

THE PHYSIOGNOMISTS' PROMISE

Agnieszka Holland's movie *Europa Europa* is based on the autobiography of Solomon Perel. As a German Jewish boy, Perel is forced to escape Nazi Germany. After a chain of events that includes stints in Poland and Russia, he is captured by German soldiers. To save his life, he pretends to be Josef Peters, a German from Baltic Germany. Eventually he wins the admiration of the soldiers and their commanding officer and is sent to a prestigious Hitler Youth School in Berlin. One of his scariest moments at the school occurs during a science lesson on racial purity. Next to the giant swastika flag hang three large posters showing faces overlaid with measurements. The teacher walks in and asks, "how do you recognize a Jew?" and then continues, "that's quite simple. The composition of Jewish blood is totally different from ours. The Jew has a high forehead, a hooked nose, a flat back of the head, ears that stick out and he has an ape-like walk. His eyes are shifty and cunning." In contrast to the Jewish man, "the Nordic man is the gem of this earth. He's the most glowing example of the joy of creation. He is not only the most talented but the most beautiful. His hair is as light as ripened wheat. His eyes are blue like the summer sky. His movements are harmonious. His body is perfect." The teacher continues, "science is objective. Science is incorruptible. As I have already told you, if you thoroughly understand racial differences, no Jew will ever be able to deceive you." This is where the frightening moment for Perel/Peters really begins. The teacher turns toward Peters and asks him to come forward. Horrified, Peters reluctantly goes to the front of the room. The teacher pulls out a measuring tape and starts measuring his head—first from the chin to the top of the head, then from the nose to the top of the head, and then from the chin to the nose. While the measurement continues, there is a close up on Peters's face as he anxiously tracks the actions of the teacher. The

teacher continues with his measurement. He measures the width of Peters's head and then compares his eyes with different eye colors from a table. "The eyes. Look at his skull. His forehead. His profile [turning Peters's head, who is visibly blushing]. Although his ancestors' blood, over many generations mingled with that of other races, one still recognizes his distinct Aryan traits." On hearing this, Peters almost jerks his head toward the teacher's face. "It's from this mixture that the East-Baltic race evolved. Unfortunately, you're not part of our most noble race, but you are an authentic Aryan."

The "objective science" of physiognomy was not invented by Nazi scientists. It has a long history originating in ancient cultures. The physiognomists' claims reached scientific credibility in the nineteenth century, although this credibility came under attack by the new science of psychology in the early twentieth century. Their claims were wrong, but the physiognomists were right about a few things: we immediately form impressions from appearance, we agree on these impressions, and we act on them. These psychological facts make the physiognomists' claims believable, and the claims have not disappeared. A surge of recent scientific studies test hypotheses that the physiognomists would have approved of. An Israeli technology start-up is offering its services in facial profiling to private businesses and governments. Rather than using a tape to measure faces, they use modern computer science methods. Their promise is the old physiognomists' promise: "profiling people and revealing their personality based only on their facial image." We are tempted by the physiognomists' promise, because it is easy to confuse our immediate impressions from the face with seeing the character of the face owner. Grasping the appeal of this promise and the significance of first impressions in everyday life begins with the history of physiognomy and its inherent connections to "scientific" racism.



The first preserved document dedicated to physiognomy is *Physiognomica*, a treatise attributed to Aristotle. The major premises of the treatise are that the character of animals is revealed in their form and that humans resembling certain animals possess the character of these animals. Here is one of many examples of applying this logic: "soft hair indicates cowardice, and coarse hair courage. This inference is based on observation of the whole animal kingdom. The most timid of animals are deer, hares, and sheep, and they have the softest coats; whilst the lion and wild-boar are bravest and have the coarsest coats."

The logic is also extended to races: “and again, among the different races of mankind the same combination of qualities may be observed, the inhabitants of the north being brave and coarse-haired, whilst southern peoples are cowardly and have soft hair.”

In the sixteenth century, Giovanni Battista della Porta, an Italian scholar and playwright, greatly expanded on these ideas. Humans whose faces (and various body parts) “resembled” a particular animal were endowed with the presumed qualities of the animal. His book is filled with illustrations like the one in Figure 1.1.



FIGURE 1.1. An illustration from Giovanni Battista della Porta’s *De Humana Physiognomia*. Della Porta’s book, in which he inferred the character of people from their supposed resemblance to animals, was extremely popular and influenced generations of physiognomists.

This particular illustration appears four times in the book in analyses of different facial parts, yet the message is consistent. People who look like cows—whether because of their big foreheads or wide noses—are stupid, lazy, and cowardly. There is one positive characteristic: the hollow eyes indicate pleasantness. As you can imagine, those who “look like” lions come off much better.

Della Porta’s book was very popular in Europe and enjoyed multiple translations from Latin into Italian, German, French, and Spanish, resulting in

twenty editions. The book influenced Charles Le Brun, one of the dominant figures in seventeenth-century French art. Le Brun, appointed by Louis XIV as the first Painter of the King, was also the Director of the Royal Academy of Painting and Sculpture. In 1688, Le Brun delivered a lecture on the facial expressions of emotions: the first attempt in human history to systematically explore and depict such expressions. After Le Brun's death, the lecture—discussed, admired, and hated by artists—was published in more than sixty editions. Le Brun also delivered a second lecture on physiognomy. Unfortunately, this lecture was not preserved, but some of the illustrations survived. Compare della Porta's Lion-Man in Figure 1.2 with Le Brun's Lion-Man in Figure 1.3.



FIGURE 1.2. Another illustration from Giovanni Battista della Porta's *De Humana Physiognomia*. Compare this illustration with Figure 1.3.

Le Brun's drawings are more beautiful and true to life, and it is apparent that he was trying to develop a much more sophisticated system of comparisons between animal and human heads. Le Brun experimented with the angles of the eyes to achieve different perceptual effects. He noted that the eyes of human faces are on a horizontal line and that sloping them downward makes



FIGURE 1.3. After Charles Le Brun, lion and lion-man. Le Brun was developing a system for comparing animal and human faces.

the faces look more bestial. This is illustrated in his drawing of the Roman emperor, Antoninus Pius, in Figure 1.4.



FIGURE 1.4. Charles Le Brun, Antoninus Pius with sloping eyes. Le Brun experimented with the angle of the eyes to make humans look more like animals.

Alternatively, making the eyes of animals horizontal makes them look more human, as in Figure 1.5. These kinds of experiments are not that different from modern psychology experiments testing how changes in facial features influence our impressions.



FIGURE 1.5. Charles Le Brun, horse and lion with horizontal eyes. Le Brun experimented with the angle of the eyes to make animals look more like humans.

The theme of comparative physiognomy would continue to run through physiognomists' writings and appear in the work of many caricaturists throughout Europe and America for the next 300 years. Some of the most talented caricaturists, like Thomas Rowlandson in England and Honoré Daumier and J. J. Grandville in France, would exploit this theme to achieve humorous effects. But other authors took the theme seriously. Many national stereotypes and prejudices of the day find their expression in a book titled *Comparative Physiognomy or Resemblances between Men and Animals*, published in the United States in 1852: Germans are like lions, Irish are like dogs, Turks are like turkeys, and the list goes on.



Johann Kaspar Lavater, the real superstar of physiognomy, highly recommended della Porta's book, although he was critical: "the fanciful Porta appears to me to have been often misled, and to have found resemblances [between men and beasts] which the eye of truth never could discover." Prior to Lavater, physiognomy was closely associated with suspect practices like chiromancy (palm reading), metoposcopy (reading the lines of the forehead), and astrology. There were even laws in Britain stating that those "pretending to have skill in physiognomy" were "rogues and vagabonds," "liable to be publicly whipped." Lavater engaged in debates with some of the greatest minds of the eighteenth century and legitimized physiognomy. Reviewing the history of physiognomy at the end of the nineteenth century, Paolo Mantegazza, an Italian neurologist and anthropologist, summarized it this way: "plenty of authors, plenty of volumes, but little originality, and plenty of plagiarism! Who knows how often we might have been dragged through the same ruts if towards the middle of the last century Lavater had not appeared to inaugurate a new era for this order of studies." For Mantegazza, Lavater was "the apostle of scientific physiognomy."

Born and raised in Zurich, Switzerland, Lavater showed early inclinations toward religion. After receiving a theological education, he rose through the ranks of the Zurich Reformed Church to become the pastor of the Saint Peter's church. By many accounts of the day, he was extremely charming. His sermons were popular, and he entertained hundreds of visitors. Lavater was also a prolific author. He managed to write more than 100 books and maintain an extremely large correspondence. Ironically, he was reluctant to write about physiognomy, although he was continually urged to do so by Johann

Georg Ritter von Zimmermann, another Swiss who was the personal physician of the King of England and a European celebrity. Zimmermann would remain Lavater's greatest promoter and supporter.

Lavater's first publication on physiognomy was unintentional. As a member of the Society for Natural Sciences in Zurich, Lavater was asked to deliver a lecture of his own choosing. He gave a lecture on physiognomy, which ended up being published by Zimmermann, who "had it printed wholly without my knowledge. And thus I suddenly saw myself thrust into public as a defender of physiognomics." Being thrust into this role and aware of the strong feelings that physiognomy provoked, Lavater approached many celebrities of the day to help him with the writing of his *Essays on Physiognomy*. By then, he was a famous theologian, and support was coming from all directions—from encouragement to requests for portraits to be analyzed. None other than Goethe helped Lavater edit the first volume, and some of the best illustrators worked on the books. The four-volume work was published between 1775 and 1778, and the result was "a typographical splendor with which no German book had ever before been printed." And in fact, the large format, richly illustrated books are beautiful even by today's standards.

The success of the books was phenomenal despite the exorbitant price. It helped that the books were distributed by subscription to many aristocrats and leading intellectuals, some of whom were lured by Lavater's promise to analyze their profiles. More importantly, societies formed to buy and discuss the books. Within a few decades, there were twenty English, sixteen German, fifteen French, two American, one Russian, one Dutch, and one Italian editions. As the author of the Lavater obituary in *The Gentleman's Magazine* in 1801 put it, "in Switzerland, in Germany, in France, even in Great Britain, all the world became passionate admirers of the Physiognomical Science of Lavater. His books, published in the German language, were multiplied by many editions. In the enthusiasm with which they were studied and admired, they were thought as necessary in every family as even the Bible itself. A servant would, at one time, scarcely be hired but the description and engravings of Lavater had been consulted in careful comparisons with the lines and features of the young man's or woman's countenance."



Lavater defined physiognomy as "the talent of discovering, the interior man by the exterior appearance." Although his ambition was to introduce physi-

ognomy as a science, there was not much scientific evidence in his writings. Instead he offered “universal axioms and incontestible principles.” Here are some of the axioms: “the forehead to the eyebrows, the mirror of intelligence; the cheeks and the nose form the seat of the moral life; and the mouth and chin aptly represent the animal life.” The “evidence” came from counterfactual statements peppered with what now would be considered blatantly racist beliefs: “who could have the temerity to maintain, that Newton or Leibnitz might resemble one born an idiot” or have “a misshapen brain like that of Laplander” or “a head resembling that of an Esquimaux.”

The other kind of “evidence” came from the many illustrations, which served as Rorschach’s inkblots on which Lavater (and his readers) could project their knowledge and biases. The knowledge projection came from describing famous personalities. Analyzing the profile of Julius Caesar, Lavater noted that “it is certain that every man of the smallest judgment, unless he contradict his internal feeling, will acknowledge, that, in the form of that face, in the contour of the parts, and the relation which they have to one another, they discover the superior man.” Analyzing the profile of Moses Mendelssohn, a brilliant philosopher known as the “German Socrates” and Berlin’s most famous Jew, “I revel in this silhouette! My glance welters in this magnificent curve of the forehead down to the pointed bone of the eye. . . . In this depth of the eye a Socratic soul is lodged!”

And there are the illustrations of particular human types like the “horrible face” in Figure 1.6, described by Lavater in the following way:

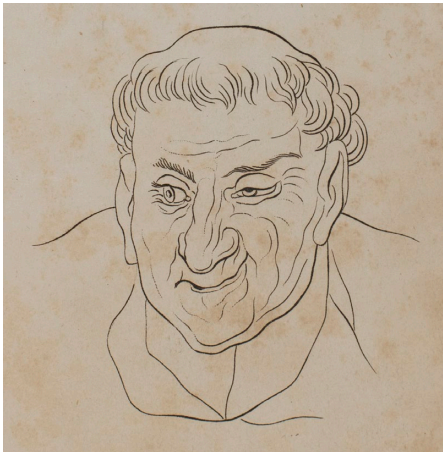


FIGURE 1.6. An illustration of a “horrible face” from Johann Kaspar Lavater’s *Essays on Physiognomy*. Lavater’s richly illustrated books on physiognomy were immensely popular in the eighteenth and nineteenth centuries. Image courtesy Princeton University Library.

“It is not virtue which that horrible face announces. Never could candour, or a noble simplicity, or cordiality, have fixed their residence there. The most sordid avarice, the most obdurate wickedness, the most abominable knavery, have deranged those eyes, have disfigured that mouth.” Lavater also illustrated and described “national types.” Naturally, Europeans, especially the Germans and English, fared much better than the rest of humanity. Many of the non-Europeans could hardly pass for humans in his book.

Lavater was just as popular as his books. One of his aristocratic friends wrote in a letter that she would keep his visit to Bern a secret “so as not to have the entire local population round our necks asking for physiognomical reading.” The Emperor Joseph II did not miss a chance to meet Lavater while visiting Switzerland. After the meeting, the emperor wrote to him: “the fact that you can see into people’s hearts puts one on one’s guard when one comes too close to you.” Joseph actually suggested that physiognomy should become an academic discipline to be taught at universities. Wisely, Lavater politely declined: “well, let’s put off of a system of physiognomy for another forty or fifty years. Meanwhile, [we can] make daily observations, confirm and define the old ones more precisely, add new ones, and not draw up our armies until we have recruited enough hardy individual soldiers.”



In the end, the phenomenal success of Lavater’s “science” was short lived. The person most responsible for its demise was Georg Christoph Lichtenberg. Lichtenberg, the son of a Protestant clergyman, studied mathematics and physics at the University of Göttingen, one of the most liberal universities in Germany. Shortly after his graduation, he was appointed as a professor there. His lectures on experimental physics were famous and attended by luminaries like Alessandro Volta, Goethe, Karl Friedrich Gauss, and Alexander von Humboldt. Elected to the most prestigious science societies in the world, he was highly respected. But he is remembered more for his contributions to literature and philosophy than to the natural sciences. Goethe referred to his writings as “the most wonderful divining rod,” and Lichtenberg is credited with the introduction of the aphorism in German literature.

Lichtenberg was remarkably modern in his ideas, not buying into the prevailing racist prejudices of his day. To Lavater’s claim that it is impossible to imagine “that Newton or Leibnitz might resemble” somebody from an “inferior” ethnic origin, he responded, “this shallow and passionate youthful dec-

lamation can be arrested forever with a simple *and why not?*” With respect to the worst prejudices about the people of Africa, he wrote, “I just want to put in a word for the Negro, whose profile one has drawn to be the downright ideal of stupidity and stubbornness and, so to speak, the asymptote of the line marking the stupidity and stubbornness of Europeans.”

Lichtenberg was just as fascinated with faces as Lavater, “From my early youth, faces and their interpretation were one of my favorite pastimes.” But he was suspicious of Lavater’s physiognomy, which “instead of cultivating the intellect, gives every feeble mind the opportunity to marshal its own confused ideas under the banner of a notorious man.” Lichtenberg set out to show that Lavater’s physiognomy was not a science and hastily wrote an essay that was published in the *Göttinger Taschen Calendar*. Although the first edition of this almanac was poorly printed, all 8,000 copies sold out. Soon many personal threats followed, and Lichtenberg was warned by Zimmermann, the main promoter of Lavater’s books, that “antiphrisognomics would be *roughly* and *forcefully* refuted.” Lichtenberg was surprised by the hostile reaction and expanded his essay in a second edition. In brief, he argued that our behavior is just as much a product of our life circumstances as of our dispositions. “What do you hope to conclude from the similarity of faces, especially the fixed features, if the same man who has been hanged could, given all of his dispositions, have received laurels rather than the noose in different circumstances? Opportunity does not make thieves alone; it also makes great men.” For Lichtenberg, it was impossible to draw conclusions from the constant features of the face “about people, who are always changing.” He wondered what to make of “beautiful rogues” and “smooth swindlers.” Physiognomy was “an unfathomable leap from the surface of the body to the recesses of the soul!”

Except for Zimmermann, none of Lavater’s friends stepped up to defend him. It was hard to argue against Lichtenberg’s arguments, and some of these friends were unhappy with Lavater’s interpretations of their portraits. Goethe had already parted ways with Lavater, offended by his exuberant “Lavaterian” style and his Christian fervor.

Despite Lavater’s fall from grace, his ideas permeated nineteenth-century culture, the heyday of popular physiognomy. This was the time of great industrial migrations, bringing together people with profoundly different backgrounds, who often did not even share a common language. The physiognomists’ ideas promised an easy, intuitive way to deal with the uncertainty generated by this diversity. Countless books supplied physiognomic recipes

for reading character, including pocket Lavater editions and pocket editions entirely dedicated to reading character from noses. An extremely popular genre—physiologie, which depicted the appearance and manner of different social types—appeared in France. During its peak popularity, about half a million copies of books in this genre were sold in Paris, which had a population of 1 million, only half of whom were literate. The most popular journals devoted to caricature were founded at this time, and caricatures of social types were consumed with “the news and the morning coffee.” Physiognomic descriptions of characters became standard in European novels. Lavater’s ideas influenced not only easily forgotten authors but also greats like Balzac, Dickens, and Stendhal. After seeing the cast of the head of an executed prisoner, Dickens noted, “a style of head and set of features, which might have afforded sufficient moral grounds for his instant execution at any time, even had there been no other evidence against him.” The physiognomists’ ideas were self-evident.



Although Lavater’s ambition was to introduce physiognomy as a science, he himself thought of physiognomy as an art form that only a few gifted individuals could practice: “perhaps more than in any other science, much must be left to genius and to sentiment.” He did not introduce any replicable empirical methods to study physiognomy. He did sketch in his books an instrument for cranial measurement, which he called “Stirnmaaß,” which preceded Franz Gall’s phrenology by decades, and had ambitions to make physiognomy as exact as mathematics, but none of this was realized. All that Lavater offered were appeals to the power of observation and his “expert” testimony. Without empirical methods, it was hard to make the case for physiognomy as a science. Francis Galton changed this with the invention of composite photography at the end of the nineteenth century. In contrast to Lavater, Galton was an established and respected scientist. He was also obsessed with measurement.

Galton, to whom we owe the phrase “nature versus nurture,” was a polymath, a cousin of Charles Darwin, and a hero to many scientists in the twentieth century. He made scientific contributions to geography, meteorology, biology, statistics, and psychology. He was the first European to explore parts of West Africa and to provide detailed maps of the region; he discovered the anti-cyclone in weather patterns and created the first meteorological map

published in *The Times* in 1875; he developed the concepts of correlation and regression, which are indispensable tools for statistical analyses of empirical data; he did the first systematic studies of fingerprints, eventually transforming police practices for identifying people.

Galton's contributions to psychology were numerous, and many psychologists admired him. A prominent American psychologist, Lewis Terman, who studied intelligence and gifted children in the beginning of the twentieth century, estimated "that between the ages of three and eight years, at least, Francis Galton must have had an intelligence quotient not far from 200." Terman also noted that "little Francis was known to be as remarkably conscientious as he was intelligent." Galton was the first to use questionnaires for psychological studies, to measure family histories, and to explore individual differences in mental imagery. He came up with the free association test long before Sigmund Freud did. He was the first to study heredity using twins.

Galton was also a pioneer in inventing unorthodox measures of behavior. A classic book from the 1960s on unorthodox research methods in psychology, *Unobtrusive Measures: Nonreactive Research in the Social Sciences*, is dedicated to Galton. The research problem that this book was trying to solve was how to measure human behavior without influencing it, a problem that Galton had already considered. If you know that you are being observed, you could change your behavior accordingly, jeopardizing the validity of the observation and any inferences about the causes of your behavior. Things are much easier scientifically, if not ethically, if you don't know that you are being observed and studied. To study the "inclination of one person toward another," Galton suggested a pressure gauge attached to the legs of the chairs on which the people are sitting. By measuring the stress of the chair legs, one can quantify the physical inclinations of the people. As the authors of *Unobtrusive Measures*, Eugene Webb, Donald Campbell, Richard Schwartz, and Lee Secherest, put it, "it is obvious that such a device may be a substitute for human observers when their presence might contaminate the situation, and where no convenient hidden observation site is available."

Galton also had ideas about how to measure boredom. "Let this suggest to observant philosophers, when the meeting they attend must prove dull, to occupy themselves in estimating the frequency, amplitude and duration of the fidgets of their fellow sufferers." And he created "beauty maps" of the British islands by using "a needle mounted as a pricker, wherewith to prick holes, unseen, in a piece of paper . . . classifying the girls I passed in streets or else-

where as attractive, indifferent, or repellent.” He found “London to rank highest for beauty; Aberdeen lowest.”



Galton would have been celebrated today as one of the greatest scientists of the nineteenth century were it not for his preoccupation with heredity and eugenics during the second part of his life. This is what finally made him internationally famous at the end of the nineteenth century and infamous after his death in the second half of the twentieth century. Eugenics was Galton’s understanding of how to use Darwin’s evolutionary ideas to better the human world. The “positive” side of eugenics involved the selective breeding of super humans—those with the highest abilities. The negative side involved the restriction of the breeding of those deemed to be less capable. In his final days, Galton worked on a novel *Kantsaywhere*, in which he laid out his utopian vision. In the land of Kantsaywhere, those who pass the examinations in the Eugenics College with high distinction are incentivized to marry early. Those who fail are sent to labor camps where they have to remain celibate. To be fair to Galton, at the time, eugenics was endorsed across the ideological spectrum. The list of notable supporters included George Bernard Shaw, H. G. Wells, Havelock Ellis, and the prominent Marxist scientist, J. B. S. Haldane.

Galton’s obsession with eugenics was what led him to the study of faces and fingerprints. Both promised to provide a means of identifying individuals and, ultimately, distinguishing the allegedly more from the allegedly less capable by identifying specific human types. In the 1870s, Galton was approached by Edmund Du Cane, the director-general of prisons. Du Cane was interested in identifying criminals from their facial features. This was a popular idea at the time. Cesare Lombroso, a contemporary of Galton and the founder of criminal anthropology, argued that “each type of crime is committed by men with particular physiognomic characteristics . . . thieves are notable for their expressive faces and manual dexterity, small wandering eyes that are often oblique in form, thick and close eyebrows, distorted or squashed noses, thin beards and hair, and sloping foreheads.” Lombroso wrote books on identifying the “criminal man” and the “criminal woman,” and provided his “scientific” testimony at several criminal trials. But empirical methods for identifying criminals were lacking.

Du Cane provided thousands of photographs of prisoners, which Galton examined and eventually settled on three groups of photographs. As Galton explained, “the first group included murder, manslaughter, and burglary; the

second group included felony and forgery; and the third group referred to sexual crimes.” Galton scored the photographs on a number of features, but no obvious differences emerged. As he would later reflect, “the physiognomical difference between different men being so numerous and small, it is impossible to measure and compare them each to each. . . . The usual way is to select individuals who are judged to be representatives of the prevalent type, and to photograph them; but this method is not trustworthy, because the judgment itself is fallacious. It is swayed by exceptional and grotesque features more than by ordinary ones, and the portraits supposed to be typical are likely to be caricatures.”

Galton’s creative solution was composite photography. The idea of blending facial images was in the air. Mr. L. A. Austin, a gentleman from New Zealand, wrote a letter to Darwin describing how he discovered that putting two facial images of similar size and orientation in a stereoscope appears to blend the faces, “producing in the case of some ladies’ portraits, in every instance, a *decided improvement* in beauty.” Herbert Spencer discussed with Galton a method of combining face drawings by tracing them on transparent paper and then superimposing the drawings to find commonalities. Galton’s idea was to blend photographic portraits on the same photographic plate. The first device that Galton designed with this objective in mind is shown in Figure 1.7.

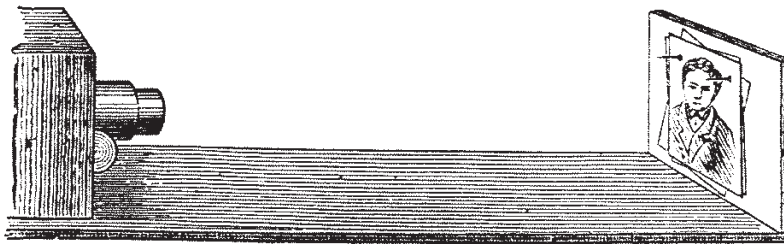


FIGURE 1.7. The first composite photography device designed by Francis Galton. Galton blended different photographic images on the same plate to create “pictorial averages.”

Composite photography was an empirical method of deriving “pictorial averages,” a way of establishing the essence of a group of images by discarding things that were idiosyncratic to specific faces while preserving the commonalities. Galton and his followers in Britain and the United States conducted systematic studies to improve the technique—experimenting with the order of images, they concluded that the order did not matter as long as each image was exposed for the same amount of time—and build better and more precise devices.

Galton had lofty goals for composite photography. Based on the assumption that characters have specific appearances, it was possible to classify humankind in innumerable ways. The composite photography was the tool for identifying common types ranging from the ideal English man to the criminal. It was also the tool of eugenics, Galton's "science" of selective breeding. Galton believed that each race had an "ideal typical form" or "central type" and that only those conforming to this type should be encouraged to breed. Composite photography was the "method of discovering the central physiognomical type of any race or group."

And Galton moved forward with composite portraits of families, privates and officers, people suffering from tuberculosis, people in prisons, and people in asylums. Collecting photographs occasionally carried risks. An asylum patient, considering himself a great man, was insulted that he was the second person to have his picture taken and "when the photographer had his head well under the velvet cloth, with his body bent, in the familiar attitude of photographers while focusing, Alexander the Great slid swiftly to his rear and administered a really good bite to the unprotected hinder end of the photographer."

Composite photography was favorably received by scientists. An editorial in *Science* magazine from 1886 noted that "with this great contribution of Galton well in hand, we may at length hope that we shall be able to enter upon the study of that unexplored realm of the human face, and physiognomy become a tolerably exact science." In the same issue, the technique was illustrated with a composite portrait of thirty-one members of the National Academy of Sciences, as shown in Figure 1.8. Although this may not be obvious to you (it is not to me), the author observed: "the faces give to me an idea of perfect equilibrium, of marked intelligence, and, what must be inseparable from the latter in a scientific investigator, of imaginativeness." We can recognize the style of Lavater: like Lavater's analysis of the profiles of famous personalities, the *Science* author was projecting his knowledge of the qualities of the people to their composite face image. Regardless, the classification of human types that was once left to artists was now in the hands of scientists.

Galton was ultimately disappointed by the composites of prisoners, where it all started: "I have made numerous composites of various groups of convicts, which are interesting negatively rather than positively. They produce faces of a mean description, with no villainy written on them. The individual faces are villainous enough, but they are villainous in different ways, and

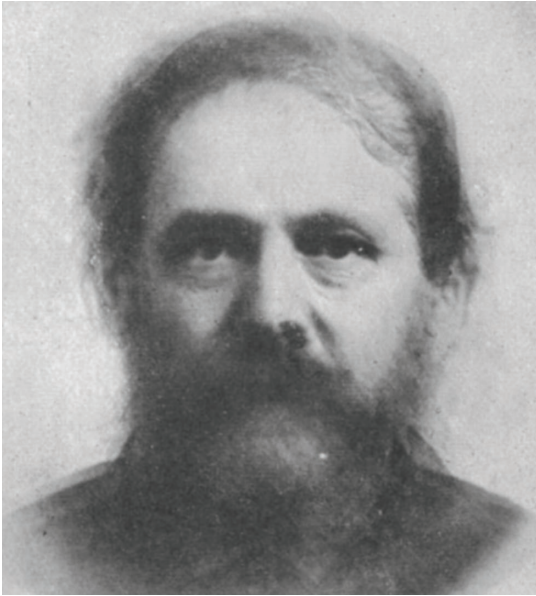


FIGURE 1.8. A composite portrait of thirty-one members of the U.S. National Academy of Sciences from 1886.

when they are combined, the individual peculiarities disappear, and the common humanity of a low type is all that is left.” But the methods Galton invented continue to thrive. All modern morphing techniques derive from his composite photography. The first digital composites were created in the 1980s by the artist Nancy Burson in collaboration with scientists from the Massachusetts Institute of Technology (MIT). You can see one of her composites, “Warhead I,” in Figure 1.9. It is a morph of the heads of governments in possession of nuclear weapons.

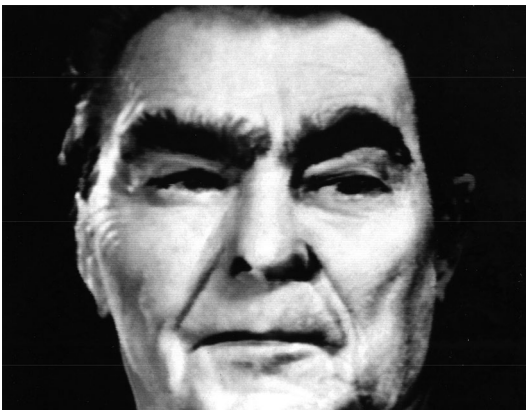


FIGURE 1.9. “Warhead I” by Nancy Burson (1982). A digital composite of the faces of Ronald Reagan (55 percent), Leonid Brezhnev (45 percent), Margaret Thatcher (less than 1 percent), François Mitterrand (less than 1 percent), and Deng Xiaoping (less than 1 percent). The percentages correspond to the proportion of nuclear weapons in possession of the respective countries at the time (the percentages add to more than 100 because of rounding).

Today, anyone with a computer can obtain decent morphing software and manipulate facial images. Morphs of faces are regularly used in the media to illustrate concepts like the new face of America: a morph of faces representing the ethnicities living in the United States. And Galton's project is alive and well. In the past decade, a few psychologists have been working on creating composites of different character types. Galton would have been pleased.



Both Lavater and Galton saw physiognomy as a tool to better humanity. The subtitle of Lavater's *Essays on Physiognomy* was *For the Promotion of the Knowledge and the Love of Mankind*. In Lavater's theology, every human was a product of God's design. Physiognomy simply revealed God's intentions, promoting human love and understanding. At the end, Lavater's physiognomy did not promote human love, but he did his best as a pastor and citizen of Zurich. His funeral in 1801 was attended by thousands of Zurich's citizens.

Galton's betterment of humanity involved the breeding of super humans and restricting the breeding of "suboptimal humans." Spending the second half of his life promoting the "science" of eugenics, he was eventually successful. The first organized eugenics society was founded in Germany in 1905 and was called the Race Hygiene Society. Galton was the honorary president. Similar societies sprang up in the United Kingdom and the United States. A few decades later, H. F. K. Günther, also known as "Rassen-Günther" (Race-Günther), closely followed Galton's logic in his writings on identifying the ideal and "superior" Nordic type. His inaugural lecture at the University of Jena was attended by Adolf Hitler and Hermann Göring. Physiognomy and phrenology were the main tools in Günther's empirical approach of differentiating the Nordic from "lesser" humans. During the Third Reich, one of his books was a required reading in all German schools. Nazi Germany realized Galton's eugenics utopia. This utopia was also realized on a smaller scale in the United States. In 1907, the state of Indiana passed the first involuntary sterilization law. The targets of the law were people in state institutions: prison inmates and those considered mentally deficient or mentally ill. Within 20 years, twenty-three other states had similar laws.

In contrast to Lavater and Galton, Lichtenberg saw physiognomy not as a tool for the betterment of humanity but as a tool for creating and justifying

prejudices. As he put it, “I wanted to prevent people from practicing physiognomy to promote the love of man as they previously singed and burned to promote the love of God.” But Lichtenberg knew that it was not possible to prevent people from “practicing physiognomy.” This is where he saw the danger in Lavater’s writings. Lavater’s books simply licensed our natural impulses to form impressions from appearance and removed any social controls on and doubts about these impressions. As Lichtenberg noted, “if physiognomy becomes what Lavater expects of it, then one will hang children before they have done the deeds that merit the gallows; a new kind of confirmation will thus be undertaken each year. A physiognomic auto-da-fé.” This was no exaggeration. About 100 years later, Lombroso, whose ideas were hugely influential in Europe, advocated for separating children based on face and body measurements: “anthropological examination, by pointing out the criminal type, the precocious development of the body, the lack of symmetry, the smallness of the head, and the exaggerated size of the face explains the scholastic and disciplinary shortcomings of children thus marked and permits them to be separated in time from their better-endowed companions and directed towards careers more suited to their temperament.”

Lavater’s and Galton’s conceptions of human nature were remarkably similar. For Lavater, everything in one’s life was determined by God’s purpose. For Galton, it was determined by heredity. Their task was to decipher those determining forces from the face. They took it for granted that there was a perfect correspondence between character and facial appearance. The same dangerous assumption underlies the modern versions of physiognomy that try to pass for scientific. The dressing is different, but the substance is the same. The “science” behind the Israeli facial profiling start-up is based on the facts that some of our character and some of our appearance are inherited. But these two facts do not logically imply a correspondence between character and facial appearance. Following their logic, hand and big toes profiling should do just as well in revealing personality. But what gives the veneer of legitimacy to facial profiling is our natural propensity to form impressions from faces.

Like Lavater and Galton, modern physiognomists want to go straight from the face to the essence of the face bearer, but they miss the crucial fact that what we see in the face are our own impressions. The science of first impressions is the study of our natural propensity to form impressions. This propensity is part of our essence, though not the essence Lavater and Galton were after. It is part of our quest to know and understand others.