



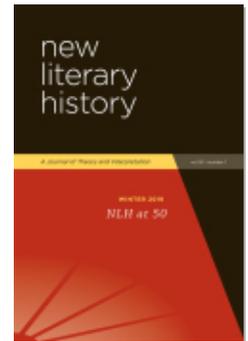
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Liesl Yamaguchi

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Sensuous Linguistics: On Saussure's Synesthesia

Liesl Yamaguchi

IN 1983, THE SWISS SCHOLAR MIREILLE CIFALI happened upon a radio lecture by Édouard Claparède, a Genevan psychologist whose correspondence with Sigmund Freud had occasioned her archival visit. Claparède's lecture, broadcast February 5, 1936, concerned a book he had assisted in researching over forty years earlier: Théodore Flournoy's *Des phénomènes de synopsie* (1893). The book catalogued and analyzed reports of "extraordinary sensations" submitted by individuals who had experienced "representations essentially relating to the domain of sight, prompted (at least apparently) by sensations or ideas outside of the ordinary laws of perception and association."¹ The book, in other words, recounted the experiences of people who saw things that, according to "the ordinary laws of perception and association," were not there.

Apparently compelled to defend these reports' reliability in his broadcast, Claparède noted the "detailed responses from experts of scrupulous conscience, whose good faith could hardly be called into question (such as Ferdinand de Saussure). C.f. Flournoy, p. 51."² Intrigued at the surprising reference to the founding figure of structural linguistics, Cifali contacted Flournoy's grandson Olivier, who located the late author's copy. Olivier found that the name "Ferdinand de Saussure" had indeed been jotted into the margin beside a long quotation that the printed text, for its part, attributed only to "an eminent linguist, Mr. X" (*PS50*).³

Saussure's was not the only name thus jotted in. Flournoy's copy revealed the identities of several subjects who had elected to remain anonymous, for reasons not difficult to discern. As Marco Mazzeo, one of the text's most acute commentators, usefully summarizes: "between the end of the nineteenth century and the beginning of the twentieth, synesthesia was a controversial affair . . . provoking serious accusations between philosophers, scientists, and art theorists. Those unconvinced of the reality of the phenomenon would attack their adversaries without the slightest hesitation, reproaching them—in the best case—for being too impressionable, and accusing them of charlatanism in the worst."⁴ Given Saussure's well-documented reluctance to publish even his most developed work—whether on general linguistics or the anagrams of

antiquity—it is scarcely surprising that he should have refrained from attaching his name to passing observations on so contentious a topic.

The quotation itself, nearly three pages in length, offers an exquisitely detailed description of “the color of vowels.” *A*, it recounts, is “whitish, verging on yellow,” like “a paper (yellowed by time) stretched in a frame”; *I* is like mercury, “silver or quicksilver”; *ou* evokes the same sensation as “a beautiful, gray velvet, or a very soft, gray drape, very faded in tone” (*PS* 50–52). Although the sensuous materiality of these descriptions contrasts rather sharply with the abstract, even algebraic minimalism characteristic of Saussure’s published prose, the authorship of the quotation, once revealed, could hardly be disputed. As Flournoy’s longtime colleague at the University of Geneva, Saussure was certainly a plausible candidate for the “eminent linguist” elsewhere identified in the text as “male, aged thirty-five.”⁵ And even the most suspicious scholar would be obliged to concede that the quotation itself is marked by distinctively Saussurean terminology (*substance, valeur*).

I say “would be” rather than “was” because the text on vowel colors has not garnered much scholarly attention. Somewhat surprisingly, it has never been republished in the “Documents” section of the *Cahiers Ferdinand de Saussure*, where various fragments of Saussureana regularly appear, and the pages of that journal in the two decades following its discovery betray no trace of its existence.⁶ This scholarly silence could be attributed to the limited circulation of the newly founded journal of Freudian studies in which Cifali’s discovery was published. But it more likely reflects a certain exhaustion on the part of Saussurean scholars with anything that might have appeared to undermine the authority of the *Cours de linguistique générale*. Given the rumors of madness to which Saussure’s anagram studies had recently given rise, it is not difficult to imagine why Saussureans of the 1980s might have been reluctant to take on the vowel-color text.⁷ Beyond the text’s suggestion that Saussure was subject to the sort of unverifiable visions that compelled established professionals like Claparède to defend their work in public broadcasts, the text would also appear to present an inherent connection between elements of language and things in the world, obliging its commentator to reconcile that connection with the arbitrary sign foundational to the *Cours*.⁸

Although the past two decades have seen a number of scholars endeavor to resolve that apparent contradiction, their analyses have consistently approached the vowel-color text through the lens of synchronic linguistics, attempting to protect the integrity of that science by demonstrating the vowel-color text’s compatibility with its foundational principles as advanced in the *Cours*.⁹ But it is far from evident that the

tools of synchronic analysis, which are designed to elucidate the differential relationships internal to a single language at a given moment in time, are the scholarly tools best suited to the task of the vowel-color text's exegesis. Adopting a more hermeneutic approach, this article takes up the text's own preoccupation with the decisive role of writing in its author's sensations of vowel colors, tracing the subconscious relationship between orthography, phonetics, and linguistic evolution in Saussure's thought. Identifying the diachronic perspective to which Saussure's synesthesia appears to be tied, the article turns to the linguist's oft-neglected publications in Indo-European linguistics in order to show how his synesthetic perceptions of vowels might have illuminated his groundbreaking *Mémoire sur le système primitif des voyelles dans les langues indo-européennes* (1879).

I. Imaginary Beings

In response to the query, "What colors do you see in the vowels *a, é, i, o, u, ou?*" ("Quelle couleur trouvez-vous aux voyelles *a, é, i, o, u, ou?*" [PS 256]), Saussure begins by noting a problem with the question. "I don't think I can answer the question (on the color of vowels) in the terms in which it has been put," he begins, as "it doesn't seem to be the vowel as such—as it exists for the ear, that is—that calls forth a certain corresponding visual sensation."¹⁰ This "sensation," he reflects, seems to bear some relationship to orthography:

In French we write the same vowel four different ways in *terrain, plein, matin, chien*. Now when this vowel is written *ain*, I see it in pale yellow like an incompletely baked brick; when it is written *ein*, it strikes me as a network of purplish veins; when it is written *in*, I no longer know at all what colour sensation it evokes in my mind, and am inclined to believe that it doesn't evoke any; finally if it is written *en* (which only happens after a preceding *i*), the whole of the group *ien* recalls for me a tangle of hemp ropes that are still fresh, not having yet taken on the off-white tint of used rope. (PS 50)¹¹

If "the same vowel" can evoke "pale yellow," "purplish veins," "still-fresh hemp ropes," and "no color at all," depending on how it is spelled, Saussure concludes, the "vowel as such" cannot be the stimulus for his color sensations, or at least not all of it. He continues to suggest that this stimulus might more accurately be described as "a vowel as it is contained in [its] graphic expression" (PS 50). This vowel, it bears noting, does not require phonation in order to produce its effects; it need only be conceived in the mind of the reader who is confronted with its

written form. “These color attributes,” Saussure explains, “do not attach, in other words, to acoustic values, but to orthographic ones, which I unwittingly make into substances. The being $\left[\begin{smallmatrix} \text{vowel} & x \\ \text{letter} & x \end{smallmatrix} \right]$ is characterized by this or that look, hue, feel” [*tel aspect, telle teinte, tel toucher*] (PS 50–51). The name “colored hearing” [*audition colorée*], then, is imprecise.¹² The activity in question is not hearing, but reading.

Reading is not reducible to seeing, of course, and as Saussure takes care to note, whatever prompts the color sensations cannot be explained merely with reference to sight. It is not “seeing a certain letter or group of letters that calls forth this sensation,” he insists; rather, “it is the vowel as it is contained in this graphic expression; it is the imaginary being formed by this first association of ideas which, through another association, appears to me as endowed with a certain *consistency* and a certain *color*” (PS 50). One might well pause to wonder just what sort of “vowel” lurks within the term as it appears in Saussure’s text at this juncture. Neither an audible sound nor a graphic expression, it would appear to be, like the well-known signifier or “acoustic image” of the *Cours*, “not the material sound, the purely physical thing, but the psychological imprint of that sound, the impression imparted by sensory evidence.”¹³ This vowel would be a memory, an aggregate of an oft-repeated sound, which would differ from the sound itself in one crucial respect. While a realized sound coincides, necessarily, with a physical form, a psychological imprint retains the memory of the signifying sound only. Thus while a realized sound may be said to bear the properties of the material form it assumes, the psychological imprint is differentially defined and thus bereft of qualities. The *Cours* articulates this principle in no uncertain terms. The linguistic signifier, we read, “is in no way phonic; it is incorporeal, constituted not by its material substance but by the differences that separate its acoustic image from all others.” And what is true for the signifier holds for “all the material elements of language, including phonemes”: “What characterizes them is not, as one might think, their own positive qualities, but simply the fact that they do not become confused with one another. Phonemes are above all oppositional, relative, and negative entities” (CLG 164).

But if the “vowel” of the expression $\left[\begin{smallmatrix} \text{vowel} & x \\ \text{letter} & x \end{smallmatrix} \right]$ is the differential phoneme that it would appear to be, how can the “imaginary being” of which it forms a part be “characterized by a certain aspect, hue, and feel”? Two possibilities present themselves. The positive qualities could be attached exclusively to the letters associated with the vowel and bear no relationship to that vowel at all. As Saussure states that merely “seeing a certain letter or group of letters” does not suffice to prompt the colored sensations, however, this first possibility must be cast out. The

second possibility would be that the properties come to inhere in the vowel itself as it takes shape in the mind of the reader. In the passage from “group of letters” to “vowel,” it would have to become something other than a differential phoneme: something immaterial and incorporeal, yet also in possession of “its own positive properties.” This paradoxical condition, it seems, is what compels Saussure to describe the prompt for his color sensations not as a “vowel” but as an “imaginary being” [être imaginaire].

This imaginary being would seem to be less the differential phoneme of synchronic linguistics than the *littera* of Ancient Rome. The minimal unit of language, the Roman *littera* was said to possess three aspects, or realizations: *figura*, the written form; *potestas*, the spoken form; and *nomen*, the name by which it may be designated in teaching.¹⁴ *L'être imaginaire* Saussure describes is very much the ancient *littera*—an abstraction that, in his native French, one might well call a *lettre imaginaire*.

II. Traces

A word's pronunciation is determined not by
its spelling, but by its history. (CLG 53)

Upon taking a slightly closer look at the four “imaginary beings” with which Saussure begins— $[-\overset{\xi}{ain}]$, $[-\overset{\xi}{ein}]$, $[-\overset{\xi}{in}]$, and $[-\overset{\xi}{ien}]$ —one might note, as indeed Saussure does, that one of these is not quite like the others. In the case of *chien*, the visual sensation of “a tangle of hemp ropes” is called up by the group of letters <ien>, which is to say, a different group of letters from the ones Saussure knows to transcribe the vowel / $\overset{\xi}{e}$ / (<en>).¹⁵ The color of this imaginary being thus appears to derive not just from the orthography of the vowel, but also from the orthographic environment that surrounds it—or, perhaps, from the phonological environment that that orthography was devised to reflect. For in Saussure's account, the exceptional inclusion of the letter *i* within the fourth imaginary being seems to correspond not to a graphic specificity but to a phonological one. What makes the *i* of *chien* categorically different from the *l* of *plein* or the *t* of *matin* is not its physical shape, but its phonological necessity: without it, the <en> that follows be not / $\overset{\xi}{e}$ / but / $\overset{\xi}{\tilde{a}}$ /, as in “*en français*.” The *i*, then, might be less the letter <*i*> than the semi-vowel /*j*/ that it transcribes, which acts as a sort of timbral coefficient, signaling the exceptional quality of the vowel to come. Although the semi-vowel is appreciably distinct from “the vowel as such,” it is decisive in determining that vowel's timbre as well as, it would seem, its color.

The implications of this proposition are not trivial. For if one concedes that, despite appearances, the *i* of the imaginary being [$\underset{ien}{i}$] is not in fact a letter but a phonological signal, one is obliged to ask if all the letters of all the imaginary beings are not phonological signals as well. Might the groups of letters <in>, <ain>, and <ein> also indicate phonological structures in excess of what may be articulated by the isolated phoneme, “the vowel as such”? But then what sort of “phonological structures” would these be? After all, by Saussure’s own account, “-ain,” “-in,” “-ein,” and “-[i]en” all transcribe precisely “the same vowel.” And from the perspective of phonology, the fact is indisputable: regardless of any variations in pronunciation, <ain>, <in>, <ein>, and <[i]en> all correspond to a single phoneme of modern French, defined by its capacity to be opposed to all the other phonemes of the language. Any difference in the aural contours of these vowels in Saussure’s mind must therefore be phonetic, not phonological.

Although phonetics and phonology both study the sounds of language, the fundamental procedures of the two fields are entirely distinct. Phonetics endeavors to describe linguistic sounds as precisely as possible, availing itself of both anatomical and acoustic vocabulary. Phonology, however, studies linguistic sounds only insofar as they are decisive in meaning, defining the minimal units of language in differential terms. Thus a phonetician may establish equivalences between the speech sounds of different languages on the basis of their properties, but a phonologist, by definition, cannot. Defining a phoneme exclusively by means of its opposability to other sounds within a given system, the phonologist may equate that phoneme with elements within that same system alone. An analogous element of another system, however similar in qualitative terms, can never be considered its equivalent from the perspective of phonology.¹⁶

A number of points in the vowel-color text would suggest that Saussure is indeed considering vowels from a phonetic perspective. When he writes that the French vowel transcribed “ou” and the German one marked “u” are “the same vowel” (*PS* 52), for example, he reveals the phonetic perspective from which he is considering the two speech sounds at that moment. And this phonetic perspective, as the *Cours* explicitly states, is the perspective not of the synchronic linguist, but of the diachronic one: “Phonetics, all of phonetics, is the primary object of diachronic linguistics; the evolution of sounds is incompatible with the notion of a static state; to compare phonemes or groups of phonemes with what they were previously is to establish a diachrony” (*CLG* 194). If a linguist is to study the relationships that obtain between different languages, this linguist must have recourse to a metalanguage by which the terms of

distinct idioms may be put into meaningful relation—something that phonology, by definition, cannot provide.

Thus the distinctions signaled by the letters <ain>, <in>, <ein>, and <[i]en> might reflect phonetic qualities of the phoneme / \tilde{e} /: qualities that might be of consequence for phonology, or might not. The letter <n>, for example, might be understood to signal the nasal quality of the vowel / \tilde{e} /, a quality reflective of the nasal consonant /n/ that was, at some point, pronounced after the vowel. Without its <n>, the final vowel of *terrain* would seem to be / ϵ /, as in *quai* [k ϵ]; the final vowel of *matin* would rhyme with *parti* [p α t \tilde{i}]. Just as the letter <i> signals the particular timbre of the “-en” in *chien*, so does the letter <n> signal the nasal quality of whatever vowel precedes it.¹⁷ Read thus, the letters integral to the imaginary beings would indicate particular phonetic aspects of a single phoneme. They would constitute the physical traces of a former phonetic environment that, though obsolete, continues to echo in the timbre of a vowel.

The reason for the difference of hue corresponding to “the same vowel” in Saussure’s account, then, might not lie in orthography as such but rather in the diachronic evolution to which it attests. And from a diachronic perspective, the final vowels of *terrain*, *plein*, *matin*, and *chien* are hardly “the same.” *Terrain* derives from **terrānum*, a popular form of the classical Latin *terrēnum*, and bears the latinate suffix *-ain*; *plein* derives from the classical Latin *plēnus*; *matin* from *mātūtīnum*; and *chien* from *cānum*, itself derived from the Ancient Greek κῶν.¹⁸ The synchronic coincidence of sounds within the single phoneme / \tilde{e} / might therefore be said, by the diachronic linguist, to reflect very different phonetic conditions, conditions that may no longer be of phonological consequence, or indeed even perceptible to the speaker of modern French, but which nonetheless continue to leave their trace in orthography. This would explain not only why Saussure finds that spellings inflect his color perceptions, but also why he feels the need to specify that it is “only the vowels in words that, for me, have sufficiently defined colors” (PS 52). For vowels in words, unlike isolated vowels, are inscribed in a lineage of linguistic evolution, bearing within them invisible laws of inflection and language change.

Saussure’s color perceptions, therefore, would seem to be tied to vowels’ transformations over time: to the diachronic evolution absent from the synchronic perspective that perceives vowels in purely differential terms. But we have come to a contradiction. The “synchronic perspective” from which a phoneme is differentially defined is, as the *Cours* famously instructs, the perspective of speaking subjects (CLG 128). Yet the colors of Saussure’s report inhere, precisely, in a subject; it is from

Saussure's perspective alone that the sensations of color can be said to exist at all. Thus the colors would seem to guide us toward a point in Saussure's thinking at which synchrony and diachrony meet, a point at which the synchronic perspective of the speaking being betrays a latent consciousness of vowels' evolution over time.

Saussure's consciousness of the diachronic evolution of vowels was, of course, anything but "latent." During his lifetime, the great Genevan linguist numbered among the world's most authoritative scholars on precisely this subject, having established his professional reputation with a pioneering study of the primitive vowel system of the Indo-European languages. Yet Saussure draws no explicit connection between the colors of the vowels he describes and his intimate acquaintance with those vowels' transformations over time. Between the reading subject who sees colors in vowels and the professional linguist who studies them, there would appear to be an absolute divide. And one might observe that even from the synchronic perspective of the reading subject, the various spellings of /*ɛ̃*/ do correspond to vowels that, though homophonic, behave differently. When the adjective "plein" appears in its feminine form—"pleine" [plɛn], for example—it takes on a different vowel sound from the feminine form of "matin," "matine" [matin]. No speaker of French, not even an illiterate one, would ever say "pline" [plin] or "meteine" [matɛn], though few would be able to explain why. The imaginary being might well reflect a vowel's voyages through distant tongues, but it might also relate to the laws of apophony that govern variations in vowel timbre within a single one. *L'être imaginaire*, in other words, would seem to bear witness to a reading subject's subconscious knowledge of the laws of both apophony and language change—laws of which that reader is, of course, the unwitting bearer. Followed closely, the colors of the imaginary being might betray subtle indications of where it has been, as well as what it will perhaps become.

III. The Colors of Vowels

One of the evident questions prompted by the vowel-color text concerns its unique status. If its author truly saw colors in vowels, is it plausible that he left traces of this perception nowhere else? The question might be posed in other terms. If Saussure the subject saw colors in vowels, did Saussure the linguist never let on?

One logical place to begin such an inquiry would be Saussure's *Mémoire sur le système primitif des voyelles dans les langues indo-européennes*—a text that, unlike the *Cours*, reflects Saussure's own rhetorical choices.¹⁹

Upon re-opening this unrelentingly rigorous inquiry into Indo-European vocalism, one cannot help being struck by its recurring references to the “hues” [teintes] and “colors” [couleurs] of vowels. The opposition of the vowels ϵ and α in Ancient Greek, for example, is said to exist between “the two hues ϵ and α ” (M 20), and in tracing the behavior of a particularly chameleonic “mute vowel,” Saussure observes that “forms like $\epsilon\rho\epsilon$ -τύον, $\kappa\epsilon\rho\alpha$ -μος, $\acute{\alpha}\rho\omicron$ -τρον, $\acute{\alpha}\rho\iota$ -θύος indicate that the mute vowel can assume four different colors, without revealing what causes it to take on one rather than another” (M 180, emphases mine). Where a modern linguist would use the term “timbre” to designate the difference of sound quality distinguishing one vowel from the next, Saussure consistently refers to a vowel’s “hue,” “color,” or “coloration” [coloration]. These terms are ones that the science of linguistics has read, for more than a century, as metaphors, understanding that the “hue” or “color” of a vowel is something that is heard. In light of the vowel-color text, however, one wonders how Saussure himself understood these terms—which are overwhelmingly absent from his sources.²⁰

Saussure’s tendency to describe vocalic timbres in color terms may in fact be traced back to before his encounter with these sources, to an amateur effort he penned at the age of sixteen: “Essai pour réduire les mots du grec, du latin & de l’allemand à un petit nombre de racines” (1874).²¹ Saussure’s “Essai” advances the theory that apparently distinct languages (German, Latin, Greek) can all be demonstrated to contain words deriving from “nine primitive words” or “roots.” These nine roots, Saussure proposes, are each composed of a single vowel flanked by consonants. The consonants, represented by the letters “P,” “T,” and “K,” reflect wide ranges of sound, whose defining feature is their place of phonation. As Saussure explains on the opening page of his essay, “P,” “T,” and “K” are less specific speech sounds than shorthand notation for classes of sounds that exist in all the languages under consideration—gutturals (K), labials (P), and dentals (T):²²

1^o les *Gutturales* :

K, Γ, X, Ξ	– en grec
C, G, H	– en latin
K, G, H, Ch	– en allemand

2^o les *Labiales* :

Π, Β, Φ, Ψ, Μ
P, B, F, V, M
P, B, F, V, W, M

3^o les *Dentales* :

T, Δ, Θ, Ζ, Σ, Ν
T, D, J, S, N
T, D, Th, Z, S, N

The vowel, marked “A,” denotes all the vowel sounds of these languages and yet none in particular. While consonants belonging to different languages may be classed and equated, Saussure argues, “the vowel, changeable element, which takes on the hue of all the skies it travels under, or disappears entirely, cannot possibly provide a reliable index.”²³ Just as a stream glinting amber at sunset may well seem gray in an overcast dawn, so may a vowel that manifests itself as ϵ in Greek turn up in Latin as *a* and in German as *o*. The elements Saussure’s analogy draws into relation are not merely vowels and reflective surfaces, however, but, more specifically, “the hues of all the skies” [la teinte de tous les ciels] that a surface may reflect, and the timbres of the sounds that slip in between the consonants of all languages. The “hue” of Saussure’s formulation thus forms part of an analogy, but it also constitutes a pun *avant la lettre*, simultaneously evoking celestial colors and vocalic timbres as *teintes*.²⁴

One might well wonder wherein the identity of such a chameleonic “vowel” inheres. If a given vowel can be clad in ϵ , in *a*, and in *o*—and for that matter, disappear entirely—in what way can it be said to be one and the same vowel? For, by its conventional definition, a vowel is defined, precisely, by its timbre: “timbre” is the quality of sound by which *a* may be distinguished from *e* or *o*.²⁵ The question of how to establish equivalence and difference between the vowel sounds goes unaddressed in the “Essai,” whose ambitions are limited to the establishment of nine primitive roots, consonantly defined. For the purposes of the 1874 text, the undifferentiated “vowel,” intuited to be required by the mechanics of phonation, need never be set in opposition to any other vowel sound. Thus Saussure devotes nothing more to it than a place-holding symbol, “A.” Like the V of contemporary linguistic notation, which marks not the sound /v/ but the presence of a vowel, Saussure’s “A” is algebraic rather than phonetic in nature, marking an unknown value x within a given linguistic expression.²⁶

The infinitely variable “A” that “takes on the hue of all the skies it travels under” re-emerges, in a way, in the *Mémoire*, which Saussure published less than five years later. As the opening lines of that text announce, its object of study is in no way straightforward: “The immediate object of this opusculé,” Saussure writes, “is to study the multiple forms in which what one calls the Indo-European *a* manifests itself” (M 1). The object of study, “what one calls the Indo-European *a*,” is identified not as a discrete and homogenous entity but rather as something, or perhaps some things, that have been designated by a single name: “*a*.” Whether singular or plural in nature, this *a* “manifests itself” (or, perhaps, its selves) in “multiple forms.”

This *a* that might have appeared to be singular in nature is quickly established as comprising several discrete entities. Saussure cites the origin of this “*a*” in the foundational text of Indo-European linguistics, Franz Bopp’s 1833 *Comparative Grammar*, which observes that “compared with the European languages’ three vowels *a e o*, Aryan showed uniformly *a*” (*M 2*). Bopp’s *a*, however, constitutes a more circumscribed entity than the “*A*” of Saussure’s 1874 “*Essai*,” as it is already opposed to two other vowels marked “*i*” and “*u*.” The next significant scholar of *a*, Georg Curtius, “br[oke] with the received notion that the mother language possessed only the three vowels *a i u*” to observe that “*e* appeared in the same place in all the languages of Europe, and that, consequently, it could not have developed independently in each” (*M 2*). Both Saussure’s reference to “the mother language” [la langue-mère] and the imputation of causality conveyed in his “consequently” require a moment’s explanation. Both expressions signal the *Mémoire*’s belonging to the nineteenth-century science of Indo-European linguistics. Indo-European linguistics, unlike the “Saussurean linguistics” that took the *Cours* as its founding document, sought to articulate the relationships linking the languages of the Orient and the Occident and, by means of these relationships, to identify the languages’ points of divergence in time. The particularity of the Indo-European project is most swiftly grasped by means of its two fundamental axioms, identified by Jean-Claude Milner.²⁷ The first is that observable similarities between different languages admit of etiology. For the Indo-Europeanist, homophonies between languages are not products of chance, but effects of a cause (hence Saussure’s, or perhaps Curtius’s, “consequently”). The second axiom is that this cause is a language. The cause-language, referred to by its seekers as “Indo-European,” is singular and unattested: although it can be reconstructed on the basis of extant languages, it itself cannot be directly observed through any material artifact.²⁸ Indo-European, therefore, “is not simply a dead language, similar to Latin, which is no longer spoken, but which could always be restored to speaking subjects: Indo-European can never be in the position of being presumed the mother tongue of any subjects, even dead ones.”²⁹ “The mother language,” in other words, by its very nature, can never coincide with any mother tongue.

Saussure’s object of study, “what one calls the Indo-European *a*,” ostensibly partakes of this curious cause-language: it is a hypothetical vowel belonging to a constructed tongue, “at once the origin and the echo of an ensemble of observed forms.”³⁰ In Saussure’s thesis, however, this *a* is not “*a*” hypothetical vowel, as in Bopp’s *Comparative Grammar*, but “four different terms.” The novelty of Saussure’s thesis lay in its argument that the vowel system of Indo-European possessed not one *a* but

“four species of *a*,” which Saussure marks with the symbols *A*, *A*₂, *a*, and *a*₂.³¹ Contrary to what graphic convention might lead one to expect, *A*, *A*₂, *a*, and *a*₂ do not denote distinct timbres, but four distinct—if unattested—vowels of unknown timbre, whose existence may be inferred from the overall behavior of the vowels in Indo-European languages. Saussure is explicit on this point. “When we wish to speak of the *sound* *a* or of the *a* in general, and not of the Indo-European vowel that we designate *a*,” he writes in his first introduction to the work, published in 1877, “we will use the ordinary character instead of the italicized one.”³² The algebraic *as* are thus clearly distinguished from “the *sound* *a*,” as well as from “the *a* in general,” which comprises all that has fallen under the name of “*a*”: “an aggregate without any organic unity” (*M* 5).

The four Indo-European *as* whose distinct lineages Saussure seeks to demonstrate possess no set timbres; like the *A* of the “*Essai*,” these *as* assume different hues over the course of the *Mémoire*. In tracking the behavior of the third Indo-European *a*, for example, Saussure notes that “what we will call *a* . . . appears in Slavic in the form of *o*, but no matter: such an *o* is adequate to the Lithuanian and Germanic *a*; the color *o* has nothing to do with it” (*M* 51, emphasis original). While *a* is a hypothetical vowel of Indo-European—and therefore presumably possesses a timbre, albeit an unknown one—it may “appear” in attested languages “in the form of *o*,” a vowel which may be considered “adequate to the Lithuanian and Germanic *a*.” Saussure’s Indo-European *a* thus appears to be dual in nature: referring at once to a vowel of unknown timbre in the proto-tongue, and to a set of attested Indo-European vowels whose link to that proto-vowel resides in something other than timbre. This “something” is never explicitly defined and extremely elusive in nature. One may argue for its existence on the basis of a vowel’s occurrence within a word that appears in different forms within a single language (e.g., *sing*, *sang*, *sung*, *song*), as well as a vowel’s occurrence in a word’s analogues in other languages (e.g., ἄστέρι, *stella*, *astre*, *star*). These analogues are established not only on the bases of meaning and part of speech (as are synonyms within a single language, for example), but also—often primarily—on the basis of their phonetic resemblance.

Establishing the defining features by which the Indo-European descendants of *A*, *A*₂, *a*, and *a*₂ may be distinguished is, in essence, the task of the *Mémoire*. One might illustrate its method through any number of examples. In Ancient Greek and the early Italic languages, for instance, Saussure notes an alternation between *e* and *o* that is “absolutely regular (ἔτεκον: τέτοκα, τόκος. τῆγο: τῆγα)” (*M* 51, emphases mine). In none of these languages, however, does *a* alternate with *e*.³³ “Then how could the *a* and the *o* of the southern languages both be the product of one and

the same primitive \hat{a} ” Saussure inquires: “By what miracle would this ancient a have been colored o , and never a , precisely in every instance in which it was accompanied by an \hat{e} ?—Conclusion: the dualism: a and o of the classical languages is originary” (M 51, emphasis original). Thus the ϵ s and o s of the early Greek and Italic languages are established within a single lineage distinct from that of a .

Despite its italicization, this “ a ” represents not the a of the hypothetical Indo-European A , A_2 , a , and a_2 , but rather the a of Classical Latin as well as the α of Ancient Greek. It therefore signals a second system of vowel representation at work in the *Mémoire*, which transcribes the attested Indo-European vowels. These vowels also merit a moment’s scrutiny. As the reader will have noticed, it is they and not the algebraic as that appear to bear, or to be, “colors.” But to which vowels does Saussure refer when he notes “the two hues ϵ and α ,” or when he argues that a_2 has been “colored o ”? Considering these quotations in the context in which they appear, one might well be tempted to conclude that ϵ , α , and o refer to the phonemes of the Ancient Greek and Italic tongues. There is no lack of clarity in Saussure’s text as to the languages under consideration; the “hues” or “colors” of these vowels thus refer or attach to the speech sounds of those languages. A closer look at Saussure’s formulations, however, suggests that this conclusion may be premature. Which o is it, after all: the Latin one or the Greek one? And when Saussure observes that “the vowel that developed before [the nasal sonant] took on, in multiple idioms, the color of the e ” (M 19), what sort of e , specifically, does he have in mind?

The question is not trivial. As anyone literate in more than a single language knows well, what is marked < e > in one tongue may bear little relation to what is marked by the very same character in another. And even if both languages were to be transliterated by means of a single, phonetic alphabet—as is more or less the condition of the languages studied in the *Mémoire*—what was marked < e > in one language would still not be entirely commensurate with what was marked < e > in the next. The transcription enabled by a process of phonetic approximation, however precise, would merely mask the definitional incommensurability of the phonemes of different languages. It would suggest that the < e > of one language is identical to the < e > of the next, which might or might not be true in phonetic terms, but which would never be so phonologically.

The e whose “color” may be “taken” by the phonemes of “multiple idioms,” then, is a phonetic category: an aggregate similar in nature to the “gutturals,” “labials,” and “dentals” under whose headings Saussure classed the consonants of German, Latin, and Greek in his 1874 “Essai.” Just as the symbols “P,” “T,” and “K” enable the author of the “Essai”

to equate these languages' consonants, so do the "colors" ε , a , and o create pan-linguistic categories by means of which Saussure may equate the vowels of the Indo-European languages with one another. The two systems, however, differ in two significant respects. First, the consonantal classes of the "Essai" were presumed to constitute the distinctive element that could be traced back to the nine "primitive roots." The vocalic color classes of the *Mémoire*, however, do not identify the distinctive element by which a vowel's diachronic lineage may be traced. That element is marked A , A_2 , a , or a_2 . Second, whereas the categories marked "P," "T," and "K" in the "Essai" are defined by their place of phonation, what distinguishes "the color i " from, say, "the color u " is unclear. Saussure simply assumes an unstated division separating "the color a " from "the color o ." These italicized vowels indicate sounds whose contours the reader is presumed to understand, although the sounds themselves cannot precisely be said to be the sounds of any earthly tongue. Strictly speaking, they are constructed vowels, phonetically conceived and yet as impossible to observe directly as Indo-European itself.

Saussure's *Mémoire* thus presents not two systems of vowel notation but three:

- 1) the vocalic variables of Indo-European, marked a , a_2 , A , and A_2
- 2) the phonologically defined vowels of particular languages, rendered in their own alphabets (Latin, Greek), or approximately transliterated into Roman characters (e.g., the Indic languages)
- 3) the phonetically defined vowels that may be identified in multiple idioms and are marked with the Roman characters a , e , i , o , u , and y as well as, occasionally, the Greek characters α , ε , ι , o , and υ ³⁴

The three representational systems, though distinct, may interact. The algebraic variables of system one, for example, are said to be "reflected" by the phonemes represented in the symbols of system two (the speech sounds of attested languages), which themselves are often grouped into the broad phonetic categories of system three. Saussure explains in his 1877 article, for example, that "there is a kind of Indo-European a reflected in Sanskrit by i or u before liquids, and in the classical languages by a or o before the same consonants."³⁵ The symbolic variable, the "Indo-European a ," may be "reflected" in Sanskrit by the vowels "i" and "u," and in Latin and Greek by the vowels "a" and "o." The first a is a variable that possesses no secure aural attributes; i , u , a , and o represent phonemes of Sanskrit, Latin, and Greek. The equation of the α s and ω s of "the classical languages," however, points to a conception of those vowels in the phonetic terms of system three. The three systems of representation, then, might be considered as three alphabets aimed at

the description of any given vowel. The first alphabet notes the vowel's diachronic lineage, the second its phonemic status in a given language at a given moment in time, and the third its phonetic "color."

But there is one more alphabet. Early in the *Mémoire*, Saussure introduces a class of sounds that he calls "*coefficients sonantiques*" or "resonant coefficients." The coefficients, as their name suggests, are phonetically stable entities (in the manner of the gutturals, dentals, and labials of the "Essai") that condition the behavior of neighboring vocalic variables (a , a_2 , A , and A_2). Like these hypothetical vowels, the resonant coefficients are posited as "primordial phonemes" of Indo-European and count among their number liquids (r, l), nasals (m, n), and two hypothetical phonemes marked "A" and "Q." What makes these sounds collectively form a class is that they function both as consonants and as "sonants": phonemes that form the primary support for a syllable.³⁶ When they appear as "consonants" sounding with a neighboring vowel, the *coefficients sonantiques* condition the quality of that vowel's sound; when that vowel is absent, they become "sonants," independently furnishing the basis for a syllable.

Saussure easily relates the liquid and nasal sonants to existing phonological structures in Sanskrit, Greek, Lithuanian, and other languages still, explaining how the Greek $\alpha\rho$, $\alpha\lambda$, $\rho\alpha$, and $\lambda\alpha$, for example, may be understood as traces of a primordial resonant coefficient r (*M* 6–7). But for "A" and "Q," Saussure does not point to any attested phonemes in order to advance his argument that these elements existed in the proto-tongue. This is because, at the time of writing, there were no known speech sounds to which "A" and "Q" could be demonstrated to correspond. Saussure merely hypothesized their existence on the basis of the entire Indo-European vowel system, whose behavior led him to infer that there must have been two elements that, at some point, disappeared: two "coefficients" that conditioned their neighboring vowels' behavior, causing those vowels to assume different hues than they otherwise would have (*M* 134–84).

Saussure based his exceedingly tenuous argument on the existence of particular long vowels that seemed, in several languages, to demonstrate a systematic relationship to their short counterparts: a and \bar{a} , o , and \bar{o} . Suspecting that it must be possible to trace these vowels' lineage by means of a single set of terms, he advanced the hypothesis that, in certain instances, \bar{a} might be understood as a contraction of either a_1+A , or a_2+A , and \bar{o} as a contraction of a_1+Q or a_2+Q (*M* 134–35). The first letter in each expression (a_1 , a_2) represents a hypothetical vowel of Indo-European, the second (A , Q) a hypothetical *coefficient sonantique*. These second letters are thus, paradoxically, both variables and coefficients:

hypothetical phonemes of the primordial tongue, as well as phonetically stable entities with a defining feature comparable to the articulatory features defining the liquid and nasal sonants. In the case of “A” and “Q,” that defining feature appears as nothing more than a propensity toward coloring neighboring vowels with a particular hue. For “A” and “Q,” it bears stressing, do not mark the phonemes *a* and *o*. Nor do they represent “the hue *a*” and “the color *o*.” Algebraic variables representing conjectured phonemes in a constructed language, “A” and “Q” stand for purely theoretical speech sounds whose phonetic qualities are entirely obscure. In the absence of any positive, empirical evidence, all Saussure can cite in support of his bold proposition is a scarcely discernible pattern of vocalic lengths and colors silently sounding throughout the extant Indo-European tongues. Perceiving that pattern as no one before him had done, Saussure argued that it could only be explained by means of two vanished elements: two phonemes, which might not survive in any material form but which might still be glimpsed in the colors of the vowels beside which they once stood.

IV. The Laryngeal Theory

Two years after Saussure died in 1913, a Czech linguist by the name of Bedřich Hrozný deciphered an ancient cuneiform language that had recently been rediscovered by archaeologists in Anatolia. The language, now known as Hittite, was found to bear striking similarities to older Indo-European languages, but it presented two puzzling phonemes that could not be convincingly placed within the established lineage of their speech sounds. The unknown elements remained a mystery for over a decade, until the Polish linguist Jerzy Kuryłowicz observed that they behaved in precisely the manner of the unattested *coefficients sonantiques* of Saussure’s theory.³⁷ “A” and “Q,” in other words, were demonstrated to correspond to phonemes in an attested language.

The discovery validated Saussure’s theoretical speculations, posthumously transforming him into the founding figure of what is now known as “the laryngeal theory.”³⁸ But it is interesting to note that Saussure’s system of *coefficients sonantiques* differs from the laryngeal theory it anticipates in one telling aspect. For while the theory Saussure posited in 1879 identifies two types of unattested resonant coefficients, students of laryngeal theory today typically learn that there are not two types of such sounds but three: “*h₁,” “*h₂,” and “*h₃,” as they are conventionally noted, mark the positions of three distinct types of sounds. *h₂, the “a-colouring laryngeal,” draws its lineage from the hypothesized

sound Saussure marked in his thesis with the symbol “A,” and *h₃, the “o-colouring laryngeal,” corresponds to the sound Saussure marked “o.” But the first of the three laryngeals recognized by twenty-first century linguists, *h₁, bears no trace in Saussure’s study of the primitive vowel system of Indo-European languages. One has to wonder: why would Saussure have missed it?

Although *h₁ is similar to *h₂ and *h₃ in the decisive role it plays in determining vowel length, it differs from the other two laryngeal types in that it exercises no effect on vowel timbre, or “color,” hence its designation as the “non-colouring” or “neutral laryngeal.”³⁹ Otherwise put, *h₂ and *h₃ may disappear from a language and still linger in the lengths and timbres of its vowels, but *h₁ will leave its trace in vowel length alone. Thus if a reader with a particularly acute sensitivity to vowel color were to study the vocalic system of the Indo-European languages, he might well catch a glimpse of *h₂ or *h₃ reflected in the vowels beside which they once stood. But the neutral laryngeal, *h₁, would be much more likely to escape his notice.

BOSTON COLLEGE

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NOTES

- 1 Théodore Flournoy, *Des phénomènes de synopsie* (Paris: Alcan and Geneva: Eggiman, 1893), 5 (hereafter cited as *PS*). All translations are mine unless otherwise noted.
- 2 Mireille Cifali, “Présentation,” *Le Bloc-Notes de la psychanalyse* 3 (1983): 133–34.
- 3 Cifali, “Présentation,” 135.
- 4 Marco Mazzeo, “Les voyelles colorées: Saussure et la synesthésie,” *Cahiers Ferdinand de Saussure* 57 (2004): 135.
- 5 *PS* 164. Colleagues at the University of Geneva from 1891 onward, Ferdinand de Saussure and Flournoy occasionally collaborated professionally, most famously on the case of Hélène Smith (Catherine Müller); they were also distant cousins and came to be related by marriage when Flournoy’s daughter Ariane married Saussure’s son Raymond in 1919. The genealogical link between Saussure and Flournoy, and thus between Saussure and Flournoy’s cousin Édouard Claparède, is relevant here because Flournoy notes that Claparède “possesses most of the indicators of colored hearing to a high degree” (*PS* 2) and synesthesia appears to bear a strong genetic component (see, for example, David Brang and V. S. Ramachandran’s “Survival of the Synesthesia Gene: Why Do People Hear Colors and Taste Words?” *PLoS Biology* 9.11 [2011]: e1001205. For extensive documentation of Saussure’s genealogy, see John E. Joseph’s *Saussure* [Oxford: Oxford Univ. Press, 2012]).
- 6 Only in 2004 did the *Cahiers* make note of the vowel-color text, which is reproduced in full in Mazzeo’s “Les voyelles colorées,” 132–33.

7 The anagram notebooks came to scholarly attention primarily through Jean Starobinski's *Les mots sous les mots: Les anagrammes de Ferdinand de Saussure* (Paris: Gallimard, 1971); readings imputing mental illness to their author were commonplace in the 1970s (Ivan Callus, "A Chronological and Annotated Bibliography of Works Referring to Ferdinand de Saussure's Anagram Notebooks," *Cahiers Ferdinand de Saussure* 55 [2002]: 269–95).

8 As Jonathan Culler has demonstrated, the published *Cours de linguistique générale* distorts Saussure's nuanced position on absolute and relative arbitrariness; see Culler, "The Sign: Saussure and Derrida on Arbitrariness," in *The Literary in Theory* (Stanford, CA: Stanford Univ. Press, 2007), 117–36.

9 Most prominently, Johannes Fehr, "Les couleurs des voyelles," in *Saussure: Entre linguistique et sémiologie*, trans. Pierre Caussat (1997; Paris: Presses Universitaires de France, 2000), 146–79, and particularly 160–71; and Joseph, *Saussure*, 392–97. An alternate version of Joseph's text appeared in the November 16, 2007 issue of the *Times Literary Supplement* ("He was an Englishman," 14–15). Mazzeo's "Les voyelles colorées" adopts a different approach, attempting to situate Saussure's text within quantitative studies of vowel-color synesthesia. Other studies noting, but not extensively analyzing, the vowel-color text include Herman Parret, "Métaphysique saussurienne de la voix et de l'oreille dans les manuscrits de Genève et de Harvard," in *Ferdinand de Saussure* (Paris: L'Herne, 2003), 62–78; Mazzeo, *Storia naturale sinestesia: Dalla questione Molyneux a Jakobson* (Rome: Quodlibet, 2005), 87–89; Patrice Maniglier, *La Vie énigmatique des signes: Saussure et la naissance du structuralisme* (Paris: Scheer, 2006), 262–66; Joshua T. Katz, "Saussure's *Anaphonie*: Sounds Asunder," in *Synaesthesia and the Ancient Senses*, ed. Shane Butler and Alex Purves (Durham: Acumen, 2013), 167–84; and Roman Jakobson and Claude Lévi-Strauss, *Correspondance 1942–82*, ed. Emmanuelle Loyer and Patrice Maniglier (Paris: Seuil, 2018), 319.

10 Translation from Joseph, *Saussure*, 394–95, as are all translations of the vowel-color text henceforth (occasionally modified). In introducing the text to anglophone readers, Joseph notes that "it is easy to imagine scientific interest in the topic being inspired by [Arthur Rimbaud's] poem *Voyelles*," but asserts that "studies of synaesthesia from this period do not precede Rimbaud" (Joseph, *Saussure*, 394). Scientific interest in synaesthesia certainly precedes "Voyelles," but scientists did not fail to take note of the poem (Flournoy, for example, refers to "Rimbaud's well known" sonnet three times within the chapter featuring Saussure's anonymous response [PS 74, 79, 80]).

11 Readers of the *Cours* and of Jacques Derrida's *De la grammatologie* (1967) may be surprised to encounter Saussure's calm reflections on orthography; for a lucid account of this misunderstanding, see Beata Stawarska's *Saussure's Philosophy of Language as Phenomenology: Undoing the Doctrine of the Course in General Linguistics* (Oxford: Oxford Univ. Press, 2015), 71–84 and 251–55.

12 Cifali titles the text "Response to a survey on colored hearing" ("Présentation," 137); Joseph's chapter title "Coloured Hearing" follows suit (*Saussure*, 392–97). The application of the well-known expression is understandable—Flournoy himself inserted a parenthetical "colored hearing" on the inside cover page of his perplexingly titled book—but it is also misleading, as Flournoy's introductory remarks explain (PS 5).

13 Saussure, *Cours de linguistique générale*, ed. Charles Bally and Albert Séchéhaye with the collaboration of Albert Riedlinger, crit. ed. Tullio de Mauro (Paris: Payot, 1962), 98 (hereafter cited as *CLG*). As this article requires but the most basic (and more or less uncontested) principles of synchronic linguistics, I cite the classic text, though not without noting that its extraordinarily complex publication history makes any citation a risky affair. For the most extensive English-language account of the perils involved, see Stawarska's *Phenomenology*.

14 David Abercrombie, "What is a 'letter'?" *Lingua* 2 (1949): 58–59.

15 In my discussion, I use // to designate phonemes, <> graphemes, and [] linguistic sounds that may or may not precisely match the aural contours of the phonemes of a given language. Saussure's account as it appears in Flournoy's text uses none of these symbols; letters are italicized for emphasis, but this emphasis alternately signals their graphic and phonic status. I reproduce quotations from Saussure's account precisely as rendered by Flournoy.

16 Culler, *Ferdinand de Saussure*, rev. ed. (1976; Ithaca, NY: Cornell Univ. Press, 1991), 41–42. As Culler notes, it is Saussure's distinction between diachronic and synchronic perspectives that enables the division between phonetics and phonology, but Saussure himself does not always use these terms in the modern sense outlined here.

17 The *i* of *chien* results from the palatalization of the word Latin /k/ (*canem*) into the French /ʃ/ (“chien, chienne, subst.,” *Trésor de la langue française*. <http://www.le-tresor-de-la-langue.fr>); see also Georges Straka, “Remarques sur les voyelles nasales, leur origine et leur évolution en français,” *Revue de linguistique romane* 19, no. 75–76 (1955): 258.

18 “terrain, subst. masc.,” “plein, pleine, adj., adv., prep., et subst. masc.,” *Trésor de la langue française*. <http://www.le-tresor-de-la-langue.fr>.

19 Saussure, *Mémoire sur le système primitif des voyelles dans les langues indo-européennes* (Leipzig: Teubner, 1879) (hereafter cited as *M*).

20 None of Saussure's sources employ a color vocabulary systematically as Saussure does, but suggestively similar terms do turn up. Georg Curtius, Eduard Sievers, and Karl Brugman all employ the German term for timbre, *Klangfarbe* (literally “sound-color”), describing vowels' timbres as “bright” (*hell*), “dull” (*dumpf*), and “dark” (*dunkel*) (Curtius 14; Sievers 34–50; Brugman 381); Brugman also notes the “chromatic accentuation” distinguishing *a* from *ä*, and once considers the potential effect of an “a-colored sonority” on neighboring vowels (Brugman 373, 378). Curtius, *Über die Spaltung des A-Lautes im Griechischen und Lateinischen* (Leipzig: Hirzel, 1864); Eduard Sievers, *Grundzüge der Lautphysiologie* (Leipzig: Breitkopf & Härtel, 1876); and Karl Brugman, “Zur Geschichte der stammabstufenden Declinationen,” in *Studien zur Griechischen und Lateinischen Grammatik*, ed. Curtius and Brugman (Leipzig: Hirzel, 1876), 9: 361–406.

21 Saussure, “Essai pour réduire les mots du grec, du latin & de l'allemand à un petit nombre de racines” (1874), *Cahiers Ferdinand de Saussure* 32 (1978): 78. As Joseph has convincingly demonstrated, Saussure's 1903 recollection of writing this text in 1872 must have been slightly off, as the essay can only have been written in the summer of 1874 (Joseph, *Saussure*, 152–58).

22 Saussure, “Essai,” 77.

23 Saussure, “Essai,” 78.

24 The pun on the technical term (*teinte* in the visual sense of “hue” and *teinte* in the acoustic sense of “timbre”) is likely anachronistic, but behind it lurks an older pun: between the verbs *tinter* (“to chime”) and *teinter* (“to dye, stain, color”). The verbs do not appear to share any etymological link. “Tinter, verbe,” “teinter, verbe trans.,” and “teindre, verbe trans.” *Trésor de la langue française*: <http://www.le-tresor-de-la-langue.fr>.

25 E.g., “Sounds . . . distinguished by their **timbre** are called ‘vowels.’ **Timbre** is thus the fundamental quality of a vowel, distinguishing it from the other vowels” (Georges Le Roy, *Grammaire de la diction française* [Paris: Delaplane, 1912], 39, emphases in original).

26 Joseph, “La teinte de tous les ciels’: divergence et nuance dans la conception saussurienne du changement linguistique,” *Cahiers Ferdinand de Saussure* 63 (2010): 148.

27 Jean-Claude Milner, *L'amour de la langue* (1978; Paris: Verdier, 2009), 98–99.

28 What modern linguists call “Proto-Indo-European” appears in nineteenth-century sources under the names of “Indo-European” (*indo-européen*, *Indoeuropäisch*) and “Indo-German” (*Indogermanisch*), as well as “the proto-language” (*Ursprache*) and “the mother language” (*la langue-mère*). Saussure uses *indo-européen* and *la langue-mère*; in the interest of philological specificity, I retain his terminology.

29 Milner, *L'amour de la langue*, 98–99.

30 Milner, *L'amour de la langue*, 99.

31 M1–5 and Saussure, “Essai d’une distinction des différents *a* indo-européens,” *Mémoires de la Société de Linguistique de Paris* 3.5 (1877): 362. Saussure’s leap from one *a* to four *as* is mediated by a considerable amount of intervening scholarship, which conceded the existence of three distinct *as* in the European languages. The originality of Saussure’s thesis lay not only in its proposal of a fourth *a* but, more audaciously, in its contention that the multiplicity of European *as* could be demonstrated to have existed in Indo-European.

32 Saussure, “Essai d’une distinction,” 362.

33 Except when the root contains a liquid or a nasal sonant (r, l, m, n), in which case the timbre of the vowel represents a later development caused by the quality of that liquid or nasal (M51).

34 The Greek characters are explicitly equated with their Roman corollaries and freely interchanged with them.

35 Saussure, “Essai d’une distinction,” 361.

36 Some of the speech sounds commonly referred to as “consonants” can form the basis for a syllable in the absence of a vowel (e.g., the terminal nasal of the English “rhythm” [ɹðm]).

37 Jerzy Kuryłowicz, “*Ǿ* indoeuropéen et *h* hittite” (1926), in *Symbolae grammaticae in honorem Ioannis Rozwadowski*, ed. Witold Taszycki and Witold Jan Doroszewski (Krakow: Jagiellonian Univ. Press, 1927), 1: 95–104. See also Katz, “Saussure’s *anaphonie*,” 170–71.

38 Saussure never uses the term “laryngeal,” which was coined by the Danish linguist Hermann Møller in 1906. Saussure’s expression *coefficients sonantiques* reflects his conviction that linguistics requires an algebraic vocabulary that makes no reference to the mechanics of phonation.

39 Fredrik Otto Lindeman, *Introduction to “Laryngeal Theory,”* 2nd ed. (Innsbruck: Institute for Linguistics at Innsbruck University, 1997). The actual sound qualities of all the laryngeals remains disputed, but **h*₁ is generally hypothesized to resemble a glottal stop [ʔ] or an [h]. One might be inclined to argue, therefore, that Saussure missed this laryngeal because its sound is absent from the soundscape of his native language (it is generally accepted that modern French features neither [ʔ] nor [h], disputes concerning the *h aspiré* aside). There is little evidence to suggest Saussure was less capable of studying sounds absent from modern French, however, and a great deal of evidence to the contrary; furthermore, the conjectured pronunciations of **h*₂ and **h*₃ can scarcely be cited as evidence that these symbols correspond to sounds realized in modern French.