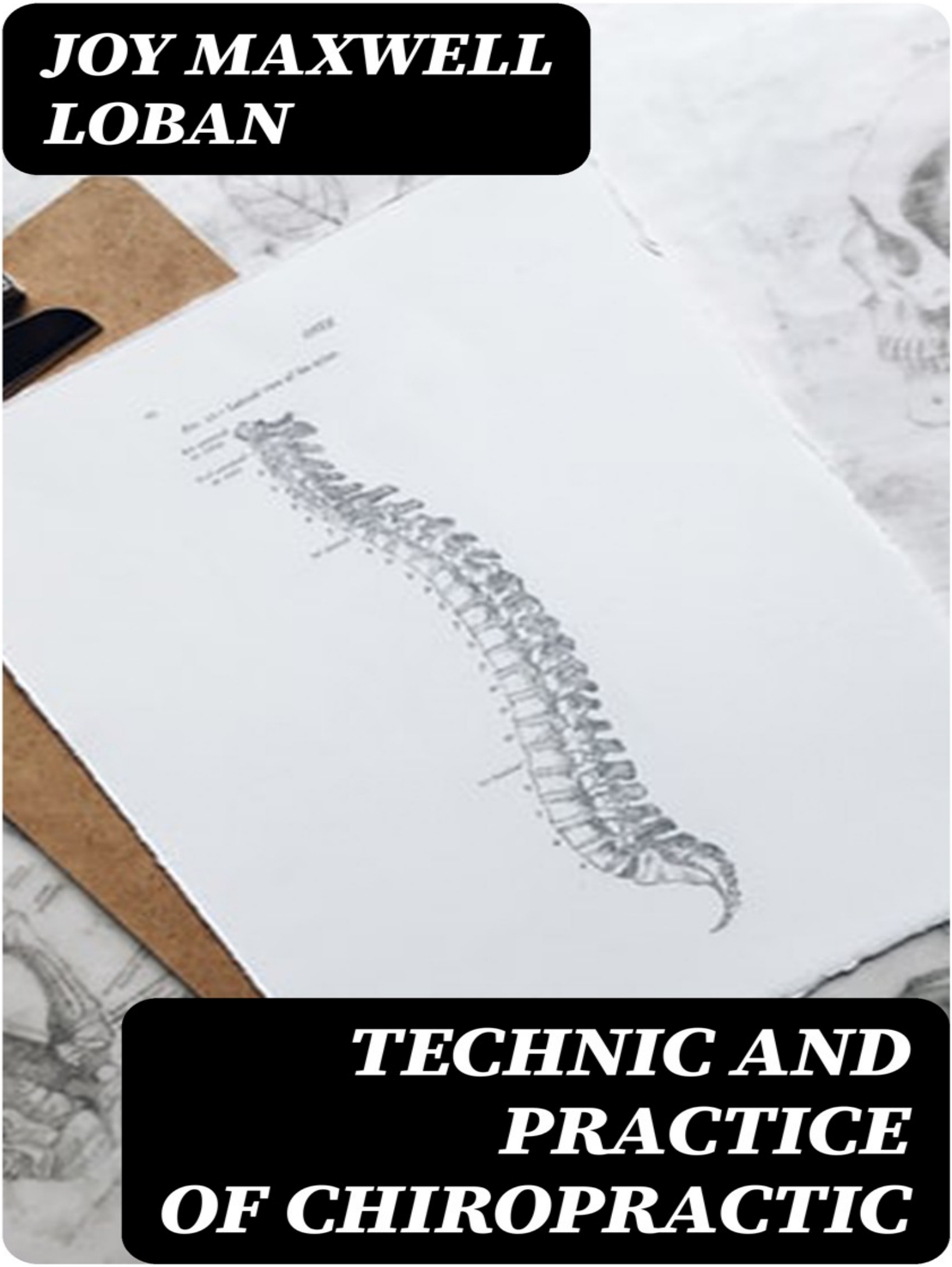
JOY MAXWELL LOBAN



TECHNIC AND PRACTICE OF CHIROPRACTIC

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INTRODUCTION

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No two students, approaching for the first time the study of Chiropractic, approach from the same angle. Their viewpoints differ. In order that all may gain as nearly as possible the same viewpoint from which to consider in turn the sections of this book, it will be well if each student reads the entire book before beginning to memorize its parts and convert them into practical working knowledge.

An effort should be made, abandoning all other, to acquire the *Chiropractic viewpoint*. This accomplished, the rest of the task requires time and patience alone, without waste labor. The section on Vertebral Palpation should be studied step by step, the study of each step being combined with practice in it. Likewise the section on Nerve-Tracing, theory preceding practice. The study of the Technic of Adjusting should occupy those months immediately preceding the commencement of actual adjusting practice and continue during such practice. The chapters on Practice are intended for the student about to enter the field. The table of Spino-Organic Connection can be best understood by those who have studied or are studying the anatomy and physiology of the nervous system.

Let every page be studied with a good medical dictionary open at the elbow of the reader. Pass no word without comprehension, no detail without mastery. He who would seek to modify the life processes of the human body must fortify himself against fatal error with every bit of knowledge he can acquire.

VERTEBRAL PALPATION

Definition

Vertebral Palpation consists in the use of the tactile sense to determine the position, relation, size, shape, and as far as possible the condition, of the segments of the spinal column, in order thus to discover the primary causes indicative of disease.

Or, Vertebral Palpation is the name given the manual examination of spinal vertebrae.

General Propositions

Every palpation should be made with the adjustment of the vertebrae in mind. The record of palpation should be a correct guide as to direction of adjustment. No subluxation impossible of adjustment should be recorded.

The two essentials of correct palpation are *accurate perception* and *correct reasoning*. To secure the first, a certain approved manner of using the hands is herein laid down and a considerable amount of tactile sense development by practice is required. Correct reasoning depends upon knowledge of all the important facts concerning the spine and of the rules governing palpation.

Absolute concentration is required and to this end many of the following rules are directed.

Habits of Palpation

Every palpater unconsciously forms habits of thought and action. These habits may be good or bad. We deliberately form a habit of holding the first three fingers closely together or the habit of using a downward glide, but we should avoid the habit of finding certain subluxations because they are usual and expected rather than because they are actually there. For instance, one may easily form a habit of listing every other vertebra in the spine, his whole record thus depending upon his first choice.

Because of this perfectly natural tendency to establish a routine of thought and action and to follow it precisely, it is best not to attempt palpation without the aid of an experienced teacher until after correct habits have been formed. Once formed, a palpation habit, right or wrong, is very hard to break. Many a teacher has expended himself uselessly in the effort to undo some technical fault acquired by the student in a blundering undirected trial.

Facts Concerning the Spine

The spinal column is composed of twenty-six segments called vertebrae, twenty-four movable and two fixed. The movable vertebrae are divided for convenience in study into three sections. There are seven Cervical vertebrae, twelve Dorsal, and five Lumbar in the normal individual. The number of Dorsals or Lumbars may vary by one in a rare case. These variations occur in about one spinal column in each five hundred and are usually in the Lumbar region, which may contain four or six vertebrae. A prominent first sacral spinous process may be mistaken for an extra Lumbar.

Five vertebrae have special names. The first Cervical is called Atlas; the second Cervical, Axis; the seventh Cervical is commonly known as Vertebra Prominens on account of its long and large spinous process, although this long process belongs to the sixth Cervical or first Dorsal instead in 35% of all cases; the large, irregularly fusiform vertebra just below the Lumbars and between the ilia is called the Sacrum; and the smaller one below it, the Coccyx. The latter is occasionally missing.

Each vertebra except the Atlas is composed of a body and an arch; the arch is made up of two pedicles, short, thick plates of bone extending outward and backward from the postero-lateral surface of the body nearer its upper than its lower border, two laminae, thin plates of bone extending backward and inward from their union with the pedicles and joining behind to form the spinous process, and has projecting from it seven processes, two transverse, one spinous, and four articular, two of which are superior and two inferior. The foramen enclosed by the body, pedicles, and laminae is called the neural or vertebral foramen and the canal formed by the connection of these foramina and completed by the ligaments which unite the arches is called the neural, vertebral, or spinal canal. It contains the spinal cord with its membranes and the roots of the spinal nerves. By means of the four articular processes each true vertebra except the first articulates with its fellows above and below.

The body of the vertebra is its largest portion and is joined to its fellows by fibrocartilaginous disks which are sufficiently elastic to permit some torsion and compression. Nine sets of ligaments, including the intervertebral

substance just mentioned, bind the vertebrae firmly together. Many muscles are attached to the spinal column.

The intervertebral foramina are openings at the sides of the vertebrae, formed by the notching of apposed pedicles. These openings are surrounded by bone, cartilage, and ligaments and vary in shape in different sections of the spine. They permit the exit of the spinal nerves and their sheaths, the re-entrance of some nerve fibres into the neural canal, and the passage of blood-vessels to and from the cord. The entire philosophy of Chiropractic focuses at the intervertebral foramen because there we find the primary cause of all pathological changes in the body.

The spinous and transverse processes merit particular description since they are the levers by which vertebrae are adjusted and nerve impingements at the intervertebral foramina corrected. But it will be found easiest to describe these processes separately in different sections of the spine and before proceeding to this description, a brief picture of the peculiar vertebrae will be presented.

The *Atlas* is a bony ring composed of two arches, an anterior and a posterior, separated in the recent state by a transverse ligament. Its body is detached and appears as a tooth-like projection upward from the body of the Axis, the odontoid process, which articulates with the anterior arch of the Atlas and around which the Atlas rotates, a ring around a pivot. The Atlas supports the head upon its lateral masses, two wedge shaped bodies between the anterior and posterior arches, thinner internally than externally. It has no spinous process but merely a tubercle where the laminae join, so that it can be palpated only from the sides upon the

tips of its long transverses. The first Cervical, or suboccipital, nerves emerge by a groove above the pedicles instead of through a foramen.

The *Axis*, or second Cervical, is distinguished by its large, strong spinous process, which is bifid at its tip, by its superior articular processes which rest upon body, pedicles, and transverses, and by its odontoid process, upreared from the body.

The *Seventh Cervical*, or Vertebral Prominens, usually has a large spinous process, presents no foramina in its transverse processes, or only one, the left, and shows no facets on body or transverse for the rib articulation, as do the Dorsals.

The *Sacrum* is the largest vertebra; is curved with its convexity backward; is commonly made up of five fused segments; has only rudimentary spinous and transverse processes except the first; and shows sixteen openings, eight anterior and eight posterior, or four on either side of the median line in front and the same number and arrangement behind. These openings permit the exit of the anterior and posterior primary divisions of the sacral nerves separately.

The *Coccyx*, usually composed of four fused segments, is a triangular bone which articulates with the Sacrum above and is free at its distal extremity. Its portion of the neural canal is open posteriorly and contains merely the thread-like termination of the cord membranes. It is frequently ankylosed to the Sacrum, sometimes in an abnormal position so as to impinge the single pair of coccygeal nerves.

The different regions of the spine show decided differences in structure, though all resemble each other. The Cervicals are smallest, the Dorsals next in size, and the Lumbars largest and strongest of the movable vertebrae. The Dorsals have facets and demi-facets for the articulation of the twelve pairs of ribs with their bodies and intervertebral substance, as well as oval facets upon the anterior aspect of their transverses for articulation with the tubercles of the ribs.

The *spinous processes* are smallest and usually bifurcated down to and including the fifth. The sixth may show a plain bifurcation, or on any Cervical the bifurcation may be so small as to be imperceptible to touch. The spinous process of the second overlies that of the third so as to make the latter very difficult of detection. Indeed, all cervical spinous processes down to the sixth are harder to palpate than those in other regions, owing to the anterior cervical curve. The processes lie in a groove between prominent muscle ridges.

Dorsal spinous processes are usually single, although the last four, three, two, or one may show plain bifurcation in certain individuals. They are somewhat pointed and overlap, except the lower ones, the obliquity being greatest in the mid-dorsal region and least at the first and last dorsals.

Lumbar vertebrae have broad, flat-tipped spinous processes much larger than the others. The last Dorsal may sometimes appear like a Lumbar in shape, so that the change in shape commonly supposed to mark a division between Dorsals and Lumbars is not always an infallible guide.

The *transverse* processes in the cervical region are very short and lie close in front of the articular processes. They are pierced by foramina for the vertebral artery and vein, except the seventh, which may have one foramen or none. They are difficult of access for palpation because of their shortness and the amount of overlying muscle, but may be reached from the front and side by drawing back the sternomastoid. They increase in length from the second to the seventh.

In the dorsal region the transverses are larger and stronger and more constant in size, shape, and direction, serving to support rib articulations. They extend in a curved direction outward, backward, and slightly upward from the union of laminae and pedicles and terminate in a large subcutaneous club-shaped extremity which may be readily palpated. The eleventh and twelfth dorsal transverses do not articulate with the ribs and must therefore be used with caution or not at all as levers for adjustment. The dorsal transverses are located on a higher level than the spinous processes. In the case of the upper three dorsals the transverse lies in a plane which would cross the mid-spinal line between its own and the next superior spinous. In the mid-dorsal region the transverse is even with the spinous of the vertebra above, though the relation may vary slightly. The lower dorsals return to the same relation as the upper.

The transverse processes of the Lumbars are relatively light compared with the general structure of the vertebrae and are found just even with the interspace between their own and the adjacent superior spinous process. They vary greatly in size, length and strength and may be used as

levers for adjustment only when they are large enough to be clearly palpable through the muscle mass which separates them from the body surface.

Preparation of Patient

In all cases where a complete spinal examination is intended the preparation is essentially the same. Have patient arrange clothing so that the spine is exposed to the touch throughout. Avoid bands of cloth across the spine, as these interfere with the necessary continuous gliding movement of the fingers. Advise the patient, if a female, to wear waist or dressing sack, reversed, and have skirts loosened at the waist. If a man, he should strip to the waist and wear coat or coat shirt reversed.

Position of Patient

This varies widely according to circumstances but for general purposes use position:

(A) Place patient on stool, feet even on floor and body in an easy, relaxed position. This may be modified by asking him to lean forward and rest elbows on knees, evenly, to facilitate Lumbar palpation. Patient’s head may be erect or flexed forward or backward but should never be rotated or laterally flexed during Cervical palpation except for the purpose of locating some particular transverse process.

(B) In emergency cases, where haste is urgent or patient is unable to assume a sitting posture, or as a means of re-verifying previous palpation, place the patient on adjusting table prone, face down. (See Fig.2.) Remember that with the head lying upon its side the upper dorsal vertebrae will

assume a curve with its convexity away from the face. Palpation in position (B) should precede every adjustment and, to guard against error, should be considered as a necessary preliminary to the movement of any vertebra.

(C) For palpation preparatory to using the Rotary, the Break, and other moves, have patient lying on his back with his head projecting beyond upper end of bench and resting on the hands and wrists of the palpater, or have the patient’s head rest on the bench, a less accessible position.

General Observation

Each spinal examination should begin with a general survey by which curvatures, marked prominences, etc., may be appreciated. Frequently some very important fact may be noted which would escape attention upon minute examination.

THE RECORD

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The record of spinal palpation, when completed, should be an accurate history of the irregularities found in the spine and an accurate guide to adjustment. It must be brief and concise as well as readily comprehensible. One should be able to see at a glance any desired point on the record, so that it may be used during the adjustment without undue loss of time or attention. Obviously the introduction of any useless mark or sign, such as the inclusion of a number and blank space for each vertebra of the spine, or all possible

subluxations with indications as to which do or do not exist in the given case, is a mistake.

The record should contain three parallel columns. In the first column place the number of the vertebra chosen for adjustment. In the second, place the direction of subluxation. In the third, place the word or sign which stands for the indicated movement for correction.

Number of Vertebra

The letter C is used to indicate Cervical, D Dorsal, L Lumbar, and S Sacrum in the record. Immediately following the letter which designates the region, place the number which shows the position in that region occupied by the vertebra in question, the *relation* of that vertebra to its fellows. For instance, the third Cervical vertebra is C 3, the eleventh Dorsal D 11. To the S for Sacrum append B or A to indicate that the Base or Apex is described as to position. This *locates* the subluxation. For a record of full spine palpation it is unnecessary to use the letters C, D, or L more than once, as subluxations are recorded in the order of their occurrence from above downward. A dash should always follow the number of the vertebra to separate it from the letters in the second column for convenience in reading.

Direction of Subluxation

The directions considered in palpating or recording subluxations are six in number, namely:

Name	Abbreviation	Meaning
Posterior	P	Toward the rear

		(Dorsad)
Anterior	A	Toward the front (Ventrad)
Right	R	Toward the right hand
Left	L	Toward the left hand
Superior	S	Toward the head (Cephalad)
Inferior	I	Toward the feet (Caudad)

As the fingers glide down the spine the *posterior* vertebra is the one which interposes itself in the path of the fingers, forcing them to describe an outward curve. It is the hill on the automobile road which forces the surmounting of a curved departure from the evenness of the road. It is *relatively* posterior to its fellows above and below.

The *anterior* vertebra, to the gliding fingers, means a depression, a valley. It causes the fingers to dip inward from the level of their course.

The *right* or the *left* subluxation is appreciated by running the tips of the fingers down the sides of the spinous processes. It really indicates rotation of the whole vertebra more often than any other malposition.

We say that a vertebra is *superior* when its spinous process is nearer the one above than the one below. It requires a measuring of relative distances. The degree to which a vertebra is superior is measured, not by its actual closeness to its fellow, but by the relation between the space above and the space below.

Likewise a vertebra is *inferior* when it is closer to its fellow below than to its fellow above.

Anterior subluxations are rarely recorded as such, except of the Cervicals or the last Lumbar, because no means of properly adjusting them is known to Chiropractic.

Order of Letters

In the second column, that devoted to direction of subluxation, the letter P or A should appear, if at all, as this antero-posterior relation is the first thing to be determined concerning any individual subluxation chosen except the Atlas. With the Atlas the first letter will be R or L. Next the laterality or rotation is indicated by R or L in every case except Atlas subluxation. Finally the S or I indicates the last point to be determined, the *approximation* of the vertebra to its fellows. This last letter usually shows thinning of intervertebral fibrocartilage, which will be discussed elsewhere.

If you desire to emphasize any direction as being more important than another, underscore the letter which stands for that direction with a single line. If two directions are to be emphasized, one more than another, underscore the one with two lines and the other with one. For example, if a vertebra is found to be quite decidedly posterior, *more* plainly to the right, and *slightly* superior, the record will show it thus: *P R S*.

Movement for Correction

This is indicated in the third column, separated from the second by a dash, by means of some brief word or words

which describe a certain movement used in adjusting. The descriptive words and terms used in this work are all given and explained under Technic of Adjusting. (See p.89.) Each word or term stands for a definite method of procedure. The best movement for the correction of any subluxation of any vertebra may be found by reference to the section on Preferable Adjustments, p.155. If other terms are more familiar to the student, or in time replace those which are now common usage in the profession, they will be brief and clear and may be easily substituted for those given.

Palpation, fixing in the mind of the palpater the manner and direction of the subluxation, should also suggest as the obvious correction a movement calculated to reverse the procedure by which the subluxation was first produced. In other words, a certain kind of subluxation stands as the effect of a certain application of force along definite lines determinable by examination. Its correction should be made in a reverse direction along the same lines. By recording with the record of subluxation the desired correction, the adjuster may be reminded daily without new palpation of the movement best fitted to the case. If on trial it is decided that some other movement than the one first indicated will better overcome the abnormality, the record should be changed to correspond to the decision, and thereafter followed.

Complete Record

The completed record in three columns separated by dashes can be conveniently read. It contains no superfluous mark of any kind. It conveys all the necessary information

leading to adjustment except diagnosis and case history. This palpation record should be a part of a more comprehensive record concerning the case in full and is best kept on a card, the reverse side of which carries case history. If kept in an indexed card file it may be referred to daily without loss of time and an accurate handling of each case be assured.

Have card perfectly blank on palpation record side. For convenience in reading draw a heavy line beneath the last Cervical subluxation recorded and another beneath the last Dorsal, thus dividing the record as the spine is divided, into three divisions.

Below follows a sample palpation record. It will be seen that here in a very small space may be recorded a great deal of information, for this record contains an accurate list of the primary causes of every disease, weakness, or tendency to disease with which the patient is afflicted, together with the methods for their removal.

Sample Record

C	1	R	Break
	4	P L S	Double Contact
	7	L I	Rotary
———	———	———	———————————
D	3	P R	Recoil
	7	L S	Pisiform Single Transverse

	10	P S	Heel Contact
L	1	P L I	Recoil
	4	R	Lumbar Single Transverse

Use of Record

The above record is made with patient sitting. It is to be used while patient is lying upon the adjusting bench. The most convenient way is to begin palpation in the Dorsal region after patient has been placed for adjustment, in this way. If first subluxation recorded is D 2—P R I, find the vertebra in the region of D 2 which appears P R I to the touch. To avoid error, let the fingers then glide downward to the next recorded subluxation. If this be found to agree in number and direction with the record, it is safe to assume that the first one found was correctly numbered in the palpater's mind; if not, that an error was made. This can be quickly done. Before each adjustment the vertebra adjusted should be found to agree with the record; by doing this constant accuracy may be assured.

THE COUNT

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Having described the preparation of the patient and the different positions in which he may be palpated, noted that all records should be made in position A, mentioned that general observation which should immediately precede

actual palpation, and interpolated a description of the record to be made during the palpation, with its use afterward, we are now ready to consider the technic of the palpation itself. This should begin with a count of the vertebrae and continue with Atlas palpation, general examination of a group of vertebrae, and special examination of individual subluxations in the group. Each of these tasks will be considered in turn.

Position of Palpater

This depends upon the position of the patient. The letters which follow correspond to the letters describing the position of the patient. q.v.

(A) If you desire to palpate with the right hand stand at patient's left and face toward him with left hand resting on his shoulder or supporting his forehead as you palpate Dorsals or Cervicals respectively. To use left hand stand similarly at patient's right. Have palpating arm relaxed and easy, extending as nearly as possible so that the forearm and hand make a right angle with the patient's spine. Let the arm and hand remain close to the patient's body at all times. Keep the elbow close to your own body and avoid flexion of wrist on forearm, or of forearm on arm at more than a right angle, since such flexion would bring about too great muscular tension for close appreciation of tactile impressions. If necessary lean sidewise and elevate shoulder and palpating arm in order to preserve the proper relation between hand and arm when hand must be elevated as in palpating upper Cervicals.

(B) As above, if you desire to use right hand stand on left side of patient and if left hand stand on right. If the patient lies on a bench so constructed that the head lies on one side, his face must be toward the palpater in order that the same hand may be used in Cervical as in other regions. It is inadvisable to change hands except when absolutely unavoidable. If the patient's head must be turned from you palpate the Cervicals by standing with feet pointed away from patient and turn your body with one hand resting on patient's head to hold it steady and the other palpating as if you were standing on the other side. This is difficult and it is rarely necessary to count Cervicals in position B if the record be used as advised on page 29.

(C) Palpation preparatory to the Cervical adjustment will be made in this position or in position A, according as you intend adjusting the Cervicals in the prone or the sitting posture. For the prone position have the patient's head supported by either hand, while the other hand is applied with the tips of the first three fingers resting on the tips of the spinous processes, from which position they may glide smoothly down, noting deviations from normal in position as well as mentally numbering the vertebrae. While this method of palpation is not so accurate as those given elsewhere, and should be used only as an additional means after record has been made, it will always be necessary to make a count before adjusting any Cervical.

Use of Hands

In general it may be stated that the first three fingers of one hand are used with an easy downward gliding

movement in which only the *tips* of the three fingers, evenly placed, are in contact with the patient's body. This concentrates the attention upon a very small tactile surface which may become extremely sensitive by the concentration. Indeed, it may be said that vertebral palpation only became an art through the application of the principle of concentration in practice. The gliding movement is always *downward*, because to palpate upward will mass the superficial tissues under the fingers and confuse the palpater. If there is uncertainty in the mind of the palpater, as he proceeds, as to the identity of any vertebra he should go back to the second Cervical, or to any certainly recognizable vertebra previously fixed in mind, and recount.

The use of the hands for Atlas palpation differs from their use elsewhere and will be described under separate head. The use of the hands with the patient lying face upward is also different. If the patient be lying prone, the same three fingers are used and the same downward glide as with patient sitting.

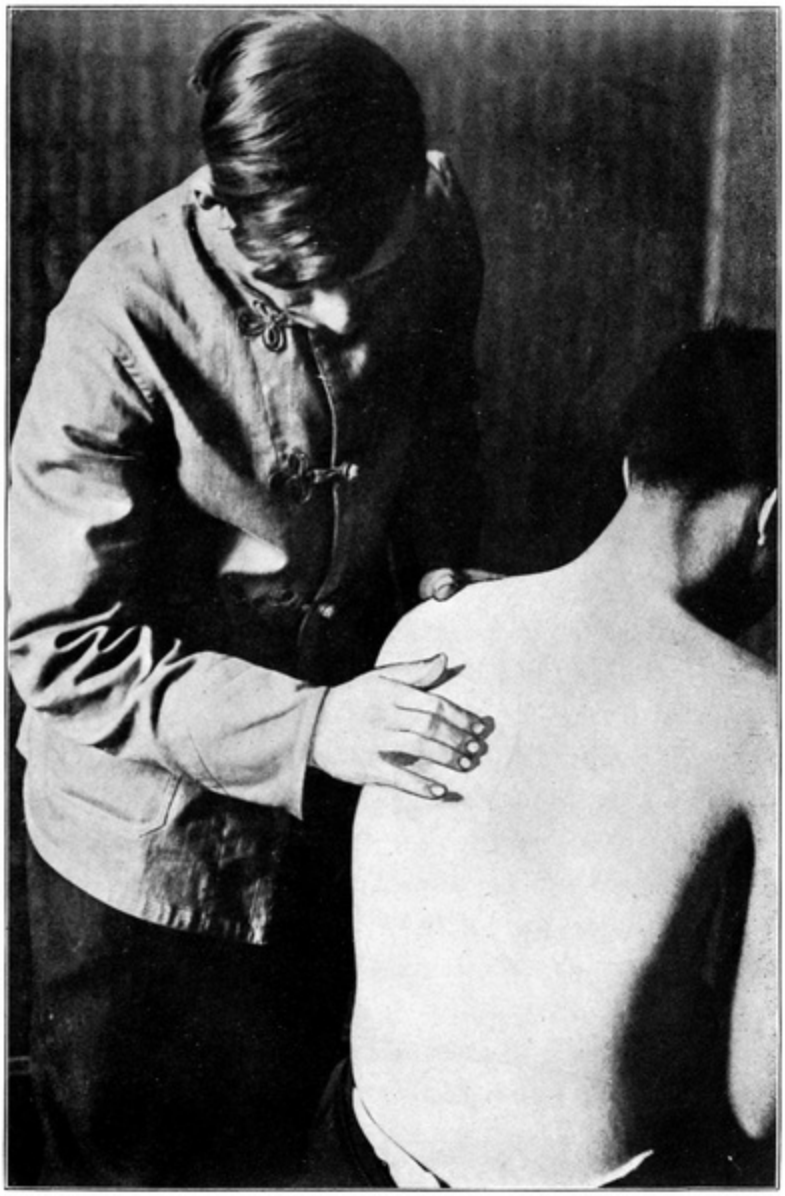

Fig. 1. Position of hands in palpation for record.

With patient sitting, the palpater should step from side to side, changing hands frequently and usually palpating each vertebra with each hand before reaching a conclusion. There are three reasons for this. More accurate records may be made by combining two different impressions on each vertebra; with frequent change of hands one may prevent tiring and consequent loss of sensibility of fingers; this practice develops the tactile organs of both hands equally

so that if occasion demand the use of either hand alone it is fitted for the task. To be ambidexterous in all departments of Chiropractic is an invaluable attainment, too often neglected.

The Count

Commence at the second Cervical, the first spinous process below the occiput, and let the fingers glide smoothly downward over the tips or along the sides of the spinous processes, *without interruption of motion*, until they reach the Sacrum. The palpater notes each vertebra passed and its number—mentally—so that when he reaches the Sacrum he knows that he has passed every intervening vertebra and received a touch impression from each. The Sacrum itself may usually be recognized by its peculiar shape and also by its articulations with the ilia.

If the fingers are raised from their contact during the count, the palpater must recommence at the second Cervical. It is impossible to be accurate in replacing the hand, once removed, until the count has been established and the peculiarities of certain vertebrae remembered, together with their numbers.

To determine the location of the fourth Lumbar where, on account of obesity, lipoma, Cervical lordosis, etc., the count of Cervicals or Sacral palpation is difficult, drop on heels behind the patient and place the second finger of each hand on the crest of the ileum. Then let the thumbs meet in the mid-spinal line in the same horizontal plane as the two second fingers, which spot should correspond to the interspace between third and fourth Lumbars. This

measurement is accurate in about 98% of all cases, when patient sits erect; when it varies it will vary by about half the width of a Lumbar spinous process.

The count should be repeated until the palpater is certain that he is able to palpate every spinous process distinctly or to locate accurately any impalpable one. In making the count, palpater may note the number of some very prominent and easily recognizable Dorsal or Lumbar vertebra to be referred to as a starting point for a recount if confusion arises later. This recounting from some prominent vertebra is permissible only after the first accurate count has been made, but then will save the full count, especially when the patient is in an unfavorable position, as lying on table during adjustment.

Difficulties in Counting

The commonest difficulties met with in counting are the following:

Inaccessibility of third Cervical, which lies closely beneath the spinous process of the second and, unless unusually large or somewhat out of its proper position, cannot be readily felt.

An occasional anterior fourth or fifth Cervical which may escape notice unless the head is flexed far toward or the transverse processes examined.

Lipoma or other adipose tissue covering part of the spine.

A missing epiphyseal plate resulting from fracture and absorption, which absence may simulate a wide interspace and be overlooked without careful and detailed observation.

Cervical or Lumbar lordosis. This difficulty may be at least partially overcome by having head bent far forward or body leaning forward with elbows resting on knees and a deliberate attempt on the patient's part to render the dorsolumbar spine convex backward.

An anterior fifth Lumbar.

The occasional extra vertebra which confuses the palpater.

Finally, the greatest of all difficulties is the imperfect touch of the untrained palpater or the imperfect concentration of the trained. And this is always remediable.

ATLAS PALPATION

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With patient in position A stand *behind* him and place the tips of the second fingers on the tips of the transverse processes of the Atlas, or first Cervical. It can be felt on each side just anterior and inferior to the mastoid process of the temporal bone. Let the first and third fingers rest respectively above and below the transverses and determine whether the Atlas is subluxated as a whole to the Right or to the Left.

Another convenient method is:

Place first fingers on mastoid processes, second on Atlas transverses, and third on angle of jaw. The three fingers of each hand then constitute the points of a triangle. Imagine the base line between the first and third fingers and measure the altitude as a line at right angles to this base line and reaching to the tip of the second finger as the apex of the triangle. The relation of the two altitudes determines