Palmistry: Science or Hand-Jive?

Dermatoglyphics, the 'real' science of palms and fingers, lends little support to the claims of the palm reader, but may suggest their origin.

Michael Alan Park

He sealeth up the hand of every man, that all men may know his work.
—Job 37:7

Length of days is in her right hand, riches and honour in her left.
—Proverbs 3:16

You pay all your bills promptly.
—From the printout of an electric palm-reader

Along with reading tea-leaves and gazing into crystal balls, palmistry—or "Chiromancy"—is surely one of the forms of divination that comes to mind for most of us when "fortune telling" is mentioned. This occult art has become part of our culture, although for most of us it is a fairly benign form of the occult, and more than likely it is something we rarely think about. Palmistry is, however, an old and well-established method of divination and provides a good example of a claimed paranormal phenomenon for scientific examination.

Some of my own research (Park 1979) has been in the field of dermatoglyphics, which is the study of the patterns of ridges and furrows on the skin of the hands and feet—"fingerprints," although these patterns also appear on the palms, toes, and soles. The data utilized by palmists and by those of us in this scientific field of interest are similar, and in fact one area of dermatoglyphic research involves using finger- and palm-print data to "predict" certain aspects of people's lives. Thus we can examine two

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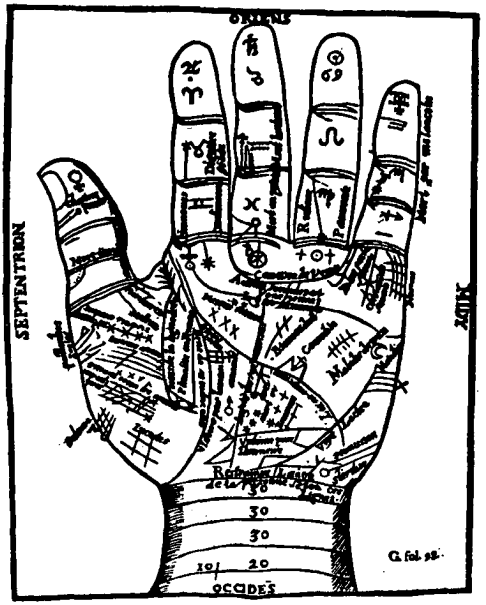
similar activities centered around the same general topic—one occult, the other scientific—to see how they compare in theory, method, and results. It is an opportunity not provided by other methods of divination such as those using tea leaves and crystal balls.

In scientifically examining the various "predictive" arts there are two potential approaches or levels from which one can work. The most straightforward is to examine the predictions and revelations to see if they are, in fact, accurate. This method has some obvious drawbacks. For one, where predictions rather than revelations about personality are involved, the study would necessarily be a long-range one—the lifetime of the individual in fact. Secondly, as in any scientific study, certain controls are needed. Here, for example one would have to control for "self-fulfilling" prophecies: the possibility that the subject takes a prediction or revelation so seriously that, even if subconsciously, he causes it to come true. Especially with such things as personality characteristics and social matters, such self-fulfillment would be easy to bring about and hard to control for in a study. There is also the matter of basing occult insights on data that are not part of that "science." Scars, calluses, and stains on the hands, as well as such factors as mode of dress and speech pattern, can be interpreted a la Sherlock Holmes to "divine" some basic information about an individual as a basis for "revealing" further information. (A simple example: short nails and fingertip calluses on a person's left hand are a pretty good indication of a right-handed stringed-instrument player. From there, revelations concerning "musical talent," "creativity," and so on, would be fairly safe.) In palmistry, this can be taken care of to some extent by using ink-prints of palms rather than living subjects; but even where use of prints is advocated by the palmists themselves (Gettings 1979, p. 32) the necessity of also observing the living hand is made clear.

With predictive arts using tea leaves, crystal balls, tarot cards, and so on, we are usually limited to testing prediction; the relationships claimed by these arts find no analogues in any accepted scientific body of knowledge. As noted, however, the palmist and the specialist in dermatoglyphics are using some of the same data, and much dermatoglyphic research is concerned with the relationships between certain physical traits of the hands and feet and other aspects of individual biology. We can, then, test palmistry on the second potential level, that of examining whether or not there actually are any direct, predictive, specific relationships between the characteristics used by the palmist and any other events or factors in an individual's life that may relate to the kinds of information contained in the palmist's conclusions.

In attempting to define and describe the occult art of palmistry, some difficulty is encountered. There appear to be a number of different versions of the art that claim to be the "real" palmistry. The versions differ in the number of characteristics observed, in the kinds of characteristics



Chiromancy, or palm reading, claims to divine the future by study of the hand. Early interpretations were often corroborated by the predictions of astrology.

observed, in details concerning the classification, nomenclature, and nature of those characteristics, and in the meaning attributed to different expressions of the characteristics. Since it is not my intent to examine palmistry point by point but rather to discuss it more in terms of its general theory, I will attempt to generalize from points that all or most of the versions have in common or to find some sort of "average" statement that seems to fairly reflect them all. I will, however, include in my examination all the types of characteristics used in the most complex form of palmistry I came across, that discussed by Gettings (1979), which uses hand shape and fingerprints as well as the more typical lines and creases.

There seems to be no consensus as to just how old palmistry is. Recognition of individual uniqueness in fingerprint patterns goes back at least to China in the third century B.C., where a thumb-print impression on a pat of clay may have been used for personal identification (Cummins and Midlo 1961). As to palmistry itself, *The Encyclopedia of Occult Sciences* (1939) mentions ancient India and Egypt. In its modern form it can certainly be dated back to publications of the sixteenth century (de Givry 1958). Basically, palmistry is the use of the lines and creases of the palm to discern hidden information about a person's character and in some cases to foretell future events in the person's life. The lines used are not those familiar patterns of the fingertips (which upon close examination can be seen to extend to the palm), but those creases on the palms and inner surfaces of the fingers that become deeper and more defined when we flex our hands. These are in fact formally referred to as "flexion creases" and are described anatomically as "locations of firmer attachment of the skin

to underlying structures" (Cummins and Midlo, p. 37).

These creases are the most important data for the palmist. There are three major lines (called the lines of life, head, and heart) that are almost always present and a number of subsidiary lines that may be absent in some individuals. The characteristics of these lines that are considered by the palmist include: the points at which the line begins and ends; the degree and direction of curvature; length; presence of forks; depth; and presence of a "chained" appearance. The lines are explained in various ways and at various levels of causality—from an astrological "influence of the stars" at birth (*Encyclopedia of Occult Sciences,* p. 150), to the lines as "conductors of energies from one part of the hand to another" (de Givry, p. 198). In any case, they are thought to be an outward manifestation of the inner state of the person possessing them, reflecting aspects of that person's personality characteristics, intellectual abilities, and even physique.

The question of the predictive potential of palmistry—the "fortune-telling" aspect—is not fully agreed upon. More traditional versions, like those discussed in de Givry, for example, accept this capability of the art. The best known example is perhaps the use of the "line of life" to determine an individual's approximate date of death. There are also recognized ways of foretelling such things as number of children, economic success, and other matters of life, and particularly love. More recent versions of palmistry, however, deny that specific events can be foretold. Gettings (p. 26) in fact calls such predictions the palmistry of "charlatans, gypsies, and popular articles in women's magazines." The best palmistry can offer by way of prediction, he says, are indications of "direction and tendencies." At the same time, however, Gettings does admit that on occasion external pieces of information can be arrived at—in one case the name of a subject's boyfriend and the fact that the boyfriend was married. Such information he says is derived "from unknown sources by the emotion" (p. 22), a process he calls "intuitive palmistry." There seems, then, to be some room left for the possibility of a clairvoyant capacity on the part of the palmist being set off by the palmar features. Finally, biologist Lyall Watson, who in *Supernature* (1973) proposes the possibility of a nonparanormal explanation for the connection between internal states and the features of the hands, says that "fortune telling by lines in the hands bears the same relationship to the serious study of [palmistry] as newspaper horoscopes do to true astrology" (p. 192). More on Watson later.

Especially in more current forms of palmistry, other features of the hand in addition to palmar creases are utilized. The form of the hand, specifically the shape of the palm in relation to the length of the fingers, is also considered to be a clue to personality traits, and Gettings links various "types" of hand-shapes with certain professions. The form of the individual fingers is also noted; the length of the little finger (the "finger of Mercury") and its individual phalanges, as well as the presence of any

PHOTO 1: Major creases used by the palmist.

PHOTO 2: Dermatoglyphic pattern types and major palmar landmarks.

PHOTO 3: Flexion creases of importance in medical genetic research.

curvature, for example, are believed to give information about a person's honesty and dealings with the opposite sex and with money. Nail shape and color and the appearance of the fleshy parts of the palm (the "mounts") are of importance too. Last, and of special interest to me, is the use of fingerprint patterns. Again using Gettings as an example, it would seem that there is a recognized link within palmistry between various dermatoglyphic pattern types and certain personality traits.

It must be noted that, as practiced by many modern proponents, "real" palmistry is not the simple matter so often depicted in the movies. Several hours are said to be needed to adequately take into account all the features noted above and to evaluate their meanings—both individually and, more important, in relation to one another. Which particular finger a certain print type appears on is important, and that must be viewed in light of the length of that finger, the shape of the palm, and the indications given by all the other features. A "reading" is not a list of individual meanings but an interpretation based on a consideration of the balances and conflicts indicated by all the individual features as parts of the whole hand.

Dermatoglyphics may be generally defined as the study of the patterns of parallel ridges and furrows on the epidermis of the hands and feet. These are essentially the fingerprints so familiar to us in connection with law-enforcement work. However, whereas the police are interested in combinations of fingerprint traits that characterize individuals, the specialist in dermatoglyphics is interested in those traits that can be put into a finite number of categories, some expressions of which are exhibited by all persons. The most important and obvious of these traits is the pattern type. There are three main types: arches, loops, and whorls; there are also subtypes of each of these as well as some other, minor types. Every human finger and toe carries, with few exceptions, one of these types. In addition, there are areas of the palm and sole that also display these patterns. The other important trait used in dermatoglyphics is pattern size. It is determined by counting the number of ridges between the center of the pattern and the triradius—the point from which the ridges that outline the pattern proper separate. In studying these two sets of characteristics, other traits of the hands and feet, including palmar flexion creases, have been noted, and in some cases have been incorporated into dermatoglyphic research.

Any human trait that shows variation is examined to try to determine to what extent its variation is a result of genetic differences between people and to what extent it may be environmentally explained. It became apparent during such investigations that pattern types and sizes were under some degree of genetic influence, although the specific details of the genetic mechanism have yet to be discerned. At any rate, the demonstration of at least a partial genetic basis led to two uses of dermatoglyphic data in other studies. One, of course, involved the

examination of human "racial" differences. Dermatoglyphics were added to the growing list of traits whose expressions and frequencies help to distinguish and define the races. When it was seen that clear-cut boundaries between human races simply did not exist—and therefore that the whole concept of "race" needed to be viewed in a different light—the emphasis of studies of variable traits shifted to the search for explanations of the trait variation itself and to the use of the traits as genetic markers in research on the processes of human population genetics and evolution.

The second application of dermatoglyphic data, and the one most germane to the present topic, is in the field of medical genetics. Correlations have been established between dermatoglyphic features and certain human disorders, most of which have a known or suspected genetic basis. Here then is a scientifically testable link between some of the palmist's data and some other features of human biology, some involving behavioral characteristics.

The genetic mechanisms behind most human features are extremely complex; hence, we often get a clue as to genetic basis only when something goes wrong—when we can trace a specific disorder through family lines or can link one disorder with another or with some other particular physical feature. In this case, a good number of human ailments already established as having, or thought to have, genetic bases were seen to be statistically linked to particular features of the fingers and palms. It is not that specific, rare sorts of prints or lines are absolute "signs" of a particular genetic disease; it is just that samples of victims of certain disorders have unusually high or low frequencies of certain patterns or features when compared to the general population.

Several distinct kinds of disorders have been shown to have correlations with dermatoglyphic "abnormalities." (See, for example, Alter 1966.) A large portion of these ailments involve structural aberrations in the chromosomes—missing pieces, or chromosomes that are attached to part or all of another chromosome (translocations). Others involve too many or too few chromosomes (aneuploidy); this can occur either with the autosomal (nonsex) chromosomes or with the sex chromosomes. A number of disorders known or thought to be the result of mutations of single genes are also listed as having dermatoglyphic correlations. Finally, there are some conditions of uncertain genetic transmission and several disorders of external origin, such as rubella, thalidomide-damage, and cerebral palsy.

The dermatoglyphic "abnormalities" associated with these disorders include unusual frequencies of certain pattern types, unusually high or low ridge-counts for pattern size, unusual frequencies of a number of other dermatoglyphic features, the appearance of only one flexion crease on the inside surface of the fingers, and a particularly interesting feature known as the simian crease or line—where the two transverse flexion creases of the

palm (the heart and head lines of the palmist) connect to form a single distinct crease.

As mentioned, the exact genetic mechanism responsible for dermatoglyphic features is as yet unknown. The correlations mentioned above, however, have shed some light on the problem. Other physical symptoms of many of the disorders studied in this context involve developmental abnormalities—aberrations that, in part at least, originate during the fetal period. Since it is known that the dermatoglyphic features develop between the sixth and twenty-first fetal weeks, it appears possible that these distortions in dermatoglyphic features have more of a mechanical explanation than a direct genetic origin. Other studies (Mulvihill and Smith 1969, for example) have suggested that pattern size may be under fairly direct genetic control, while pattern type is more the secondary result of the size and shape of the developing fetal fingertips. At this point one must conclude that the relation between dermatoglyphic features and genes is a complex one that also involves the effects of environmental factors, that is, factors relating to the development of other physical features and processes, factors perhaps of the internal environment of the womb, and maybe factors involving the complex interactions of differing genetic combinations. At any rate, whatever the mechanisms at work, there is a recognized relationship between certain features of the hands and other aspects of human biology that results in specific enough manifestations to allow dermatoglyphics, with limitations, to be used diagnostically for "strengthening diagnostic impressions" and as "screening devices" to select patients for further studies and tests (Alter 1966).

We may now examine some specific correlations to see if they resemble at all those proposed by the palmist. Again, using Gettings as an example of more recent versions of palmistry, we find the prints of the fingertips used as indicators of certain personality characteristics. Only the three basic patterns are used. Arches are said to indicate "crudeness," "practicality," and "rebelliousness." Loops point to "restraint," "lack of originality," and "coolness" of manner. Whorls are indicative of a person who is "creative," "restless," and "egocentric."

In dermatoglyphic research, an excess of arches (as compared with frequencies derived from large population samples) is associated with a number of disorders. These include trisomy 18—a condition where an individual possesses three rather than two of the eighteenth chromosome—a disorder that usually leads to infant death. Kleinfelter's syndrome, where males have two instead of one X sex chromosome (XXY), also is correlated with an excess of arches. Individuals with this syndrome exhibit such symptoms as underdeveloped gonads, sparse body hair, some breast development, unusually long legs, and some mental retardation. Other correlated disorders include certain forms of congenital heart

disease, idiopathic mental retardation, epilepsy with retardation, and, according to some investigators, schizophrenia.

An excess of loops is associated with other forms of congenital heart disease and with another trisomy, trisomy 21, also known as Down's syndrome, or (unfortunately) mongoloid idiocy. This familiar disorder displays a number of characteristic physical features as well as mental retardation.

Whorls in excess of normal frequencies have been associated with another anomaly of the sex chromosomes known as Turner's syndrome. With this condition, outwardly physical females possess only one instead of two X chromosomes (XO). Most XO conceptions end in spontaneous abortions; but, when live birth does occur, characteristic symptoms of the disorder include very short stature, broad chest with underdeveloped breasts, webbing appearance of the neck, small uterus, and either no ovaries or those represented only by small "streaks" of tissue. There is no mental retardation. Other disorders correlated with excess whorls include Huntington's chorea, a neurological condition that results eventually in loss of mental faculties; some additional forms of congenital heart disease; and, according to other investigators, schizophrenia.

As I think can be readily seen, only with some semantic effort can any of these recognized correlations be construed as resembling those of the palmist. It is interesting, however, that so many of the disorders noted include among their symptoms some sort of behavioral manifestation.

The set of traits by far the most important in palmistry are the flexion creases of the palms. As noted above, various characteristics of these lines are said to relate information regarding an individual's personality, intellect, physical form, and even future. As might be suspected, interpretive systems differ enormously, but the kinds of information divined always fall into one of those basic categories.

Essentially the only interest the dermatoglyphic specialist has in flexion creases is in their medical relationships. In this regard, there are only two crease characteristics that have been shown to be well correlated with genetically based disorders. One is the presence of a single flexion crease, instead of two, on the inner surface of one or more fingers. This anomaly, so far as I can determine, is not treated by palmists at all. Anatomically it seems to be associated with a lack of mobility of the underlying finger joint. Single digital creases have shown correlations with three disorders that affect the development of an individual in numerous and rather disastrous ways. Two of these are known to have a genetic basis. They are trisomies 18, which is fatal, and 21 (Down's syndrome). The other disorder is known as the oral-facial-digital syndrome. It is suspected by some of being caused by a trisomy of the first chromosome, though this has not been proved. It results in various deformities of the regions of the body that give it its name.

The second important flexion crease feature is the so-called simian line or crease (so named because of its presence in some nonhuman primates). Found in under 2 percent of humans in general, this single line across the palm shows higher frequencies in victims of a number of genetically based disorders. Among these are: trisomies 18 and 21, Turner's syndrome, De Lange syndrome (various anomalies of the hands and feet), Ellis-van Creveld syndrome (dwarfism and polydactyly), psoriasis, Rubenstein-Taybi syndrome (broad thumb and great toe), idiopathic mental retardation, and two disorders of external origin—thalidomide damage and prenatal rubella.

The simian line is also used by palmists (under that name). It is said to indicate "a strong inner tension" (Gettings, p. 117). Depending upon the general personality traits shown by the other palmar and digital features, this tension can display itself in a number of specific ways: creative and artistic, destructive and criminal, or religious.

As with the fingerprint patterns, it would appear that these correlations accepted for the flexion creases and those proposed by the palmist bear little resemblance to one another. Again, it is of interest, however, that so many of the disorders mentioned have symptoms that involve behavioral manifestations.

Finally, a characteristic used in palmistry but not in dermatoglyphics (except with regard to physical deformity related to genetic disorders) is that of hand shape. Again, specific features and interpretations differ among various systems of palmistry and among palmists. The essential idea, however, is the same—that the shape of the palm and fingers is a clue to personality characteristics. This is reminiscent of the physique and temperament correlations espoused by W.H. Sheldon (1942). Sheldon developed a system for quantitatively describing an individual's overall body build that consisted of three components each scored on a scale of 1 to 7. Sheldon further suggested that these genetically based component expressions were linked with expressions of personality or temperament, also described by three components scored 1 to 7. This subject is complex and is really a topic for another paper; suffice it to say that Sheldon's ideas, especially with regard to temperament, are seldom used today, in part because of problems of interobserver uniformity and in part because, as I have suggested elsewhere (Park 1969), the evaluation of types of temperament and of their correlations with body type may be under more influence from culture than from some underlying genetic basis. There is then, at this point, little scientific support for a biological connection between shapes of parts of the body, or the body as a whole, and expressions of personality and temperament characteristics.

Obviously, a more detailed, point-by-point examination could be carried out comparing the findings of medical dermatoglyphics with the claims of palmistry. It seems clear enough to me, however, that the

scientifically established connections between palmar and digital features and other aspects of individual biology offer no positive evidence in support of the relationships advocated by the palmists. This, of course, does not preclude the possibility of some sort of connection beyond the bounds of this type of examination or even of our current knowledge. The probability, though, seems remote at this point.

For instance, Lyall Watson, to cite the only "scientific" example of which I am aware, proposes in *Supernature* that an intimate connection between internal physical and mental conditions and the lines of the palm makes sense, since the nervous system, sense organs, and skin are all derived from the same embryonic layer, and since so many diseases and mental states are known to have some manifestations or effects on the condition of a person's skin. The inside and outside of the body, in other words, are in constant contact and interplay throughout life. As evidence for this, with regard to palms, Watson claims that palmar creases "break down" at the moment of death, when signals from the brain, which have maintained them, cease. A check with the Connecticut State Medical Examiner's Office indicated that this claim was unfounded; I was told that the crease lines remain after death. At any rate, although there are certainly numerous intimate connections between parts of the body, I think Watson fails to provide any reason to believe that any of these manifest themselves in specific ways in the lines of the palms. The occult art of palmistry and the scientific study of the meaning and cause of dermatoglyphic features must remain, for now at least, two quite distinct categories of knowledge.

This does not mean, however, that there may not be some connection between the two in historical perspective. It remains to be explained just where the idea for palmistry came from in the first place. There are certainly other parts of the body that could be "read" for purposes of divination. It strikes me as possible that the concept may have originated as a result of observations of medical phenomena like those described above.

That this is at all plausible was made clear to me during my own research on dermatoglyphics. I was studying processes of microevolution among the Hutterian Brethren of Canada, using fingerprints as genetic markers. The Hutterites are extremely knowledgeable with regard to anything related to agriculture, but are fairly ignorant of many things outside that realm; in other words, I had no reason to suspect that they knew anything about dermatoglyphics other than the fact that "the government" took fingerprints. In the course of my work, one Hutterite man came to me and inquired about the "funny" line in his palm; no one else in the colony, he noted, had one. It turned out to be a simian line.* I

*An ethical, methodological note: I chose not to tell him about the correlation between simian lines and genetic disorders. It was obviously not a factor for him, and an explanation complete enough not to cause him undue concern might not have been possible.

am fairly certain that his observation of it was not prompted by anything other than curiosity. It would seem perfectly reasonable then that early literate or even preliterate human groups could have noted correlations between unusual palm and finger features and physical or, especially, mental aberrations (observations that would have been much more obvious than that of my Hutterite subject's) and could then have developed broader ideas about the connections between these features and things like mental state and even future events.

To be sure, despite the lack of scientific support, and perhaps especially *because* of the clear distinctions between these two spheres of knowledge, those who "believe" in palmistry will continue to do so. After all, there is a certain comfort in having access to knowledge that is hidden from view or "hiding" in the future. And there is a certain discomfort in the ever-changing, never-absolute world of science. That my palm reveals my innermost being and my future life, that ancient astronauts built the amazing pyramids, that the mind can fix broken watches and locate archaeological sites—all these are intriguing and exciting and somehow comforting in their simplicity and absoluteness. It is an understandable emotion. Thus it is up to those of us involved in research like the above not only to examine (and often debunk) such paranormal phenomena but also to communicate the excitement and intrigue of *our* "occult" ("hidden" or "concealed") knowledge: the fascinating mysteries of black holes in space, of the extinction of the dinosaurs, of invisible particles smaller than atoms, and, yes, even of fingerprints and genes.

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