Graphology is the pseudoscientific\cite{1}\cite{2} study and analysis of handwriting, especially in relation to human psychology. In the medical field, the word can be used to refer to the study of handwriting as an aid in diagnosis and tracking of diseases of the brain and nervous system. The term is sometimes incorrectly used to refer to forensic document examination.

Graphology has been controversial for more than a century. Although supporters point to the anecdotal evidence of thousands of positive testimonials as a reason to use it for personality evaluation, most empirical studies fail to show the validity claimed by its supporters.\cite{3}\cite{4}

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Etymology

From grapho- (from the Greek γραφή, "writing") and logos (from the Greek λόγος, "word"); cf.: Anthropology, Psychology, Biology, Geology. There also exist many other words formed from the same root: Graphopathology, Graphomaniac, Graphistic, Graphopsychology, Psychographology, Graphometric, Graphometry, Graphoanalysis, Graphotechnology, Micrographia.

Basic tenets

Graphology is based upon the following basic assertions:

- When we write, the ego is active, but it is not always active to the same degree. Its activity waxes and wanes; being at its highest level when an effort has to be made by the writer and at its lowest level when the motion of the writing organ has gained momentum and is driven by it.

- When the action of writing is comparatively difficult, the writer uses those forms of letters which are simpler or more familiar.

- The muscular movements involved in writing are controlled by the central nervous system. The form of the resultant writing movement is modified further by the flexibly assembled coordinative structures in the hand, arm, and shoulder; which follow the principles of dynamical systems. The specific writing organ (mouth, foot, hand, crook of elbow) is irrelevant if it functions normally and is sufficiently adapted to its function.

- The neurophysiological mechanisms which contribute to the written movement are related to conditions within the central nervous system and vary in accordance with them. The written strokes, therefore, reflect both transitory and long term changes in the central nervous system such as Parkinson's disease, or alcohol usage.

- The movements and corresponding levels of muscular tension in writing are mostly outside of conscious control and subject to the ideomotor effect. Emotion, mental state, and biomechanical factors such as muscle stiffness and elasticity are reflected in a person's handwriting.

- One must examine the handwriting or drawing movements by considering them as movements organized by the central nervous system and produced under biomechanical and dynamical constraints. Given these considerations, graphologists proceed to evaluate the pattern, form, movement, rhythm, quality, and consistency of the graphic stroke in terms of psychological interpretations. Such interpretations vary according to the graphological theory applied by the analyst.

- Most schools of thought in graphology concur that a single graphological element can be a component of many different clusters, with each cluster having a different psychological interpretation. The significance of the cluster can be assessed accurately by tracing each component of the cluster back to their origins and adapting the meaning of the latter to the conditions of the milieu in which the form appears.

Approaches
There are three approaches to graphology: the integrative approach, the holistic approach, and the symbolic approach.

**Integrative graphology**

This approach holds that specific stroke structures relate to personality traits. Most systems within this approach use a cluster of stroke formations, to score a specific personality trait. Systems that fall under this umbrella are: *fixed signs, trait stroke, French System* and Graphoanalysis. It has been described as starting from the inside, and working to the outside.

**Holistic graphology**

This is commonly, but incorrectly referred to as *Gestalt Graphology*. Gestalt graphology was a system of handwriting analysis developed circa 1915 in Germany and was related theoretically to Gestalt psychology. In this approach (Holistic Graphology) a profile is constructed on the basis of form, movement and space. It has been described as starting from the outside, and working to the inside. In this approach, individual traits, such as legibility, are not assigned specific meanings, but can take on different meanings depending on the overall context.

**Symbolic analysis**

In this approach, one looks for symbols seen in the handwriting. This can be either **Major symbolism**, or **Minor Symbolism**.

- **Major symbolism** is the meaning ascribed to the stroke, as it related to the page.
- **Minor symbolism** ascribes a meaning to the stroke, depending upon the picture that the stroke draws. For example, John Wayne's signature shows a blackened out portion, that represents his lung cancer.

This approach provides the theory that underlies both Holistic Graphology, and Integrative Graphology. Max Pulver\[^{5,6,7,8}\] is the best known exponent of this system.

**Systems of handwriting analysis**

Each approach to handwriting analysis has spawned several different systems.

- **Integrative graphology**
  - Graphoanalysis was the most influential system in the United States, between 1929 and 2000.
  - Sistema de Xandró.\[^{9,10,11}\]

- **Holistic graphology**
  - The psychogram\[^{12,13,14}\] is the only system to have been taught as part of an academic degree, at an accredited institution in the United States.
  - The Personal Worth Chart was developed by Handwriting Consultants of San Diego\[^{15}\] during the early eighties.
  - The psychograph\[^{16}\] was developed by Leslie King during the seventies.
  - Wittlich Character Diagram\[^{17,18}\]
  - Muller - Enskat Protokol\[^{19,20}\]
  - Leopold Szondi
  - Girolamo Moretti\[^{21,22,23}\]
  - Augusto Vels\[^{24,25,26,27,28,29,30,31,32}\]

**Training**

Four academic institutions around the world currently offer an accredited degree in handwriting analysis:

- The University of Urbino, Italy: MA (Graphology)
Instituto Superior Emerson, Buenos Aires, Argentina: BA (Graphology)\[33\]
Centro de Estudios Superiores (CES) Buenos Aires, Argentina: BA (Graphology)\[34\]
Autonomous University of Barcelona, Barcelona: Spain: MA (Graphology)
Université de Paris, Paris: France: MA (Graphologie)

Training in the United States

Between 1940 and 1995, New School for Social Research, in New York City, offered a diploma in Graphology. At its peak, the diploma course took 8 semesters, and also included Forensic Document Analysis. This diploma did not have academic accreditation.

From 1970 to 2000, one could obtain a Graphology track Associate Arts Degree from Felician College, in Lodi, NJ. This was the only academic institution in the United States to have offered graphology for an accredited academic degree.

Training in the United States is currently available through correspondence courses. The quality of instructions varies considerably.

Writing systems

The majority of material in the field is oriented towards the Latin Writing system. Courses offered in the subject reflect that bias.

Vocabulary

Every system of handwriting analysis has its own vocabulary. Even though two or more systems may share the same words, the meanings of those words may be different. The technical meaning of a word used by a handwriting analyst, and the common meaning is not congruent. Resentment, for example, in common usage, means to feel or exhibit annoyance. In Graphoanalysis, the term indicates a fear of imposition.\[35\][36]

Validity

Although graphology had some support in the scientific community before the mid-twentieth century, the results of most recent surveys on the ability for graphology to assess personality and job performance have been negative.\[37\][38]\[39\][40] Graphology is primarily used as a recruiting tool to screen candidates during the evaluation process. Many studies have been conducted to assess its effectiveness to predict personality and job performance. Recent studies testing the validity of using handwriting for predicting personality traits and job performance have been consistently negative.\[37\][40]

In a 1987 study, graphologists were unable to predict scores on the Eysenck Personality Questionnaire using writing samples from the same people.\[4\] In a 1988 study, graphologists were unable to predict scores on the Myers-Briggs test using writing samples from the same people.\[41\] A 1982 meta-analysis drawn from over 200 studies concludes that graphologists were generally unable to predict any kind of personality trait on any personality test.\[42\]

Measures of job performance appear similarly unrelated to the handwriting metrics of graphologists. Professional graphologists using handwriting analysis were just as ineffective as lay people at predicting
performance in a 1989 study.[43] A broad literature screen done by King and Koehler confirmed dozens of studies showing the mechanical aspects of graphology (slant, slope, etc.) are essentially worthless predictors of job performance.[37]

Rowan Bayne, a British psychologist who has written several studies on graphology, summarized his view of the appeal of graphology: "It's very seductive because at a very crude level someone who is neat and well behaved tends to have neat handwriting", adding that the practice is "useless... absolutely hopeless".[44] The British Psychological Society ranks graphology alongside astrology, giving them both "zero validity".[44]

Overall, despite a few studies that support handwriting analysis, such as Crumbaugh and Stockholm,[45] the large majority of studies such as Ben-Shakar, Bar-Hillel, Blum, Ben-Abba, & Flug[46] and many others indicate evidence against its predictive validity.

Graphology was also dismissed as a pseudo-science by James Randi in 1991.[47]

Additional specific objections

- The Barnum effect and the Dr Fox effect.[48] These phenomena make it difficult to validate methods of personality testing. These describe the observation that individuals will give high accuracy ratings to descriptions of their personality that supposedly are tailored specifically for them, but are in fact vague and general enough to apply to a wide range of people. See, for example, Tallent (1958).[49] Non-individualized graphological reports give credence to this criticism.

- Effect Size: Dean's (1992)[50][51] primary argument against the use of graphology is that the effect size is too small. Regardless of the validity of handwriting analysis, the research results imply that it is not applicable for any specific individual, but may be applicable to a group.

- Vagueness: Some important principles of graphology are vague enough to allow a lot of room for a graphologist to skew interpretations to suit a subject or preconceived conclusion. For example, one of the main concepts in the theory of Ludwig Klages is form-niveau (or form-level): the overall level of originality, beauty, harmony, style, etc. of a person's handwriting—a quality that, according to Klages, can be perceived but not measured. According to this theory, the same sign has a positive or negative meaning depending on the subject's overall character and personality as revealed by the form-niveau. In practice, this can lead the graphologist to interpret signs positively or negatively depending on whether the subject has high or low social status.[52]

History

Three books have been claimed to be the first book on graphology:

1. Juan Huarte de San Juan's 1575 *Examen de ingenios para las ciencias*.[53] This was first proposed by Jean-Charles Gille in 1991.[54]
2. Prospero Aldorisio's 1611 *Idengraphicus nuntius*.[55]
3. Camillo Baldi's *Trattato come da una lettera missiva si conoscano la natura e qualita dello scrittore*[56] which was unofficially published in 1622. The 1625 edition was probably the first authorized edition of Baldi's book. In American graphology, this is considered to be the first book.[12]

Around 1830 Jean-Hippolyte Michon became interested in handwriting analysis. He published his
findings shortly after founding Société Graphologique in 1871. The most prominent of his disciples was J. Crépieux-Jamin who rapidly published a series of books that were soon published in other languages. Starting from Michon's integrative approach, Crépieux-Jamin ended up with a holistic approach to graphology.

Alfred Binet was convinced to do research into graphology from 1893 to 1907. He ended up calling it "The science of the future", despite graphologists' rejecting the results of his research.

After World War I, interest in graphology continued to spread in Europe as well as the United States. In Germany during the 1920s, Ludwig Klages founded and published his finding in Zeitschrift für Menschenkunde (Journal for the Study of Mankind). His major contribution to the field can be found in Handschrift und Charakter.

Thea Stein Lewinson and J. Zubin modified Klage's ideas, based upon their experience working for the U.S. Government, publishing their method in 1942.

In 1929 Milton Bunker founded The American Grapho Analysis Society teaching Graphoanalysis. This organization and its system split the American graphology world in two. Students had to choose between Graphoanalysis or Holistic Graphology. Whilst hard data is lacking, anecdotal evidence indicates that 10% of the members of International Graphoanalysis Society (IGAS) were expelled between 1970 and 1980. By the time Peter Ferrera died in 1991, the decimation of IGAS members had resulted in a decline of the influence of Graphoanalysis, and IGAS on American graphology.

Klara G. Roman was the most prominent of the German refugee scholars. Her books are still considered to be foundations for contemporary American Holistic graphology. She taught at the New School for Social Research in New York, and was succeeded there by Daniel S. Anthony and Florence Anthony.

Handwriting Workshops Unlimited was organized by Charlie Cole as a series of lectures for advanced students of Graphoanalysis. These lectures featured holistic graphologists such as Thea Lewinson and Klara Roman. By 1960 all of the participants had been expelled by IGAS. These individuals went on to form the American Handwriting Analysis Foundation. Later mass expulsions of IGAS members led to the formation of other societies, such as the American Association of Handwriting Analysts that were orientated towards Holistic graphology.

In 1972 talks between the American Handwriting Analysis Foundation and the American Association of Handwriting Analysis started, with the aim to form a single organization. Those talks resulted in the creation of the Council of Graphological Societies in 1976.

Since the rise of the Internet in the early 1990s, the graphology organizations have suffered major declines in membership. However, due to email lists, communication between graphologists representing different approaches has increased.

Legal considerations

In Hungary

A Hungarian Parliamentary Commissioner for Data Protection and Freedom of Information report states
that handwriting analysis without informed consent is a privacy violation.

In the United States

Privacy

Graphologists often claim that handwriting analysis in the workplace is legal,[68] erroneously citing one or more of the following cases:

- US v Rosinsky :547 F 2nd 249 (CA 4th 1977 )
- United States v Wade :388 US 218, 221-223 (1967)

All of these cases are about Fifth Amendment rights in a criminal investigation. These cases do not address issues relating to psychological analysis of an individual. Neither do they address third party issues.

Equal Employment Opportunity Commission

Many graphologists claim that handwriting analysis is non-discriminatory, since it cannot determine gender, age, ethnicity, or other Equal Employment Opportunity Commission (EEOC) Protected Classes.[69] However, thus far, there have been no studies demonstrating that the use of handwriting analysis in employment does not have a disparate impact upon EEOC protected classes.

There have been a number of studies on gender and handwriting.[70][71][72][73] Uniformly the research indicates that gender can be determined at a significant level. The published studies on ethnicity,[74][75][76] race,[77] age,[80][81][82] nationality,[83] gender orientation, weight, and their relationship to handwriting have had mixed results, with a tendency to indicate that they can be determined from handwriting.

Americans with Disabilities Act of 1990

One of the rules of thumb in human resources[citation needed] is that if an individual who has an ADA-defined disability cannot take a test, then nobody can. As a result, tests that cannot be adapted for use by those individuals will not be used by a company.

Handwriting clearly falls into the group of tests that cannot be adapted to be administered to individuals who fall within one or more ADA-defined disabilities. Blind people, for example, do not develop the required fluency in handwriting, for the writing to be correctly analyzed.

Questions that handwriting analysts ask before doing an analysis can be illegal under this act.[84]

Graphology in court testimony

*Cameron v Knapp*, 137 Misc. 2d 373, 520 N.Y.S.2d 917 (Sup. Ct. N.Y. Co. 1987) (handwriting expert may testify as to the authenticity of a writing but not as to an individual's physical or mental condition based on a handwriting sample) is an example of current U.S. case law for the rejection of graphology as psychological testimony.
Carroll v State [276 Ark 160; 634 SW 2d 99, 101-102 (1982)] will be remembered for its implications on the propriety of allowing graphologists to testify. The opposing Handwriting Analysts displayed a distinct lack of professional courtesy to each other. In doing so, they undermined the scientific validity of both Integrative Graphology and Holistic Graphology.\[51\]

**Applications**

**Employment profiling**

A company takes a writing sample provided by an applicant, and proceeds to do a personality profile, matching the congruency of the applicant with the ideal psychological profile of employees in the position.\[85\]

A graphological report is meant to be used in conjunction with other tools, such as comprehensive background checks, practical demonstration or record of work skills. Graphology supporters state that it can complement but not replace traditional hiring tools.

Research in employment suitability has ranged from complete failure\[86\] to guarded success.\[87\] The most substantial reason for not using handwriting analysis in the employment process is the absence of evidence of a direct link between handwriting analysis and various measures of job performance\[88\]

The use of graphology in the hiring process has been criticized on ethical grounds\[89\] and on legal grounds in the US.\[90\]

**Business compatibility**

This is an additional service offered by some handwriting analysts. The focus of these reports can be one, or more of the following:

**Company-wide**
This is a report that describes how compatible the individual is, with each employee in the company.

**The average company employee**
For this report, the mean, mode, and median scores of every scored data point, for the entire company are used, to create three hypothetical employees. The individual is then compared to these three employees, with the focus being how good a fit the individual is.

**Division wide**
This is a report that describes how compatible the individual is, with each employee in the division.

**The average division employee**
For this report, the mean, mode, and median scores of every scored data point, for the entire division are used, to create three hypothetical employees. The individual is then compared to these three employees, with focus being how well the individual will fit into the existing company psychodynamic profile.

**Unit wide**
This is a report that describes how compatible the individual is, with each employee in the unit.

**The average unit employee**
For this report, the mean, mode, and median scores of every scored data point, for the entire unit are used, to create three hypothetical employees. Those are then compared to the applicant, with a focus on how good a fit the individual is.

**The unit manager / Co-worker**
This explores the differences in personal style between a manager/co-worker and potential employee. The end result is on how each can maximize productivity and minimize personal friction.
Composite reports

This explores the difference in personal style between every employee in a group. The idea is for each member of the group to learn not only their own strengths and weaknesses, but also those of their co-workers, and how they can more harmoniously work together. The resulting reports not only deal with the individual on a one-to-one level within the group, but also each individual as a part of a group of three, four, five, etc. people within the group.

The content of these reports can range from a simple perspectrograph, to a four wheel Wittlich Diagram and accompanying twenty five thousand word analysis.

**Psychological analysis**

Graphology has been used clinically by some European counselors and psychotherapists. When it is used, it is generally used alongside other projective personality assessment tools, and not in isolation. It is often used within individual psychotherapy, couples' therapy, or vocational counseling.[91]

**Marital compatibility**

In its simplest form only sexual expression and sexual response are examined. At its most complex, every aspect of an individual is examined for how it affects the other individual(s). The basic theory is that after knowing and understanding how each other is different, any commitment that is made will be more enduring. Typically done for couples, it is not unknown for a polyamorous group to obtain a report prior to the commitment ceremony of a new individual.

In cultures where arranged marriages are common, graphology can be used as an additional checkpoint on the compatibility of the couple prior to the elders giving their consent for the marriage to take place.

A variety of books have been written on this specific subject.

- *So you want to get married: Handwriting can help you plan for marriage, understand your partner and live a richer life* by M. N. Bunker, (1953)
- *Finding Mr. Write: A New Slant on Selecting the Perfect Mate* by Beverley East, (2000)

**Medical diagnosis**

Medical graphology[92] is probably the most controversial aspect of handwriting analysis. Strictly speaking, such research is not graphology as described throughout this article but an examination of factors pertaining to motor control. Research studies have been conducted in which a detailed examination of handwriting factors, particularly timing, fluidity, pressure, and consistency of size, form, speed, and pressure are considered in the process of evaluating patients and their response to pharmacological therapeutic agents.[93] The study of these phenomena is a by-product of researchers investigating motor control processes and the interaction of nervous, anatomical, and biomechanical systems of the body.

*The Vanguard Code of Ethical Practice*, amongst others, prohibits medical diagnosis by those not licensed to do diagnosis in the state in which they practice.

**Jury screening**

A graphologist is given handwriting samples of a prospective jury and determines who should be struck, based
upon their alleged personality profile. After the trial has begun, the graphologist advises counsel on how to slant their case, for the most favorable response from the jury.[94]

**Graphotherapy**

This is the practice of changing a person's handwriting with the goal of changing features of his or her personality. It was pioneered in France during the nineteen-thirties, spreading to the United States in the late fifties. [95][96]

The therapy consists of a series of exercises which are similar to those taught in basic calligraphy courses, sometimes in conjunction with music or positive self-talk. There have been anecdotal reports of these exercises curing everything from drug addiction[95] to anorexia nervosa[97] and back to borderline personality disorder.[95]

**Forensic document examination**

The discipline of forensic document examination is also known as questioned document examination within the judicial system. With respect to handwriting examinations, the discipline tries to address the question of whether or not a document was written by the person who is thought to have written it. As such, this is not an aspect of graphology.

*Goodtitle Drevett v Braham* 100 Eng Rep 1139 (1792) is reportedly the first case at which the testimony of a questioned document examiner was accepted.

**Divination**

Some individuals believe that one can tell the future from handwriting analysis. Others believe that a handwriting analyst can provide spiritual guidance on situations that they face. These beliefs are claimed to be false for reasons ranging from the complete lack of either scientific or anecdotal evidence, to the application of Aristotelian logic to any of the numerous (and mutually incompatible) theories of handwriting analysis. Most graphologists reject supernatural insights from their assessment of handwriting.

The code of ethics for the International Graphoanalysis Society, British Association of Graphology and Association Déontologique Européenne de Graphologie prohibits the practice of anything related to the occult.

**Graphology in media**

Graphology is sometimes shown in various crime and detective media.

In *Sherlock Holmes: A Game of Shadows*, Sherlock uses graphology to describe Moriarty's personality as such-

Sherlock Holmes: The psychological analysis of handwriting. The upward strokes on the ‘p’, the ‘j’, the ‘m’, indicate a genius level intellect, while the flourishes in the lower zone denote a highly creative, yet meticulous nature, but if one observers the overall slant and the pressure of the writing, there’s suggestion of acute narcissism, a complete lack of empathy, and a pronounced inclination toward-

Professor James Moriarty: No.
Sherlock Holmes: Moral insanity.

In the Catwoman movie, it used to determine that Patience has a split personality, though it was determined it was two different people by the analyst.

See also

Systems of handwriting analysis

- Graphoanalysis
- Psychogram

Graphologists

- Camillo Baldi
- Ludwig Klages
- Léopold Szondi
- Robert Saudek
- Max Pulver

Organizations of handwriting analysts

- International Graphoanalysis Society

Related fields

- Asemic writing
- Questioned document examination
- Calligraphy
- Palaeography
- Graphonomics
- Doodle
- Graffiti (writing)

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External links

- Graphology (http://www.dmoz.org/Science/Social_Sciences/Psychology/Alternative/Handwriting_Analysis/) at the Open Directory Project
- Skeptic's Dictionary entry on graphology (http://skepdic.com/graphol.html)
- BBC article about graphology (http://news.bbc.co.uk/2/hi/uk_news/magazine/4223445.stm)
- How Graphology Fools People (http://www.quackwatch.org/01QuackeryRelatedTopics/Tests/grapho.html)
- Graphological analysis based on Moretti’s method (http://www.graphology.it)


Categories: Biometrics | Graphology | Personality | Writing | Pseudoscience

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