for the pack just described, except that the bleach is made of an almond meal combination. About the same length of time is required to dry and the same treatment is given after it is removed. The formulae for these packs are given in our Manual of Beauty Culture and will be furnished to you if you desire, but the made up preparations are preferable to making up this formula.

The Moler picture lecture given with with colored slides is a medical treatise worth to the thinking barber more than an entire barber course costs.

In the following lesson I have tried to describe and illustrate the most common skin diseases with which the barber will come in contact. As a barber you are not expected to treat diseases but you are expected to know enough about them to prevent the spread of contagion, thereby protecting yourself and customer, and you are allowed to give such external applications as your customer may be induced to accept so long as you do not interfere with laws governing the medical profession.

Subject

SCALP TREATMENTS

Shampooing

THE shampoo is the most abused work in the barber shop. If a shampoo were simply to clean the hair the customer would do that at home in his bath tub, but as it is a service the customer desires as well as the cleansing of the hair and scalp, it must be looked upon as something more than a head wash.

Before starting the actual work, have all materials, linen, lavatory and all ready for use that your customer will not be kept waiting with the lathered head while you prepare the linen or the basin.

If the shampoo is to be given with your customer leaning forward, have a clean towel spread across the rim of the lavatory, have the water in the shampoo faucet properly tempered, have the stool in its place for your customer to sit down,

Now prepare your customer the same as you did for hair cutting and be careful that the hair-cloth does not come in contact with the customer's neck, and in addi-

Things to Remember

A shampoo is more than skin deep. When properly done, it is a service the customer is willing to pay for.

An interesting experiment is to give three applications of soap to the same head, laying a handful of lather on a piece of white paper after each, and note the difference of the three pieces. You will be surprised at the results.

Things to Remember

Care should be given to the selection of materials used for the several conditions of the scalp.

tion to the towel that you have used around the neck, place a small hand towel, one on each side with one edge of the towel tucked under the neck band. This not only affords extra protection for your customer's garments, but also protects your haircloth.

In some instances the barber ties an additional towel around the neck as a protection, but if one is careful this is not necessary.

You will now ascertain what preparations your customer prefers, whether it be a liquid, a soap, an egg or other materials. When this has been ascertained, give the scalp a light massage by running the fingers into the hair, the hands opposite each other, and go all over the scalp with a light rubbing to loosen the dandruff, loosen the scalp and put the hair in a condition to receive the shampoo material.

Note a shampoo is not a scalp treatment, but it is the prelude to one. Guard against getting soap and water into the eyes, ears, nose and mouth. Your customer may not want to hold his breath more than twenty minutes.

Lathering for shampoo

I wish to caution you to be sure and have a nice, creamy lather of the same consistency as you do for shaving. Usually

you will spend about five minutes at this rubbing before the lather begins to reduce itself and be sure that you rub with the balls of the fingers, not the nails.

Things to Remember

Give sufficient pressure to satisfy your customer. You will see him flinch if you rub a little too hard or he will seem a little uneasy if you are not rubbing hard enough. In your rubbing keep one hand working opposite the other. They may be spread so they will work up and down on the sides with your position in back, or you may step around to the side, working your hands on the top and back of the head in opposition to each other. Do this in a manner that it will not unduly shake the customer's head, and as the lather begins to subside, if you have not given a sufficient amount of rubbing, make another application of the material.

Tempering the water after your customer is bent over the washstand denotes poor management. Have matters of this kind arranged in advance.

An advanced method of rinsing shampoo where a lavatory is convenient to the chair. Shampoo board attachment same as ladies work.

To carefully wipe the face and quite thoroughly dry the hair before allowing the customer to raise his head, is a part of good shampooing.

Things to Remember

A customer may think you have completed your work if you leave him alone for a second after finishing the spray. See to it that he does not raise until you have completed the drying.

After the proper rubbing and massaging, if you have not an individual workstand in front of your chair, lead your customer to the stand that has been prepared, lean him well over the basin, draw the water to see that it is properly tempered and apply it mildly at first. If you have not compelled your customer to lean far enough over the water will run down his neck. Avoid this by having the customer's seat at the proper height to enable him to lean over the basin.

Rinsing shampoo for forward shampoo

A lot of practice will be necessary for the exercise called raindrops. It must be a light drumming movement with limber wrists and fingers.

Give ample rinsing to the hair. Do not be satisfied as soon as you have removed the lather. If the hair is sticky after the soap is washed out, make another application and wash it a second or even a third time to have the hair free from oil or grease.

As soon as you stop your play of water on the head, your customer is inclined to raise up so be in a position to keep him over

the bowl until you have had time to partially dry the hair, then as he raises up have a towel ready to dry the forehead, eyes and ears and catch all of the water that may drip down the neck. A towel laid over the head as your customer returns to his chair will keep the moisture from running down the neck or into the face and eyes. As your customer is seated, you will hurriedly start drying the hair to prevent its dripping.

Use a face towel folded in the center the short way using the hands opposite each other in the towel with only the first finger of each hand out. Now spread this so folded over the head with the hands in the towel and hastily rub through the hair. As the side of the towel next to the hair becomes moist, turn it around to use the other end.

Exercise for drumming scalp after shampoo

Things to Remember

Hair will be light and fluffy if properly shampooed and thoroughly dried. If it is not, when you have completed, you have not properly done your work.

Rain drops have earned me a great many dollars while the other barbers were looking on. It will do the same for you if you execute it properly.

Things to Remember

You can economize on linen if you will use the towels that you have placed around the neck at the beginning of this treatment. And give special attention to drying the eyes, the ears, around the neck, etc.

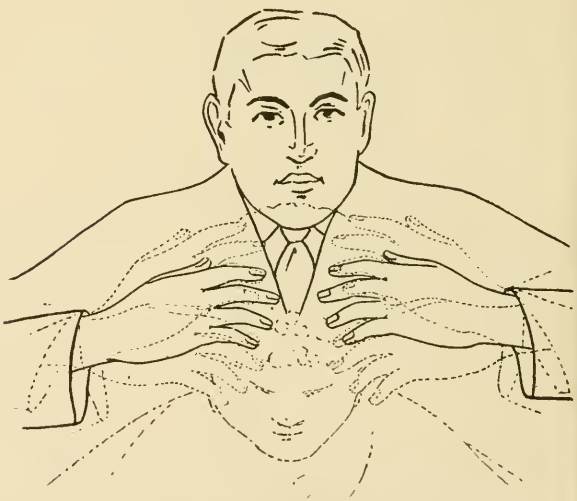
The following is a good formula to be used for Seborrhea Oleosa—

1 Teaspoon salt
2 eggs
3 tablespoons witch hazel.

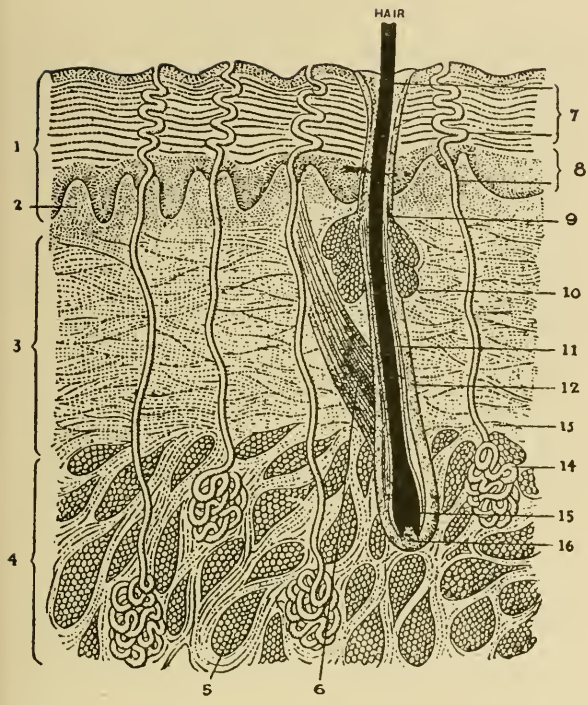
Beat together. Rub well into scalp. Rinse with tepid water.

The hair is never left in a desirable condition unless it has been rubbed sufficiently well to thoroughly dry it and after finishing with the towels, a very nice way to complete your work is to rub your fingers through the hair. Give a back and forth movement with the fingers held loosely letting them lightly drum on the scalp as you rapidly move them back and forth. This drumming is called raindrops and is a pleasant and splendid finish to the service.

Use three rinsings, rubbing each into the scalp, and do not follow with tonic containing oil or glycerine.



Exercise for drumming scalp after shampoo



CONSTRUCTION OF HAIR

1. Epidermis.
2. Papilla.
3. Derma.
4. Alveolar Tissue.
5. Adipose.
6. Arrector Muscle.
7. Horny Layer of Hair.
8. Germinative Layer.
9. Duct of Sebaceous Gland.
10. Sebaceous Gland.
11. Root of Hair.
12. Hair Follicle.
13. Adipose Tissue.
14. Glomerulus Sweat Gland.
15. Bulb of Hair.
16. Papilla of Hair.

Things to Remember

Treatment for Seborrhea-sicca,

Shampoo with material containing no alkali such as pure castille soap. Follow with tonic of an oily nature. Avoid tonic with alcoholic basis. This treatment should be applied as hot as the scalp can comfortably stand it.

When treating a scalp to destroy disease germs, also treat the hat band or other materials coming in contact with the head. The hat band may be treated with live steam or washed with alcohol, or placed in an airtight compartment with formeldehyde while the treatment is being given.

Things to Remember

Oil treatments are successful if properly given, but like other treatments the head should be first thoroughly washed, and the oil applied hot.

SCALP AILMENTS

IN order to treat the scalp in a scientific manner and promote the growth of the hair, it is well to know something about the formation and anatomy of the scalp. In the average growth of hair you will find about 182 hairs to the square inch. The average life of the hair is approximately five to six years. This differs with individual peculiarity and the general health.

When a hair has reached its full term of existence it falls and is replaced by a new hair. The hair is not an independent growth, but it depends upon the circulation of the body and scalp for its nourishment.

The scalp is merely the covering of part of a healthy body, and should receive the care which its functions demand. Naturally healthy hair requires merely to be kept clean by frequently shampooing and brushing. The brushing of the hair is very important as it stimulates circulation and promotes a gloss to the hair.

The construction of the hair is the same whether it is on the scalp or any other portion of the body.

Treatment of eczema is the exception to the rule of shampooing thoroughly before the treatment.

The follicle is a depression or pocket which extends from the outer surface of the skin a quarter to one-third of an inch down into the true skin. At the bottom of the follicle we find a cone shaped mass of cells containing blood vessels which supply the hair with nourishment. This mass is called Papilla. The bulb or root of the hair is hollowed out and fits over the papilla. Each follicle has one or more se-

baceous glands, which open into it and supply the oil to the hair. The root is the white, soft bulb seen within the follicle. The portion outside is called the shaft. Each hair is provided with a tiny muscle. This muscle is affected by fear or cold, and when the hair stands on end it is this muscle which contracts. In that part of the hair shaft which extends beyond the scalp there are usually three divisions or illustration layers. Each layer has its own purpose. The outward layer or cuticle gives strength to the hair and is composed of overlapping horny scales. The middle layer contains the pigment. This pigment gives color to the hair and lies in cells very near to the surface of the hair.

The center layer is composed of small round cells and is called the Medulla. The hair is not perfectly round, varying in different individuals, in some instances being almost flat. It is this flattening of the shaft that makes curly hair; when round, straight hair results. The functions of the hair are protection and adornment.

Dr. Wildner, M. D., claims that the thyroid gland, the adrenal glands and reproductive glands are all responsible in one way or another for the loss or lack of hair. The chemical analysis of hair shows that the hair contains large amounts of Silicon, 20 per cent iron, 10 per cent manganese, 5 per cent sulphur, and a considerable amount of lime, potassium and iodine, besides arsenic and copper. The kind of food eaten has undoubtedly an influence upon the hair.

Things to Remember

Scalp treatments should be given in series; single treatments are of no avail in most instances.

Tell your customer when to return for the next treatment. He must abide by your instructions to obtain results.

Things to Remember

The propaganda should be to save hair, not to restore after it is gone. Keep this before the public's mind and you will profit by it.

In giving a scalp treatment or massage it is necessary to examine the scalp thoroughly and determine the cause of falling hair or other abnormal conditions existing there. Loss of hair is usually caused by illness, run down condition of the system, or some germ life existing that destroys the follicle.

Never make rash promises of immediate results to a customer as the scalp has been undergoing atrophic changes before symptoms are apparent. In some cases of scalp trouble of long standing no apparent improvement is shown in less than three months, although some conditions of the scalp respond readily to treatment and results are shown in a short time.

Any condition that directly affects the scalp effects the growth of the hair, therefore in treating the scalp you are directly promoting the growth of the hair. The object of scalp treatment is to stimulate, vitalize and build up the scalp. Therefore in giving scalp treatments, the massaging of the scalp in applying the ointments, tonics, etc., is a very important matter.

If your shop smacks of a hospital it is more desirable than an amusement parlor. Rest and relaxation do not blend with the banjo.

It should be given with the direct object of promoting the circulation of blood in order to bring the healthy glow to the scalp and nourish the roots and it should be the barber's desire to give real benefit to the customer when giving a massage or scalp treatment.

Never try to tell your customer that you can cure an abnormal condition of the scalp in a specified number of treatments,

as it depends entirely on the way the scalp responds to the treatment just how many treatments will be necessary to be given.

Impress upon your customer's mind the necessity for regular and systematic treatments, as no improvement can be assured unless the treatments are given at least once a week and in extreme cases twice or three times a week until some improvement is shown. Then the treatment can be reduced to once a week. This should always be explained to the customer when treatment is decided upon.

Great care must be taken to be thoroughly antiseptic about your work in scalp treatments. Combs and brushes must be thoroughly sterilized after using on every customer by washing in hot water and dipping in a 4 per cent solution of carbolic acid or a 4 per cent solution of formaline, then placed in a cabinet. Any electric appliance that comes directly in contact with the scalp should be taken care of in the same manner. The same precaution should apply to the combs and brushes. The hands should always be thoroughly washed and dipped in a very light antiseptic solution, as a protection to yourself as well as your customers.

The hair cloth should be used only once after treating a customer that has any condition of scalp that could be conveyed to the next customer through coming in contact with the hair cloth.

Always remember that shampooing has no direct bearing on scalp treatment. While frequent shampoos must be given

Things to Remember

A treatment known as the "Manhattan" developed by the Terminal System of New York is used and recommended by the Moler System. Formulae cannot be given however, in this publication.

I wonder if you have ever heard of teasing the hair. This is an expression used in some sections for ruffing, but it is not good practice.

Things to Remember

A tight scalp should be loosened by degrees. Do not attempt to complete the treatment in one application.

in order to cleanse the scalp and hair, this is usually advised about every two or three weeks. Scalp treatments, however, must be given every week, at least, in order to obtain results.

Scalp massage is often given to stimulate the scalp and preserve the luxuriant growth of the hair rather than to cure a scalp trouble. If the customer should wish a shampoo and scalp treatment, the shampoo is given first, then followed by the treatment required. Hot olive oil rub is the only treatment given before the shampoo.

Bear in mind that falling hair is not a disease but a symptom. It is nature's method of calling your attention to some abnormal condition existing at the scalp. When a customer asks you what to do for falling hair, always explain that you will treat the cause and that in this way by treating the cause, nature cures it and the result is the falling hair stops of its own accord.

Extreme heat given to the scalp by wrapping in hot towels, may be overdone and become injurious. It is better weekly practice rather than daily.

The general health of the customer must be taken into consideration when scalp treatments are to be given, as any condition that directly affects the circulation or nervous system, such as anemia or shock resulting from an operation, will cause falling hair. However, as the general health improves, the scalp will also show signs of improvement. When it is observed that treatments are necessary, as he may not be aware of the condition that exists there, explain in an intelligent way the nature of the trouble and the treatments that are

best suited for it. Get your customer interested, not only for his good but for your own as well.

The following directions will suggest treatments for the ordinary manifestations that come within the experience of the barber.

Things to Remember

Do not attempt to diagnose complicated diseases. Refer things you do not understand to a physician.

Alopecia

This is the scalp disease that causes baldness and is classified in four types.

Allopecia Areata

Alopecia Areata

Baldness in spots is a parasitic infection and is usually found on persons of nervous disposition. This disease directly attacks the hair follicle, causing great loss of hair. There is no indications on the scalp of any trouble existing there, only the bald spots. However, in some cases there is a slight scaly condition existing on bald spots. This disease is found on the scalp of both men and women, but men are more prone to this trouble than women, as it is often induced by tight hat bands.

Treating Alopecia Areata meets with slow results. Do not let your customer become dissatisfied or discouraged with a few applications.

Things to Remember

Do not waste time treating Alopecia Senilis. Let age take its toll if it must.

Alopecia Senilis

This type of baldness is an unmistakable sign of age. The vital forces of the hair begin to weaken, and there is a gradual thinning out of the hair all over the scalp. Alopecia Senilis does not form in spots but affects the entire scalp. Good care and hygienic living help to preserve the hair in this condition.

If treated the treatment would be the same as Alopecia Areata.

Alopecia Prematuro

This type of baldness is usually caused from improper care of the hair, the use of strong tonics that contain much alcohol, also the use of strong alkalide soap for shampooing that diminishes the natural oils in the scalp. I would recommend only the very best grade of shampoo, such as pure castile soap, Fitch's, Taroleum, and other good, reliable brands, as they are especially prepared with the object of preserving the natural oils as well as to cleanse the scalp. These shampoo materials are prepared by chemists trained along this line. This condition appears about the age of 20 to 35 years.

To become prematurely bald may not mean permanently bald. This is worth going after.

The first step towards treating Alopecia Prematuro is to discontinue the use of tha which caused it. After this the scalp mus be nourished and built up, therefore th hot olive oil rub is advisable before th shampoo, which should be given abou every two weeks. This is followed by sulphur ointment and high frequenc

treatment immediately after shampooing. The treatment with sulphur ointment, etc., must be given at least once a week, while the hot olive oil rubs and shampoo are given every ten days or two weeks. If this treatment is kept up regularly for some time a decided improvement will be shown in the condition of both scalp and hair.

Things to Remember

The bald headed barber need not despair when the customer knows as much about baldness as you do. He will give due consideration to his own case, even submit to being treated by a bald headed barber.

Congenital Baldness

This type of Alopecia is usually inherited and is a condition for which there is little to offer in the way of improvement, As the scalp does not provide the ordinary hair producing elements, all forms of treatment are of no avail.

In some cases the sebaceous glands and hair folicles exist, but the root papilla is lacking. The sebaceous glands of the scalp open directly on the scalp and usually give it an extremely oily appearance.

Seborrhea
(Commonly known as Dandruff)

This is a disease of the Sebaceous glands of the scalp and is found in two forms, the oily and dry.

Seborrhea Oleosa

This type is of an extremely oily nature. The pores of the scalp are usually enlarged and filled with sebum. This type is found elsewhere besides on the scalp. It is shining and glistening with oil. The hair is often found matted, owing to the excessive oil, and the scalp is usually colorless and debilitated looking.

Would Seborrhea if called dandruff sound as dangerous?

Things to Remember

Do not waste time treating Alopecia Senilis. Let age take its toll if it must.

To become prematurely bald may not mean permanently bald. This is worth going after.

Alopecia Senilis

This type of baldness is an unmistakable sign of age. The vital forces of the hair begin to weaken, and there is a gradual thinning out of the hair all over the scalp. Alopecia Senilis does not form in spots but affects the entire scalp. Good care and hygienic living help to preserve the hair in this condition.

If treated the treatment would be the same as Alopecia Areata.

Alopecia Prematuro

This type of baldness is usually caused from improper care of the hair, the use of strong tonics that contain much alcohol, also the use of strong alkalide soap for shampooing that diminishes the natural oils in the scalp. I would recommend only the very best grade of shampoo, such as pure castile soap, Fitch's, Taroleum, and other good, reliable brands, as they are especially prepared with the object of preserving the natural oils as well as to cleanse the scalp. These shampoo materials are prepared by chemists trained along this line. This condition appears about the age of 20 to 35 years.

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Things to Remember

A sprinkle of dandruff over the coat collar is not a sign of dangerous disease. It is simply a sign for the barber to do his stuff.

Seborrhea Sicca

This is the dry, scaly type and manifests itself in different forms on the scalp. The hair is less oily in this form of Seborrhea but often very thin. The flaky type appears in bran-like particles, which are chiefly objectionable on account of their falling upon the shoulders. They show very plainly on dark clothing.

Powdered Forms

This type of Seborrhea is very destructive to the hair as it clogs the pores of the scalp and disturbs circulation, and in this way destroys the life and growth of the hair. In advanced cases of powdered dandruff the hair is usually dry, brittle and lifeless, and there is a gradual thinning of the hair.

The treatment for Seborrhea Sicca or dandruff is, hot olive oil rub given before the shampoo. After shampoo sulphur ointment and high frequency treatment is given. This treatment is repeated once or twice each week, between shampooing periods. After disease has somewhat been relieved an occasional tonic and vibratory treatment can be substituted for a high frequency treatment.

In ages to come, if you have cured all scalp diseases the barber will still find something to do, so do not worry about him.

Pityriasis

This scalp trouble is often confused with dandruff by the intense itching. There is no eruption on the scalp, but bran-like deposits often form and the hair is lusterless and dry and there is a continuous falling of the hair.

The treatment is the same as for Seborrhea.

Psoriasis

This is a skin as well as a scalp disease and is sometimes found on the face, but more frequently on the scalp. It is sometimes confused with Eczema, but there is not so much irritation nor intense itching as Eczema.

Psoriasis forms on the scalp in white, shiny scales or crusts with healthy skin intervening. They adhere very closely to the scalp and are very thick and hard and elevated above the healthy skin. This thick-like crust of scales gradually loosens from the scalp and a yellow serum oozes from the pores. As the disease advances, this serum is mixed with blood and usually forms into a sore-like scab. In time this scab falls off and the hair falls with it. At this stage the hair follicle is destroyed and baldness often takes place. Tiny bran-like particles loosen from the crust and adhere to the hair like nits or the bark on a tree for two or three inches from the scalp.

Psoriasis is often found on other parts of the body, but does not affect the Sebaceous glands. Great care must be taken when combing a head when affected as any undue pressure of comb or brush causes bleeding. This would have a tendency to aggravate the condition. The treatment is the same as for Seborrhea.

Eczema

This is a disease of both skin and scalp and manifests itself in three different types.

Things to Remember

A comfortable scalp treatment is enjoyed by the customer even if he is not guaranteed other results.

A tender or diseased scalp requires careful nursing. A penetrating hair brush is not the right nurse.

Things to Remember

This form of scalp disease may not come within the barbers range of treatment. Use good judgement in attempting bad cases.

Vesicular

or weeping type of Eczema is usually discerned by large patches of tiny blisters. As this disease is always accompanied by intense itching, these tiny blisters are broken by scratching. The secretion from the blisters oozes over the scab and often results in the entire scalp being covered with these blisters.

Pustular Type

Pustular type is found oftenest and is usually seen on under-nourished people.

Papular or Pimply Type

is discerned by round pimples the size of a pin head (bright red). These pimples often fill with a colorless fluid. The itching is intense and often from scratching the pimples will be found covered with brownish scabs or dried blood.

Erythematous or Red

This type of eczema is the most commonly seen and consists of a large surface covered with red spots which often have a yellowish tinge. These spots vary in size. There is intense itching, swelling and burning of the affected parts and finally become scaly if the skin is broken. A serum oozes out. One of the pronounced symptoms of Eczema is the intense itching and burning.

Because a customer requests you to bear down hard on an itching scalp is no sign you should do so. Follow scentific instruction.

The same treatment for Eczema as for Seborrhea, but it should be given twice a week, and if intense burning, a zinc ointment is applied to the scalp between treatments. Great care should be taken in shampooing a head with Eczema to use

only a medicated soap and very little washing until it is cured, as soap and water excites Eczema and makes it worse. If after a reasonable length of time the case does not yield, you should send the customer to a reliable physician.

Things to Remember

Refer these cases to a physician and do not attempt to affect a cure.

Syphilitic scalp

Syphilis

This disease often attacks the hair and scalp, particularly at the nape of the neck, and looks like moth-eaten spots and is usually found in the secondary stage. Ordinarily it is not difficult to recognize the distinctive features of this disease. Treatment of this disease does not come within the scope of the barber, and the customer should be referred at once to a competent physician. While the barber does not treat this disease, it is well for him to be able to recognize it, not only for the protection of the customers but his own health as well.

You benefit humanity by knowing these diseases by sight, and avoiding them.

It is always advisable to wear rubber gloves in examining a scalp in order to be on the safe side.

Things to Remember

High frequency is a germ destroyer, and probably is more effective than most any other treatment, for contagious ailment.

You may give treatment for this disease but I'd turn it over to a doctor.

Alopecia Treatment

The treatment must be given regularly and systematically in order to get results in extreme cases, twice a week until improvement is shown, then the treatment can be lessened to once a week. In beginning the treatment, give a hot olive oil rub, following this with a shampoo, and after the hair is dried paint the spot with colorless Iodine, using a small piece of cotton to apply the same to the scalp. In a few days after this treatment has been applied, a scalp massage must be given with sulphur ointment and high frequency.

This treatment of high frequency and sulphur ointment must be given twice a week until the next shampoo period, when the hot olive oil rub is given again, following the rub with a shampoo, and again paint the spot with iodine. This treatment is repeated at each shampooing period until the bald spot is covered with a real fine downy growth of hair. When the spots are in this condition the Iodine is omitted and instead the fine hair that is on the spot is shaved with a sharp razor. This is done after the shampoo.

Continue with the olive oil rub at the shampoo period and shave the bald spots only about every third shampooing period. The sulphur ointment and high frequency are still given regularly once or twice a week between the shampoos.

Finger manipulation is given to loosen the scalp thereby creating a better circulation. Before beginning the finger manipulations apply either a tonic or an ointment. After the scalp is well saturated, begin the massage with the shuttle movement. The object is to loosen the scalp by moving the fingers back and forth, allowing the movement of one hand to work opposite the other. Continue by working up to the top of the scalp, always standing behind the customer.

Things to Remember

Serious results may follow if careless with high frequency treatments: that is why you are now learning to be precautious.

The next movement is to place the balls of the fingers of the left hand on top of the scalp and, with the right manipulate from back of neck to crown, keeping the fingers about one inch apart. Press firmly, so that the fingers will have the tendency to loosen the scalp without pulling the hair. After treating the entire scalp in this manner, continue with the hands as first described, using a rotary movement. In case the tonic is not to be used, proceed with massage movements as directed.

Vibratory Massage

The vibrator is used for the scalp with the rubber applicator, called the brush, in place of the rubber cup used for facial massage. Apply the tonic the same as for other scalp treatments and begin the work with the vibrator held in the right hand, starting at the base of the scalp, just at the side of the spinal column, moving up with a firm pressure using the left hand on the scalp just in front of the vibrator cup

A single vibratory massage may create circulation, but it has not the deep vibration of the twin exercisers.

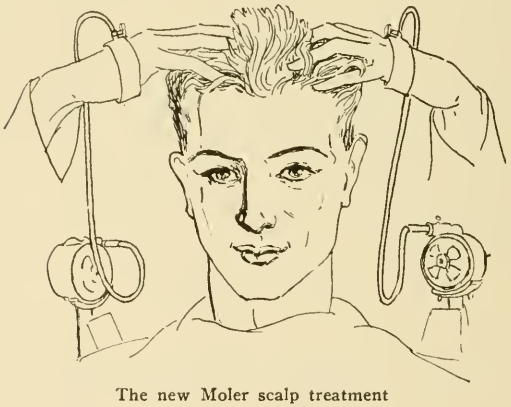
Things to Remember

with sufficient pressure to pull or lift the scalp without pulling the hair, working up to the crown.

Barbers generally run a vibrator over the scalp promiscuously, or at random. If any benefit is to be derived, a system must be learned.

Repeat, starting at the other side of the spinal column working up over the head in the same manner, until you have gone clear around the head on one side, then manipulate on the opposite side the same.

Now start at the forehead in the center and work back in the same manner with the left hand giving pressure enough to loosen the scalp, while the vibrator, by its rapid movement, stimulates the circulation. Cover the entire scalp in this manner. This is the process where one vibrator is used for scalp treatment.



The new Moler scalp treatment

This is the Amplified Scalp Treatment that works wonders not only to the scalp, but to the whole system.

There is also the Moler process highly recommended, with which two vibrators are used at the same time, each hand strapped to the head of the flexible shaft that causes the hands to vibrate very rapidly while giving the treatment.

Stand behind your customer, using the hands opposite each other on the sides of the head, with sufficient pressure to let the vibration be felt through the entire head and down the spine. Work from the lower part up to the crown, changing the position of the hands as you work around the scalp, so that they will work opposite each other.

This treatment may follow a hot oil application or a tonic. A vibrator should not be used over five minutes for any treatment.

High Frequency

The rake attachment is used for the scalp whereas the bulb electron is used for the face, but as you first touch the rake to the scalp it is well to have your hand on the rake to soften the little sting that your customer feels when the rake is first applied. This should be used over the scalp a number of times, keeping it always on the head rather than picking it up frequently and putting it down again, which creates a little irritating spark as it nears the scalp.

Tonic Steam

A tonic steam is given by a liberal application of tonic and the scalp well rubbed the same as for a massage. Apply two or three hot towels and thoroughly steam the head, then give another application of tonic, another hot towel or two

Things to Remember

This treatment beats riding in a Ford. You never know how many parts there are of you until this machine begins shaking you apart.

Steam treatments can be too frequent. Let's set our dates ten days apart.

Things to Remember

and then a cold one. This will be found to be a very beneficial treatment. Rub thoroughly dry before finishing.

A lot of good material has been wasted simply by putting on and taking off. Tonic is to rub in.

Witchhazel may also be used for scalp steam by applying it to hot towel on scalp.

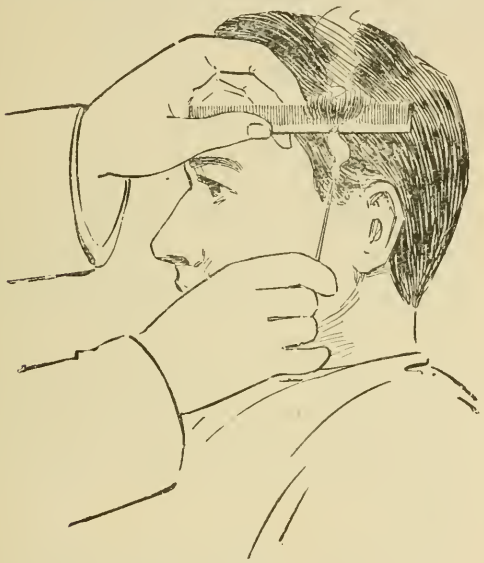
Crude Oil Treatment

If a crude oil treatment is one hundred per cent., I know a lot of millionaires who will look up jobs in the oil fields.

This treatment is given by rubbing crude oil on the scalp. Pour in the left hand and rub in with the fingers of the right hand. As the oil is only a benefit to the scalp and the roots of the hair, it should not be used too liberal on the hair itself. When you have the scalp thoroughly saturated allow the oil to remain in place a few minutes and wash out the same as the regular shampoo. The oil should be of a light specific gravity and odorless.

Singeing

Singeing is to promote the growth of the hair. By burning the ends after it has been cut it closes the pores of the hair keeping the fluid in and preventing the ends from splitting. It is one of the best



Singeing

remedies for falling hair and it strengthens the growth. Hair can be singed at any length.

Use a singeing taper or gas light taper in the right hand, with the comb in the left, and for short hair, singe over comb as in cut. Where the hair is long, singe over fingers the same as in cutting long hair. The work is very simple after you have learned to trim; still it is a very important and a necessary qualification for the barber.

Things to Remember

Stubborn hair usually combs better after it has been singed and frequently becomes more pliable.

Electric singeing machines are on the market. They consist of a number of very fine wires heated to the burning point, but are not universally used.

Subject

HAIR DYE

The following article was written for the Moler Manual of Beauty Culture but is just as adaptable to barbering.

Technical

THERE has been much discussion both for and against the use of hair dyes, but it really *is a problem that one has to decide for themselves.* There are usually one of these three reasons given for dyeing the hair:

1st: to cover up the grey hair.

2nd: a desire to change the original shade.

Rubber chair cloth protects customer.

Practical

EGYPTIAN HENNA

IN Preparing customer for hair dye place soft cloth or old towel about the neck first, then place rubber apron about the shoulders, fasten at back of neck. Before beginning to dye the hair, *have everything necessary at hand.* Operator should also be protected with rubber apron and gloves, then proceed in the following manner:

Shampoo the head thoroughly and partly dry hair with towel, not the *dryer.* If the hair is a light shade and the Egyptian Henna is to remain on the head only a short time, from 10 minutes to one-half hour, all of the work can be done at the shampoo board immediately following the shampoo.

Having made up the materials into a paste and placed where it will be kept hot, now put into a receptacle from which it can be easily conveyed

to the head (a pitcher is probably best). Take position at right of customer's chair and pour it over the head gradually working it in well with finger tips to every part of the hair. *Be sure to keep the Egyptian Henna hot and distribute it evenly to all parts of the head, so as to avoid having any streaks in the hair.*

It is advisable when applying Egyptian Henna to the hair to *apply it to the center of the head first* then to the edges of the hair and to ends last, as the hair takes the color around hair line and ends quicker.

After paste has been applied allow customer to remain in this position at shampoo board the required length of time until shade desired is obtained as previously explained, then remove paste from hair with hot water, shampoo spray, being sure to rinse same out of hair thoroughly. It is advisable to remove from edge of hair and ends first, then center of hair. This is done in order to avoid getting the fine hair around edge too red.

After paste has been thoroughly removed from the hair, apply a light lather of shampoo liquid, give one good lather and rinse well and dry the hair. If the Egyptian Henna is to remain on hair longer than one-half hour, it is best to remove customer to unoccupied booth or space after the application that operator may proceed with other work while this one is waiting.

Pat the paste into the roots well.

3rd: to correct unsuccessful work done by inexperienced persons.

There are many instances where hair dyeing is justifiable, as it often affects one's position in the business world as most people are thought of as being old if they have grey hair.

Then, grey hair is unbecoming to many persons, making them appear years older and their complexions very sallow.

The first hair dye was manufactured and used by a Frenchman by the name of Monsieur Broux. This took place about 40 years ago and since that time there has been a vast improvement along this line. At the present time, almost any shade that the natural hair comes in, can be obtained through hair dye. In hair dyeing, it is well to remember, that it is impossible to improve on nature, and it is always advisable not to change the original shade of the hair as the skin, eyes and teeth harmonize best with the shade nature has endowed us with.

It is never advisable to recommend hair dyeing to a customer, even though it means added revenue to you. Give her your sincere opinion and then let her decide the question for herself. It is a very good plan to keep a record

Keep as much heat in as possible after applying Henna Pac.

of the hair dyes. A card index is best, with all the particulars as to shade, blending, etc., listed thereon so that when a customer returns for another hair dye or touch up, this can be referred to and there will be no danger of using the incorrect shade.

Hair dye is always applied to hair to darken it. It can never be lightened by dyeing. The first step in hair dyeing after determining the condition of scalp is to decide the shade. Always select a shade that is one shade lighter than the original shade of hair, as by repeated applications the hair gradually grows darker.

The texture of the hair has to be taken into consideration, if former applications of dye restorers, or bleach has been used. Fine hair always absorbs the dye much more readily than coarse hair.

In case patron wishes to change from the dye she has been using to another brand, *it is always necessary to remove the greater portion of the old dye before applying the new, otherwise the hair may have a greenish or purplish tinge, as the chemicals in the two dyes often clash and cause this.*

To remove the old dye, olive oil and kerosene mixed in equal portions to the hair from roots to ends can be applied. This is done at night, and

If hair is long, divide it in four sections after the shampoo, from forehead to nape of neck, and across the crown from ear to ear. Loop up each section as explained in scalp treatment lesson, apply the Egyptian Henna according to instructions previously given, but it is best to keep the paste in double boiler in order to keep it hot. Divide hair into strands of each section, apply paste to each strand either with a brush or with finger tips, working it in well at roots, then distributing it down on the long hair to ends. Turn strand over toward head and apply the paste to the under side of strand in the same manner. One strand after the other may be treated in this way. After the paste has been applied to a section of hair, pin it up on head so it will be out of your way.

After the Egyptian Henna has been applied to the entire head in this way, wrap the head up either in tissue paper and then in heavy piece of cloth, (retained for that purpose, as it stains towels) or if the temperature of the room is low, apply a layer of obsorbent cotton directly over the head before placing cloth around same. Some use newspapers to cover the head. The object is to retain as much of the heat as possible as the *heat is a very necessary faction in the use of all Henna dyes,* and in applying the paste to the head, it may be necessary to reheat it frequently and it *must be applied to the hair hot.*

After the head has been covered in the manner described, the paste is allowed to remain on the head until the desired shade is obtained. *Always remember the longer the Egyptian Henna remains on the hair, the redder the hair gets,* also that the *light shades of hair are effected much quicker by the Egyptian Henna than the dark shades,* therefore, it is necessary to leave them on longer in order to obtain the desired shade.

After the allotted time is up, place customer at shampoo board, remove paper, etc., from head, and remove paste from hair with hot water after which one lather of liquid shampoo is applied, then thoroughly rinse and dry hair. Remove stains from customer's neck and face. Replace dye cloth with chair cloth and the hair is ready to be dressed.

RETOUCHING ROOTS WITH EGYPTIAN HENNA

IT is necessary to retouch the roots of the hair with Egyptian Henna about every six or eight weeks just as in other dyes, however, *it is not necessary to apply the paste to the entire head each time, but just retouch the roots or the part that has grown out from scalp since last application.*

Very often the roots can be retouched several times before the long hair has faded sufficiently to necessitate applying the Egyptian Henna to the entire head again. When this is necessary to be done, apply as previously described dyeing entire head.

If the roots of the hair are to be

A firm pressure of the brush is necessary in application.

the head is wrapped in a towel, then shampoo the head next morning.

It may be necessary to repeat this treatment a number of times before the greater portion of the dye has been removed before it is perfectly secure to apply new dye.

There are a number of hair dye removers on the market, but the above application removes the dye and leaves the hair soft and natural and is really beneficial. After a number of applications of the above, if there is still a suggestion of the old dye remaining, it is safe at this time to give several applications of bleach to the hair if necessary to remove the remaining hair dye, but it is never advisable to give more than two applications of the bleach, and never apply it directly to the dyed hair in quantities in order to remove the dye, unless the olive oil and kerosene has been previously used, as it has a tendency to split and break the hair.

In cases where "Restorers" have been used on hair, and patron wishes to change to a hair dye, in order to remove restorer, the previously mentioned method may be resorted to, that is, application of kerosene and olive oil, or a 3 per cent solution of Sodium Sulphate applied to hair with tooth brush. After 20 or 30 minutes rinse out of hair with cold water and dry and apply new dye.

There are many instances where Dermatitis developed on the head after hair dye has been applied. This

usually appears after liquid dyes are used. However, it has been known to develop after Henna dyes, but this is only so in rare cases. In Dermatitis the scalp is inflamed and covered with a rash. Very often the eyes are inflamed and swollen.

This condition is caused from certain chemicals in the dye and some people are much more affected by it than others. Steps must be taken immediately to relieve the customer of this condition as soon as it is observed. *Assure customer that it can be relieved in a short time by bathing the scalp with warm Boracic acid solution, or warm milk, then apply a soothing lotion such as zinc ointment or Lozzar's Paste, to the affected parts.* It may be necessary to repeat this a number of times, until all eruption has disappeared. Do not shampoo head while there is any appearance of Dermatitis remaining. It is advisable to use a thoroughly antiseptic soap for this purpose, such as physicians and surgeons' green soap.

It is never advisable to apply hair dye to a head that has any eruption such as eczema, psoriasis or anything of that nature appearing on it, as it may aggravate the condition already existing there.

There are many dyes on the market but the Egyptian and Compound Henna dyes are the best known powdered dyes, and are considered the least injurious of any artificial application that can be applied to the hair to change color.

EGYPTIAN HENNA

EGYPTIAN Henna is composed of a powder, made from the ground bark and leaves of the Henna plant and is grown only in the Orient. Egyptian Henna when applied to the hair, always gives an auburn shade. It depends upon the original or basic shade of the hair just what shade of auburn is obtained.

The length of time that the Egyptian Henna is permitted to remain on the hair is also determined by the basic shade, for instance, if Egyptian Henna is applied to light shades of hair when an auburn or titian shade is desired, from 20 minutes to three-quarters of an hour is quite long retouched, prepare customer with rubber apron, etc., as previously described, also give shampoo, and partly dry hair with towel. If hair is long divide in sections and loop up. Prepare Egyptian Henna as before stated. Be sure to keep it hot the entire time it is being applied. *Great care must be taken when applying paste to hair, not to overlap it onto the part of the hair which has been previously dyed, otherwise,* this would cause dark streaks to form where roots and long hair join.

In order to prevent this, pieces of wax paper are placed between each strand of hair as paste is applied to roots. The Egyptian Henna is applied to the roots of each section of hair in this manner, after which the head is wrapped in tissue paper, etc., as previously described and paste is allowed to remain on the roots the allotted length of time, according to shade desired, or otherwise to match ends, then proceed by placing customer at shampoo board, remove head covering, also wax papers, which were placed between strands.

Then remove paste from hair with hot water, after which one lather of shampoo is applied and hair is thoroughly rinsed and dried. Now remove stain from customer's face and neck, also dye cloth from shoulders, re-

place same with chair cloth. Hair can be waved and curled after this, if desired.

COMPOUNDED HENNA

Gray Hair

PREPARE Customer for an application of compounded henna just as described in Egyptian Henna pack, but do not shampoo first. If hair is gray or if roots are to be touched up that are gray, proceed in the following manner: Divide hair in four sections as previously described, then take position at right of customer and apply peroxde and ammonia, proportions previously prescribed, with a tooth brush to all gray hair. This acts as a neutralizer and softens the gray hair.

After the peroxide and ammonia has been applied to the gray hair, allow it to remain on the hair about 15 minutes. After this, shampoo the hair thoroughly, as all oil and dust must be removed from the hair before the Compounded Henna is applied. Remove excess moisture from hair with towel after shampoo but not at dryer, and proceed as previously described, by parting hair, if long, in four sections and looping it up. You have selected the henna in the desired shade, and made the mixture which has been kept hot. If double boiler is used, full amount of henna necessary for the work should have been mixed at one time. If double boiler is not used, only a small enough (if shades are light brown), if bleached hair, 10 minutes is sufficient, while on dark shades of hair, which usually give a dark auburn or mahogany shade, it is necessary to allow the Egyptian Henna paste to remain on the hair not less than one hour or longer. The longer the Egyptian Henna is on the hair, the more decidedly auburn the hair becomes.

In some instances when the hair is very dark brown or black, and a decided auburn is desired, the Egyptian Henna paste is applied at night, the head wrapped up well and washed out the next morning. Egyptian Henna is never successfully used on grey or white hair, as it gives an unnatural shade of red.

In preparing Egyptian Henna, mix:

4 Tablespoonfuls of Egyptian henna powder
2 Tablespoons of peroxide
2 Tablespoons of liquid blueing
Enough hot water to make creamy paste.

Do not have the paste too thin, as it will run from the roots and not too thick or it will not penetrate through the hair.

COMPOUNDED HENNA

THERE are many brands of the Compounded Henna or metallic dyes on the market. They are produced under different trade names, but they are practically all compounded in the same manner and contain the same chemical mixtures.

They have as their base, the natural henna powder, to which chemicals such as pyrogalic acid, sulphate of copper, sulphate of nickel, etc., have been added, in order to procure the shades necessary to dye the hair in the different shades in which nature has produced them.

The compounded hennas are considered very successful *on all shades of mixed grey or white hair,* although the shades that are referred to as drab are very difficult to obtain with compounded henna.

It is always advisable to use a lighter shade of compounded henna than the original shade of hair and in some instances, it is best to use several shades lighter, as the hair gradually grows darker by repeated application to the hair in retouching.

Never use the compounded hennas just as you find them upon opening the container. The manufacturers place the different ingredients in the can in layers, therefore, it is necessary to remove same from can, place in a dry dish and crush any particles that are lumpy and thoroughly mix all ingredients together before using it. It can then be replaced in can.

When opening a can of compounded henna, you will find a tiny transparent envelope directly under the lid. *This envelope contains a fine white powder. This is the developer. The developer is not used until compounded henna is removed from hair,* so the tiny package is put away in a secure place for later use.

Never allow Henna of any kind, either Egyptian or Compounded to come directly in contact with the fire. It is always best to mix same in a double boiler or place receptacle with paste in it over a pan of hot water. This can then be placed on heater in order to keep the paste continually hot.

If Egyptian or Compounded Henna pastes are applied to hair just warm or partly cold, the hair will lack the luster and gloss when it is removed, that it would have if it had been applied hot. It is absolutely necessary, therefore, to keep the paste as hot as customer can stand it on her head, all during the process of applying it.

Never recommend Black in the compounded henna, unless you are sure your customer really wants her hair to be as black as this shade produces. Very few people really have black hair and a dark brown shade in the compounded henna produces a shade quite as dark as most people desire. In some cases the black henna is used, but in very few instances.

Before using compounded henna on grey or mixed grey hair, it is necessary to apply peroxide and ammonia in these proportions:

4 Tablespoonfuls peroxide

1 Teaspoon of ammonia.

The object in doing this is to soften the grey hair, and make it more pliable, as the grey hair owing to the lack of pigmentation is filled with air vesicles. This makes it difficult for grey hair to absorb the dye, but by applying the peroxide and ammonia in portion of the powder is mixed. All of the ingredients are in the compounded henna, so it is only necessary to add hot water. Small portions only are mixed at a time in order to keep it hot. This amount usually suffices for one section, and another portion is mixed and applied in the same manner as described for application of Egyptian Henna until entire head has been gone over, and portons of hair to be dyed have been thoroughly saturated with the paste.

After compounded henna has been applied in this manner, cover the head as previously described with paper, etc., in order to retain as much heat as possible, and allow paste to remain on the head the required length of time, according to shade applied.

If light shades are used in compounded henna such as light brown, light chestnut, or dark chestnut, one hour is all that is necessary to leave paste on the hair, however, if medium shade such as medium brown is used, it is necessary to leave paste on hair out hour also, but if the hair is very gray an added 15 minutes is advisable, making it one hour and fifteen minutes in all.

If dark brown is desired, it is necessary to leave paste on hair one and one-half hours; black, two hours. However, black is rarely ever used.

After compounded henna paste has been on hair, the required length of time place customer at shampoo board

remove head covering and rinse paste from hair with hot water. After paste has been removed, the developer is applied (the developer is the small transparent package that was found under the lid of can when first opened).

This contains a white powder. Place this powder in a clean receptacle, a small pitcher is preferable, and add to it one cup full of hot water, mix well and pour this over the entire head. It is necessary to have basin in shampoo bowl, under shampoo board, to catch this rinse as it is applied to head. It is then transferred from basin to pitcher and this process is repeated until it has been applied to the head at least four or five times. This developer must be kept hot while it is applied and it is often necessary to reheat it during the process. After the developer has been applied in this manner, wait five minutes, then apply directly to hair without removing developer, one lather of shampoo liquid, rub, rinse well and dry hair at dryer.

In using the compounded henna it is necessary to retouch the roots of the hair in about six or eight weeks just as described in the Egyptian Henna. The process for doing this with the compounded henna is also very much the same.

In order to retouch the roots of the hair with compounded henna, select the proportions previously prescribed, to the grey hair, the vesicles are filled and in this way the dye is absorbed more readily.

Dye stains on face and neck can be removed either with cold cream or with peroxide and ammonia, in proportions previously prescribed. This is applied to the stained surface with a soft cloth. Henna stains are very easily removed but it is much more difficult to remove liquid dye stains, therefore, great care must be taken to avoid staining face or neck when applying same. Very often a light application of cold cream is applied to face and neck before dye is applied to hair. This is removed after the hair has been dyed. This prevents staining the skin. However, great care must be taken when applying the cold cream to face not to get it into the edge of the hair, as it would prevent the hair from absorbing the dye.

Six or eight weeks is the usual length of time that elapses, before the roots of the hairs are obliged to be retouched in Henna dyes, however, there are textures of hair that retain the dye for a much longer period of

Compounded Henna.

time, therefore, the person having the dye is the best judge of how often it is obliged to be renewed.

Should the Egyptian Henna or Compounded Henna result in too dark a shade, this can be remedied by applying the following mixture to the dark spots or all over the head if necessary. Mix a paste of Egyptian Henna Powder and peroxide, use a good grade of commercial peroxide, make a creamy paste. Do not use water. Apply this paste cold to the parts that are too dark. Allow this to remain on the hair from 20 to 30 minutes, then remove with hot water. If not sufficiently light, repeat 24 hours after.

If not familiar with a dye that is to be applied, always read directions. All Henna dyes require three days to fully develope the shade. It is not always necessary to use the contents of an entire box of compounded henna. Very often when the roots of the hair are to be retouched, a very small amount will suffice, however, always remove compounded henna from can and mix as previously described, replace in can and use only the amount necessary to do the work, replacing the balance in can and put aside for future use.

the shade previously used on hair, prepare customer in same manner as described for dye, take position at right of customer and apply neutralizer to roots of hair. After 15 minutes, shampoo head and apply compounded henna to roots only as described in touching up roots of hair with Egyptian Henna.

Great care must be taken in the application of the paste to the roots not to allow it to overlap onto the hair that has been previously dyed, as it will cause a dark streak to form where roots and ends join. Be sure to place wax papers between each strand immediately after applying paste, to further prevent paste from coming in contact with previously dyed hair.

After the Compounded Henna has been applied to roots in this manner paper or cloth is applied to head to retain heat, as previously described. Compounded Henna Paste is allowed to remain on roots according to shade just as previously explained in applying to long hair, then proceed further in the following manner: place customer at shampoo board, remove head covering, also wax paper from between strands of hair. Rinse paste from roots with hot water, apply developer as previously described and after five minutes apply liquid shampoo. Give thorough rubbing, rinse well and dry. After this remove stains from customer's neck and face, etc., and hair can be curled and dressed.

LIQUID DYE

IN preparing customer for liquid dye arrange as directed in Henna dye. Start application by dividing hair in medium thin strands from crown to forehead, parallel with center part, dip tooth brush in dye, saturating same well with liquid, shake gently over saucer and press brush along edge to remove superfluous dye from brush, then convey same to part in hair, applying dye by firm pressure downward towards ends of hair with brush. Never give rotary movement as it tangles hair and does not distribute dye evenly.

After dye has been applied to strand in this manner, on outer side, turn strand over so under side is exposed, apply the dye to this portion in the same manner. One strand after another can be treated in this way. When dye has been applied to one section, comb through hair thoroughly, from scalp toward ends many times, until dye is well distributed and all hair is thoroughly moistened, otherwise the hair is liable to be streaked.

If hair is very long and needs to be dyed the full length, apply the dye sparingly to ends as directed, with brush. After this, loop or pin up section, and proceed to the next one.

It is very important to remember, that liquid dyes are not to be applied to head too generously, always draw brush along edge of receptable, to remove some of the dye before applying to hair, as a very small amount

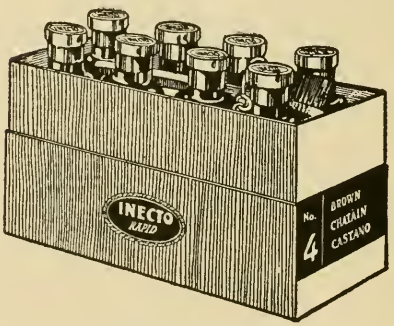
LIQUID DYES

THERE are many liquid dyes on the market, in fact, too many to enumerate all of them. Some are aniline dyes, others are mineral dyes, also hair restorers. Restorers do not immediately change the color of the hair, but by repeated applications the grey hair is dyed to the natural shade. The liquid hair dyes are always applied with a clean tooth brush.

In most instances, it is necessary to shampoo and dry the hair before the dye can be applied, as the hair must be free from oil and dirt. However, there are hair dyes on the market that are applied to the soiled hair, but only a few are applied in this way.

In using liquid dye only, *pour a small amount of dye in a clean receptacle at a time, as it very soon evaporates,* and when exposed to the light for any length of time, deteriorates. *It is very important that you read the instructions given with each package of dye,* as there are many methods that are similar but each have some variations in preparation for application.

Some liquid dyes come in two bottles, one marked "A" and the other



Liquid Dye in sets.

"B", or 1 and 2. In some cases the bottle marked A or No. 1 is applied to the hair first, the hair is dried, after which the bottle marked B or No. 2 is applied in the same manner and the hair is dried after the last application also. However, there are also liquid dyes that come in a container holding a number of small bottles. Half of these are marked "A" and half are marked "B." *The advantage in dividing it into small bottles is this, very often it is only necessary to use a very small amount of dye, as for instance, when retouching the roots of the hair,* or when only slightly grey about the face, therefore, only the amount necessary to do the work is opened. The balance of the dye is left intact to be used at some future time. In this way, no dye is wasted, as would be if in a large bottle, for dyes deteriorate if opened or exposed to the light or air.

In using the dye just mentioned, while the bottles are also marked "A" and "B", there is only one application necessary to the hair in order to dye it, *as the contents of one "A" bottle and one "B" bottle are placed in a* of dye applied to hair with a firm pressure of the brush, is much more effective than if a greater amount were used and it would be allowed to drip to ends. If this is permitted, the ends become dry and brittle and soon break off and shows the detrimental effects of applying too much dye.

In applying the dye to the hair, it is advisable to apply same to the front sections of the hair first, then proceed to the back sections, until entire head has been treated in this manner, then dry at dryer. Advise customer to return in 24 hours and have hair set.

If the liquid dye is used, which comes in small bottles before mentioned, the procedure is just a little different. Select the shade desire, prepare customer as before mentioned. Do not shampoo at this time but prepare neutralizer composed of 4 tablespoonfuls peroxide, 1 teaspoonful ammonia. Place this in small receptacle and apply same to all grey hair with tooth brush, permit this to remain on the hair for 15 minutes. If not dry, dry with dryer, then proceed in the following manner: loop up sections of hair, mix one "A" bottle and one "B" bottle in saucer, as previously described. Apply to hair as just explained, then allow dye to remain on hair from 20 minutes to half an hour, after which customer is placed at shampoo board and hair is shampooed. It is best to apply liquid

shampoo directly to hair before water is applied, the chemical action of the soap directly on the dye has a tendency to distribute the dye more evenly and will improve the appearance of the hair. After shampoo liquid has been thoroughly rubbed into hair, rinse well with hot water and dry. Remove stains from face and neck. The hair can be curled immediately after this dye has been applied.

Some liquid dyes of ancient vintage are still on the market, and are obliged to be "set" 24 hours after they have been applied. The object in setting such dyes is to remove the superfluous dye from the hair which if left in the hair soon breaks and splits it. It is also to prevent the dye from rubbing off on anything it comes in contact with. It is never necessary to set a dye that is shampooed the same day that it is applied.

In the more recent liquid dyes that are referred to as peroxide dyes, this is not necessary.

When setting a dye, prepare customer as for a shampoo. Place her at shampoo board, rinse hair well with hot water until the water runs away clear, then apply a salt rinse composed of 1 tablespoonful of salt to 1 quart of hot water. Pour this over the head four or five times, then rinse same out with hot water. If hair seems at all stiff or sticky, give citric rinse as described in shampoo lesson.

receptacle and mixed together and applied to the hair. This is a much quicker way to do the work, as it saves time where only one application is necessary.

There is also a dye that is used as the one just described, but there is a substitute for the contents of the "B" bottle which comes in a solidified form being made into tablets instead of the liquid. In using this type of dye, each tablet contains the same ingredients as bottle marked "B" in the liquid form. The tablet is allowed to dissolve in the receptacle in which the bottle of liquid marked "A" has been placed.

There are also dyes on the market that come in only one bottle and necessitate only one application, while others come in two bottles and the different shades desired are obtained by adding different proportions of water. The directions for all of these are found in the box containing the dye.

If, after dyeing a head of hair with liquid dye, the shade is found to be slightly darker than desired, it can be removed by applying peroxide, but do not put ammonia in the peroxide. Al-

low this to dry naturally, do not use hair dryer. If it is still too dark after first application, repeat in 24 hours.

Frequent hot oil treatments at shampooing time are recommended for dyed hair, as it prevents the hair from becoming harsh and preserves the luster. Hair can be waved or curled after it has been dyed, if a dye has been applied that requires the hair to be shampooed the same day, it is applied, otherwise it is necessary to wait 24 hours, then set the dye as described elsewhere in this article, before it is safe to use hot irons on the hair.

HAIR DYE

20 Grs. nitrate of silver
2 Grs. sulphite of copper
Q. S. ammonia
Q. S. distilled water.

Dissolve the salts in ½ oz. water and add ammonia until the precipitate which is formed is redissolved. Then make up to 1 oz. with water. Apply to the hair with old tooth or nail brush. This solution slowly gives a brown shade. For darker shades apply a second solution composed of—

2 Drs. yellow sulphide ammonia
1 Dr. solution of ammonia
1 Oz. distilled water.

DYEING SWITCHES OR HAIR PIECES

ALL hair that has not the natural oils of the scalp to preserve the color, gradually fade, therefore, it is often necessary to dip or dye false pieces and switches after they have been worn for a while.

For dark shades of brown or black, use one cup of black tea, a small piece of copperas, about size of large navy bean, cover this with three or four cups of hot water, place on stove and let it come to a boil, strain, then place switch, etc., that has been previously washed but is still damp, in this hot liquid. Allow it to remain until desired color is obtained, then remove same from dye, hang up by loop to dry. Allow every part of hair to hang free so air can reach it from every side.

After it has been dried in this way, rinse out well with hot water and dry.

If drab shades are desired in dipping switches, add a small amount of Pyrogallic acid to the tea and copperas liquid. If light drab is desired, use Pyrogallic acid alone.

Often in dark shades it is necessary to dry the hair and re-dip several times. All hair must be cleansed before it is dipped. Extra hair pieces, especially if ventilated, should not be washed in water, but gasoline, or a cleaning fluid used for that purpose. Great care must be exercised in doing this as the net in which the hair is woven is liable to be torn, if not carefully handled.

HAIR BLEACHING

PREPARE customer for bleach by giving shampoo, etc., as for hair dye. Divide hair in small strands from crown to forehead across the sections of hair. Apply bleach to hair with tooth brush, using a firm pressure during the application. When removing toothbrush from receptacle, shake bleach from brush and press brush against edge of receptacle to avoid having too much peroxide on brush.

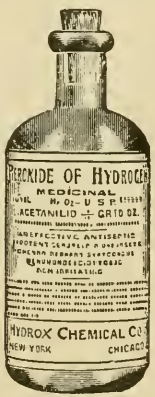
If the hair is bleached for the first time, apply the bleach from roots to ends of hair. Great care must be taken not to have ends too wet, as it would make them lighter. Apply the bleach in this manner to entire head, strand by strand. As one section is finished, loop or pin it up out of the way. After this has been done, loosen hair and let it hang free, place customer at dryer and dry the hair thoroughly. Hair must be dried thoroughly after each application of bleach before the next one is applied.

Now you have finished the first application of bleach. If the hair is the desired shade, it can be waved and dressed, if it is not as light as customer desired it to be, after drying hair, remove tangles, divide in four sections as previously stated, and repeat the application as described. This

BLEACHING

IF a *lighter shade of hair is desired the hair must be bleached* instead of dyed. It depends on the original or basic shade of hair, how many applications of bleach is necessary to produce a blond shade of hair. Peroxide and ammonia are always used for the purpose of bleaching the hair. It is by repeated applications of bleach that a dark head of hair is gradually turned to blond. When bleach is applied to dark shades of hair, it becomes auburn first, but by conitnued applications of bleach it gradually becomes a blond or golden shade.

If the natural shade of hair is light brown or chestnut, it requires only one or two applications of bleach to make a decided difference in the shade. *One of the most important points to remember in bleaching the hair is that once the desired shade has been obtained never apply the bleach to that part of the hair again*, as bleach never wears off. It is not like dye. Once the shade has been obtained, it is only



Peroxide of Hydrogen.

necessary to retouch the roots of the hair, as they grow out.

Bleaching is not injurious to the hair, if it is not repeatedly applied to the entire head when it is only necessary to retouch the roots. Do not at any time use too much ammonia in connection with the peroxide, as it is very injurious to the hair when used to excess. However, a small amount is always necessary in bleaching as it intensifies the action of the peroxide on the hair. The hair is always a little lighter the following day after bleaching.

In bleaching dark shades of hair to a blond shade, it is necessary to apply the peroxide and ammonia as often as four or five times in order to get the hair to a blond shade.

When shampooing a head of hair that has been bleached, always use a citric rinse after shampoo, as explained in the lesson on rinses, otherwise the hair will be sticky.

The formula for the bleach is as follows:

4 Tablespoonfuls of peroxide
1 Teaspoonful of ammonia.

WHITE HENNA

This consists of either Talcum powder or some similar powder and is used as a base for liquid bleach in touching up the roots of hair that has been previously bleached. It prevents bleach from running down into the ends of the hair. It can be prepared by placing 1 teaspoonful of White Henna in a china receptacle and adding to it enough 14 or 17 volume Peroxide of Hydrogen and a few drops of ammonia to make a creamy paste. This is applied to the roots of the hair with a tooth brush. It is permitted to remain on the hair from 15 to 30 minutes according to shade desired. It is then rinsed out with warm water. Citric rinse is applied and if hair is not desired shade, repeat.

is done as many times as necessary until desired shade is obtained.

When necessary to retouch as the hair grows out, give customer shampoo, after shampoo apply a citric rinse to the hair, dry hair thoroughly and proceed in the following manner: Remove tangles from hair and divide in four sections and loop up if hair is long. Divide hair in strands. Prepare bleach as previously described, then proceed by applying same with toothbrush to the dark part of the hair or roots only, beginning at the scalp and moving brush downward. Do not overlap the bleach onto the part previously done. Be very careful not to have the tooth brush too wet when applying the bleach as it is liable to run down into the ends or the part of the hair that was previously bleached, and this must be avoided.

Continue in this manner until the bleach has been applied to the entire head at the roots only. After this place customer at dryer. After the hair has been thoroughly dried, repeat the application as described as many times as necessary in order to have roots the exact color of the ends or that part of the hair which has been previously bleached. Be sure to dry thoroughly after each application before next one is repeated. After the desired shade has been obtained, hair can be waved.

THE barber, no matter how good a mechanic he may have become, is not a finished tradesman of the high salaried calibre until he has learned and put into effect the ethics of good barbering and salesmanship.

There is a vast difference between the grafter, so often referred to in connection with barbering, and the learned salesman. Therefore, the scrutinizing employer of today has learned to distinguish and select his men accordingly.

Grafters employ methods of obtaining big checks, that would not be tolerated in the well conducted shop, whereas the salesman puts into effect a business-like principle. The grafter forces upon his customer his services in a manner intended to deceive him. He may give all the service at his command to a sleeping customer, and charge him for it, or he may try to make it appear that he is giving some special service, intimating that he is showing a favor to the patron, but always charges for it.

He may use any number of tricks to increase the receipts, but, of course, he cannot continue in the same shop or on the same patron indefinitely, for that reason the grafter is generally a rover, where the real salesman builds up a trade for his services, and has a following that becomes his stock in trade.

To become a salesman, you should study your customer as he comes to your chair. There are many points about people that reveal their character, and you will soon learn how to discover them. It is not good barbering or salesmanship to immediately launch into the topics of the day with your customer, unless he shows a desire for conversation, and then always let him lead. Be a good listener rather than a good talker.

If he shows an inclination to converse, he gives you an opportunity to lead up to the subjects you wish to approach, but it should be done very tactfully. If, for example, your customer, upon taking the chair, leans back for a shave, do not hesitate or argue the point of a haircut, but go directly about the work he at the time desires. He may have in mind finding out whether you are a good shaver before he risks a haircut.

It has become customary in all shops to use special lotions at a special price, but it is not salesmanship to apply and charge without instruction or permission from the patron. If you sense as the customer takes the chair, that he may be open for suggestions, you may call to his atten-

tion, during the period that you are working upon him, other things you have for sale such as the massage, the haircut or the different treatments, but, if you sense by his firm or determined appearance, that he is a man who knows what he wants and will ask for it, you should try to lead up to the subject in some other manner.

For example, if your customer seems to be hard to please, you must try to please him by giving him special attention, and gain his goodwill before approaching the subject of further service. If he complains, and you show a desire to please, you may gain his continued patronage and be able to sell him a bigger bill later.

In any event, the discriminating man is one whose acquaintance should be cultivited, for he is generally the money man, able and willing to pay for more and better service.

If you sense, as your customer approaches your chair, that he is going to be easy and will take most anything you offer, one that would be meat for the grafter, be cautious also with this individual lest you sell him more than he can afford, thereby causing him to seek a cheaper place or one without the strong arm method.

In all events, you must be first sold on the article yourself before you can successfully offer it to others. If you offer a tonic, know what it contains and the good it will do, and convey that knowledge to your customer. If you offer a treatment, know the benefits of that treatment and in giving it, give the benefits. If you are selling your services instead of a piece of goods, make your services of quality; make them worth all you are asking that you may honestly approach the customer again for re-sale or have the benefits of his recommendation to someone else.

In addition to your services, which includes all of the work being done, there are many articles you can handle profitably and to better advantage than anywhere else. Suppose you have used a tonic that is pleasing, you have an opportunity to sell a bottle and should have it close at hand to show, and your check tab handy, that you may add to the other work you have done, enabling the customer to pay the cashier the entire check at once.

If you fail to interest your customer in a purchase at the first attempt, do not be discouraged. The man who can present an article again and again, each time with a smile, will win the admiration of many. Yet, the salesman must not insist. Keeping the customer's mind on what the goods will do, is important, rather than dwelling on the article itself and the price.

The barber is generally dealing with a customer who is located in the immediate neighborhood, and to know and be able to converse with the customer on his own goods, is of great value. Your customer may be a haberdasher and may be patronizing the shop or a particular barber for the sake of return patronage or reciprocity. For this reason, it is important that the barber know as much about his customer as possible, and most important of all, learn the customer's name, if possible, the first visit without asking him direct. This may be obtained frequently from the porter or the manager. To be able to speak a customer's name, will please the hard-boiled customer more than any other one thing the barber can do, and it often clinches the sale to be able to speak the customer's name during the conversation.

It is barber shop ethics, in all well regulated shops, for all barbers to rise and stand by their chairs as the customer enters, showing thereby that you are willing to serve him and that he may take his choice of the several workmen. Do not stare the customer out of countenance in trying to induce him to take your chair. Simply speak his name pleasantly, if you know him, and let him decide. Remember at all times, that you are not doing the customer a favor by waiting upon him or rendering him a service. He is paying a good price for what he receives and is entitled to all the service he demands.

If the "hard-to-please" customer takes your chair, do your best to be affable. If he asks for a shave, do not suggest immediately a haircut, even though he may need it. That suggestion may come after the first services have been rendered. Always assure your customer, as he makes a complaint, that you will remedy it and do not stop there, do it. Do not argue and do not converse with the other barbers or customers while waiting upon the "discriminating" one, and, very important, don't assume a lofty air. The barber who wants it to be known that he knows his business and is ready to tell his customer "where he gets off at" will soon find himself looking for another job or looking for patrons, if he conducts his own shop. Don't forget the customer is the man who is really paying your salary or rent.

Another form of salesmanship is that of silent action. As the "hard-to-please" customer takes your chair, you need not attempt to converse, but immediately start your sale by your action. The promptness with which you start the task, the courtesy in every movement, the conspicu-

ousness by which you sterilize your instruments, the absolute cleanliness of the shop linen and one's personal appearance, will sell more service than any amount of argument. Make a display of washing your hands, and of sterilizing every instrument, and the customer will be impressed.

The ethics of every well regulated barber shop, prohibits smoking by the workmen in the shop, but in the event that you have stolen a whiff from your cigarette during your working hours, be sure no trace or smell is left on your fingers to annoy your customer.

The psychology of selling is nothing more than a clear understanding of the customer's desires. The object of any salesman, which in this instance, is a barber, is to arouse the customer's interest to the extent that he will purchase. The means of selling a haircut may be the appearance of the one you have just completed, or it may be the means of your failure to sell your next haircut, if the one you have just turned out is displeasing to the one who is waiting.

You may sometimes improve your sales by appealing to the senses. In addition to a pleasing fragrance, you may speak to the traveling salesman of the loved ones at home, who would be pleased with a bottle of perfume. A neat manicure set for the stenographer, even a safety razor for home-service, is right in line with the barber salesman. Those who are broad enough to comprehend that the self shaver may be made the means of profit to the barber, will sell the instrument or the blades, and thereby get the more profitable part of the business, the haircut and its addition.

There is an attractive little individual electric sterilizer now on the market, that the advanced barber may display on his workstand in appealing to the customer's sense of cleanliness.

A little fountain of boiling, bubbling, steaming water, in constant play, into which every instrument is dipped before being put into use, will attract more customers than most any other one appeal you can make.

The old order of things in barberism is passing and the manner of loudly calling "next" to the waiting patron, is being discarded. Each shop may have its method of keeping track of the one who is next, but whatever may be the method, it is one that will signal or make a personal quiet announcement rather than the noisy "next," we have formely heard.

The well regulated shop of today, takes on the appearance of a parlor with well-kept reception room rather than the loafing place with the noisy, boisterous

individual, and the shop that is properly cared for, will receive the patronage of the mother and the little child, whose influence goes a long way toward sending dad to the shop she patronizes.

The barber's place, while not engaged at the chair, is on the seat provided for him at his workstand, and he should not allow himself to become so engaged in reading or in preparing his tools, that he fails to watch the door and observe the approach of each customer. He should not occupy the waiting chairs intended for patrons.

Barbers sometimes violate the ethics of good barbering by rather turning their back on the discriminating customer as he enters the shop, even though he stands up at his chair to meet the demands of the proprietor. The barber who tries in this manner to pick out the good jobs or the easy work, will soon find himself out of work or working for a salary only, without the commission and the tips that are the real velvet of the job, and he has earned the enmity of the honest barber who is taking them as they come.

70 PER CENT

$	.05	.10	.15	.20	.25	.30	.35	.40	.45	.50	.55	.60	.65	.70	.75	.80	.85	.90	.95	1.00
$25	17.53	17.57	17.60	17.64	17.67	17.71	17.74	17.78	17.81	17.85	17.88	17.92	17.95	17.99	18.02	18.06	18.09	18.13	18.16	18.20
$26	18.23	18.27	18.30	18.34	18.37	18.41	18.44	18.48	18.51	18.55	18.58	18.62	18.66	18.69	18.72	18.76	18.79	18.83	18.86	18.90
$27	18.93	18.97	19.00	19.04	19.07	19.11	19.14	19.18	19.21	19.25	19.28	19.32	19.35	19.39	19.42	19.46	19.49	19.53	19.56	19.60
$28	19.63	19.67	19.70	19.74	19.77	19.81	19.84	19.88	19.91	19.95	19.98	20.02	20.05	20.09	20.12	20.16	20.19	20.23	20.26	20.30
$29	20.33	20.37	20.40	20.44	20.47	20.51	20.54	20.58	20.61	20.65	20.68	20.72	20.75	20.79	20.82	20.86	20.89	20.93	20.96	21.00
$30	21.03	21.07	21.10	21.14	21.17	21.21	21.24	21.28	21.31	21.35	21.38	21.42	21.45	21.49	21.52	21.56	21.59	21.63	21.66	21.70
$31	21.73	21.77	21.80	21.84	21.87	21.91	21.94	21.98	22.01	22.05	22.08	22.12	22.15	22.19	22.22	22.26	22.29	22.33	22.36	22.40
$32	22.43	22.47	22.50	22.54	22.57	22.61	22.64	22.68	22.71	22.75	22.78	22.82	22.85	22.89	22.92	22.96	22.99	23.03	23.06	23.10
$33	23.13	23.17	23.20	23.24	23.27	23.31	23.34	23.38	23.41	23.45	23.48	23.52	23.55	23.59	23.62	23.66	23.69	23.73	23.76	23.80
$34	23.83	23.87	23.90	23.94	23.97	24.01	24.04	24.08	24.11	24.15	24.18	24.22	24.25	24.29	24.32	24.36	24.39	24.43	24.46	24.50
$35	24.53	24.57	24.60	24.64	24.67	24.71	24.74	24.78	24.81	24.85	24.88	24.92	24.95	24.99	25.02	25.06	25.09	25.13	25.16	25.20
$36	25.23	25.27	25.30	25.34	25.37	25.41	25.44	25.48	25.51	25.55	25.58	25.62	25.65	25.69	25.72	25.76	25.79	25.83	25.86	25.90
$37	25.93	25.97	26.00	26.04	26.07	26.11	26.14	26.18	26.21	26.25	26.28	26.32	26.35	26.39	26.42	26.46	26.49	26.53	26.56	26.60
$38	26.63	26.67	26.70	26.74	26.77	26.81	26.84	26.88	26.91	26.95	26.98	27.02	27.05	27.09	27.12	27.16	27.19	27.23	27.26	27.30
$39	27.33	27.37	27.40	27.44	27.47	27.51	27.54	27.58	27.61	27.65	27.68	27.72	27.75	27.79	27.82	27.86	27.89	27.93	27.96	28.00
$40	28.03	28.07	28.10	28.14	28.17	28.21	28.24	28.28	28.31	28.35	28.38	28.42	28.45	28.49	28.52	28.56	28.59	28.63	28.66	28.70
$41	28.73	28.77	28.80	28.84	28.87	28.91	28.94	28.98	29.01	29.05	29.08	29.12	29.15	29.19	29.22	29.26	29.29	29.33	29.36	29.40
$42	29.43	29.47	29.50	29.54	29.57	29.61	29.64	29.68	29.71	29.75	29.78	29.82	29.85	29.89	29.92	29.96	29.99	30.03	30.06	30.10
$43	30.13	30.17	30.20	30.24	30.27	30.31	30.34	30.38	30.41	30.45	30.48	30.52	30.55	30.59	30.62	30.66	30.69	30.73	30.76	30.80
$44	30.83	30.87	30.90	30.94	30.97	31.01	31.04	31.08	31.11	31.15	31.18	31.22	31.25	31.29	31.32	31.36	31.39	31.43	31.46	31.50
$45	31.53	31.57	31.60	31.64	31.67	31.71	31.74	31.78	31.81	31.85	31.88	31.92	31.95	31.99	32.02	32.06	32.09	32.13	32.16	32.20
$46	32.23	32.27	32.30	32.34	32.37	32.41	32.44	32.48	32.51	32.55	32.58	32.62	32.65	32.69	32.72	32.76	32.79	32.83	32.86	32.90
$47	32.93	32.97	33.00	33.04	33.07	33.11	33.14	33.18	33.21	33.25	33.28	33.32	33.35	33.39	33.42	33.46	33.49	33.53	33.56	33.60
$48	33.63	33.67	33.70	33.74	33.77	33.81	33.84	33.88	33.91	33.95	33.98	34.02	34.05	34.09	34.12	34.16	34.19	34.23	34.26	34.30
$49	34.33	34.37	34.40	34.44	34.47	34.51	34.54	34.58	34.61	34.65	34.68	34.72	34.75	34.79	34.82	34.86	34.89	34.93	34.96	35.00
$50	35.03	35.07	35.10	35.14	35.17	35.21	35.24	35.28	35.31	35.35	35.38	35.42	35.45	35.49	35.52	35.56	35.59	35.63	35.66	35.70

BUSINESS RECORD FOR WEEK

BEGINNING_____ 19 ____ ENDING_____ 19

RECEIPTS

Month		1ST. CHAIR	2ND. CHAIR	3RD. CHAIR	4TH. CHAIR	5TH. CHAIR	6TH. CHAIR	MANICURE & BATHS	SUNDRIES & CIGARS	SHINES	DAILY TOTALS
Date	Monday,										
	Tuesday,										
	Wednesday,										
	Thursday,										
	Friday,										
	Saturday,										
	Sunday,										
Totals											
Salaries											

The above tables are reduced reproductions from a book adaptable to barber shop bookkeeping, and not only provides for the weekly receipts but has a complete table of percentages that saves much figuring in paying off barbers who are paid on a salary and commission basis.

This book may be ordered through the Moler Supply House, 512 N. State Street, Chicago, Illinois.

The following article is taken from the Moler Manual of Beauty Culture and is given here for the enlightenment of a barber who may desire to establish a beauty parlor in connection with his barber shop.

The advice given regarding the selection of a location is also adaptable to the selection of a barber shop, and it is worth careful consideration.

Establishing Business

SELECTION OF LOCATION

IT is suggested that one just graduating from a school of Beauty Culture or an apprenticeship in a parlor, devotes some time to the work as an operator before establishing her own business, at least until a "following" or a number of customers are secured who prefer her services to that of others.

There is likely to be a financial loss in a new shop at the start and this can be overcome by working as an operator a sufficient length of time to have acquired a follow-up.

When one has decided to establish business for themselves, the first and most important question is the location. It is not good business to expect to buy another's trade even when purchasing her shop, for the good will of a business can not be transferred. Some very good advice is offered on this subject by Wm. H. Connelly in Modern Beauty Shop as follows:

Population an Important Factor

What size and type of town will support a beauty shop? is a question for a prospective shop owner to ask when considering locating in a small town. An analysis of several thousand shops and towns by Modern Beauty Shop has led to the conclusion that rarely can a town of less than 5,000 justify the time and money of a woman who has learned her trade well, and in the majority of cases 5,000 is too small a population upon which to build a really profitable business.

Under normal circumstances the town of 15,000 or over is the safest venture for a new beauty shop. On the other hand, a very small place that is little more than a village may be a good location, provided it is contiguous to several other small towns or is a thoroughfare for much travel between towns. If there is much automobile travel through the town, a beauty shop can get a percentage of women who are tired and dusty from travel and welcome the opportunity to freshen up in the beauty shop.

If a town is small, but a good trade center, that is another argument that may influence the beauty shop to locate there. Success depends on the number of prospects that can be reached. If, for instance, a town is a thriving trade center, but the women who come into the town are not the type who patronize beauty shops, there is little encouragement in such a town for the beauty shop. On the other hand, if there are a number of smart shops that cater to women, and much trade is attracted from the country round about, the beauty shop has a good chance.

Amusements and Transportation

Amusements may also be a factor in drawing customers to the beauty shop. Theaters, community centers, boarding schools, high schools and country clubs are centers that contribute to the beauty shop, and a town thus favored promises a good business location.

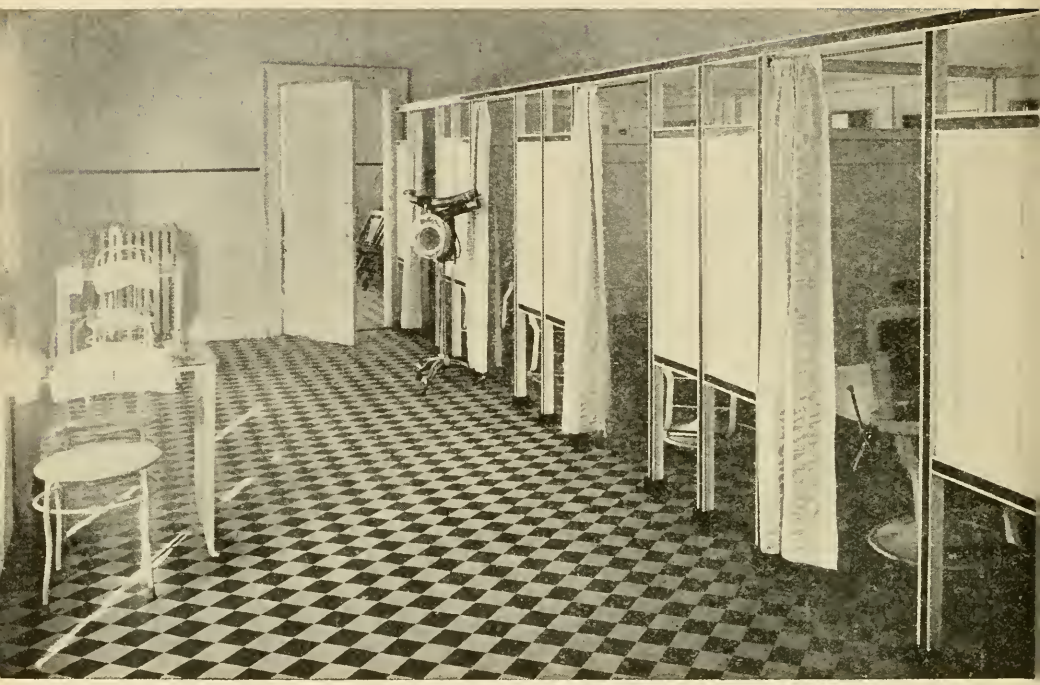
Transportation is not as big a factor as it formerly was, because the automobile is in such universal use. However, it is advisable to select a location, either in the city or out of it, that has good transportation facilities.

If the town is a small one and there is a good interurban system, the town's population may be virtually multiplied by several thousand. A railroad center will bring a certain amount of transient trade. If there is a good theater, and stock companies and other theatrical troupes come to the town, the women of such companies will increase beauty shop patronage.

In the city, intersecting street car lines, elevated and bus service all have a bearing on the volume of business.

Residence Neighborhood

There is much to be said in favor of the residence location in the city. An exclusive suburban district, where people own their own homes or where there are high-priced apartments, will almost certainly offer a good location. Patronage will mostly come from high school girls, society girls and house-



Beauty Parlor booth equipment.

wives. These classes like to have their beauty work done near home in the majority of cases, as they usually go out in the evening and like to dress at their leisure. They cannot go down town in an evening dress and they do not like to go down town to get their hair done and return home to dress.

So the neighborhood shop will get much of the neighborhood trade if equipped to give really high-class, competent service. Then, of course, Saturday afternoon will bring in a good many business girls who prefer to come home and get their beauty work done close at home, especially if they are going out in the evening. If there is much competition, however, in the neighborhood, it is not advisable to open a shop there, for the neighborhood shop has to depend exclusively on the patronage of the neighborhood—there are no contri. uting areas as a rule that the neighborhood shop can tap.

A business-like method of ascertaining the value of the neighborhood is to take a daily check of the passersby for a time. The number of pedestrians, however, cannot always be figured at the same ratio, for in some neighborhoods there would be more men than women and vice versa.

There is frequently a good deal of debate in the mind of the shop owner as to whether a street location is not more advantageous than an upstairs shop. There is no denying that a shop located on the ground floor of the building has some advantages over the upstairs shop, inasmuch as it attracts a certain amount of transit trade. However, ground floor locations and window displays are not so important in the beauty business as in one where a tangible product is sold.

EQUIPMENT

Next in importance is equipment and it may be well said that a Beauty Operator is no better than her equipment, at least nothing is more helpful to the success of an establishment than equipment.

One may become a first class operator, but without the surroundings and environments to carry out the higher class of service that this profession demands, the learning of the work alone is largely a lost effort.

After having become satisfied that the location warrants a first class establishment, *ventilation, light, excess; window display, color scheme, wall decorations, floor covering* and *general arrangement* is to be taken into consideration.

Of the latter, a careful study is necessary that the greatest amount of work can be accomplished with the least effort, the saving of a step from one department or booth to another, means a wonderful saving at the end of the year, and if a number of steps can be saved in a single treatment, it means the reducing of overhead expenditures, just as other savings do.

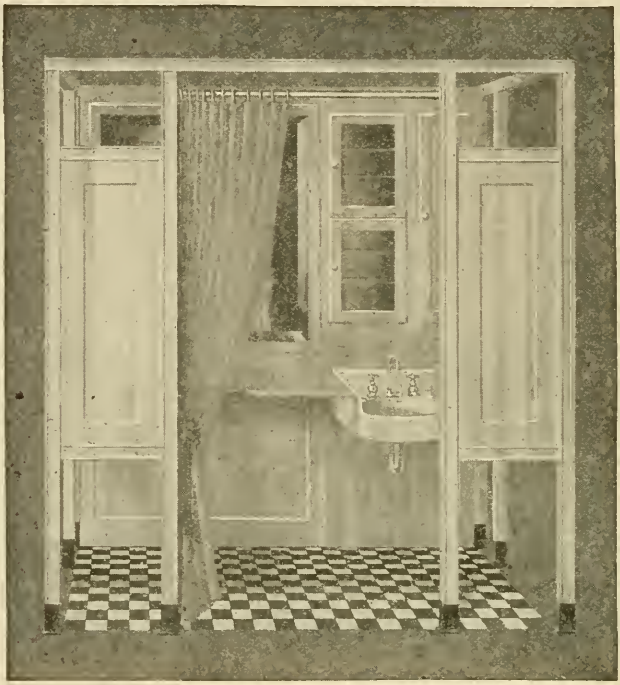
The day is passed when the operator of limited means can establish herself in competition to the larger establishments and obtain patronage, for the great public, *who is the paymaster,* demands the best, not only in real service, but in comfort and beauty of equipment.

Many states have enacted laws governing Beauty Specialists and many of them have eliminated entirely the home operator, who in her kitchen sink may give the shampoo and in her parlor other treatments that do not loan themselves to family surroundings.

Beauty business is one that pays well and warrants *bigger investments and better surroundings* than may have been considered necessary in the past, so it is advisable, if one is not financially able to start a well appointed parlor, be it ever so small, to find employment in some of the better places and defer the proprietorship until able to do the thing right.

After the floor plan has been laid out, the most important fittings is the workroom or booth, and it is highly essential that each operator be given an individual booth, one equipped with everything necessary for doing all the work so the customer need not be disturbed during the entire process of her treatment, no matter how much work she may need.

The making of an individual Beauty Parlor of each booth is the *only modern equipment,* for



Interior of Beauty Parlor booth equipment.

no matter how extravagant a place may be equipped, if it does not offer the *comfort of individual service,* it is not modern. This means that hot and cold running water must be supplied to the shampoo faucets and lavatories of each booth and it is essential that it is so arranged that all pipes are hidden.

This may be done by having them imbedded in the wall, but plumbing of that kind *belongs to the building* as soon as it is so installed and for that reason, it is best to have a booth that consists of a backboard and partitions that will hide the pipes, enabling the owner of the equipment to remove it at the expiration of the lease, without losing the expensive plumbing.

Such equipment can be had in sections, consisting of one or as many booths as desired, and *additional booths to match,* added as business may warrant.

BOOTH

In each booth should be the mirror, sterilizing cabinet, the small cabinet for supplies and materials, the soiled linen cabinet, the clean linen cabinet, an

A shampoo lavatory. Requires no board.

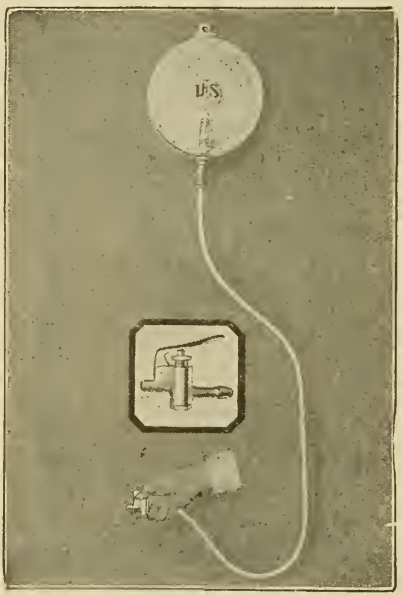
adequate workstand, shampoo lavatory and partitions so constructed that they will permit of ample ventilation and light. Such equipment can be had all built in a single unit.

The partitions should be so built that space is allowed between the backboard and partitions enabling an operator to reach from one booth to another without going around. An opening of this kind also aids in better ventilation.

In the matter of lavatories, they may be had shaped like a shampoo board and so built in the booth that they answer all purpose of shampoo without any other board.

There are numerous shampoo faucets, but the most desirable is the type that enables the operator to *temper the water with a single lever movement*. This apparatus is known as a mixer and provides for the hose and spray attachment. This overcomes the annoyance of working with first hot and then cold faucet to get the proper temperature.

A very convenient arrangement for supplying liquid shampoo to the scalp can be had, consisting of a small tank or container for the liquid, to which is attached a hose of sufficient length to carry the liquid from the tank to the scalp, the tank can be placed back of the backboard out of sight if desired. This *saves the inconvenience* of a pitcher or bottle or other container that is more or less wasteful.



Shampoo container with hose and dispensor.

In addition to the water pipes and waste, there is also the electric attachment and gas pipes to be hidden and they are concealed the same as the plumbing, in the space between the backoard and wall.

A booth six by six interior is now adequate for all purposes, where only a short time ago it was considered necessary that a booth be at least seven by eight.

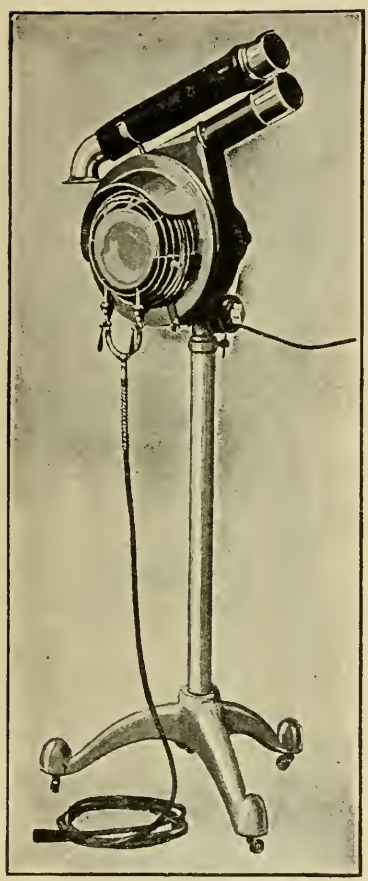
In the arrangement of the booth, the lavatory should be in *front of the operator not the customer* and if placed one foot from the right hand corner of the booth, will give ample elbow room for the operator.

Some fixtures are made with the lavatory installed midway between partitions on the backboard or the wall, which brings it directly in front of the customer and inconvenient for the operator. Some use a sliding mirror and shelf that covers the lavatory when not in use, but this *entails only more work* and is not economy in space, or sightly to the vision.

A Four-In-One Beauty Parlor chair for every purpose.

CHAIR

The chair is next in importance and it should be one that will *raise and lower, revolve and recline* and adapt itself to all purposes. A chair must raise to be convenient for shingling and must lower to the proper height necessary for hairdressing and marceling. It must revolve in order to take advantage of the light and the position of the shampoo lavatory, and it must recline so that the customer may relax for a facial treatment, and should be *without heavy or bulky upholstering* that is hot and requires a depth in the back of the chair that renders it difficult for the operator in giving treatments or dressing the hair.



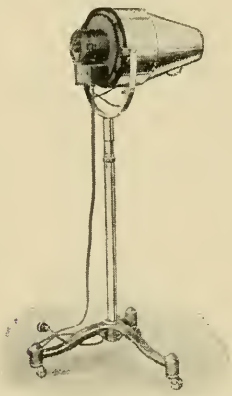
Halliwell gas hairdryer.

HAIR DRYER

The hairdryer is important. The pedestal type is most desirable on account of the greater volume of heat and air and this is made in a number of types. Some with gas heat and electric fans, others with electric heat and electric fans, and still others with *colored light attachments* that enables the giving of a *scientific scalp treatment* with the drying of the hair, imitating to a great degree the effects and *benefits of sunlight* drying, still with the saving of time which is a feature of the use of the other dryers.

The hand dryer or smaller instrument that is held in the hand while in use, is not desirable where time is a factor.

The hand hairdryer has its place, however, as an emergency equipment, for use while drying water waves and for bobbed heads. The hand type can be attached to any electric light circuit and usually is made with the universal motor for alternating or direct current. The standard type can only be used for the current for which it is built and must be ordered as desired, either alternating or direct.

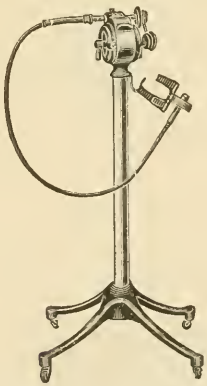


The Meyers sun-ray hair dryer.

VIBRATOR

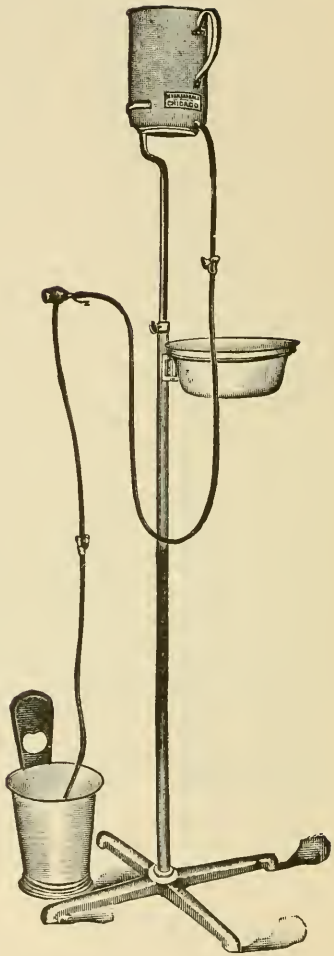
All electric equipment plays as important a part in the Beauty Parlor as in the medical fraternity and every parlor should be fully equipped with all instruments necessary for the treatment the trade may demand.

The electric vibrator is made with pedestal base and the smaller type known as a hand machine. The pedestal base type is supplied with a motor on a pedestal to which is attached a flexible shaft, that revolves with the power of the motor and causes a vibrating stroke at the head or other end of the flexible shaft. In this head may be an attachment for a rubber cup or rubber scalp brush for facial and scalp treatments or it may be had with an attachment to fasten the hand to the flexible shaft head giving a vibration to the hand that is very beneficial and pleasing to the customer receiving a vibratory treatment.



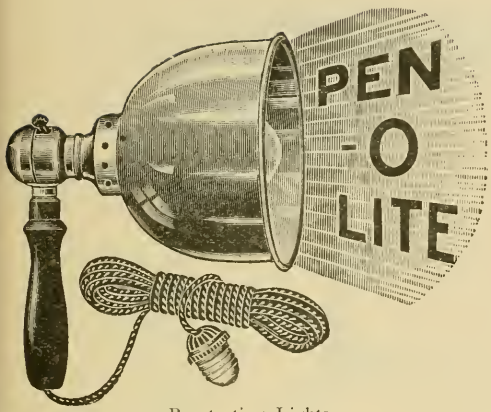
Pedestal vibrator with hand attachments.

By courtesy of Shelton Electric Co.



Vacuum irrigator on stand.

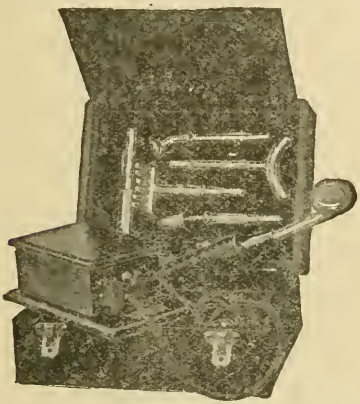
The hydro-vacu or water massage equipment can be had with or without the standard that supports the tank and basin. In the better parlors the complete outfit is generally used. The hydro-vacu is one of the most used facial instruments.



Penetrating Lights.

RADIO BELL

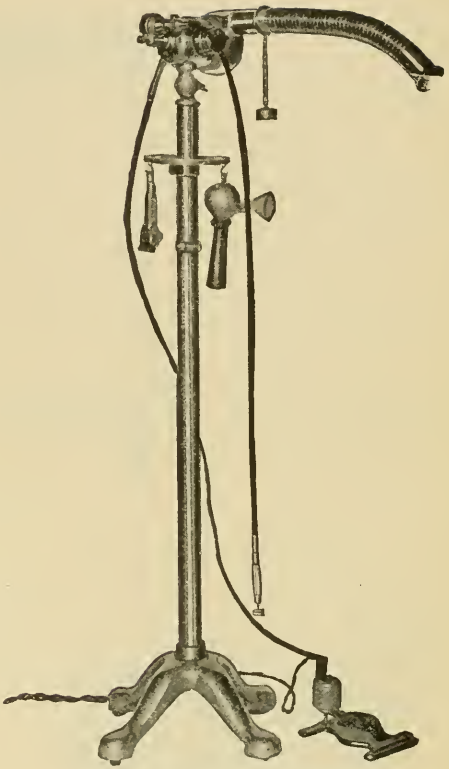
A radio bell or dermal lamp, as it is known by the medical fraternity, gives off the different colored rays of light that is used in bleaching and facial treatments and should not be overlooked even if a full set of other electrical devices are had.



High Frequency or Violet Ray, a germ destroyer.

HIGH FREQUENCY

A high frequency equipment is necessary in the up-to-date Beauty Parlor, and it is made also with a pedestal and without.



Moore hair cutting, hair dryer, vibrator and electric manicure machine.

CLIPPERS

An electric clipper is essential as it is a time saver and can be used for trimming the entire head or the neck only, but no shop should be without a hand clipper and no operator should attempt shingling unless they are adept with the hand machine for in the event of an accident to the electric clipper, your customer will not be inconvenienced.

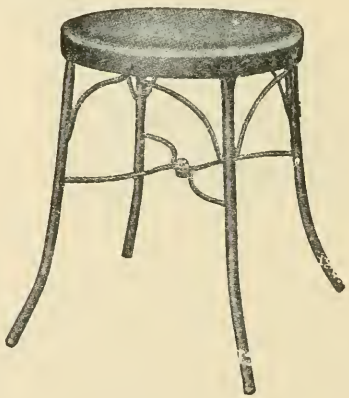
Electric hair clippers are also made with an attachment for drying and with a number of small attachments for manicuring.

Metal manicure table.

MANICURE TABLE

It is quite customary for the manicure table to be placed in the reception room, but this is not good form. It should have its space in the workroom and special care given to the lighting. A table with show case and sterilizing compartments underneath the top is an attractive fixture.

Metal manicure chair.



Metal manicure stool.

Stand type Nestle Permanent Wave outfit.

There are, however, other advantages in the stand type as it enables one to place the machine in booth or out as desired.

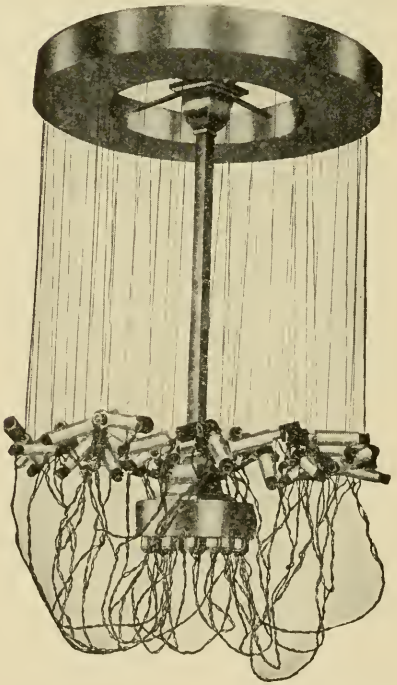
In purchasing the ceiling type, it is always necessary to specify the height of the ceiling.

There is a special type made for a very low ceiling.

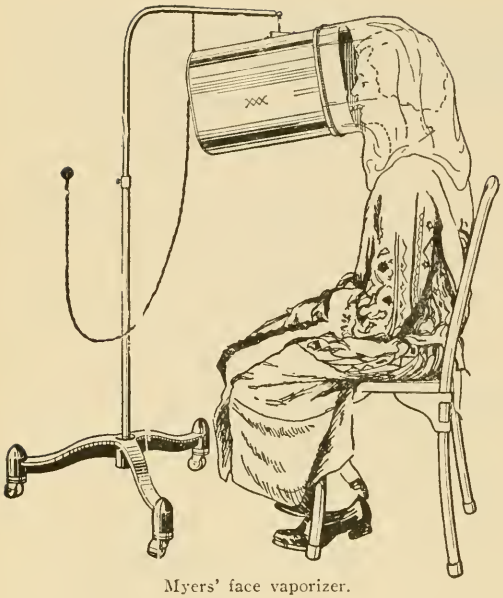
In ordering always mention whether alternating or direct current is used.

PERMANENT WAVE

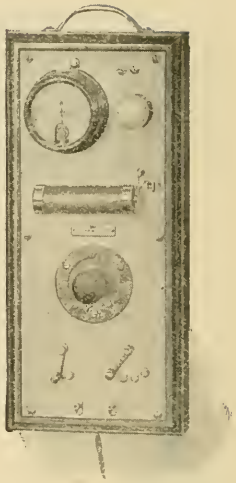
The permanent wave machine can be had with the portable stand so that it may be placed in any booth desired, or it can be made stationary swinging from the ceiling in chandelier form. This is the approved manner for as the machine must be attached to special wiring to carry the current, it is generally considered safer when made stationary.



Nestle ceiling type Permanent Wave Machine.



Myers' face vaporizer.



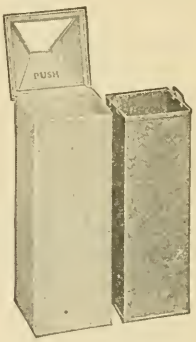
Wall plate electrical control.

A wall plate has a greater scope of possibilities than the battery and is recommended for larger parlors.

VAPORIZER

An electric vaporizer for facials and scalp treatments is also essential and the greater variety of devices of this kind the greater number of patrons will be attracted and served in the modern Beauty Parlor.

The vaporizer that supplies a warm vapor (not hot) to the face and scalp has a beneficial effect that no other treatment gives.



Soiled linen container with rust-proof metal liner.

A self-closing soiled linen container is preferable to the open variety. They are made with rust proof liners and are finished in most any color desired to correspond with equipment.

A modern reception room.

By courtesy of American Hairdresser

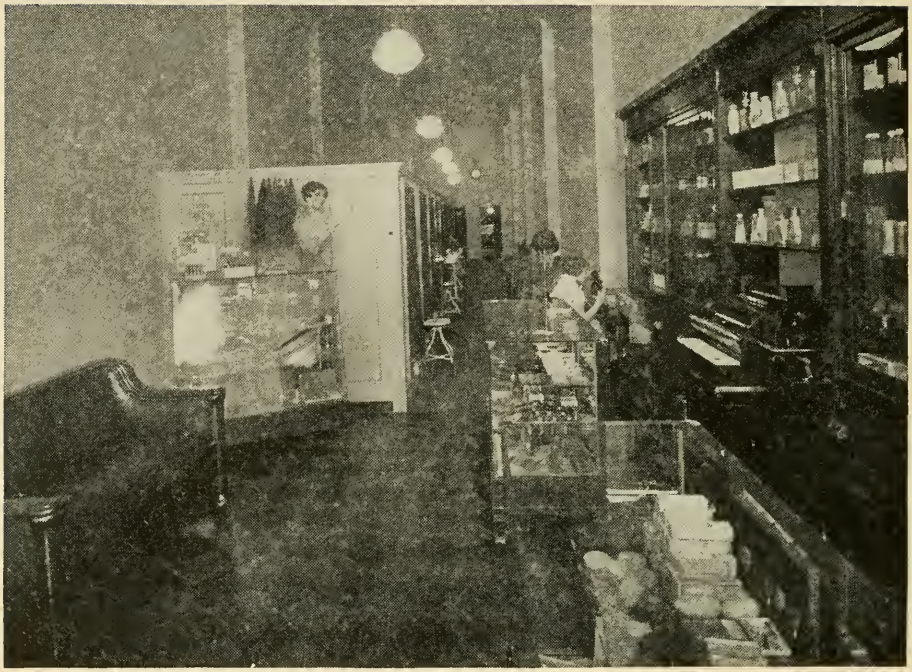
RECEPTION ROOM

A show-case, tastily dressed, should be a part of the reception room or sales room equipment, and can be had with the full display from floor to top or may be had with a compartment underneath the show-case for the storage of merchandise that are not on display.

The full show-case for display is more attractive and generally the show-case should be finished to match the decorations of the room in which it stands, also properly lighted to display the goods to the best advantage.

A number of comfortable chairs and settees should be provided for the reception room, also a table with literature pertaining to beauty business provided for the patron.

Generally a reception room finished in a color scheme entirely different, but harmonizing with the colors of the workroom, is most attractive, and if a display window can be had, it should be properly dressed with the display of merchandise without entirely



A well stocked display room.

By courtesy of American Hairdresser

obscuring the view of the interior.

There are service companies who periodically call and dress windows for the Beauty Parlor. In a prominent location this is a desirable service.

Generally the Beauty Parlor supply houses have floor plans and blue prints from which the layout of a Beauty Parlor can be made and it is general economy in the end to obtain a floor plan and blue print before installing the equipment.

Deferred payments or buying on time is sometimes a risk and it is advisable to be cautious about over-buying, for the future is always uncertain and while in some instances it is advisable to take a chance, one must act cautiously.

ADVERTISING

There are service companies that will supply the established hair-dresser with printed matter, display cards, window dressing, general advertising in dailies, the addressing of form letters, weekly or monthly to the mailing list or prospective customers in your neighborhood, and follow this with a specialty for each week or month providing the operator with all materials necessary to carry out the campaign as laid out in the service.

It is well to become familiar with this service, as it makes for better business.

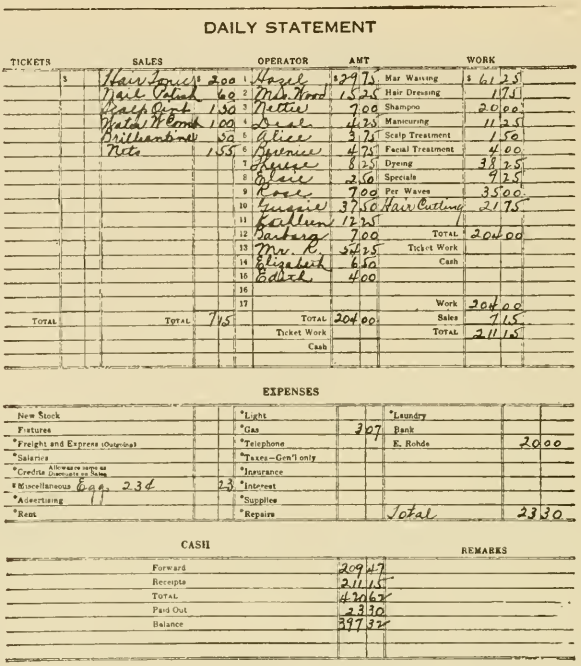
If, however, one is handling their own advertising, it should be done consistently. An occasional ad in a daily or weekly is money poorly invested.

Continued servitude is necessary regarding the up-keep and appearance of the shop. It is an art in itself to arrange draperies and keep the establishment always looking well, and it is an effort after a color scheme has been chosen to keep it harmonious as the different fittings and display materials that are bound to creep in from time to time frequently mar the harmony of the shop that might have been originally very pleasing.

It is desirable to join some association of national repute and to subscribe for the better magazines to the trade. In order to be posted and keep pace with the ever changing conditions in the business, it is well to set aside periods for attending the national association meetings or return to your school at intervals for a brush-up.

The governing of help is something of a gift, but anyone can acquire it who will think and act fairly. Salaries are usually based on the earning capacities and it is well to encourage in the employees, a desire to command greater salaries by a larger stock in trade, the greater number of individual customers.

Showing what has been accomplished in beauty advertising.



DAILY STATEMENT

TICKETS		SALES			OPERATOR	AMT		WORK	
	$	Hair Tonic	2 00	1	Hazel	$29 75	Mar Waving	$ 6	25
		Nail Polish	60	2	Mrs. Wood	15 25	Hair Dressing	1	75
		Scalp Rub	1 50	3	Nettie	7 00	Shampoo	20	00
		Bath Salts	1 00	4	Opal	4 25	Manicuring	11	25
		Brilliantine	50	5	Alice	3 75	Scalp Treatment	1	50
		Nets	1 55	6	Jennie	4 75	Facial Treatment	4	00
				7	Hazel	8 25	Dyeing	38	25
				8	Alice	2 50	Specials	9	25
				9	Rose	7 00	Per Waves	35	00
				10	Eugene	37 50	Hair Cutting	21	75
				11	Kathleen	12 25			
				12	Barber	7 00	TOTAL	204	00
				13	Mr. R.	54 25	Ticket Work		
				14	Elizabeth	6 50	Cash		
				15	Edith	4 00			
				16					
				17			Work	204	00
TOTAL		TOTAL	7 15		TOTAL	204 00	Sales	7	15
					Ticket Work		TOTAL	211	15
					Cash				

EXPENSES

New Stock		*Light		*Laundry	
Fixtures		*Gas	3 07	Bank	
*Freight and Express (Outside)		*Telephone		E. Rohde	20 00
*Salaries		*Taxes—Gen'l only			
*Credits Allowance same as Discounts on Sales		*Insurance			
*Miscellaneous Egg 2 30	23	*Interest			
*Advertising		*Supplies			
*Rent		*Repairs		Total	23 30

CASH

		REMARKS
Forward	209 47	
Receipts	211 15	
TOTAL	420 62	
Paid Out	23 30	
Balance	397 32	

A practical leaflet for bookkeeping.

BOOKKEEPING

In the conduct of a shop there is nothing more important than the system of bookkeeping that not only checks up on the merchandise, shop receipts, etc., but gives one in detail the profits and loss of each department.

In keeping daily accounts, a sheet may be had that covers all items of work done and material sold, and provides for recording the day's expenditures. These may be audited daily or filed in a loose leaf ledger for the purpose. From these sheets one may readily check up on costs and regulate their business accordingly.

There is also a very convenient cashier slip itemizing the several amounts of work done in the establishment that keeps an accurate record of each operator's receipts. One doesn't have to be trained in bookkeeping to keep an accurate accounting and it is well to be provided with stationery of this kind for your protection.

An appointment book is essential and books are made up for this purpose, providing space for the hour, the customer and the work desired.

MOLER SUPPLY HOUSE

512 N. State St.
CHICAGO

OPERATOR	9 A. M.	10 A. M.	11 A. M.	12 N	1 P. M.	2 P. M.	3 P. M.	4 P. M.	5 P. M.
Monday, OCTOBER 6, 1924									
Tuesday, OCTOBER 7, 1924									
Wednesday, OCTOBER 8, 1924									

Manufacturers of Beauty Parlor Furniture and Requisites.
Catalog mailed Free.

A splendid appointment tabulator. M

.... 192....

PAY CASHIER

OPERATOR		PRICE	
11	Marcel Wave		1 50
	Hair Dress		
15	Shampoo		75
	Manicure		
	Scalp Treatment		
	Facials		
ER 13	Hair Dye		6 00
	Eye Brows and Eye Lashes Dyed		
	Eye Brows Arched		
	Permanent Wave		
	Water Wave		
ER 13	Hair Cutting		1 50
	Side Pcs. Cleaned		
	Side Pcs Waved		
	Specials		
	Sales		1 00
	DO NOT DESTROY CHECK		10 75

(Actual size of slip 4½x6 inches.)
A convenient customers' check.

DEFINITIONS

Accelerator .....A muscle that assists in the expulsion of urine.
Acne .....A condition of pimples.
Aorta .....The main arterial trunk.
Astringent .....An agent producing contraction of organic tissue.
Alopecia .....Loss of hair.
Antiseptic .....Anything used to prevent disease germs.
Anesthetic .....A substance producing anesthesia.
Auricles .....One of the upper cavaties of the heart.
Anidine .....Product of coal tar used in dyeing.
Arrector Muscle ....Small muscle that contracts from fear or cold attached to each hair follicle.
Adrenal Gland .....A gland of internal secretion.
Anemia .....Lack of blood.
Areola Tissue .....Connective tissue.
Amylopsin .....Changing strach into maltose.

Bacteria .....Microbe.

Camomile ..... .Plant dried flowers.
Corium .....Second layer of skin.
Congenital .....Dating from birth.
Canities .....Grey hair.
Carbon .....A non-metal occuring in the form of charcoal.
Catophoresis .....Forcing medicines into the unbroken tissues.
Contractility .....The property of contracting or shortening.
Cauterization .....The application of a cautery.
Cellular .....Composed of cells.
Capillaries .....A minute blood vessel.
Cordatympani .....A nerve that controls taste and sensation.

Duo-denum .....The first part of the small intestines.
Digastric .....Having two bellies.
Decomposition .....Putrefaction.
Disinfecting .....Freeing from contagious matter.

Eczema .....Skin and scalp disease.
Egyptian Henna .....Powder made from the leaves of a shrub.
Electrolysis .....Removal of hair by electric needle.
Epithelium .....Scarf skin.
Epidermis .....First layer of skin.
Ether .....Colorless volatile fluid used as an anesthetic.
Esophagus .....Canal from the pharynx to the stomach.
Enzyme .....A chemic or non-organized ferment formed within the body.

Fulguration Point....Instrument used in the removal of warts, etc., with Hy-Frequency.
Follicle .....Pocket or depression containing root of hair.
Filtration .....To filter or strain.
Filaments .....A thread-like structure.
Fumigation .....Exposure to disenfectant vapors.

Gum Tragacanth ....Adhesive gum.

Hypertrichosis .....Hairy condition of the body.
Hyoglossus ....Muscle extending from tongue to hyoid bone.
Hepatic .....Pertaining to the liver.

Inhibitory .....Having the power to restrain.

Linear .....Pertaining to a line.
Lanula .....Crescent at base of nail.
Lanugo .....Soft downy hair over entire body.
Lozzars Paste .....Healing salve.
Lipase .....Fat splitting.

DEFINITIONS—Continued

Milia .....A disease of the sebaceous glands.
Matrix .....Root of nail.
Medulla .....Center layer of hair.
Maltrose .....A sugar.
Metalic Salts .....Pertaining to metal.
Milohyoid .....Muscle pertaining to hyoid bone and molar bone.

Nodules .....A small knob.

Orris Root .....Dried roots of a species of iris.
Onychia .....Inflammation of the nail bed.
Onychomycosis .....A parasitic disease of the nails.
Ozone .....A form of oxygen used as an antiseptic.
Oxygen .....One of the gaseous elements.
Oxidation .....Conversion into an oxide.

Papilla .....The cell from which the growth of the hair takes place.
Polarity .....The state of having poles.
Protoplasm .....The substance of the cells, excepting the nucleus.
Peptone .....A proteid derived from any native proteid through the action of hydrolizing agents.
Protein .....Albumin.
Pancreatic .....Relating to the pancreas.
Pharynx .....Sac behind the mouth.
Pulmonary .....Pertaining to the lungs.
Pericardium .....Membranous sac around the heart.
Parotid .....Gland near the ear.
Parasite .....An organism that inhabits another organism and obtains nourishment from it.
Pigment .....Coloring matter in the hair.
Pityriasis .....A scaly skin disease.
Psoriasis .....A chronic inflammatory skin disease.
Pedicolosus Capites ..Head lice.
Paronychia .....Disease of the nail.
Platysima .....Superficial muscle of the neck.
Papule .....Hardened spot in skin.
Pathogenic .....Disease producing bacteria.

Sinus .....A hollow cavity or pocket.
Salivary Glands .....Pertaining to the saliva.
Sedative .....Soothing.
Sudoriferous Glands..Sweat glands.
Sebaceous Glands ...Oil glands.
Sebum .....Secretion from sebaceous glands.
Skin Lesions .....Structural tissue changes, caused from disease or injury.
Seborrhea .....Condition of dandruff.
Syphilis .....A serious infectious disease.
Salicylic Acid .....A powdered antiseptic.
Sterilization .....Destruction of germs.

Tubercle .....A small nodule, the specific lesion of the Tubercl Bacillus.
Toxin .....Poison formed by bacteria.
Thyroid Gland .....A ductless gland in center of throat.
Tangential .....A line which when produced does not scar.

Vena Cavae .....Hollow veins.
Viscid .....Glutinous, ropy.
Vater .....Name of German anatomist.
Ventricles .....A small belly-like cavity.

Wen .....A sebaceous cyst.