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Bailenko Viktor

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INDIVIDUALIZATION OF MEN'S HAIRCUTS IN THE PRESENCE OF FACIAL AND HEAD ASYMMETRY: A COMPARATIVE ANALYSIS OF SYMMETRIC AND ADAPTIVE APPROACHES

Summary. *Facial and cranial asymmetry is a normal anatomical condition, yet men's haircutting is commonly performed as a mirrored sequence of identical actions on both sides of the head. Peer-reviewed research measures asymmetry and its perception in detail but has not related these findings to haircut construction. This study compares the symmetric and adaptive approaches to men's haircutting and substantiates a zone-based model of individualization. The methodology combines a structured review of anthropometric, perceptual, and industry sources, content analysis of three practitioner manuals, comparative analysis by uniform criteria, and conceptual modeling. The results show that lateral facial regions, which border the haircut outline, are less symmetric than central regions, that lay observers detect asymmetry at larger deviations than specialists, and that measured symmetry does not predict attractiveness. The adaptive approach agrees with this evidence, because it treats visual balance as the criterion and allows unequal actions on the two sides. The findings will interest barbers, educators in barbering and cosmetology, and researchers of appearance perception.*

Key words: *men's haircutting, facial asymmetry, cranial asymmetry, adaptive haircut design, visual balance, barbering, individualization, hairline, appearance perception, barber education.*

Introduction. Men's haircutting is a personal service delivered at scale, and in the United States it is a growing occupation. The Bureau of Labor Statistics [1] counted 670,800 jobs for barbers, hairstylists, and cosmetologists in 2025, of which 75,800 were held by barbers, and projects 7 percent growth for the combined occupation from 2025 to 2035, a rate the agency describes as much faster than the average for all occupations, with about 80,300 openings each year. Tang [2] estimates the revenue of US barber shops at 7.0 billion dollars in 2025, after five years of compound annual growth of 9.8 percent, spread over roughly 155,000 businesses. Because 80 percent of barbers are self-employed [1], the quality of a haircut rests on the judgment of an individual practitioner far more than on any corporate standard. The shop is also a social institution. Palmer et al. [3] reviewed 14 health promotion interventions delivered to African American clients in US barbershops and hair salons, 10 of them in barbershops, and concluded that such programs show promise for cancer screening and for the management of hypertension.

Demand in this market rests on repeat visits, and a client returns when he feels that the result was made for him. Xiao et al. [4] surveyed 455 hair salon customers in Ghana and found that value co-creation between customer and stylist was positively related to relational capital and to loyalty. Individualization is therefore an economic variable as well as an aesthetic one. In men's haircutting it meets a specific anatomical obstacle. The two sides of a face and head are never identical, while clipper guards, guidelines, and outlines are usually applied as if they were.

Two working logics can be distinguished in practice. The symmetric approach treats the head as a mirrored object. The barber builds one side, reproduces the same lengths, heights, and angles on the other, and judges the result by the equality of technical parameters. The adaptive approach treats the visual result as the object of control. The barber diagnoses the differences

between the sides and deliberately varies length, mass, direction, or line so that the haircut reads as balanced. The second logic is formulated in the Bailenko Method, a decision system for men's haircutting set out in three practitioner manuals. Bailenko [5] states that the method does not demand mechanically identical actions on both sides and demands a visually coherent result. Bailenko [6] adds that visual balance does not require mechanical symmetry, and Bailenko [7] extends the evaluation of a haircut to the weeks of growth that follow the appointment.

Anthropometry and perception research supply the facts against which the two logics can be tested. Wu et al. [8] measured regional symmetry on three-dimensional images of 330 young adults and showed that faces judged symmetric by lay raters still depart from their mirror image. Harnádková et al. [9] described directional asymmetry on 300 facial models of adults aged 20 to 80 years. Alrbata et al. [10] and Eißing et al. [11] established the magnitudes at which observers begin to notice asymmetry. These studies were written for orthodontics, surgery, and psychology. None of them treats hair as the frame that sits on an asymmetric surface, and the author found no peer-reviewed study that compares haircutting procedures by the way they handle side differences. The professional literature offers rules of practice and the scientific literature offers measurements, but the link between them has not been drawn. This is the gap the present study addresses.

The aim of the study is to compare the symmetric and adaptive approaches to men's haircutting against published evidence on facial and cranial asymmetry and to substantiate a zone-based model for individualizing a haircut. **The author's hypothesis** is that the adaptive approach, which takes visual balance as its criterion and permits unequal technical actions on the two sides, agrees with the anthropometric and perceptual evidence more closely than the symmetric approach, and that its decisions can be expressed as a reproducible sequence organized by zones of the head. **The scientific novelty** of the study consists in the systematization of anthropometric and perceptual findings on facial and

cranial asymmetry in relation to the zones of a men's haircut and in a conceptual zone-based model that compares the symmetric and adaptive approaches by uniform criteria.

The study has limits that follow from its design. It is analytical: it synthesizes published measurements and practitioner documentation and does not report a new sample of clients. Several of the anthropometric sources describe Asian or European cohorts, so their figures indicate the order of magnitude of asymmetry and should not be read as norms for the US population. Perception thresholds in the literature were obtained for facial landmarks such as the chin, and their transfer to hair outlines is an inference that the article marks as such wherever it is made. These limits do not affect the comparison of the two approaches, which depends on the direction of the evidence as a whole.

The practical value of the work lies in the form it gives to a skill usually passed on by imitation. All US states require barbers to be licensed, and the combined occupation is expected to generate about 80,300 openings a year through 2035 [1], which means a steady inflow of entrants who must learn to work with real, asymmetric heads. A documented decision sequence of the kind formalized in the manuals analyzed here [5] gives schools and shop owners teachable checkpoints for consultation, cutting, and control, and it gives self-employed barbers a way to explain and reproduce their results. For a sector of about 155,000 small businesses [2], client retention through individualized service is a matter of income stability, and competence in haircut design is the resource on which that stability depends. The specialization examined in this article, the construction of men's haircuts for the individual head, is thus tied directly to workforce preparation and to the viability of small service firms in the United States. The procedure by which the sources were selected and the two approaches compared is set out next.

Materials and methods. Because the research question joins two bodies of knowledge that rarely meet, measurement studies and craft documentation, the

study was designed as a practice-based comparative analysis. In research of this kind a practitioner's documented procedure is a legitimate object of study, and published measurements are the external standard against which the procedure is examined. Four methods were combined.

The first was a structured review of the literature. Searches were run in October 2026 on open publisher platforms and indexes, among them PubMed Central, the Directory of Open Access Journals, SpringerLink, MDPI, Nature Portfolio, Frontiers, and Cambridge Core, with combinations of the terms facial asymmetry, cranial asymmetry, three-dimensional, perception threshold, hairline, hair whorl, hairstyle, attractiveness, eye tracking, barber, and hair salon. A source was included if it was published, if it reported an empirical sample and a stated method or was an official statistical release, and if it bore on one of four themes: the anatomy of asymmetry, its perception, the anatomy of hair and scalp, or the barbering industry and the service relationship. Blogs, press releases, and news items were excluded. For each included study the sample, the instrument, and the numerical result used in this article were recorded and checked against the publisher's page.

The second method was a content analysis of practitioner documentation. The three manuals of the Bailenko Method [5-7] were read as primary texts in their Russian and English editions. Statements were coded under four headings: how side differences are treated, which views are used for control, what counts as a successful result, and how the result is expected to behave as the hair grows. The manuals were chosen because they state the adaptive logic explicitly and in procedural form, which makes it comparable with the mirrored procedure familiar from routine clipper work.

The third method was comparative analysis. The symmetric and adaptive approaches were set against each other on nine criteria derived from the coding scheme and from the reviewed evidence. The fourth was conceptual modeling. The findings were arranged into a zone map of the head, a decision matrix, and a

decision algorithm, which together form the model proposed in the Results and discussion section.

The source base consists of 25 items. Twenty are articles in peer-reviewed journals, three are the practitioner manuals, one is an official statistical release, and one is an industry report. By content they fall into five groups. The industry and service context is represented by the Occupational Outlook Handbook [1], an industry report [2], and two studies of barbershops and salons as service settings [3; 4]. The anatomy of facial asymmetry is covered by three-dimensional and photographic studies [8, 9; 12-14]. Perception is covered by threshold, rating, self-report, and eye-tracking studies [10, 11; 15-18]. The anatomy of the head, hairline, and hair is covered by computed tomography, head-scan, survey, genetic, and phototrichogram studies [19-23]. The effect of hair on impressions is covered by two experimental studies [24, 25]. The theoretical part of the analysis rests chiefly on the second, third, and fourth groups, the market part on the first, and the practical part on the manuals [5-7].

Results and Discussion. The sources selected by the procedure above agree on one starting fact: asymmetry is measurable in people whom observers regard as symmetric. Wu et al. [8] scanned 330 patients aged 19 to 29 years, mirrored each facial surface onto itself, and counted as symmetric every point that lay within 1 mm of its mirrored counterpart. The share of such points is the symmetry degree of a region. Ten raters without aesthetic training then sorted the faces, and 222 of the 267 faces with sufficient rater agreement were judged symmetric. Even in that group the whole-face symmetry degree averaged 81.23 percent, which means that close to one fifth of the surface departed from its mirror image by 1 mm or more.

For a barber the regional distribution matters more than the average, because a haircut touches only some regions of the face. A bar chart is used here since it lets seven regions and two groups of faces be compared at a glance. The

reader should attend to the contrast between the central forehead and the lateral regions (Figure 1).

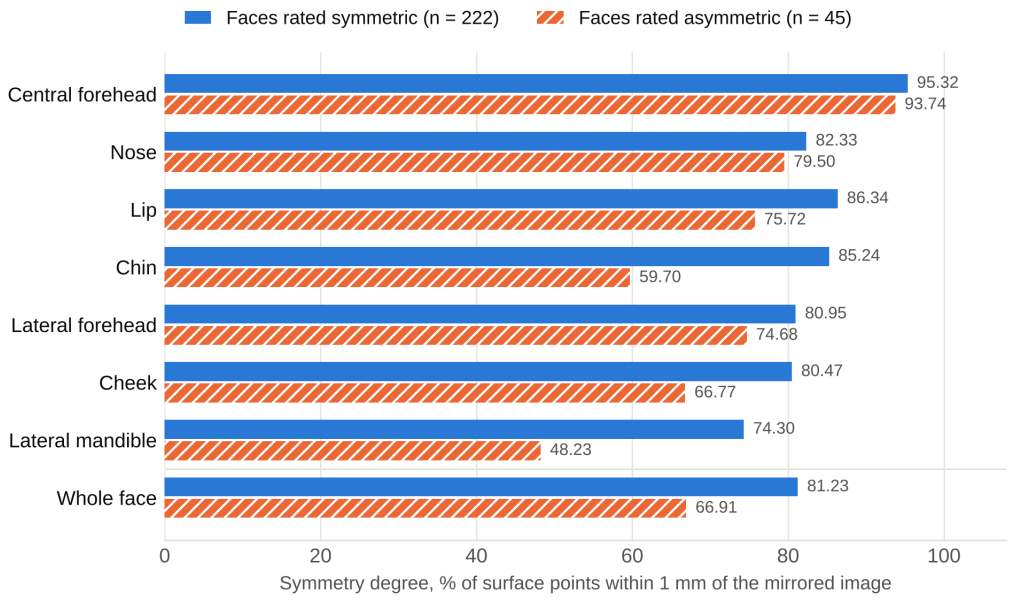


Fig. 1. Symmetry degree of facial regions in faces rated symmetric and asymmetric by lay observers

Source: compiled by the author based on [8]

The central forehead is close to full symmetry in both groups (95.32 and 93.74 percent). The lateral forehead, cheek, and lateral mandible are lower even in faces rated symmetric (80.95, 80.47, and 74.30 percent), and in faces rated asymmetric the lateral mandible falls to 48.23 percent and the chin to 59.70 percent [8]. The receiver operating characteristic analysis in the same study placed the cutoff for perceived asymmetry at 75.5 percent for the whole face and at 64.5 percent for the lateral mandible [8]. The author's reading of these data is anatomical. The lateral forehead contains the temple recession and the temple point, the cheek carries the sideburn, and the lateral mandible is where the sideburn meets the beard line. The outline of a men's haircut therefore runs along the regions of the face that show lower symmetry than the center, while the one region that is nearly symmetric, the central forehead, is a region the outline does not cross.

Other cohorts describe the same condition with different instruments. Cappella et al. [12] mirrored and superimposed the facial thirds of 135 healthy children and obtained mean root-mean-square distances of 0.30 to 0.51 mm, with the middle third at 0.34 mm and the upper and lower thirds at 0.39 mm. The sample is pediatric, so the values indicate only the scale of normal asymmetry, yet the ordering agrees with the adult data: the middle of the face is steadier than the thirds that meet the hairline and the jaw. Harnádková et al. [9] analyzed 28 landmarks on 300 facial models of Czech adults and found that sex differences in directional asymmetry were significant before the age of 40 and that men aged 20 to 40 were more asymmetric than older men. In a second sample of 163 adults, Harnádková et al. [13] observed a similar pattern regardless of sex and laterality, a right-sided protrusion of the forehead, nose, lips, and chin, while a relationship with handedness and chewing side appeared only in men. Barut et al. [14] computed asymmetry indices from 16 linear measurements on frontal photographs of 297 volunteers and found no significant difference by sex or hand preference. Read together, these results say that asymmetry is general, that its direction has a population tendency, and that neither sex nor handedness predicts the pattern of a given person. For haircutting the consequence is procedural. The pattern has to be diagnosed on the client in the chair, because no demographic shortcut will supply it.

The head and the hair add their own layers. Nagaishi et al. [19] reviewed computed tomography scans and reported cranial vault asymmetry of 5 mm or more, measured as the difference between the two oblique diameters of the skull, in 54 of 160 adult control cases (34 percent). The cohort was a Japanese hospital series, so the figure does not transfer to other populations, but it shows that an uneven vault is common enough to be expected at the barber's chair. Zhang et al. [20] built statistical models from 1,496 head scans of adults aged 18 to 84, in which the first five principal components explained more than 76 percent of the variance in head shape. Heads thus differ along several independent dimensions

and cannot be sorted into a handful of types. Kashiyama et al. [21] classified the hairlines of 456 Japanese adults. Among the 122 men the frontal hairline was linear in 45.9 percent and M-shaped in 42.6 percent, and the temporal hairline had an inverted triangle form in 65.6 percent. Luo et al. [22] identified four genetic loci associated with the direction of the scalp hair whorl in cohorts of 2,149 and 1,950 participants and concluded that the trait is polygenic. Alsharif and AlGhamdi [23] measured 143.9 hairs per square centimeter in the frontal scalp and 153.6 in the occipital scalp of 120 healthy adults, with mean fiber diameters of 83.5 and 90.7 micrometers.

Table 1 gathers these findings in one place because the argument of the following subsections depends on reading them side by side. Each row pairs a published measurement with the consequence that the author draws from it for haircut design.

Table 1

Published evidence on asymmetry and hair anatomy and its implications for haircut design

Sample and method	Finding	Implication for haircut design (author's interpretation)
330 adults aged 19 to 29; three-dimensional images, mirrored surface matching, 1 mm tolerance	Symmetry degree of 95.32% in the central forehead and 74.30% in the lateral mandible in faces rated symmetric	Temples and sideburns lie on the less symmetric regions of the face
300 facial models of adults aged 20 to 80; 28 landmarks	Sex differences significant before age 40; men aged 20 to 40 more asymmetric than older men	Side-by-side diagnosis is warranted by default for young male clients
135 children aged 4 to 12; stereophotogrammetry, root-mean-square distance	Mean distance of 0.30 to 0.51 mm; middle third 0.34 mm, upper and lower thirds 0.39 mm	Normal asymmetry is small in absolute terms, so hard mirrored lines should not exaggerate it
163 adults aged 18 to 55; three-dimensional surface scans	Right-sided protrusion of forehead, nose, lips, and chin regardless of sex and laterality	A population tendency exists, but the pattern is read on the individual
297 adults aged 19 to 42; 16 linear measurements on frontal photographs	No significant difference in asymmetry indices by sex or hand preference	Sex and handedness do not predict the pattern; inspection does

Sample and method	Finding	Implication for haircut design (author's interpretation)
Computed tomography of 160 adult controls aged 20 to 96	Cranial vault asymmetry of 5 mm or more in 54 cases (34%)	Short lengths expose the vault; fade height and occipital mass need planning by side
1,496 head scans of adults aged 18 to 84; principal component analysis	First five components explain more than 76% of shape variance	Head shape varies on several dimensions; face-shape labels are too coarse
456 adults aged 20 to 39, of whom 122 men; survey and measurement	Male frontal hairline linear in 45.9% and M-shaped in 42.6%; temporal hairline inverted triangle in 65.6%	Frontal corners and temple points are individual and define the frontal frame
Genome-wide association study; cohorts of 2,149 and 1,950	Four loci associated with whorl direction; polygenic inheritance	Growth direction is a fixed individual trait and cannot be assumed to mirror across the midline
120 adults aged 18 to 60; phototrichogram	Density of 143.9 hairs/cm² frontal and 153.6 occipital; diameter of 83.5 and 90.7 micrometers	Equal length gives unequal visual density across zones

Source: compiled by the author based on [8, 9, 12-14; 19-23]

Three observations follow from Table 1 that the individual studies do not make, since none of them was concerned with hair. First, every layer on which a haircut is built is asymmetric in its own way: bone, soft tissue, hairline, growth direction, and density. Second, the layers are independent. A level pair of ears does not imply level temple points, and an even vault does not imply a centered whorl. Third, the zones where the barber draws lines coincide with the regions where symmetry is lower. An outline is a high-contrast edge, and placing two mirrored edges on two unequal surfaces makes the inequality easier to see. The symmetric procedure therefore tends to expose what it assumes away, and this is the mechanism behind the practitioner's rule that copying the height of one temple onto the other may emphasize asymmetry [6]. Whether such exposure matters depends on what observers are able to see, which is the subject of the perceptual studies.

What observers notice

A side difference becomes a design problem only when someone sees it, and the perceptual literature shows that trained and untrained eyes do not see alike. Alrbata et al. [10] shifted the chin point of a frontal photograph in 2 mm steps and asked 120 raters to score the images. Laypersons and general dental practitioners judged the face abnormal from a deviation of 4 mm, orthodontists and maxillofacial surgeons from 2 mm. Eißing et al. [11] had 50 raters, 37 of them laypersons, evaluate rotating three-dimensional views of 50 faces whose asymmetry had in part been digitally reduced or increased. Raters differentiated degrees of symmetry reliably only between asymmetry index values of about 1.1 and 3.1, and outside that range their discrimination declined. The same study found no evidence that completely symmetric faces are perceived as less attractive.

The author draws two inferences from these results and marks them as inferences, since both studies concern facial landmarks, and neither concerns hair. The first is that a barber stands to the client as the orthodontist stands to the layperson. Years of looking at heads at close range lower the practitioner's threshold, so that he sees side differences that the client and the people the client meets do not register. A procedure that corrects everything the barber can detect will act on differences that have no social existence. The second inference is that there is a floor below which correction is pointless and a band within which it is effective, and that a sound procedure should establish which case applies before any hair is cut.

Self-report data point the same way. Botezatu et al. [15] surveyed 283 adults, of whom 28.7 percent had observed asymmetry in their own face, 24.4 percent reported being bothered by the asymmetries they observed, and 39.2 percent wished to correct them. The share who had noticed an asymmetry was 32.9 percent among women and 15.8 percent among men. If roughly one man in six is aware of his own facial asymmetry, then a consultation that opens with the

barber listing uneven features introduces a concern that the client did not bring with him. The manuals reach the same position from practice: correction begins from an objective agreed with the client and not from the barber's assumption that something needs to be corrected [6].

Symmetry is also a weaker aesthetic target than is often assumed. Lee et al. [16] had 400 raters judge 100 faces and modeled attractiveness from shape measurements. Averageness predicted attractiveness in male and female faces, while the effect of asymmetry was not significant. Combined with the finding of Eißing et al. [11], this means that within the normal range measured symmetry neither harms nor reliably helps perceived attractiveness. A haircut that pursues symmetry for its own sake therefore pursues a variable with little demonstrated payoff, while one that keeps the silhouette within familiar proportions and draws no attention to a deviation is, on the author's reading, closer to what the data support.

Where observers look matters as much as what they can detect. Pátková et al. [17] recorded the gaze of 126 raters on 80 facial photographs, with regions of interest that included the forehead, cheeks, and ears. The eyes, nose, and mouth drew more attention than the other regions in both attractiveness and dominance judgments. Hair and its outline therefore work in the periphery of attention, as a frame around the features that are fixated. A frame is processed for its overall shape, so an imbalance of mass or a hard line that breaks the contour is more likely to register than a small local difference in length. Cano Porras and Louwerse [18] add a lateral component. Viewers of a speaking face showed a left perceptual bias, a preference for the speaker's right eye, and this bias was modulated by which eye of the speaker appeared larger. The two halves of a face thus do not carry equal perceptual weight, and the weight shifts with the features of the individual. This is one more reason to judge balance in the front view at conversational distance, where the client is actually seen, before the profile at working distance.

Hair is nonetheless a strong cue in its own right. Wade et al. [24, pp. 196-207] found that White men shown with cranial hair were rated more attractive than White men shown without it, and that no such difference appeared for Black men, which indicates that the effect of hair on impressions depends on the person and the context. Shevchenko et al. [25] manipulated avatar faces and found that hairstyle changed the impression of creativity with an effect size of d = 0.68, while a square jawline raised perceived threatening dominance with d = 0.26. The two effects concern different impressions and are not directly comparable, but they indicate that hair is no weaker a cue than jaw shape. The barber therefore controls a variable with real influence, and the question is how to use it on an asymmetric base. The two approaches answer that question differently.

The evidence reviewed in the two preceding subsections supplies the criteria for a comparison, and the manuals supply the content of the adaptive procedure. A table is used because the approaches differ on several independent dimensions that prose would blur. Each row of Table 2 states one criterion and the position of each approach on it.

Table 2

Comparison of the symmetric and adaptive approaches to men's haircutting

Criterion	Symmetric approach	Adaptive approach
Object of control	Equality of technical parameters on the two sides	Visual balance of the finished form
Reference system	Guard numbers and mirrored guidelines; anatomical landmarks assumed to be level	The client's own landmarks read against the midline, a common horizontal, and the face
Treatment of side differences	Ignored, or forced to the same line	Diagnosed by zone, then preserved, compensated, or redirected
Frontal corners and temples	The deeper side is copied onto the other	Each side follows its natural density; the outline is subordinate to growth
Control views	Each side inspected in profile at working distance	Front, profile, and three-quarter views at conversational distance

Criterion	Symmetric approach	Adaptive approach
Criterion of success	Identical lengths and heights on both sides	The agreed visual objective is met and no new accent appears at an uneven zone
Behavior during grow-out	Forced lines lose their shape as natural growth returns	Lines that follow growth keep their logic between visits
Consultation	Selection of a haircut by name or reference image	Agreement on which features to emphasize, soften, or leave unchanged
Fit with published evidence	Assumes a symmetric base, which the measurements do not support	Consistent with regional asymmetry and with the thresholds of lay perception

Source: compiled by the author based on [5-8; 10; 11; 16]

Mirrored technique is adequate for a narrower question than the one a real head usually poses. When the two sides of a zone do not differ to the trained eye, identical actions give identical readings, and the symmetric procedure is fast and adequate. The adaptive approach contains this case and adds the others, so the symmetric procedure is better understood as the limiting case of the adaptive one than as its rival. What separates them is the object of control. The symmetric approach controls inputs: guard number, guideline height, angle. The adaptive approach controls the output, that is, the reading of the finished form by an observer, and accepts unequal inputs to obtain it. This is the sense of the statements that identical actions on the right and left do not guarantee an identical visual result and that visual balance does not require mechanical symmetry [5; 6].

The density data give a concrete case. With about 144 hairs per square centimeter at the front and about 154 at the back, and with finer fibers at the front [23], one guard length can be expected to produce a lighter tone at the front of the head than at the back. A barber who blends by eye already corrects for this without calling it adaptation. The adaptive approach extends the same habit from front and back to left and right.

The time dimension strengthens the case. A line forced away from natural growth begins to dissolve as soon as the hair grows, and the side that was pushed

further dissolves sooner. The manuals describe this as a dependence on frequent correction after deep leveling of a hairline [6], and they treat the weeks between visits as part of the design [7]. A haircut judged only at the chair favors the symmetric approach, since leveled lines look clean on the day. A haircut judged over its whole wearing period favors lines that follow each side's own growth.

The difference in sequence is easier to see in a diagram than in a table, because the adaptive approach adds steps before and after cutting and contains a feedback loop that the symmetric approach lacks (Figure 2).

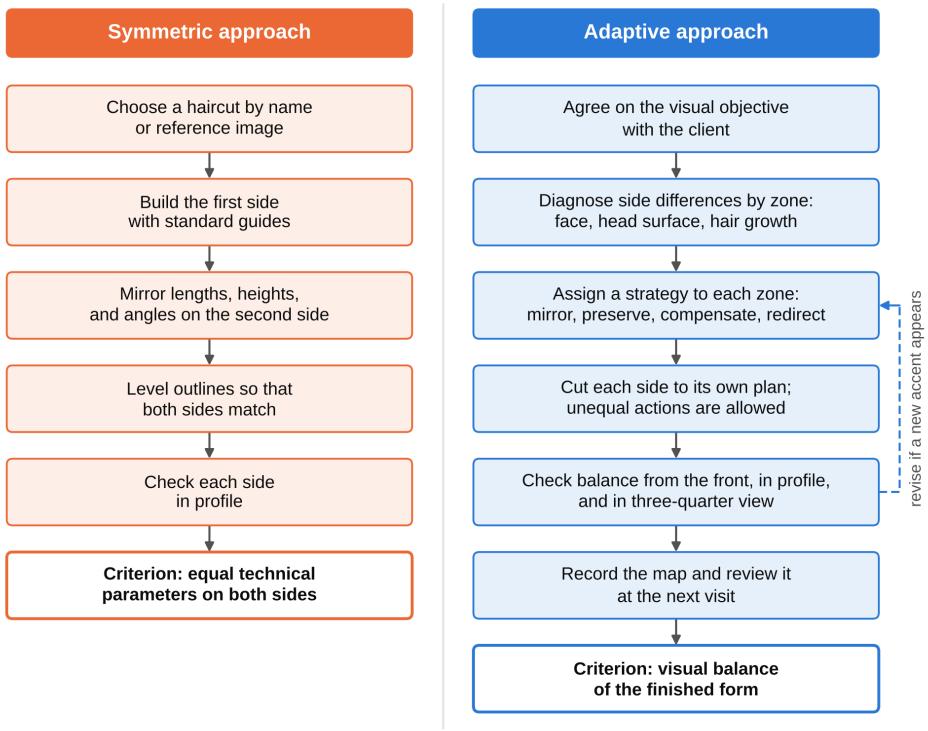


Fig. 2. Workflows of the symmetric and adaptive approaches to men's haircutting

Source: compiled by the author based on [5-7]

Two features of Figure 2 deserve comment. Two of the six adaptive steps take place before any hair is cut, and they are the steps that a shop under time pressure is tempted to skip. The control step can also send the barber back to the choice of strategy, which the symmetric sequence never does, because its criterion is satisfied by construction once the second side matches the first. A procedure that cannot fail its own test cannot learn from it. For training purposes

this may be the more important difference between the two approaches, and it is the reason the adaptive logic needs a spatial structure that a student can follow.

A zone-based model of adaptive individualization

The adaptive logic becomes teachable when its decisions are tied to places on the head. The model proposed here divides the area of a men's haircut into seven zones, chosen so that each has its own source of asymmetry and its own control view. A drawing is used because the zones are spatial, and their relation to the midline and to a common horizontal is the point of the diagnosis (Figure 3).

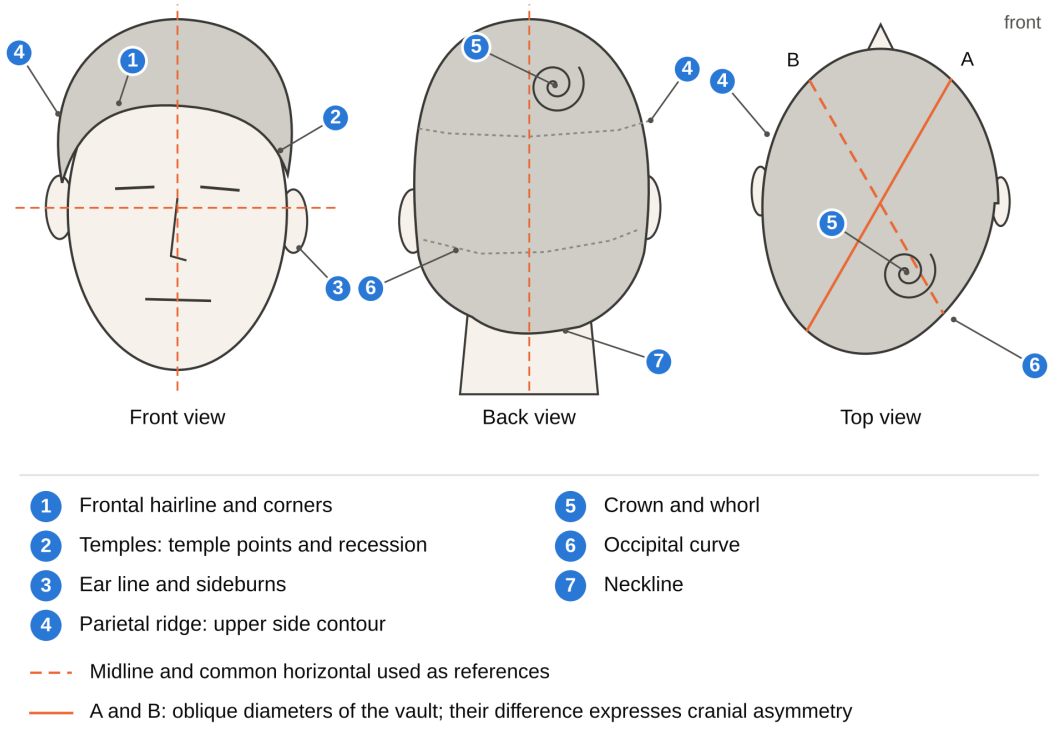


Fig. 3. Zone map for diagnosing side differences in a men's haircut

Source: compiled by the author based on [5; 6; 8; 19; 21; 22])

Zones 1 to 3 belong to the frame of the face and correspond to the lateral forehead and lateral mandible regions in which Wu et al. [8] measured lower symmetry. Zones 4 and 6 belong to the vault, where the difference between the oblique diameters A and B expresses the kind of asymmetry that Nagaishi et al. [19] quantified. Zone 5 is governed by the whorl, whose direction is an inherited

individual trait [22], and zone 7 by the growth lines of the nape. The number seven is a design choice. It was not derived from data. Fewer zones would merge sources of asymmetry that call for different responses, and a larger number would not be usable during a consultation of a few minutes.

For each zone the barber chooses one of four strategies. Mirror applies identical technique to both sides. Preserve lets the line on each side follow its own growth and density and adds no contrast that would mark the difference. Compensate uses unequal length, guard, fade height, or elevation so that the two sides read as equal. Redirect leaves the uneven zone quiet and moves the focal point elsewhere through the parting, the direction of the top, texture, or contrast. The first strategy is the symmetric approach. The other three form the adaptive repertoire, and they correspond to the options of preserving, softening, or visually organizing a natural asymmetry that the manuals describe [6]. Table 3 assigns typical differences, strategies, and technical means to the zones. A matrix is used so that a practitioner can enter it by zone and read across.

Table 3

Decision matrix of the zone-based adaptive model

Zone	Typical side difference	Preferred strategy	Technical means	Control view
1. Frontal hairline and corners	Corners of unequal height or density	Preserve; redirect	Outline along the natural density of each side; fringe direction or parting chosen to cover or open a corner as agreed	Front; three-quarter
2. Temples	Temple points at different heights; unequal recession	Compensate	Each temple outlined against the eye line and the common horizontal, not against the other temple	Front
3. Ear line and sideburns	Ears at different heights or with different projection	Compensate	Sideburn length set from the front on the common horizontal; the arc around each ear cut to its own shape	Front; both profiles
4. Parietal ridge	One side fuller or flatter than the other	Compensate	More length or a lower fade on the flatter side, less length on the fuller side	Front at a distance; mirror

Zone	Typical side difference	Preferred strategy	Technical means	Control view
5. Crown and whorl	Whorl off the midline; clockwise or counterclockwise direction	Preserve; redirect	Length kept beyond the critical length of the cowlick; top directed with the growth	Top; back
6. Occipital curve	Flattening on one side	Compensate	Weight line and fade height set by side so that the back reads as even	Back; three-quarter from behind
7. Neckline	Growth lines of different height or direction	Preserve	Tapered natural neckline in place of a hard blocked line where the corners differ	Back

Source: compiled by the author based on [5-8; 19; 21-23]

The matrix gives a starting position for each zone. Its entries follow from the anatomical source of the difference. Where the difference lies in the hairline or in growth direction (zones 1, 5, and 7), the hair itself is uneven, forcing it level removes hair that will grow back within weeks, and preservation is the stable choice. Where the difference lies in the bone or cartilage under the hair (zones 2, 3, 4, and 6), the hair is the instrument of correction and compensation is available. Redirection is the reserve strategy for a difference that is visible but cannot be offset in place, for example a frontal corner that sits higher on one side of a short crop.

Choosing among the strategies requires an ordered set of questions. A flowchart is used because the questions are conditional on one another, and their order encodes the priorities of the model (Figure 4).

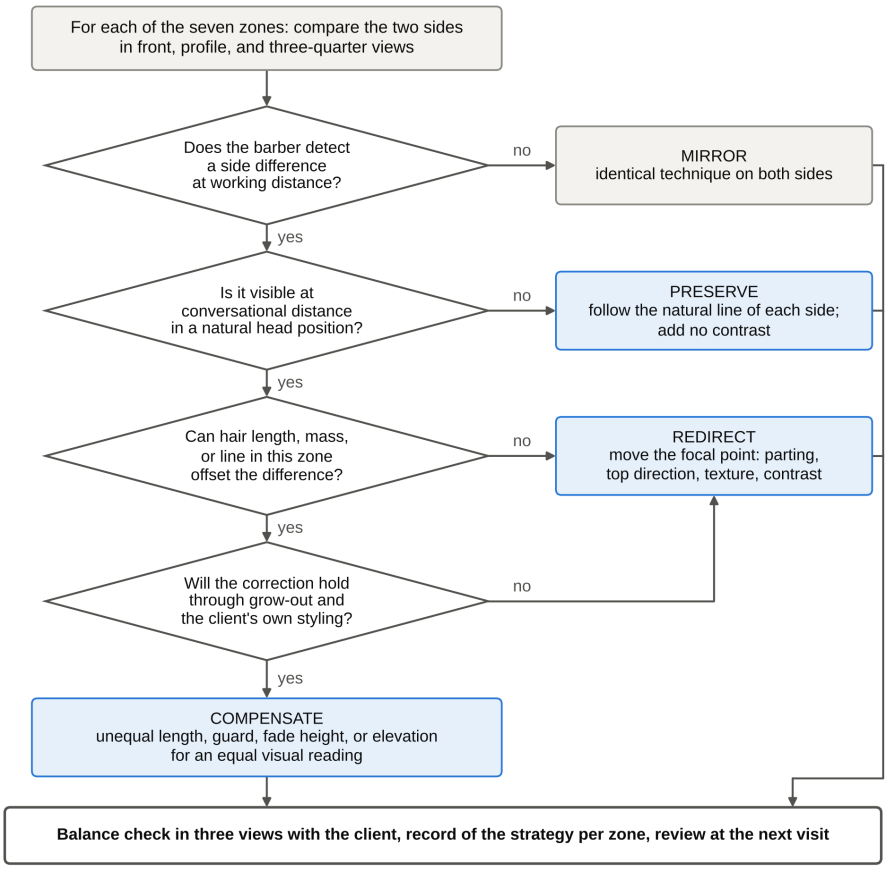


Fig. 4. Decision algorithm for selecting a strategy in each zone

Source: compiled by the author based on [5-7; 10; 11]

The first two questions translate the perceptual findings into working terms. The distinction between what the barber detects at working distance and what is visible at conversational distance mirrors the gap between specialist and lay thresholds reported by Alrbata et al. [10], and the idea of a range below which differences go unnoticed follows Eißing et al. [11]. This yields three tolerance bands, which the author proposes as a working convention. In band A the barber detects no difference and mirrors. In band B the barber detects a difference that does not show at conversational distance. The right response there is restraint, that is, preservation without added contrast, since any hard line placed in the zone can only make the difference more visible. In band C the difference shows at conversational distance, and the barber compensates or redirects by agreement with the client. The bands are defined by observation and not by millimeters,

because no study has yet measured detection thresholds for hairlines, temple points, or fade heights. The third and fourth questions come from craft knowledge: whether the hair in the zone is long and dense enough to carry a correction, and whether the correction will survive growth and the client's own styling [7].

A short example shows how the pieces work together. A client asks for a low fade with a short textured top. In the front view the barber sees that the right temple point sits higher than the left and that the parietal ridge is fuller on the left, and the client mentions neither. The temple difference is visible only at close range, which places it in band B, so each temple is outlined softly along its own growth and no sharp line is drawn. The ridge difference shows in the silhouette from across the room, which places it in band C, and the hair there is long enough to act on, so the fade is taken slightly lower and the blend left slightly longer on the flatter right side. The whorl sits to the right of the midline, and the top is directed with it. A mirrored procedure applied to the same head would have produced two identical fades and two matching temple lines, and the silhouette would have repeated the unevenness of the skull. The example is illustrative and reports no measured case.

The model has value only if it changes what is done in the shop and in the school, and the following recommendations state how it can be applied.

The first concerns the consultation. The diagnosis should begin with the client's own account of what he notices and wants, before the barber names any feature. The survey data cited above suggest that a large share of men are unaware of their facial asymmetry [15], and a consultation should not create dissatisfaction that was absent. The manuals recommend describing the intended change without words such as bad, wrong, or defect [6], and the author adopts this wording rule as part of the protocol.

The second concerns documentation. Each first visit should produce three standardized photographs before and after the haircut (front, profile, and three-

quarter view) in the same light and with the head in a natural position [5; 6], together with a client card on which the seven zones are marked with the observed difference and the strategy chosen. The card turns a private judgment into a record that a colleague can follow and the same barber can review.

The third is a scored control to replace the informal glance in the mirror. The author proposes a balance check with five checkpoints, rated at the end of the service by the barber and confirmed with the client: the horizontal reading of the temple and sideburn lines from the front, the width of the silhouette at the parietal ridge on the two sides, the frame around the frontal corners, the profile of the back of the head, and the neckline and ear lines seen from behind. Each checkpoint is scored 0 when a visible imbalance remains, 1 when the result is acceptable, and 2 when it is balanced, for a total between 0 and 10. The score is a documentation device and its scale is a design parameter. It has not been validated. Its first use should be to track the same client across visits, in the manner of the day 0 to day 30 observation protocol that the manuals describe for grow-out [7]. It is unsuited to comparing barbers until its agreement between raters has been tested.

The fourth concerns training. Barbering programs can introduce the adaptive sequence as a module that follows basic clipper and scissor technique. Its exercises invert the usual drill. The student is asked to produce two sides that read as equal on a model whose sides differ, to state in one sentence which strategy was used in each zone, and to defend the choice in front of the three photographs. Assessment by the balance of the result, with technique examined as the means, would bring the examination closer to what clients and employers judge, and with about 80,300 openings projected each year in the occupation [1] even a short module would reach many entrants.

The fifth concerns shop management. For self-employed barbers, who make up 80 percent of the trade [1], the client card is also a retention tool. Value co-creation with the customer has been linked to loyalty in salon services [4], and

a record that shows the client what was decided for his head and why is a tangible form of co-creation. Reviewing the card at the next visit, when the grown-out haircut shows which lines held, closes the loop shown in Figure 2.

The sixth concerns research, since the model generates testable hypotheses. One is that lay observers rate haircuts built by the adaptive sequence as more balanced than haircuts built by the mirrored sequence on the same heads. This can be tested with a crossover design in which each client receives both procedures on successive visits and standardized photographs are rated by a panel, in the manner of Eißing et al. [11]. Another is that detection thresholds for side differences in hair outlines differ between barbers and laypersons as the chin thresholds differed between specialists and laypersons [10]. This can be tested with digitally shifted temple points and sideburn lengths. A third concerns durability, namely that preserved lines score higher than leveled lines when the same haircut is photographed again after two and four weeks. Head scanning of the kind used to build statistical head models [20] could in time supply objective side differences for each zone.

Together with the comparison and the model, these recommendations complete the analysis and lead to the conclusions that follow.

Conclusion. The study set out to compare the symmetric and adaptive approaches to men's haircutting against published evidence on asymmetry and to substantiate a zone-based model of individualization. Both parts of the aim were met.

The comparison draws on consistent findings from the literature. The lateral forehead, cheek, and lateral mandible, along which a haircut is outlined, are less symmetric than the central forehead even in faces judged symmetric [8]. An uneven cranial vault was present in about a third of one adult control series [19], and hairline form, whorl direction, and hair density vary by person and by region [21-23]. Lay observers notice asymmetry at larger deviations than specialists do [10], only about one man in six reports having noticed asymmetry

in his own face [15], and measured symmetry did not predict attractiveness in a recent rating study [16]. Against this evidence the symmetric approach, which controls the equality of technical parameters, depends on an assumption that the measurements do not support. The adaptive approach, which controls the visual balance of the finished form and allows unequal actions on the two sides, is consistent with them. The hypothesis is confirmed at the level of analytical agreement between procedure and evidence, and the rater studies outlined above are the route to its experimental confirmation.

The second result is the model itself: seven zones, four strategies (mirror, preserve, compensate, and redirect), a decision algorithm of four questions with three tolerance bands, and a balance check of five checkpoints. The symmetric procedure enters the model as the special case in which no side difference is detected, so the model extends current practice instead of replacing it.

The practical significance of the work lies in making an expert habit explicit. Barbers gain a sequence they can follow and explain. Clients gain a result judged by how it reads on their own head, from the day of the cut to the next visit. Schools gain exercises and an assessment criterion based on balance, and shop owners gain a client record that supports continuity of service. For researchers of appearance, the zone map offers a way to connect anthropometric measurement with the design decisions of a trade that shapes the everyday appearance of its clients.

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