

## A CRITICAL REVIEW ON PRAKRUTI PAREEKSHA AND DERMATOGLYPHIC OBSERVATION - AN IMPORTANT TOOL FOR THE EXAMINATION

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### Abstract

Prakruti pareeksha plays a very important role for the examination of patient, for the preventive and curative aspect of many disorders. As Prakruti is the inherent property of an individual it refers to the genetically determined physical and mental make-up of the individual. Even if we go by the theory of heredity or genetics it also says that an individual's behavior or psyche is decided even before he is born. In this way these lines and symbols on the palms and soles may be helpful for the determination of the Prakruti and can be understood and evaluated in more appropriate and scientific method. The character and temperament might be well correlated to dermatoglyphic observation. Here an attempt was made to correlate Prakruti pareeksha with dermatoglyphic observation as a tool for the examination.

**Key words:** Prakruti pareeksha; Dermatoglyphic observation; Ayurveda.

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## **INTRODUCTION**

Prakruti pareeksha is on the basis of a susceptibility of a particular disease to a particular type of man, by knowledge of Prakruti the equilibrium of various fundamental constituents of human body can be maintained to keep him in a state of perfect health. Dermatoglyphics is the study of the patterns of epidermal ridges of fingers, palms, toes and soles. Each individual has unique finger prints. This uniqueness is based on the genetical characteristics of each individual which are transferred genetically from one generation to others.

In our classics and the hastasamudrika (hastharekha sastra) it is said that the study of different shapes and lines of our palms and soles indicate the course of life, span of the life, health, wealth, abilities, talents and weakness of an individual. The detailed description of palms and fingers ridges pattern could be found in many Sanskrit literatures on palmistry, a science of prophecy and fortune telling. This ancient literature on palm history describes the figures of chakra, shanka and Padma on human palms, soles, fingers and toes. The same is studied these days as loops, whirls and arches respectively. These lines contain certain characteristics that are explained in the form of code; Dermatoglyphics helps to unlock these secret codes and helps for understanding human potential and examination of patient.

Medical research shows that health trends can be perceived on our palms and this Dermatoglyphics relates to many physical, emotional and mental health conditions of an individual. The assessment of the Prakruti by this Dermatoglyphics study we may get to know the span of the life, behavior and health condition of the person as it is said the life span, health, wealth behavior differ from one Prakruti to another.

The simple inexpensive and noninvasive method of performing Dermatoglyphics study has thus become a useful tool in the hands of clinicians for comparisons and diagnosis of many disorders. Thus examination of palmer prints may soon become part of the general physical examination.

## **METHODOLOGY**

Ayurvedic literatures, puranas, historical literatures, journals etc were reviewed to arrive at a conclusion

### **Review of literature**

On cliff of Nova Scotia, papillary ridges like carvings of pre historic age have been discovered. Use of fingerprints was practiced in official documents of China, dating as back as 3000 B C. It was also in use in ancient Indian documents. It is from the ancient period that the study of creases commenced, dating from Vedic period. This is evident by the study of carvings and paintings of the palms and soles on the walls of the caves. The dimension and purposes of these uses are of course not clear.<sup>[1]</sup>

In Garuda Purana in Purvakanda or Acharakanda chapter 63 and 64 they explained predictions based on physical traits, predictions of age by palm history etc. In Garuda Purana Lord Vishnu, continuing with his narration told Lord Shiva that the age of person could be predicted by the lines found on his palms. If the life line reaches the base between index and middle fingers then the concerned person lives for a century. If the line is long, clear and without intersection from other line then the concerned person lives for a 100 years. A woman having a cobweb of lines on her palms is sure to lead a torturous and painful life whereas palm with few lines indicate that she would be poor. If the lines are pink then they indicate happiness, prosperity and good health whereas blackish line indicates that she would live a life of

slavery. Any woman having “ a chakra” ,” a hook “or an earring mark on her hand indicates that she would get worthy sons and rule like a queen.<sup>[2]</sup> In bhavishyapurana in chapter 27 while explaining the shubha ashubha lakshana of the man, the lord Brahma said that the person having matsya rekha indicate success in all the fields, person will be rich and has good offspring. The person one who has the sign of dhwaja or shank indicates richness.<sup>[3]</sup> In our ancient Hindu literature, folklore and history are replete with references to palm history or astrology. Durvassa, in mahabharatha saw the forehead and hands of Kunti and predicted that she would marry a man in capable of producing children. However, he said she was destined to give birth to sons, who shall rule the world. Kunti later married Pandu who as foretold was impotent.<sup>[4]</sup>

In kashyapa samhita in lakshan adhyaya sloka 6-7 he explained different lines and shapes like swastika, Padma, chakra and auspicious signs on the feet denoting the life span, health, wealth and the luck of the individual. He explained the feet which are corpulent, well formed with upward lines are of good longevity prosperous and administrators. The mark of swastika, plough, lotus, conch shell, wheel, horse, elephant, chariot, weapon and other auspicious signs of kings, coppery and smooth sole are of lucky persons. Upward bent are of persons with medium wealth and longevity, white color denotes poor, without lines denotes servants, so many lines denotes ill health.<sup>[5]</sup>

The scientific study of papillary ridges of the hands and feet is credited as beginning with the work of Joannes Evangilesta Perkinje, a Czech physiologist and biologist in 1823 and he also classified different finger prints into nine types.<sup>[6]</sup>

Sir Edward Henry of Bengal in 1890 classified the finger print patter and found the first finger print bureau of Kolkata, his classification of

fingerprints is known as henry’s system. Sir Edward Henry also studied the applied aspect of Galtons observation and recommendation.<sup>[7]</sup>

The basic methods and principles of dermatoglyphics study were laid down in 1892 by Sir Francis Galton an anthropologist from London, he classified epidermal patterns under Galton’s system and gave a detail account of morphology, inheritance and racial variations of ridges.<sup>[8]</sup>

Sir Herold Cummins Prof. of Anatomy at Tulane University in 1926 was the one to name this study of pattern of ridges as dermatoglyphics and published a book called “An introduction in dermatoglyphics”. He was the first to link dermatoglyphics peculiarities to genetics.<sup>[9]</sup>

Sarah B Holt (1961) and L S Penrose (1968) found ideal values of correlation between finger ridge counts of relatives. A new scientifically found type of palmistry called dermatoglyphics arouse from a German measles epidemic of 1964. Palm prints studies of babies who born to woman who caught German Measles during their pregnancies have revealed to Dr. Ruth and Dr. Rita Blarper of Brooklyn that certain loops and creases are characteristics of the consequent chromosomal damage. Fuller in 1973 analyzed variety of dermatoglyphic data in various diseases to know whether it can be used as diagnostic aid.<sup>[10]</sup>

In India Srinivas Murthy of genetics and srivastav, Bhanu and Umapathi of Anthropology contributed a lot to dermatoglyphics. Samudrik Thilak M Katakhar also wrote “An Encyclopedia of Palm and Palm Reading” after many years of practice and in 1992 his work discussed the loops, arches, tempted arches whorls and composites from both health and character aspect.<sup>[11]</sup>

In 1993 Rita Robinson published her dermatoglyphic observations as “health in your hands”. She recognized a number of shapes: a simple arch, a sharp arch, a left loop that leans towards the little finger (radial loop) a right loop that leans towards the thumb (ulnar loop) , double loops.<sup>[12]</sup>

### Historical review of prakruti

In Bhagavat Geeta Lord Sree Krishna has said Vedas are not outside the three gunas attributes of the non self Prakruti he said “Traigunya Vishayo Vedo Nistraiayi Gunyo Bhavarjuna”.<sup>[13]</sup> In Mahabharata tama,vykta, shiva, rajayoni, trigunatmaka are mentioned which can be considered as synonyms of Prakruti.<sup>[14]</sup>

In Hithopadesha the word Prakruti is used as the termination of existence.<sup>[15]</sup> Mandukopanishat prakruti is referred which is self-evident, self-existent, innate and is not a byproduct of another thing and one which never loses its originality.<sup>[16]</sup> “Shleshmala pramada priya” means shleshmala prakruti persons like more towards pramada mentioned in Bruhath jathaka.<sup>[17]</sup>

### Review on dermatoglyphics

Dermatoglyphics pronounced as der-mah-to-glif-iks is a Greek word used to denote study of the patterns of ridges of skin of fingers, palms, toes, and soles. The surface of the palms, fingers, soles and toes have a series of ridges and grooves. They appear either as straight lines or as a pattern of loops and whorls, as on the tips of the digits. The ridges increase the surface area of the epidermis and thus increase the grip of the hand or foot by increasing friction because the ducts of sweat glands open on the tops of the epidermal ridges as sweat pores, the sweat and ridges from fingerprints upon touching a smooth object. The epidermal ridge pattern is generally determined and is unique for each individual. Normally the ridge pattern does

not change during life, except on enlarge and thus can serve as the basis for identification through fingerprints or footprints.<sup>[18]</sup>

Development of dermatoglyphic pattern is under genetic control. This is evident from the clear resemblance of dermatoglyphics among related persons (Schumann and Alter 1976).<sup>[19]</sup> Dermatoglyphics as a diagnostic aid is now well establishes in a number of diseases which have a strong hereditary basis.

### Dermatoglyphics Features<sup>[20]</sup>

#### Uniqueness

There are no two identical finger prints. One’s 10 fingers are not the same. Dermatoglyphics style, striae, height, density, quantity and location of the point are not the same for everyone. No individual has ever displayed the same fingerprint from another digit even if taken from the same hand.

#### Invariance

The raised pattern network of life time from birth to death will not change even if it is due to the regeneration of the labor, dermatoglyphics style, quantity and profile shape which is determined the same later.

#### Hereditary

According to science statistics, immediate family members will be more or less the same between the striae. Normal human cells have 23 pairs of chromosomes. If the chromosomes of the tree or structure are changed, it will cause the corresponding striae mutation. Therefore, the striae have inherited the mutation.

### Application of dermatoglyphics<sup>[21]</sup>

At a conference on the state of dermatoglyphics (1991), various researches laid out their vision of the future.

The good news is that several possible applications of dermatoglyphics seem quite promising. For instance: Dermatoglyphics may be in position to become the primary means of assessing complex genetic traits. Because fingerprints and line formations form during vital stages of fetal development, dermatoglyphic studies are in a unique position to evaluate the effect of toxins on the intrauterine environment (over 20% of all pregnancies never come to term).

Dermatoglyphics are still useful for the evaluation of children with suspected genetic disorders and diseases with long latency, slow progression and late onset.

The new findings that rats have deramtoglyphic patterns (Bonnie, with all her detailed research had missed this [rat dermatoglyphics are quite small] and until recently, no one had looked) opens up a whole new realm of experimental possibilities.

### Dermatoglyphic analysis<sup>[22][23][24]</sup>

The study of dermatoglyphics is mainly concerned with epidermal ridges of fingers, palms etc.

### Ridges

These are epidermal lines which lie parallel on the surfaces of stratum corneum. Along the ridges lie the pores of ducts of sweat glands. Furrows are the depression between the ridges. The ridges run parallel or they may diverge and surround empty area.

### Types of ridges

- 1) **Short Ridge:** These are small size, short length and bear 2-5 sweat pores.
- 2) **Long Ridge:** These are of long length; they are more in number and more than 7 sweat pores.
- 3) **Interstitial Line or Ridge:** It is not exactly a ridge because it has no pores: size is

different from a ridge. It is not considered in ridge counting.

**4) Fork:** It is the bifurcation of long ridge.

**5) Enclosure:** It is formed by connection of 2 forks.

**6) Islands:** These are small circular or square independent ridges with one or no pores.

**Dermatoglyphic landmarks:** The study of these helps in better understanding of the patterns and classification of same.

1) **Delta (Trirarihis):** In the true sense the delta is a triangular plot or area formed by the two diverging ridges and the first ridge in front of them.

2) **Tri radial point:** This is the center point of the tri radius which provides landmark for ridge counting and ridge tracing.

3) **Core:** It is central part of a pattern. The type of core varies according to the pattern. It may appear as island, straight line, staple or hook.

4) **Inner terminus:** It is fixed point on the core.

### Classification of finger patterns

Sir Francis Galton sorted 3 classes of patterns (Arch, loop, and whorl). Out of 9 patterns classified by Dr. Evanijelist purkingee. Sir Edward. R. Henry modified Galton's arch, loop, whorl system and classified them into four main types.

1. Arches
2. Loops
3. Whorls
4. Composite

Henry system is more widely used than any other system and hence this is preferred in the present study of dermaloglyphic analysis.

### 1) ARCHES

This is simplest and easiest to find of all the patterns found on the finger tip. Arches are formed successive parallel lines form on the finger tips. One border of the finger to the other and forms gentle curve with concavity

facing proximally. Depending upon the height of curves, arches are divided into low arch or tented (high) arch. These two are plainly denoted by the letter A some times a high tented Arch is denoted by T. The point of confluence is called Tri radius. Arches are the least common of the three general patterns and are subdivided into two distinct groups. Plain (simple or low arch) and tented arch .

### Plainarches

The Plain Arch is the simplest of all fingerprint patterns and is formed by ridges entering from one side of the print and exiting on the opposite side. These ridges tend to rise in the center of the pattern, forming a wave-like pattern.

### The Tented Arch

The Tented Arch is similar to the Plain Arch except that instead of rising smoothly at the center, there is sharp up thrust or spike, or the ridges meet at an angle less than 90degrees i.e. is making an acute angle at the curving point.

### 2)LOOPS

This is a pattern in which a series of ridges enter the pattern area on one side and then recurve abruptly and leaves the pattern area on the same side, thus enclosing a core.

**Ulnar loop:** If the ridges start and terminate at medial side of the finger, then it is called ulnar loop.

**Radial loop:** If the ridges start and terminate at lateral side then it is called Radial loop. The loop is characterized by having only one tri radius, present on the opposite side of opening of the loop. Loop is more frequently encountered of all patterns and approximately 65% of all finger prints.

### 3) WHORLS:

These display ridge formation in which one or more ridges make a complete curvature or circuit around the core. They may be circular, spiral, or oval.

**Circular or concentric whorl:** The small circles from the center, expanding bigger like circles attached to one another

**Spiral whorl:** A small siring from the center, going outwards layer by layer like screws. Arranged spirally they may be clockwise or anticlockwise type.

### 4) COMPOSITE:

It means a combination of two or more patterns either of the same or different types in one print i.e. either a combination of whorl and loop patterns, or two different loop patterns, or two whorl patterns or an arch and a loop. These are 4 chief types.

**Central pocket loon:** These are essentially whorls of reduced size lying in the interior of the pattern area.

**Lateral pocket loon:** These are like twin loops out in this the core lines have their exits without being divided by either of the deltas, i.e. on the same side of deltas.

**Twin loops:** Loops patterns open in opposite direction then it is called twin loop.

**Accidental:** These are combination of two or more patterns. The accidental patterns are complex patterns formed by combination of two or more unusually unrelated configurations a whorl and loop, tented arch and loop, loops.

According to Frager and Nora (1975). Arches and radial loops have the lowest overall frequency and when present they occur, most often on digit 2 especially the radial loops.

Whorls occur most often on digit. 4.2 and 1. ulnar loops are most frequent than any other type.

Normal females have slightly more arches and few whorls. There are also racial differences in pattern frequencies. For example Orientals have a higher frequency of whorls than Europeans and Americans (Holt 1968).

Verma (1970) while studying the dermal pattern in India reported that there is no truly Indian pattern as India is composed of many ethnic groups. Ulnar loops are most common, whorls second in frequency. Distribution of whorls varies from country to country. Ridge count was high in Indian children as compared to the British population.

Chakraborti and Magotra (1976) in his study the ulnar loops are dominant in all digits and arches are much less in frequency. According to the percentage of their distribution in whole population of the world, these fingerprints are- Loop - about 65% :Whorl - about 25% :Arch - about 7% :Composite - about 2-3%. (Table 1)

## RIDGE COUNT

The ridge count is being given by counting the total intersected when a line is drawn from the central point of a pattern to its nearest tri radius. Such patterns can vary from digit to digit in any individual but, in the hand, loops are the most common and arch the least; with toes the converse is true. These variable features provide an astronomical number of possible combinations, so that each individual is almost certain to have a unique set of patterns.<sup>[25]</sup> The counting of a ridge begins from the center of core of the pattern to the triradius. The size of pattern is determined by counting the number of ridges. Whorls have the highest ridge count Arch has 0 ridge count because it has no tri radius. Total ridge count is obtained by adding up the count on each of 10 digits. TFRC count of males is usually higher than females.<sup>[26]</sup> Holt 1968 french

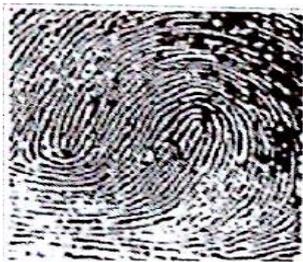
population has ridge count of 132 for males and 121 for females. British populations 145 males 127 females. Chakraborti and Magotra in 1976 said 133 for males and 118 for females.<sup>[27]</sup> According to Verma (1970) ridge count shows an interesting correlation with the number of chromosomes present. The ridge count goes on increasing along with number of chromosomes present as in Klinefelters and Turners Syndrome.

## PALMAR PATTERN<sup>[28]</sup>

Concurrent with the study of fingerprint patterns, the study of the line formations of the palm is also part of the field of dermatoglyphics. However, unlike the fingerprint patterns, the line formations keep altering throughout a person's life and have shown themselves to be much more difficult to categorize. Nonetheless, numerous studies have found correlation between line patterns and different diseases and psychological conditions. Fere in 1900 is normally cited as the beginning point in the scientific study of line formations. His system merely noted the presence or absence of six different line formations which he then compared with different population samples, comparing the lines for bimanual differentiation, sexual differences, etc. Poch, 1925 went a step further. He analyzed the intersections of lines as well as whether or not they were present. Poch used his system to correlate the relationship between embryonic disturbances and affect on line formation. Wurth 1937 was the first to note that lines form before the fetal hand can move. Cummins had previously noted the difference between lines that "represent firmer attachment of the skin to underlying structures." and those created later by "buckling of the skin," but Wurth proved that the so called flexion creases could not be formed merely by flexing the hand. Wendt, 1958 added a seventh line to the previous system (the line in palmistry that corresponds to the line of intuition), but there remained little consensus on a line classification system.

**Table 1: General psychological characteristics of patterns**

Finger prints	Prints	Features	Characteristics
simple arch (SA)		It's like small mounds build-up slowly from the heart point.	Simple, settled; practical, and stubborn. Tend to have things done by steps. Repressive of emotions.
Tented arch (TA)		It's like small mounds build-up slowly from the heart point, looked more sloop with smaller cissoids.	Simple, settled-practical. Easily inconsistent in doing things. Idealistic. Impulsive. High degree of emotional elasticity, high strung nervous system, to sensitive.
Ulnar loop (UL) ( Place palms down and UL goes towards little finger)		Every print is like a bendy stream way which goes parallel in the same direction. Place palms down and UL goes towards little fingers.	Perceptual and romantic. Enjoy life in the meantime. Keen of observation. Easygoing and Sympathetic.
Radial loop (RL) (Place palms down and RL goes towards thumbs.)		Every print is like a bendj stream way which goes parallel in the same direction. Place palms down and RL goes towards thumbs.	Perceptual and romantic. Enjoy life in the meantime. Keen of observation. Easy going and sympathetic. Naturally rebellious. Tend to use critical thinking.
Concentric whorl (WL)		Prints start with small circles from the center, expanding bigger like circles attached to one another.	Goal-oriented, aggressive, decent and serious about images. Emulous with strong self-consciousness and eager to win.
Spiral whorl (SW)		Prints start with a small string from the center, going outwards layer by layer like screws.	Goal-oriented, aggressive, decent and serious about images. Emulous with strong self-consciousness and eager to win in a lower degree comparing with CW.

<p>Press whorl (PW)</p>		<p>Prints are also like screws, going outwards layer by layer, compressed in a longer and Hatter shape.</p>	<p>Goal-oriented, aggressive, decent and serious about images. Emulous with strong self-consciousness and eager to win. Focus on precision and details with carefulness. Very accurate.</p>
<p>Composite whorl (CW)</p>		<p>Prints in the middle of the center look like two hookers combining with each other, going separately outwards in the same or reversed directions.</p>	<p>Multi-goals oriented. Two various thinking models coexist with strong integrative ability and accumulation</p>
<p>Double loop (DL)</p>		<p>Prints in the middle of the center look like two hookers climbing with each other, going separately outwards in the same or reversed directions. But the ends of each ones are like stream ways, running to oceans by themselves.</p>	<p>Multi-goals oriented. Two various thinking models coexist. Think in different ways more perceptually.</p>

The ones in use seemed both to simple and too difficult to apply -Several new systems appeared that attempted to correct this deficiency. Hutchinson also explored the meaning of special palmer patterns. This was not an attempt to gain insight into the possible of any of the origins and endings of main lines used in the regular course of dermatoglyphic studies, but it was an attempt to make use of any unusual dermatoglyphic patterns that appeared on the palm. The most widely quoted expert on line formations is Milton Alter, PHD. Finding all other line classifications inadequate, he invented his own system that seemed at once more simple yet more comprehensive and scientific. Starting with four categories (the major lines all together, the distal transverse crease [the heart line], the proximal transverse crease [the head line] and the thenar crease [the life line]) he broke each

into a few sub-categories and statistically compared males and females, left and right hands. However, Alter's approach ran into difficulty. Line formations can be complex and different observers using Alter's system don't agree on the presence or absence of lines. The palm is divided into Thenar, Hypothenar and four interdigital area. Thenar there are four digital tri radii located in the proximal relation to the base of the digits II, III, IV and V. In radio ulnar sequence they are denoted by a, b, c and d. Thus the two distal radiant of each tri radius enclose the area below the root of the finger that is called digital area. The proximal radiant is directed towards the interior of the palm, and when it is fully traced it is called the palmer main line. Thus four main lines are traced from the four digital tri radii (a, b, c, d) and these lines are denoted by letters A B C D in radio ulnar sequence.

## AXIAL TRIRADIUS<sup>[29]</sup>

It is the tri radius present at the base of the palm between the thenar and hypothenar areas. It is usually proximal but may be present or displaced distally. This is measured by comparing the distance from crease of middle finger and the wrist crease. Depending on the positions of the tri radius it is designated as: t in the proximal margin, t' midway between the center of the palm and root of the palm, t'' at the midpoint of the palm.

## ATD ANGLE<sup>[30]</sup>

It is the angle found by joining 3 tri radial points. First point at the base of index finger a, Second point at the base of little finger d. Third point at the axial triradius t.

Thus depending upon the measurement of ATD angle, the position of the triradius is designated as

The angle less than 43 is proximal triradius. The angle between 44 and 56 is intermediate Triradius. The angle more than 56 is distal triradius. The size of the angle is age dependent. It becomes smaller (angle is reduced) with advancing age, because the palm slightly elongates.

## TRI RADII

Tri-radial also occur on the palms and soles, including the bases of each digit except the thumb; a characteristic tri-radius is also present on the proximal edge of the hand in the midline above the flexor retinaculum (the axial tri-radius). The precise positions, numbers and ridge-counts associated with tri-radial have an inherited basis but in general the genetics are multifactorial and too complex at present to be clinically useful.<sup>[31]</sup>

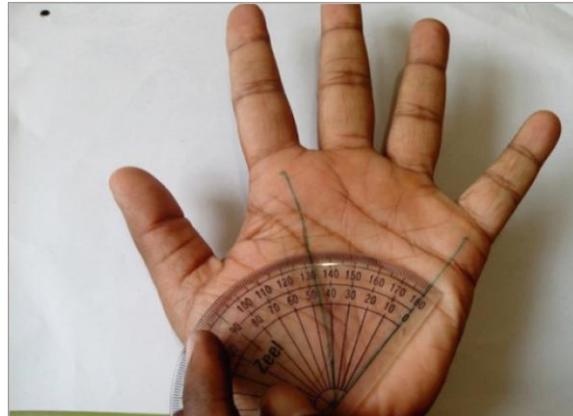
Jaegers also considered the significance of triradii in her 1974 book, "You and Your Hand". She located seven positions for the triradius, one under each finger that we described above as a, b, c, and d, one along the thenar side of the palm below the distal transverse crease, one in the general area that we have formally described ATD and one at the center base of the palm that. We have described as t. She considered the td location as the normal placement of the axial triradius. She indicated that the axial triradius at this location evidenced a "normal correspondence between the conscious and subconscious" and "normal prenatal existence the higher location, under the distal transverse crease, would indicate to her prenatal or later life heart problems and an enhanced tactile, sensual or emotional memory.

She illustrated some unfamiliarity with the scientific studies of dermatoglyphics when she discussed the normal placement of the axial triradius at or below where we show td "Although this placement does not seem to have come to the attention of the scientists, it has been my observation that this particular placement has been found exclusively on the hands of psychics." She felt this corroborated the findings of astrologers. Perhaps Palmists are fortunate she published after the Penrose letter of 1973. She voiced a desire to be better informed of the work in scientific studies of the hand.<sup>[32]</sup>

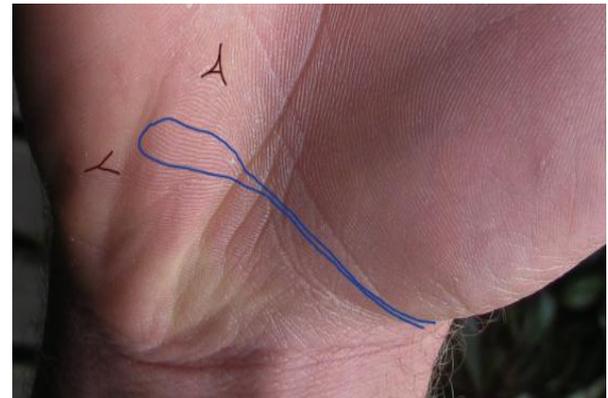
## Hastharekha related to dermatoglyphics

The hand (Hasta) has been lot of importance in the Hindu culture, in dinacharya it has been mentioned to recite the slokha which denotes that all the devatas are situated on the hand."<sup>[33]</sup>

**Figure 1: ATD angle**



**Figure 2: Locations of Triradii**



There is a long history in India and China of the use of fingerprints as indications or attributes or character traits. Folk lore from both India and China has traditions of reading certain attributes or abilities from fingerprints. Before we become amused at the tendency to find significance in the counted number of prints, we note that such an approach is often used in scientific studies of the searching for meaningful relationships of fingerprints as genetic and/or chronic health markers.

So while the conclusions drawn in Chinese and Hindu folk ways may be quaint, their methods of analysis still persist.

The hand on which the fingerprint will be found will dictate the area of life the behavioral reaction is more likely to be displayed, with the left hand markings relating more to the personal, sensitive, home, and sentimental, nurturing family areas of life (except perhaps in some left handed and mixed handed people) while the right will probably relate more to the activities of the subject connected to his or her survival and security, including nest building.

In Hitopadesha by Narayana it has been said that the period of life, the kinds of action one has to perform, the amount of wealth to be acquired, the degree of knowledge to be attained and the time of death all these five are created or

determined while man is yet in the womb.<sup>[34]</sup>

### **Hindu folk fingerprint formulae<sup>[35]</sup>**

The Hindu formula concerns three types of prints: the Shankh which resembles the ulnar and radial loop; the Chakra or whorl; and the Shakti resembling the composite. These are the ridge patterns recognized in the Hindu school of palmistry according to Dr. M. Katakkar, one of the leading contemporary authorities on that school of palmistry.

#### **When the loop is found on**

One finger, the subject is happy; But on two Fingers, it is not a favorable sign; and On three fingers it is a bad sign; When found only on four fingers it is not a good omen: When found on five fingers it is not auspicious; But it is a sign of prowess if found on six fingers; and When placed on seven fingers live in kingly comfort; While on eight fingers one is as noble as a king; and On ten fingers one must live happily

#### **When the whorl is found on**

Two fingers indicate honors in the courts of kings: Three fingers is a sign the subject will become wealthy; but Four fingers the subject will become a pauper; Five fingers indicate a hedonist; Six fingers indicates passion satisfied; while Seven fingers is a sign of virtue: Eight fingers indicate one prone to disease; Nine fingers predicts the rise of a king; while Ten fingers are the sign of the higher man, the Brahman who realizes self.

#### **When composites are found on**

One finger such a person is very happy; On two fingers the subject is an orator;

On three fingers we find a very rich subject; while Virtuous is the subject with the Shakti on four fingers; The philosopher is found when five composites are seen; and if found on six fingers, such a subject possesses high level thinking ability; Should it be found on seven or more fingers, they are the sign of success in life.

### **DISCUSSION**

As per the study, the below mentioned points observed are considered for discussion which throw light precisely on authenticity of relation between dermatoglyphics and prakruti.

It can be said that the description of the creases commenced from the Vedic period. Description of these lines and shapes are found in our Hindu literature, in purana like Garuda purana and Bhavishya purana, and in Mahabharata. It is said that the scientific study of papillary ridges was first done by sir Jonnes. Gradually there was development of this science, the greatest contribution to this field is by sir Harold Cummins called as father of dermatoglyphics and he was the first to link the dermatoglyphic to genetics and he was the first to coin term dermatoglyphics.

This Dermatoglyphics in modern science pronounced as der- mah-to-glif-iks is a Greek word used to denote the study of the patterns of ridges of skin of fingers, palms, toes and soles. After considering literature available and opinion of various authors it is understood that both line and epidermal ridge patterning in the fetus may be strongly dependent upon the highly conserved genes that belong to the developmental pathways which function as a variety of diverse cells at different developmental stages.

So the development of dermatoglyphic pattern can be considered under genetic control having three specific features i.e. Uniqueness,

invariance and hereditary by this the dermatoglyphic study may be helpful or used to assess the complex genetic traits, genetic disorders, effect of toxins on the intrauterine life etc. Therefore Dermatoglyphics as a diagnostic tool is now well established in a number of diseases which have a strong hereditary basis.

There are different systems of classification of pattern like Galtons system, Henry's system etc. Henry system is more widely used than any other system, the Henry's system of finger patterns are classified mainly as 4 types Arches, Loops, Whorls and Composite. The analysis of the dermatoglyphic pattern is mainly based on epidermal ridges which are of 6 types short ridge, long ridge, interstitial line or ridge, fork enclosure, islands.

It can be said that the ridges are not influenced by bones, muscles or movements of hands. The thick skin bears few ridges and they form arch and small loops where as the thin skin bears more ridges which form whorls and large loops, even the symmetry or asymmetry of the volar pads will results in formation of different patterns, the symmetrical forms whorls, asymmetrical forms loops and weak pads develop into arch. There are many explanations regarding the different qualities of different finger pattern i.e. for whorls, arch, loops etc.

After going through the available literature regarding finger patterns as per the different authors and analyzing and understanding it thoroughly I am of opinion that a person with **Loop:** will have mental and emotional elasticity with possible lack of concentration, adaptable, emotionally responsive, adaptable, and versatile. **Arch:** Self contained, repressive, secretive, suspicious, and hesitant. Tented arch: Nervous activity, responsive to emotional stimulation, artistic i.e. too easily affected by musical tunes, idealistic. **Whorl:** Independence in thought and action, original in ideas and independent, self-confident

subjects, secretive in their expression and selfish. **Composite:** Practical, good judgment, materialistic, lack of common sense, lack of mental elasticity and are narrow minded.

The explanation about shanka (ulnar or radial loop), the chakra or whorl, Shakti resembling the composite was also available and discussed in Hindu literature. Depending on the different patterns and number of the patterns on the digits the future of the person was predicted. All the authors who had commented on dermatoglyphics were of opinion that the ridge count for arch and Composite are zero, where as there are different opinion regarding the TFRC. It can be said the TFRC commonly seen in Indian population may be nearly 133 for males and nearly 118 for females, according to Chakraborti and Magotra, according to Santosh kumar 145 for males and 134 for females.

From the palmer pattern we can study the axial triradius, aid angle which tells us about the angle available in the palm which can also considered as an important landmark for assessment of prakruti.

## CONCLUSION

Prakruti and Dermatoglyphics can be considered under genetic control as prakruti is formed at the time of conception, it refers to genetically determined physical and mental makeup of the individual, where as the dermatoglyphic markings correspond to the neurophysiologic development and it relates to physical, emotional and mental health condition.

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