# Face Composites

The overview that follows is offered to help the trier of fact understand facial composites — the sketches and computer-generated faces produced when a witness tries to reconstruct the appearance of a perpetrator — and what the research shows about how well they work and how they can affect a case. Composites are a familiar investigative tool, but their reliability, and their effect on the witness's own later memory, are widely misunderstood. Its purpose is to define the terms a court is likely to encounter, to summarize the research, and to do so in plain language and without favoring any party.

## What a Facial Composite Is

A facial composite is a visual reconstruction of a remembered face, produced to generate investigative leads — typically to prompt someone who knows the offender to come forward. Composites have been made for decades by several methods. A trained police sketch artist draws the face from the witness's description and feedback. Mechanical and early computer kits — Identikit, Photofit, and their software successors such as E-FIT and FACES — let an operator assemble a face from a library of separate features (eyes, nose, mouth, hairline). More recent "holistic" systems, such as EvoFIT, take a different approach: the witness repeatedly selects and the system "evolves" whole faces rather than building them feature by feature. Across all of these, the composite is an investigative aid meant to resemble the offender well enough to jog recognition — not, in itself, proof that any particular person committed the crime.

## How Well Do Composites Work?

Skilled sketch artists remain the benchmark, and no mechanical or software system has clearly surpassed them; yet the quality of any composite is notoriously variable and hard to predict (Davies & Valentine, 2007). The same witness may produce a good likeness of one face and a poor one of another, and neither witnesses nor operators can reliably tell in advance which they have produced. A good likeness seems to require an elusive combination of a reproducible face, an observant and articulate witness, and a skilled operator asking the right questions.

The most sobering measure is how often a finished composite is correctly named. Even under favorable laboratory conditions — and even for faces seen recently — feature-based composites are correctly named only around one time in six, and overall naming rates typically fall in the range of fifteen to twenty-five percent. Holistic, evolutionary systems used together with a structured (cognitive) interview have raised naming rates substantially in research conditions, in some studies to around forty percent (Frowd, Carson, Ness, Richardson, Morrison, McLanaghan, & Hancock, 2005; Frowd, Hancock, & Carson, 2004). These figures cut two ways. They show that a composite is, on average, an imperfect likeness that frequently goes unrecognized — but also that even a modest likeness can occasionally generate the lead that solves a case, which is why composites remain useful investigatively despite their limits.

## Why Composites Are So Hard to Produce

The difficulty is rooted in how face memory works. Recognizing a face — deciding whether a face now in view has been seen before — is far easier than recalling one well enough to reproduce it, and building a composite asks the witness to do the harder thing. Faces are also processed holistically, as integrated wholes defined by the relations among their parts; yet traditional composite systems force the witness to work feature by feature, a mismatch between how faces are remembered and how composites are built. Familiar and unfamiliar faces are, moreover, encoded differently (Bruce & Young, 1998): we recognize even degraded images of people we know, but match unfamiliar faces remarkably poorly — so poorly that observers err even when

comparing an unfamiliar face to a photograph held in front of them (Bruce, Henderson, Newman, & Burton, 2001). Memory for a stranger's face, glimpsed once, is often fragmentary, which is precisely the circumstance in which composites are usually demanded.

## Verbal Overshadowing

A further complication is that putting a face into words can interfere with the memory of how it looked. In the classic demonstration of this "verbal overshadowing" effect, people who described a previously seen face were afterward worse at recognizing it than people who had not described it (Schooler & Engstler-Schooler, 1990; Dodson, Johnson, & Schooler, 1997). The effect is modest in size and does not occur under all conditions, but it is real: a meta-analysis confirmed a small reliable impairment (Meissner & Brigham, 2001), and a large multi-laboratory replication confirmed it again, particularly when description is followed by a delay before the recognition test (Alogna et al., 2014). The mechanism remains debated. The forensic relevance is direct, because composite production is bound up with verbal description: the detailed verbal account that often precedes building a composite, and the practice of re-interviewing a witness partway through construction, can themselves degrade the very memory the composite is meant to capture.

## Stereotypes, Attitudes, and Reconstruction

Where memory is incomplete, the gaps tend to be filled by plausible reconstruction drawn from expectation and belief, and composite construction — which demands a more or less complete face — invites exactly this. Stereotypes and attitudes can shape the result. In a classic study, witnesses produced composites judged more handsome and intelligent when told the man was a lifeboat captain than when told he was a murderer (Shepherd, Ellis, McMurran, & Davies, 1978), and later work found that even the maker's attitude toward the target affected the likeness. These distortions are likely to be greatest for unfamiliar faces seen only briefly — the conditions that typically prevail when a witness views a stranger committing a crime.

## Composites Can Distort the Witness's Own Memory

Perhaps the most important point for litigation is that making a composite is not a neutral act of recording; it is itself a memory event that can change the witness's memory. Experimental work has shown that the very act of constructing a facial composite can impair the witness's ability to identify the perpetrator from a later lineup (Wells, Charman, & Olson, 2005). A composite produced early in an investigation may therefore contaminate a subsequent identification, so that an identification following composite construction must be evaluated in light of that earlier exercise. The composite is best understood as a lead-generating tool whose creation has downstream consequences for the witness's memory, not as an independent confirmation of a later identification.

## Face Composites and the Law

Composites occupy an unusual evidentiary position. They are primarily investigative aids, and their treatment as trial evidence varies by jurisdiction. Where a composite is offered, it is generally handled under the rules on hearsay and prior identification: a statement of identification made by a witness who testifies and is subject to cross-examination is not hearsay (Federal Rule of Evidence 801(d)(1)(C)), and some courts admit a composite on that footing or as illustrative of the witness's description, while others exclude or limit it. However admitted, the degree to which a composite resembles the defendant is for the jury to weigh; it is not proof of identity.

The research also bears on the constitutional concern with suggestive identification procedures. Because constructing or viewing a composite can alter a witness's memory, a composite produced

before a lineup is part of the sequence of events a court examines when an identification is challenged as the product of suggestion (Perry v. New Hampshire, 2012; State v. Henderson, 2011). Whether an expert may explain the limits of composites and the verbal-overshadowing and contamination effects is governed by the rules on scientific and expert evidence — Daubert v. Merrell Dow Pharmaceuticals (1993), Kumho Tire Co. v. Carmichael (1999), and Federal Rule of Evidence 702 in federal court and the states that follow them, and the general-acceptance test of Frye v. United States (1923) elsewhere. Such testimony is offered to inform the trier of fact about how composites are made and why they err — not to opine on whether a composite depicts the defendant, a judgment the law reserves to the fact-finder.

## Special Issues in Legal Practice

The principles described above apply with equal force to every party in a legal proceeding. Memory operates the same way regardless of who is asking the questions, and the science summarized here favors no side. What differs between the parties is not the science but the vantage point — the particular places where memory issues tend to surface, and the particular errors each party is best positioned to guard against. The two summaries below identify those recurring issues. They are offered for orientation, not as litigation strategy; in every case the controlling question is what the evidence in that case will, and will not, support, and the expert's role is to inform the trier of fact rather than to advocate for either side.

### Special Issues for Prosecutors

For the State, a composite is most useful kept in its proper role — as an investigative lead — and most defensible when its limits are acknowledged. A composite that helped identify a suspect can be a legitimate part of the investigative narrative, and a sketch artist's or operator's work, properly documented, can be explained to the jury. The errors the prosecution is best positioned to guard against arise from over-reading the composite or letting its production corrupt later evidence: presenting a composite as if its resemblance to the defendant proved identity, and failing to recognize that the act of building the composite — and any associated detailed description or mid-construction re-interview — may have altered the witness's memory before a lineup. Where a composite preceded an identification, documenting the sequence and conditions allows the State to meet, rather than be surprised by, the contamination concern, and to rest the case on the identification and corroboration rather than on the likeness of the drawing.

### Special Issues for Defense

For the defense, the recurring task is to show how the composite process bore on the reliability of the identification — recognizing that a witness can be sincere and the composite still be a poor and partly reconstructed likeness. The research supplies several lines of inquiry: composites of unfamiliar, briefly seen faces are frequently inaccurate and only occasionally recognizable; the verbal description and any mid-construction re-interviewing can have overshadowed the witness's memory; stereotypes and attitudes can have shaped the face that was built; and, most significantly, the act of constructing a composite can itself have impaired the witness's ability to identify the perpetrator from a later lineup. Where a composite preceded an identification, its creation is part of the sequence the court weighs in assessing suggestion and reliability. The law contemplates that these matters be placed before the trier of fact through cross-examination, through challenge to the identification procedure, and, where the governing standard is met, through expert testimony (Daubert v. Merrell Dow Pharmaceuticals, 1993; Frye v. United States, 1923). The aim is not to assert that composites are worthless — they generate real leads — but to ensure that a drawing's resemblance is not mistaken for proof and that its effect on the witness's memory is weighed.

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