

## Chapter 4: Wittgenstein and the Composite Portrait

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Galton's approach to the composite image has mostly been analyzed in relation to social statistics. Yet, as I have mentioned, another significant influence on Galton's practice of composite portrait production was Locke's theory of abstraction. The composite and its process of perceptual emergence is also an object of study within philosophy. The philosopher Ludwig Wittgenstein produced a Galton-inspired composite portrait in 1928. The meaning that he drew from the composite image was quite different from the meaning Galton found in it. Like Galton, Wittgenstein approached the composite image as an image of a thought process. Yet he used the image as a tool in his own investigation of language games and the doctrine of "family resemblance" – an approach closer to Locke's study of the formation of words as signs representing general ideas. In his writings, Wittgenstein argued against the theory of abstraction, claiming that knowledge that derives from a logic of reduction is antithetical to the work of a philosopher. He states:

Our craving for generality has another main source: our preoccupation with the method of science. I mean the method of reducing the explanation of natural phenomena to the smallest possible number of primitive natural laws: and, in mathematics, of unifying the treatment of different topics by using a generalization. This tendency [...] leads the philosopher into complete darkness.<sup>1</sup>

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<sup>1</sup> Ludwig Wittgenstein, *Preliminary Studies for the "Philosophical Investigations": Generally Known as The Blue and Brown Books* (Oxford: Basil Blackwell, 1958), 18.

Wittgenstein's view of the meaning conveyed through the composite image is, I argue, opposed to Galton's, and in this way it runs counter to the logic of recognition through statistical means. I introduce Wittgenstein in this discussion primarily in order to provide an alternative reading of the composite portrait and, connectedly, to allow for a rethinking of notions of recognition and of the relationship between perception and knowledge. I am by no account a Wittgenstein scholar, and I recognize that his work is part of a wider philosophical canon. But here I want to refer solely to his views concerning the composite image and to his implicit critique of reductive methods of knowledge production, for these bear on the counter discourse I wish to direct against the statistical ways of seeing found in facial recognition.

## A Destabilization of Vision

Wittgenstein often refers to ocular metaphors in describing his goal of conceptual and linguistic clarity. In his investigation into what he calls language games, he looks toward simplified models of language in order to understand the workings and process of language acquisition. The study of language games is in part a way of revealing the processes of thought that underlie the use of words, what he also referred to as "operating with signs."<sup>2</sup> Wittgenstein was interested in understanding the use of primitive forms of language, such as the ways in which a child begins to use words, and in looking closely at the everyday use of language. An important motivation for Wittgenstein's investigations was, as he states, "to bring words back from their metaphysical to their everyday use." For Wittgenstein the meaning of words does not lie in abstract ideas but rather is found through their actual use, which is dynamic and mutable. In order to investigate language in the actualities of everyday use, Wittgenstein also thought it important to possess a philosophical ability to "see" the everyday anew. Wittgenstein states: "philosophy is an activity which involves relearning how to look."

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2 Ibid., 16.

Through his writing and the inclusion of ocular metaphors (such as his well-known reference to the “duck-rabbit”), he advocated a destabilization of perception as a trigger for an ability to see anew. This reference to reorienting one’s whole visual perspective was profoundly connected, for Wittgenstein, to the opening up of new ways of thinking and knowing. The composite portrait was one such metaphor, and Wittgenstein deployed it in connection to language games, specifically with regard to the issue of the unity of a concept.

*Figure 16: The components of the composite photo: Wittgenstein’s sisters Gretl, Helene and Hermine, and Ludwig. ©Ludwig Wittgenstein Trust, Cambridge*



*Figure 17: Ludwig Wittgenstein's composite portrait, 1928.*

*Photographs by Moritz Nähr. ©Ludwig Wittgenstein Trust, Cambridge*



Drawing on Galton's experiments with the composite portrait, Wittgenstein created his own composite portrait with the help of a friend, the photographer Moritz Nähr. Wittgenstein's composite was compiled from photographs of himself and of his three sisters, Gretl, Helene and Hermine (figures 16 and 17).<sup>3</sup> As one can see in

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3 Michael Nedo, of the Wittgenstein Archive in Cambridge, states that the negatives used in the making of the composite no longer exist and the exact frames cannot be located: "Nähr was exposing negatives of four portraits he had taken in a very precise position and with only one background of Wittgenstein and his three sisters onto the same photographic paper. Those negatives no longer exist but from them and/or other negatives which were produced by Nähr in the same context he produced prints some of which Wittgenstein pasted into his photo album, and it is those prints we have got

the composite image, the four faces are closely aligned, producing an impression of a single person's face in the center of the frame. Looking between the four individual portraits and the composite, one can detect all the features of the individuals within the composite. The composite image and the individual photographs present a perceptual enigma; one detects both the individual features and their integration into a single face. For Wittgenstein the composite functioned as a model of a philosophical method. It illustrates the formation of a concept, which he describes through his doctrine of family resemblance:

Consider for example the proceedings that we call "games." I mean board-games, card games, ball games, Olympic games, and so on. What is common to them all? [...] if you look at them you will not see something that is common to all, but similarities, relationships, and a whole series of them at that. To repeat: don't think, but look! [...] many common features drop out and others appear [...] we see a complicated network of similarities overlapping and criss-crossing: sometimes overall similarities, sometimes similarities of detail. I can think of no better expression to characterize these similarities than "family resemblances"; for the various resemblances between members of a family: build, features, colour of eyes, gait, temperament, etc. etc. overlap and criss-cross in the same way. – And I shall say: "games" form a family.<sup>4</sup>

In this passage, Wittgenstein implores one to look (not to think). In this, he demonstrates an aversion to theoretical and idealized pre-conceptions, a preference for a pure act of vision over any previous knowledge. After imploring us to look, he then describes a (mental) image of a "network of similarities" overlapping, such as one finds in the resemblances between family members. One could imagine Wittgenstein's composite as such an image. The composite portrait

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and they are close enough to the ones Nähr will have used." Email message to author, February 26, 2019.

4 Ludwig Wittgenstein, *Philosophical Investigations*, trans. G. E. M. Anscombe, P. M. S. Hacker and J. Schulte, 4th ed. (Chichester: Blackwell, 2009): §66–67.

depicts the relationships described as a “criss-crossing” of similarities. It visualizes not only the commonalities, and thereby the form of a concept (such as “games”), but also, as Wittgenstein describes, a complex relationship between both similarities and differences, all in an instant.

Wittgenstein mentions the composite explicitly when describing the tendencies in philosophical thinking toward a “craving for generality.”<sup>5</sup> He describes as mistaken, the belief that a person who has understood a term – he gives the example of “leaf” – possesses this understanding in virtue of having gone through a visual process of reduction and abstraction from a variety of particular instances, in this case particular leaves. He states:

He was shown different leaves when he learnt the meaning of the word “leaf”; and showing him the particular leaves was only a means to the end of producing “in him” an idea which we imagine to be some kind of general image [...] we are inclined to think that the general idea of a leaf is something like a visual image, but one which only contains what is common to all leaves. (Galtonian composite photograph).<sup>6</sup>

Wittgenstein’s reference to the leaf connects his thoughts here to the issue of the particularity of organic forms. Leaves, much like faces, exhibit endless variation. Wittgenstein explains that a general term arises out of an act of looking *for* a commonality. In describing the formation of a general concept through the example of the leaf, Wittgenstein suggests that generality functions as the end result of language. In this there lies a kind of circular logic and a shortcoming, in that the particularities are all but erased for the purpose of naming, that is, providing a generality. Wittgenstein argues that philosophers who produce such generalities confuse the sign with the object (or objects) to which it points. Wittgenstein describes the job of the philosopher as “purely descriptive.”<sup>7</sup> The philosopher,

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5 Wittgenstein, *Blue and Brown Books*, 17.

6 Ibid.

7 Ibid., 18.

Wittgenstein says, should not reduce phenomena but describe them in all their varying forms. The tendency to adopt scientific methods of reduction – the “craving for generality” or, as Wittgenstein also puts it, the “contemptuous attitude towards the particular case” – runs contrary to this conception of the proper role of the philosopher.<sup>8</sup> In this, he puts forward an argument against forms of knowledge that aim to reduce variation through tools of classification and the statistical promise of finite calculation.

In these criticisms, Wittgenstein produces a kind of intervention – he invites us to engage in a perceptual inquiry into the space between the sign and the objects it names. The sign is loosened from the grip of fixed ideas. In this space of inquiry, there is a fluidity of meaning, possibility and variation. Thus, Wittgenstein’s sense of what the composite shows us is very different from Galton’s. Given Wittgenstein’s interest in paying attention to particulars, he had an altogether different perceptual interest in the composite portrait. Wittgenstein describes the composite portrait as “a picture of probabilities.”<sup>9</sup> The composite is an image of multiple perceptual outcomes rather than a *singular* probability of a type. The composite image has an ability to exhibit all the particular instances at once. Because of this ability to show all aspects of a concept together, Wittgenstein describes the composite as liberating the eye. Instead of focusing on the center of the image as the source of meaning, Wittgenstein focuses outside the center of the frame, and specifically on the blur in the composite image. This attention to the blur inverts the composite’s function of defining a “type,” thereby reframing the composite’s utility. It is equally important that one is able to perceive all the “particular” cases that spin out of the generality, and therefore the generality is not an exclusion of particulars but rather an area in which they overlap. Instead of seeing one face emerge from beneath the layers of the composite image, Wittgenstein observes the composite’s ability to depict variation and the spaces in between faces. In this way, Wittgenstein suggests that

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<sup>8</sup> Ibid.

<sup>9</sup> Ibid., 30.

there is a kind of perceptual movement present in the composite that Galton did not perceive. Galton's was a static observation.

## Aspect Perception and Aspect Blindness

An idea of Wittgenstein's that relates closely to his approach to the composite image is that of aspect perception. His descriptions of the concept are brief and fragmentary, yet the distinctions he makes in the course of its definition suggest a wider importance. He describes aspect perception as an ability to perceive one form changing into another. He gives the example of perceiving a face: "I observe a face, and then suddenly notice its likeness to another. I *see* that it has not changed; and yet I see it differently. I call this experience 'noticing an aspect.'"<sup>10</sup> Although he does not directly reference the composite portrait in his discussion of aspect perception, the reference to recognizing one face's likeness to another echoes his remarks on the doctrine on family resemblance. Wittgenstein describes the moment of noticing an aspect as the "lighting up" of an aspect,<sup>11</sup> as if it is a sudden occurrence or event. Wittgenstein's moment of "lighting up" is to be distinguished both from some combination of looking and thinking and from an act of interpretation. He describes it as "half visual experience, half thought."<sup>12</sup> Rather than interpretation, which involves forming a hypothesis and proving it to be either true or false, aspect perception occurs during what he describes as a "state of seeing,"<sup>13</sup> suggesting that he is prioritizing the experience of visual sense perception. In this, he means to separate seeing from knowing and from being directed by language.

When describing aspect perception, Wittgenstein references Joseph Jastrow's duck-rabbit illusion. Aspect perception is not about an ability to see the duck and the rabbit but rather "the ex-

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<sup>10</sup> Wittgenstein, *Philosophical Investigations*, xi, §113. (Italics in original).

<sup>11</sup> Ibid.

<sup>12</sup> Ibid., 207e, §140.

<sup>13</sup> Ibid., 223e, §250.

pression of a change” between the two.<sup>14</sup> Wittgenstein also gives an example of an illustration of a box that appears in several places in a book, wherein the accompanying captions describe it differently each time, providing for different interpretations of the box. One sees the box differently each time depending on the words that are used to describe it. In contrast, aspect perception is an ability to see something differently, to see both or multiple objects as they are, that functions not through a shift in thought or words but rather through a perceptual ability to see the *change* and movement from one form to another. He states: “what I perceive in the lighting up of an aspect is not a property of the object, but an internal relation between it and other objects.”<sup>15</sup> Aspect perception requires not only a recognition of different forms and concepts but also the ability to see the movement and relationships between them. Wittgenstein’s concept of aspect perception thus suggests a kind of seeing that allows one to see things as other. This concept relates to an ability to perceive particulars in the composite portrait and a set of relationships in a doctrine of family resemblances in that there is a value placed on an interplay between forms. To better comprehend aspect perception and its relevance to my wider analysis, we can refer to its opposite: Wittgenstein’s concept of aspect blindness.

Wittgenstein highlights the importance of the will of the observer in being able to see difference aspects. Seeing an aspect is a voluntary act and, as Wittgenstein puts it, it is “subject to the will.”<sup>16</sup> Moreover, he poses the possibility of someone having “aspect blindness.” Wittgenstein describes the “aspect blind” as those who are engaged in a non-dynamic “continuous seeing.”<sup>17</sup> It is described as a failure to “be struck,” as a perceptual state in which one “keeps on seeing the same.”<sup>18</sup> Wittgenstein asks: “Could there be human beings lacking the ability to see something as *something* – and what

14 Ibid., 222e, §130. Thanks to discussions with Tom Mitchell for pointing this out.

15 Ibid., 223e, §247.

16 Ibid., 224e, §256.

17 Ibid., 162.

18 Ibid., 56e, §129.

would that be like? What sort of consequences would it have? [...] Is he supposed to be blind to the similarity between two faces? – And so also to their identity or approximate identity?”<sup>19</sup> Although Wittgenstein does not write very much about aspect blindness, the primary feature of this (conceptual) condition seems to be an inability to see things as otherwise. His brief descriptions of aspect blindness strike me as an appropriate description of the perceptual emergence of a type in Galton’s composite portrait. For Galton, clarity in the composite portrait is made possible precisely through what Wittgenstein describes as a state of “continuous seeing.” It is also precisely this ability to “keep seeing the same” that allows for the emergence of a type and, connectedly, that allows for Galton to find a perceivable, clear meaning in the composite portrait. And yet, for Wittgenstein, this is a form of blindness. For him, the source of perceptual clarity in the composite image is to be observed in the blur. It is in the zones of indistinction that the dynamic perception of aspects is possible.

## Negotiations of Recognition

What significance does Wittgenstein’s approach to the composite portrait and his concepts of aspect perception and aspect blindness have for the notion of recognition and for the analysis of AFR technology generally? Wittgenstein’s work inspires a possible alternative approach to the perceptual meaning of the eigenface image. Wittgenstein’s thought runs counter to the reductive logic of statistics that is conveyed by and realized in Galton’s composite portraits, and instead he presents an account of the qualities of visual perception and their ability to present alternative pathways of thought and knowledge production. For Wittgenstein, visual perception is a dynamic engagement that allows for a constant renewal in understanding – something that language and words alone cannot do. Taking Wittgenstein’s approach as my point of departure, I confront the composite image’s contemporary manifestation, the

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19 Ibid., 224e, §257.

eigenface image. The eigenface image may be seen as a moment of machinic aspect perception, a moment frozen between the multiple probabilities of recognition and the actualization of its operation. The eigenface image, expressive of a statistical pattern, is also an image of probabilities – depicting a point in the algorithmic process of multiple possible outcomes. The blur that constitutes its form is constructed by a collapsed archive of faces, faces that are “known” by the algorithm. At this stage of aggregation in the algorithmic process, the presentation of multiple forms creates, for the human observer, an image on which it is impossible to perform an act of recognition. It is an image that negates singular recognition. This is precisely why it is an image that is expressive of its actual use within the sociopolitical contexts in which it is implemented.

I argue that, as a contemporary production of a composite portrait, the eigenface image conveys a certain truth about contemporary identity. As Btihaj Ajana argues, biometric recognition enacts a form of biopolitics, constructing politicized notions of identity that, in turn, are constituted by a whole set of practices that govern the individual through the hierarchical power relations that not only marginalize the vulnerable, such as the asylum seeker, but also empower those on the opposite end of the geopolitical spectrum, the neoliberal citizenry with a “surplus of rights.”<sup>20</sup> In this highly politicized terrain of mobility, AFR implementation increasingly intervenes to certify identity. And yet notions of identity have never been more uncertain. Individuals who are sorted into highly politicized categories such as “terrorist” can no longer be classified according to fixed social parameters of nationality, ethnicity, racial background or even ideology, but rather are increasingly dispersed among the broader civilian population. As highlighted during the recent migration crisis in the European Union, the abstractions of national sovereignty and national status are undermined when Fortress Europe is confronted with the mobile, fluid identities of a mass and growing population of people defined as “undocumented,” a term that signals a loss of all sense of nationhood. The eigenface image, in its composite depiction of multiplicity and blur, corresponds to

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<sup>20</sup> Ajana, *Governing through Biometrics*, 5.

a contemporary socio-political reality: it captures the transience of the subject and the fluidity of identity in mediated form. On this alternative reading, the eigenface image's blurriness is taken to convey a malleability of identity. The faces that are displayed in the eigenface image resist arrest, resist quantification, that is, "concretization," and remain instead dynamic entities. This is not only an alternative, more open way of perceiving these images; in light of the contexts of AFR implementation and the connection between this technology and the construction of contemporary identity, it opens up a space for the exercise of the right to self-determination – a space that is negated by the operations of automated facial recognition.

## Concluding Remarks

In this analysis, I have shifted attention toward the aesthetics of the eigenface image as a way of investigating the notion of recognition that is in play in the operation of an AFR system. In relating the production of these images to composite portraiture, I have sought to problematize the underlying logic of recognition, which is based on a statistical way of seeing. This socio-historical analysis began by tracing this statistical way of seeing and logic of recognition in two images, the eigenface image and Galton's composite portrait. Wittgenstein provides an alternative take on the composite portrait and sees an alternative logic in the image. Wittgenstein's approach reveals how the composite form, which Galton had endowed with statistical relevance, captures a way of seeing that is dynamic, fluid and probabilistic. For Galton, the composite portrait was part of a larger project, his theory of eugenics. For Wittgenstein, the composite portrait was connected to his wider project of a philosophical investigation into language and his doctrine of family resemblance. These approaches contrast with each other on many levels (including in terms of Galton's and Wittgenstein's different fields of study), yet the structure of the composite form is the same in both cases, and it is this same form that structures the eigenface image. Through these different approaches, the composite form has

emerged as symbolic of the paradoxes that are inherent in a facial recognition process.

Wittgenstein's view of the perceptual intelligibility of the composite portrait and his concept of aspect perception together suggest a re-reading of the eigenface image. On the Wittgensteinian view, it is an image that conveys a resistance to categorization according to the common denominator, a resistance that allows all particulars to remain; the individual does *not* disappear. Wittgenstein sets out a critique of the logic of reduction that structures statistical recognition, providing alternative conceptual lenses through which to view the operation of machinic vision. The inclusion of his critique in this analysis opens up a space for a perceptual clarity that avoids the algorithm's reductive procedures of statistical recognition. I would like to concur with Wittgenstein in calling for a perceptual intelligibility and a destabilization of vision as I now turn to contemporary art production as it engages with practices of facial recognition – as a source of revelation, recontextualization and reimagining.

