

individuality on epigenetic theories—an idea that carries over quite naturally into a strong interest in the raising of children once they had been born. Formally speaking, we can see this emphasis on process both in Wolff’s discussion of preformation’s lifeless nature (as contrasted with the lively and cyclical nature of epigenesis) and in Blumenbach’s recounting of his own process of development and conversion to epigenesis.

In the rest of this chapter, I will trace what might be called epigenetic thought as it pertains to philosophies of education and the novel, where we see many different variants of generation (biological and social) and education being creatively developed and thought through. These developments cannot be mapped one-to-one onto each other, nor can the biological shift be read as a matrix for evaluating cultural production. Rather, these changes can be seen as multifaceted components—components that sometimes take on passive/reactive roles but also themselves sometimes serve as motors of change—of a historical paradigm shift that still in large part determines the way we think about these matters in the twenty-first century.

II. Philosophies of Education

In the years between Wolff’s treatise and Blumenbach’s, and continuing thereafter, the German territories and Europe more widely saw an explosion of interest in the raising and education of children. Rousseau’s *Émile, ou De l’éducation* was published in 1762 and received massive amounts of attention in Germany.¹¹⁴ The “Recensionsorgan” *Allgemeine deutsche Bibliothek*, which started in 1765, contained scattered works on education from its inception—though these earlier instances were often specifically religious in nature. But from 1773 onwards, the journal included a

¹¹⁴ See Voßkamp, Wilhelm: *Der Roman des Lebens: Die Aktualität der Bildung und ihre Geschichte im Bildungsroman*, Berlin University Press, Berlin, 2009, p. 49f.

section on recently published “Erziehungsschriften,” and in every volume there were at least two or three works mentioned, sometimes many more.¹¹⁵ This interest is, in my reading, parallel to the biological shift between preformation and epigenesis—it depends, building on Engelstein’s point, on the radical *newness* of each individual child. Education, on a preformation model, can never be anything but superficial. Since each person is already completely formed at the Creation—preformation, as we recall, involves *only* growth in the strict sense of expansion, not actual change or development—education has little power to influence a person’s life. Skills or talents can be attached to a person like so many merit badges, but this training can never deeply alter that person’s life trajectory. On an epigenetic model, by contrast, education is crucial precisely because of the new and unformed quality of each individual life. Far from being a simple code of behaviors that must be merely imitated, education comes to be seen as *formative*. Reading this upsurge in attention to the education of children along with the preformation-epigenesis debates makes it clear that this new interest mirrors the simultaneously occurring paradigm shifts that I have discussed above. In the most interesting of these texts on education, we can also see strong evidence—both thematically and in the types of language used by the authors—of an open, dynamic mode of thought that also correlates with the epigenetic.

Of course, not all educational treatises were overtly ‘epigenetic’ in their methods. The prescriptive nature of the texts themselves limited some authors to providing what essentially remain sets of rules for behavior, framed in most cases by the skeleton of an anthropological approach. But even these texts display quite clearly the notion that the

¹¹⁵ F. Nicolai (ed): *Allgemeine deutsche Bibliothek*, Vols. 1-117, Nicolai Verlag, Berlin/Stettin, 1765-1794. Accessed via the Universität-Bielefeld: <http://www.ub.uni-bielefeld.de/diglib/aufkl/adb/>.

early education of individual children is in fact formative not only for those children but for the state as a whole. Joachim Heinrich Campe's *Väterliche Rath für meine Tochter*, for example, focuses on the proper role of women in bourgeois society, and it consists largely of a fairly mundane enumeration of what skills women should have (those that will help with the running of a household) and those that should be avoided (all types of 'charming' or pleasing activities), what books are appropriate for them to read, and so on. This advice is preceded, however, by a plea for women to recognize the importance of their role in society (even as that role is limited to that of wife, housekeeper, and mother):

Denn nicht bloß das häusliche Familienglück, sondern auch - was dem ersten Gehöre nach unglaublich klingt - das öffentliche Wohl des Staats, steht größtentheils in eurer Hand, hängt größtentheils, um nicht zu sagen ganz, von der Art und Weise ab, wie das weibliche Geschlecht seine natürliche und bürgerliche Bestimmung erfüllt. Wie die Quelle, so der Bach; also auch, wie das Weib, so der Bürger, der vom Weibe geboren wird, der die ersten, durch keine nachherige Erziehung jemahls ganz wieder auszutilgenden Eindrücke zum Guten und zum Bösen von ihr erhält. Wie die Quelle, so der Bach; also auch, wie das häusliche Leben der Menschen, so ihr öffentliches; wie das häusliche Familienglück, so das öffentliche Staatswohlergehen.¹¹⁶

This emphasis on the importance of the mother and of early education to the formation of the entire state is in fact one trait that Campe's text shares with those that are more comprehensive in their vision of educational programs.¹¹⁷

Indeed Johann Heinrich Pestalozzi, the pedagogue whose influence has probably been most lasting, was adamant that if practices of early childhood education were not improved, Europe was essentially doomed. In an early text "Die Methode [1800]," he charges that "das Menschengeschlecht," though provided by nature with a great deal of potential, "ist von ihrer Bahn [der Natur—SVE] abgewichen," with the consequence that

¹¹⁶ Campe, Joachim Heinrich: *Väterliche Rath für meine Tochter: Ein Gegenstück zum Theophron*, Nachdruck der Ausgabe Braunschweig 1796, Verlag M. Hüttemann, Paderborn, 1988, p. 17-18.

¹¹⁷ This is a notion that is shared by more philosophical thinkers such as Johann Gottfried Herder and Wilhelm von Humboldt as well; taking their views fully into account is beyond the scope of this project, but it is worth pointing out that emphasis on the importance of education was not limited to authors who were pedagogues in a narrower sense.

“Der Arme ist von ihren Brüsten weggestoßen, und die Reichen verderben sich beides mit ihrem Schwelgen und mit ihrem Tändeln an ihrem überfließenden Busen.”¹¹⁸ Two years later, in “Wesen und Zweck der Methode,” he devotes the bulk of the text to depicting the fallen state in which the people of Europe—having been educated in a fashion that is too one-sided—now find themselves, and he closes this negative description with a call to action:

Es rettet Europa nichts und kann Europa nichts retten als hohe und einfache Kraft in seiner Nationalbildung!

Es rettet Europa nichts und kann Europa nichts retten als ein entschlossenes Zurücktretten zu den Grundsätzen, die mit der Menschennatur in dem Grad übereinstimmen als diejenigen, die über sein nahes Verderben entscheiden, von dieser Natur abweichen.

Es rettet Europa nichts als die Anerkennung der reinen Elemente, von denen die physische, intellektuelle und sittliche Bildung meines Geschlechts ausgehen muß. (220)

The principles that ought to guide our development, although given to us by nature, have been forgotten, cast aside in favor of artificial training and pseudo-intellectual exercises. Pestalozzi is explicit that educational reforms are crucial to redeem a European society that has gone badly astray and has not focused equally on physical, intellectual, and moral education, and that these reforms must develop and guide man’s natural potential.

The language of nature/naturalness in these two passages is also far from coincidental. Pestalozzi rests his entire educational philosophy on a return to the principles of organic development and acquisition of knowledge that are, in his view, innate to human beings. In the “Wesen und Zweck” piece, he explains that “Der Wilde geht an der Hand der Natur, aber dann ganz isoliert und ohne von irgendeiner Kunstkraft unterstützt und gestärkt zu werden, ganz den Weg meiner Methode.” (206) That is, his method of education is designed to do nothing more than assist nature in her processes,

¹¹⁸ Pestalozzi, Johann Heinrich, “Die Methode [1800],” in: Pestalozzi, Johann Heinrich, *Wie Getrud ihre Kinder lehrt und Ausgewählte Schriften zur Methode*, collected Pfeffer, Fritz. Ferdinand Schöningh Verlag, Paderborn, 1961, p. 30. All further citations from Pestalozzi’s various works are from this edition and will be given in the text as page numbers.

and to hold each child's development to those processes rather than to artificial training of skills that the child is not yet ready to develop. In yet another text, *Wie Gertrud ihre Kinder lehrt*, he explains (of 'das Kind') that "die erste Stunde seines Unterrichts ist die Stunde seiner Geburt. Von dem Augenblicke, in dem seine Sinne für die Eindrücke der Natur empfänglich werden, von diesem Augenblick an unterrichtet es die Natur," and goes on to describe the process of learning in terms that are strikingly resonant with Blumenbach's description of the *Bildungstrieb*:

Die Neuheit des Lebens ist selbst nichts anders als die eben gereifte Fähigkeit, diese Eindrücke zu empfangen; sie ist nichts anders als das Erwachen der vollendeten physischen Keime, die jetzt mit allen ihren Kräften und mit allen ihren Trieben nach Entwicklung ihrer Selbstbildung haschten; es ist nichts anders als das Erwachen des jetzt vollendeten Tieres, das Mensch werden will und Mensch werden soll. (59-60)

Children, that is to say—in being radically new—are marked primarily by a potential for development, and the responsibility of parents and educators is to guide that development along its natural lines. As with the gradual formation of physical organs in response to the *Bildungstrieb*, education must guide the gradual unfolding of the seeds that transform individuals from mere animals into human beings.

The progression of this development, for Pestalozzi, ought also to be conceived according to the processes of nature, which are, for him as for Wolff, characterized by the progressive formation of one part after another. In the 1801 "Methode" text, he urges human beings to imitate the "hoher, einfacher Gang" of nature:

Ahme es nach, dieses Tun der hohen Natur, die aus dem Kern des größten Baums zuerst nur einen unmerklichen Keim treibt, aber dann durch ebenso unmerkliche als tägliche und stündlich fließende Zusätze zuerst die Grundlage des Stamms, dann diejenige der Hauptäste und endlich diejenigen der Nebenäste bis an das äußerste Reis, an dem das vergänglich Laub hängt, entfaltet. Fasse es ins Aug, diese Tun der hohen Natur, wie sie jeden einzelnen gebildeten Teil pflegt und schützt und jeden neuen Teil an das gesicherte Leben anschließt! (33-4)

There is definite change taking place on this analogy; Pestalozzi is not describing a process of mere enlargement (à la preformation) but rather a progressive adding of new

parts, one at a time and only after the preceding parts have been formed and stabilized. Both the thematic content and the formal process of Pestalozzi's educational method, then, take nature as their starting point and ultimate goal. Though there is no concrete evidence that Pestalozzi had in fact read Wolff or Blumenbach, this depiction of a nature that unfolds gradually, adding new pieces only when the previous ones have been fully nourished and developed, at least indicates that his philosophy of education was informed by an appreciation of gradual and dynamic development that had a strong influence on the subsequent life of the person.

Concretely, Pestalozzi's method involved encouraging children to use their powers of observation to notice and formulate thoughts about things in the world around them, explaining that "Die Anschauung der Natur selber ist das eigentlich wahre Fundament des menschlichen Unterrichts, weil sie das einzige Fundament der menschlichen Erkenntnis ist." (32) He specifies this by saying that "Jedes Wort, jede Zahl, jedes Maß ist ein Resultat des Verstandes, das von gereiften Anschauungen erzeugt wurde." (32) Pestalozzi is particularly adamant that children should be taught to speak and describe things properly before they should be taught specifically how to read, that they should learn mathematics from the simple processes of counting concrete objects, and that they should learn writing through drawing circles, diagonals, and squares. In appendices to the 1800 "Methode," he includes several examples of how this method should work, featuring a dialogue between a mother and child that shows how the process of making tea can lead a child to think about his perceptive organs and which ones he uses for which sense ("Mutter: 'Womit schmeckst du, daß [der Zucker] süß ist?' [...] Kind: 'Mit dem Mund'" –which is then later specified to "Mit der Zunge." [43-4),

various tables to show related words (rhyming, ending changes, etc), and suggestions for counting forwards and backwards by ones and twos. In the later “Zweck und Wesen” piece, he chastises parents and teachers for forcing children to struggle with “Büchersprache [...] ehe es die Menschengsprache kannte,” adding: “Es ist wahr, indem du dieses tatest, [...] decktest [du] die tabula rasa ihrer Unschuld, auf die sich die Welt von Gottes wegen bilden sollte, wie sie wirklich ist, mit einem Quark von Worten, die den Eindrücken, auf die sich die Welt von Gottes wegen auf dasselbe machen, keinen Platz mehr ließen.” (208) Education, for Pestalozzi, must proceed gradually, with no gaps, and must always be rooted (a biological metaphor that he himself uses) in the observation and description of nature.

This emphasis on the gradual and “lückenlos” quality of proper education is also present in Betty Gleim’s 1810 *Erziehung und Unterricht des weiblichen Geschlechts: Ein Buch für Eltern und Erzieher*, which, it is worth mentioning, does not mention the gender of the hypothetical pupils for some fifty pages, so that it continues to be applicable to boys as well as girls for much of the first volume.¹¹⁹ In the dedication to her text she explains that she does not expect the benefits of this program of education to be immediately apparent; rather “gern möchte ich niederlegen in Euer Herz meine Überzeugungen, meine Wünsche und Hoffnungen, als Saat zu einem fröhlichen Aufblühen, zu einer gesegneten Ernte,” and she goes on in the preface to advocate explicitly for gradual progression: “Der Gipfel wird nur erreicht von dem, der die Stufe

¹¹⁹ This is in marked contrast to Campe, who, after an introduction in which he asserts that women belong to the human race, is extremely narrowly focused on women.

nicht verschmäh't, und das Göttliche nur da, wo das Menschliche verstanden ist.”¹²⁰

Gleim, like Pestalozzi (by whom she was extensively influenced¹²¹), ties her educational philosophy strongly to principles of Christian morality, but this does not prevent her from being surprisingly progressive regarding the right of women to be educated.¹²²

Also like Pestalozzi, Gleim is somewhere between contemptuous and despairing about the state of European society at the turn of the nineteenth century, and, like him, she sees education as the only possible way to remedy this situation. She notes that earlier programs of education had been too harsh, that “man tyrannisirte die Kinder zwecklos; befahl und verbot, um zu befehlen und zu verbieten; um, wie man sich ausdrückte, die elterliche Autorität zu behaupten,” but she also complains that recently, parents and educators have swung too far in the other direction and created a population of willful, irrational children. (121-3) Admitting that “[d]ie Menschen, was sie sind, werden schwerlich sich je ganz ändern,” she goes on to use precisely the language of biological renewal and potential to describe the importance of her own project:

Aber die Menschheit regenerirt sich ja täglich, und was vergebens ist von der daseienden Generation zu erwarten, wird vielleicht die werdende leisten. Was der Mitwelt zuzumuthen zu kühn wäre, darf vielleicht der Nachwelt abgefordert werden.

Auf die *Kinder* richte sich denn der Blick, der sich oft schwermüthig von der übrigen Menschheit wegwendet; *sie* zu bewahren, *sie* zu leiten, sie innerlich stark zu machen, ihnen das Auge zu öffnen und zu schärfen für die Wahrheit, und es auf ewig zu verschließen dem Wahn und der Lüge, sei uns ernsteste, innigste Angelegenheit.

Die *Erziehung* ist also das Senfkorn, aus dem der Stamm eines neuen Geschlechts erwachsen kann. (6-7)

¹²⁰ Gleim, Betty: *Erziehung und Unterricht des weiblichen Geschlechts: Ein Buch für Eltern und Erzieher*, G. J. Göschen, Leipzig, 1810, p. xi. All further citations from Gleim are from this edition and will be given in the text as page numbers.

¹²¹ Not only are there marked similarities throughout their texts; Gleim also cites Pestalozzi's *Elementar Entwicklungsmittel: das Buch der Mutter*, p. 149.

¹²² Gleim even goes so far as to suggest that women should be trained to be more than just wives and mothers because not all of them will actually enter into those roles—she thus suggests other occupations (governess, teacher, nurse) that are appropriate for women. pp. 107-114. She also insists that all people are entitled to education regardless of their class: “Die Bildung ist nicht das Privilegium einiger besonders Begünstigten, sondern sie ist Gemeingut der Menschheit.” (53)

It could not be clearer that education is of paramount importance to Gleim; indeed, it is the only possibility open to mankind for improving its own situation. It is also striking the extent to which developmental biological language has permeated into other areas of cultural production; Gleim uses ‘generation’ to refer to a social entity, but the verb form ‘regenerate’ carries stronger biological connotations. This is only reinforced by the metaphor in the last line of the passage, which combines the biological with the biblical¹²³ to express a hope that education will reform the human race.

Although Gleim shares Pestalozzi’s insistence on cultivating the various capacities of children in balance with each other,¹²⁴ she is far more insistent on the notion that the inner state of the child is much more important than the outward: “Ja gewiß, es ist unwidersprechlich, das Inwendige ist das Erste, Wichtigste, Größeste; und bei dem Menschen das, was allein ihn heiligt oder verunreinigt.” (3) This plays to some extent into a distinction that she makes between *Erziehung* and *Bildung* (in marked contrast to other authors, who tend to use the terms virtually interchangeably). She correlates *Erziehung* with the ‘contents of development,’ whereas *Bildung* is ‘das Formale’ of that development. This is not to say that *Bildung* is therefore the less important element; on the contrary:

Bildung ist nicht den Besitz eines Aggregats von Kenntnissen; denn nicht die extensive Größe des Geistes hat Werth, sondern die intensive; nicht der Grad, sondern die Art des Verstandes; Bildung ist eine freie, selbstständige, allseitig harmonische Gestaltung oder Gestalt seiner selbst und seines Lebens, und die daraus hervorgehende Richtung des Geistes und Gemüths, welche das Mannichfaltige zur Einheit bringt! das Getheilte zur Totalität verbindet, und in allem Wechsel und Wandel der Erscheinungen nur auf das Eine, Unveränderliche und Ewige sieht. (13)

¹²³ Cf. the parable of the mustard seed: Matthew 13:31-32; Mark 4:30-32; Luke: 13:18-20.

¹²⁴ “Erziehung ist Erregung, Entwicklung und Bildung aller Kräfte des Menschen, in und zu einem harmonischen Einklange und für einen gemeinschaftlichen Zweck.” (7)

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