

Fichte's Theory of Drives

MICHELLE KOSCH*

ABSTRACT My aim in this paper is to clarify J. G. Fichte's theory of drives, its origins in the biology of the 1780s and 1790s, and its role in Fichte's moral psychology. I begin by outlining some components of Fichte's theory of agency and his theory of organism that seem puzzling if one assumes, as scholars typically do, that these discussions are indebted primarily to Kant. I then introduce J. F. Blumenbach's theory of natural self-organization, describe some differences between Blumenbach's actual view and Kant's presentation of it in the third *Critique*, and offer some textual evidence that Fichte was aware of these differences and was consciously following Blumenbach and departing from Kant in his conception of organic nature. I then explain how Fichte employs that conception of organism in his response to what had become by the early 1790s one of the central worries about Kantian moral philosophy: the worry about the harmony of rational and natural aspects of human character, articulated most influentially by Schiller.

KEYWORDS Fichte, ethics, drives, moral psychology, Blumenbach, *Bildungstrieb*

SCHOLARS OF GERMAN IDEALISM TYPICALLY CONSIDER J. G. Fichte to have been relatively out of touch with the natural science of his day, and correspondingly unconcerned with its philosophical foundations. If we have occasion to consider Fichte's relation to the life sciences in particular, we usually assume that he drew what little understanding of organization in nature we credit him with having largely from Kant's third *Critique*.

This set of assumptions is likely explained in part by the absence of any dedicated philosophy of nature to accompany the works of practical philosophy during the Jena period, and in part by F. W. J. Schelling's accusation, around the time of their falling out over the relative status of transcendental philosophy and philosophy of nature, that Fichte was committed to denying the independent reality of nature.¹

¹Schelling's accusation had three components: that Fichte treated nature as a mere object of consciousness; that he treated it as the mere indeterminate not-I; and that he treated it "merely teleologically," by which Schelling meant that he deduced various features of it (only) as necessary conditions of human action. These are quite different criticisms; indeed, it is difficult to see how Schelling could have thought them compatible. But they appear side by side both in Schelling's October 3, 1801, letter to Fichte (*Briefe und Dokumente*, II.348–56) and (forty years later) in his lectures on the philosophy of revelation (*Sämmtliche Werke*, XIII.52–54).

* Michelle Kosch is a professor of philosophy at Johns Hopkins University.

The more specific impression that Fichte was ignorant of or hostile to the life sciences in particular likely has its source in G. W. F. Hegel's intervention in that dispute, in which he accuses Fichte of having a mechanistic, "dead" conception of the natural world and of failing to do justice to life and organism.² Hegel's criticism of Fichte on this point in that essay is not entirely coherent, insofar as this specific accusation is inconsistent with the passages about drive and organism in the *System of Ethics* that Hegel himself cites. Other writings of the Jena period, in which Fichte seems closely engaged with important texts of the empirical life sciences, seem to provide clear evidence that Hegel's criticism is inapt.³ But it remains influential,⁴ as does the assumption that Kant's third *Critique* was the main source for Fichte's thinking about organism.⁵ Though seldom explicitly stated, this set of assumptions is the only apparent explanation for otherwise puzzling lacunae in respectable historical works on romantic *Naturphilosophie*,⁶ and it informs an array of interpretive conclusions that would otherwise look quite bizarre.⁷

²In Hegel, *Differenz*, 2:76, 80.

³Certain of Fichte's writings of around 1799–1801 might seem to be motivated by the aim of preventing a breach with Schelling or responding to his criticisms. But the works I am concerned with here—the *System of Ethics*, published in installments over the course of the 1797–98 academic year, the 1794 *Wissenschaftslehre*, and certain preparatory work from 1793—predate not only the dispute with Schelling but also Schelling's own major works on organicism.

⁴See Franks, *All or Nothing*, 366–67, for an explicit endorsement. Hegel's unacknowledged influence can be felt in much of the historical literature cited in the footnotes in the remainder of this paper.

⁵Although Schrader (*Empirisches und absolutes Ich*, 46–50); Moiso (*Natura e cultura nel primo Fichte*, 299–303); and Bertoletti (*Impulso, formazione e organismo*, chap. 5) briefly discuss Blumenbach as a background of Fichte's conception of the empirical subject, the latter two works (like much of the Italian scholarship on Fichte) have not seen uptake in German- or English-language literature. Instead, interpretations along the lines of Wilhelm Jacobs, *Trieb als sittliches Phänomen*—on which drive is treated as the object of an entirely a priori transcendental derivation, with no connection to biology or even empirical psychology—predominate (see van Zantwijk and Ziche, "Fundamentalphilosophie oder empirische Psychologie?," and Binkelman, "Phänomenologie der Freiheit"). Fichte's debt to Blumenbach is more widely acknowledged in the literature on Blumenbach than it is in the literature on Fichte (see Müller-Sievers, *Self-Generation*, and especially the excellent Bertoletti). But even in that literature, Fichte is virtually never mentioned, and Bertoletti seems to be the only scholar who has noticed the importance, for Fichte's moral psychology and his project of "reconstructing deductively, according to a unitary vision, the two aspects of the empirical subject as a biological organism and as a free being," of Blumenbach's concept of a *Bildungstrieb*; see Bertoletti, *Impulso, formazione e organismo*, chap. 5 (and, for the quotation, 92).

⁶Fichte is recognized as an important figure in early German romanticism; and his influence on Schelling is acknowledged. But some of the most important historical works on romantic *Naturphilosophie* proceed as if Fichte simply did not exist. For examples, see Lenoir, "Kant, Blumenbach, and Vital Materialism" and "The Göttingen School"; Richards, "Kant and Blumenbach" and *Romantic Conception of Life*; and Gambarotto, *Vital Forces*. This is all the more surprising in light of the fact that Schelling presents his first statement of the view of organism that would be elaborated in the *Weltseele* in an article that he characterizes as a commentary on Fichte's *Wissenschaftslehre*, and in which he acknowledges that he takes his inspiration from Fichte's writings on practical philosophy between 1793 and 1798.

⁷A good recent example of this is Eckardt et al., *Anthropologie und empirische Psychologie um 1800*. The authors, discussing von Humboldt's reaction to the 1795 announcement (in the *Intelligenzblatt* of the *Allgemeine Literatur Zeitung*) of J. G. Heynig's *Psychologisches Magazin*, write,

This announcement did not go unnoticed. On the 23rd of October 1795, W[ilhelm] v[on] Humboldt wrote to F[riedrich] Schiller: "What sort of psychology journal is the one announced [to appear] with Gabler, and who is the editor—maybe Fichte?" (Fuchs, *J. G. Fichte im Gespräch*, Bd. 1, S. 310) Schiller replied that he did not know (ibid p. 314). *What is astonishing is that someone could take Fichte to be the editor of a psychological journal.* (Eckardt et al., *Anthropologie und Empirische Psychologie um 1800*, 178, emphasis added.)

Unsurprisingly, it has broad ramifications in the interpretation of Fichte's work. In this paper I am concerned to combat the impact this set of assumptions has had on interpretations of Fichte's practical philosophy in particular.

One of Fichte's central philosophical aims was to formulate a moral psychology that would escape what the critics of the early 1790s found to be the most pressing problem with Kant's moral psychology. This is the well-known problem of the integration (or, as Schiller put it in "On Grace and Dignity," the "harmony"⁸) of rational and natural aspects of human character. Fichte sought to escape this problem by substituting for Kant's an account of human psychology and decision-making informed by a conception of human beings as organized products of nature that was different from Kant's. This new account, he thought, would allow him to set reason within nature by modeling it on drive, to explain how reason and extrarational incentives are integrated in the production of behavior, to show that the moral end is a constitutive end of the whole human agent (not merely the rational part), and to suggest that (occasional) conflicts between rational and other drives are no more problematic than (occasional) conflicts between natural drives themselves. It should be no surprise that, toward this end, he looked beyond Kant to the latest developments in the empirical life sciences and in the emerging fields of anthropology and empirical psychology. Schiller himself thought Fichte had made real progress on this score, and comments in the *Letters on the Aesthetic Education of the Human Being* (discussed in section 4 below) indicate that he attributed Fichte's success to the very innovation this paper aims to clarify. If contemporary interpreters have not understood the innovation, that is plausibly because they lack Schiller's insight into Fichte's engagement with the empirical life sciences of his time.

My aim here is to fill in part of the story of Fichte's engagement with these sciences. This will not be a complete picture. My focus will be Fichte's theory of drives, its origins in the biology of the 1780s and 1790s, and its role in his answer to Schiller's question about the unity of rational and natural aspects of human character. I begin by sketching very roughly some components of Fichte's theory of agency (in section 1) and his theory of organism (in section 2) that seem puzzling or unmotivated when placed against the background of what look (at least superficially) like parallel components of Kant's theory. These sections should convince the reader of the modest claim that some of Fichte's remarks about rational agency and its place in nature, and about organic nature itself, call for an explanation that no plausible appeal to Kant's model can provide. In section 3, I introduce J. F. Blumenbach's understanding of the phenomena of self-organization in nature, describe some differences between Blumenbach's view and Kant's presentation of it in the third *Critique*, and present some textual

Indisputably, both Schiller and von Humboldt knew Fichte well. If Fichte was von Humboldt's first guess as the most likely editor of the new psychological journal, and Schiller was unable to say whether or not that was the case, what are contemporary historians to conclude? Surely not what Eckardt et al. conclude: that his contemporaries were astonishingly ignorant about Fichte's lack of interest in this area. In fact, that conclusion would be simply incomprehensible, were it not for the pervasive assumption of contemporary historians that Fichte was virtually allergic to any sort of empirical scientific inquiry.

⁸Cf. Schiller, "Über Anmut und Würde," *Nationalausgabe*, 20:251–308.

evidence that Fichte was self-consciously following Blumenbach and departing from Kant in his account of organisms. Finally (in section 4), I explain how this understanding of organized nature figures in a moral psychology that does not fall prey to Schiller's worry.

I. PUZZLES: AGENTS

Fichte's account of rational agency, its causality and its place in nature, departs from Kant's in striking and peculiar ways that Fichte himself underscores. Most striking, probably, is the degree to which Fichte tries to integrate the motivations of human beings as natural with their motivations as rational beings. It is clear that Fichte takes it to be very important for his overall project that he be able to explain how rational agency is situated within nature. That is why he believes deductions of applicability are required in both the *System of Ethics* and the *Foundations of Natural Right*. Their function is to provide answers to questions like, How do we know which items encountered in experience are entitled to make claims of right on us and to be objects of our moral concern (how do we sort rational from nonrational nature)? How is it that something that is, after all, an animal—with the usual drives aimed at self-preservation and propagation of the species—can also be moved by the claims of morality, where the latter conflict with the former? What entitles us to believe that some things that are undeniably also physical objects (like human bodies) are able to exercise a causality that is not exactly like the causality that nonrational physical objects exert on one another (how can reason be a cause in nature)?

Fichte did not find answers in Kant to all of these questions, and he was dissatisfied with the answers he did find. He thought of the deductions of applicability as bridging the two perspectives on human agency that he thought Kant left unbridged in *Groundwork* III and the second *Critique*. (How to bridge these two was, of course, an important topic of the philosophical conversation of the late 1780s and early 1790s, and it remains an issue in Kant scholarship.⁹) What is perhaps more important is that Fichte thought that the material content of ethics must depend on these deductions of applicability.¹⁰ The guiding idea of Fichte's normative ethics is that rational agency has its own exercise, and the conditions of possibility of that exercise, as its end. His account of those conditions of possibility forms the basis of the account of what makes certain actions objectively morally correct (spelled out in the third part of the *System of Ethics*): actions are objectively morally correct when they protect or further those conditions.¹¹ Such an account must depend on a picture of rational agency on which it is to a large extent naturalized (by which I mean: on which it is a complex set of psychological

⁹See Kosch, "Fichtean Kantianism," 124–27, for a discussion of this problem, the debate around it, and the importance of Fichte's approach to it for the reception of his moral philosophy in the nineteenth century.

¹⁰Fichte, *Sittenlehre*, IV.131; cf. IV.109. Fichte's works are cited according to the volume and pagination in Fichte, *Werke*, except where they do not appear there, in which case they are cited according to part, volume, and pagination in Fichte, *Gesamtausgabe*.

¹¹See Kosch, "Agency and Self-Sufficiency" and *Fichte's Ethics*, for elaboration of this interpretation.

capacities and dispositions whose production and maintenance require the right sort of interaction with the right sort of natural and social environment).¹²

The greater naturalism (in this sense) of Fichte's account of agency is thus not a contingent and separable part of his theory. For him, the possibility of substantive normative ethics in a broadly Kantian spirit depends on the fact that (and the way that) rational agency is embodied and social. In contrast with Kant, who consistently emphasized the independence of the good will from social or material circumstances, Fichte could never use the gallows thought experiment,¹³ or the language of the jewel that would shine in any setting.¹⁴ His emphasis on the dependence of the good will on its place in nature and society is most striking in his account of moral evil, according to which evil is (quite literally) the manifestation of a natural principle of inertia in human behavior. This is a view Kant could never have accepted.

That is a contrast, but not yet a puzzle. A puzzle begins to emerge when we add to this picture certain of Fichte's remarks about the spontaneity of the rational will. Fichte emphasizes, first, that the causation exercised by the rational will is wholly undetermined by any antecedent natural cause and ungoverned by any natural law, and so is incompatible with determinism. Here, for instance:

Every link in a natural chain is predetermined, whether by the law of mechanism or that of organism. . . . But what will occur in the I . . . is not predetermined and simply undeterminable. There is no law according to which free self-determinations follow and can be predicted, because these depend upon the determination of the intelligence, but this latter is as such simply free, pure activity.¹⁵

The fact that the causality of reason is here contrasted with two forms of natural causality ("whether by the law of mechanism or that of organism") will be important in what follows. For now, note simply that the combination of a highly situated view of rational agency with an emphasis on undetermined spontaneity is already rather surprising. Today there are few such views on the table.¹⁶ The same was true in the eighteenth century.

A second surprising feature of Fichte's account of spontaneity is that it does not (in contrast with Kant's) appear to be motivated by any concern for allowing alternate possibilities, and the ought-implies-can principle plays no role in its justification. Fichte's primary concern is instead to articulate how rational agents could be the *self-determining sources of their own ends*. Responsibility, on his account, is tied directly only to the disposition to form intentions based on concepts of ends. Spontaneity enters the picture only because forming concepts of ends is an exercise

¹²Fichte's theory is of course not wholly naturalistic. On his view, there exist mental forces inexplicable in terms of nonmental forces, which produce effects in nature without being themselves naturalistically determined. But as I will show, his moral psychology is significantly more naturalized than it has been taken to be in the interpretive literature up to now, in which scholars have assumed that what Fichte himself describes as the "natural" component of agency—the system of drives—is in fact nonnatural and inaccessible to empirical science. Thanks to an anonymous referee for asking for clarification here.

¹³Kant, *KpV* 5:30.

¹⁴Kant, *GMS* 4:394.

¹⁵Fichte, *Sittenlehre*, IV.134; cf. *Gesamtausgabe*, IV–1:48.

¹⁶Kane, *Significance of Free Will*, is one example.

of thought, and Fichte takes spontaneity to be one of the marks of the mental. So for Fichte, moral agency involves a spontaneity incompatible with determinism, but not for the usual incompatibilist reasons. Instead, he simply happens to think that in addition to being not determined by or explained in terms of nonmental nature, intellectual activity is inventive in a way that renders its causal sequelae unpredictable. If he thought there were *sui generis* deterministic laws governing thought (including the formation of concepts of ends), he could have a fully compatibilist version of exactly the same picture.¹⁷

A third surprising feature (surprising, again, assuming a Kantian background) is Fichte's assessment of the effect of the undetermined spontaneity of the will on the regularity of nature. It was important for Kant that the spontaneity of the rational will be compatible with determinism in the phenomena; and this is, of course, what motivates the characteristically Kantian distinction between empirical and intelligible perspectives on agency.¹⁸ Fichte, by contrast, seems to want to reject determinism about the actions of empirical agents (and so, actions being events with causal consequences, to deny that the empirical world is fully deterministic). Relatedly, again in contrast with Kant, Fichte takes spontaneity to be empirically observable, both in ourselves and in other agents.¹⁹ So he sees no special epistemological problem connected with knowledge that there is spontaneous causality. Our experience simply *presents* us with three forms of causation: the mechanical, the organic, and the rational.

In sum, if one reads what Fichte says about rational agency and its place in nature against a Kantian background, certain aspects of the view will seem rather puzzling—puzzling enough to call for explanation. But before I propose an explanation, let me first describe a second (and, as I will argue, related) set of departures from Kant that also calls for an explanation. These concern how to understand the second form of causality mentioned in the passage from Fichte's *Sittenlehre* at IV.134 reproduced above: the causality of organisms in general.

2. PUZZLES: ORGANISMS

Much of Fichte's discussion of organism seems on its surface not inconsistent with a somewhat careless reading of the third *Critique*. The language he uses to draw the contrast between mechanism and organism echoes Kant's: organic causality is a causality of an organism upon itself and is characteristic of items that are in some sense ends. His gloss on what it means to say an organism is "its own end" looks superficially consistent with what Kant says about what natural ends would have to be in *Critique of Judgment* §§64–65. He agrees with Kant that in the case of natural ends the parts are possible only through their relation to a whole, and that the parts are reciprocally cause and effect of one another's form.²⁰ But distinctive features of the view in the third *Critique* are conspicuously missing from Fichte's characterization.

¹⁷That kind of view had some appeal for Schelling, for instance.

¹⁸See, for example, Kant, *KpV* 5:99, 104.

¹⁹Fichte takes there to be both introspective (*Sittenlehre*, IV.137) and behavioral (*Naturrecht*, III.115–16) evidence of spontaneity.

²⁰Fichte, *Sittenlehre*, IV.128; cf. Kant, *KU* 5:372–76.

One concerns the merely heuristic status Kant attributes to judgments of natural purposiveness. In the third *Critique*, Kant contrasts the teleological way of judging with the mechanistic on the grounds that the former can be used in research into nature only “problematically,” as a principle of the reflecting power of judgment that might guide observation and research, while the latter is a “constitutive principle for the derivation of its products from their causes” and so capable of figuring in genuine explanations. Although we cannot do without the representation of nature as technical on analogy with our own ability to produce things according to concepts of ends, we do not think it is literally true that nature is technical through its own capacity; nor do we intend, in being guided by this analogy, to “introduce a new causality into natural science.”²¹ Moreover, although we cannot understand how mechanistic explanations could ever be sufficient to explain organisms, we also cannot know antecedently the limit of our ability to extend them, and our authorization to seek mechanistic explanations for all phenomena, including organic phenomena, is unlimited.²²

Fichte, by contrast, nowhere distinguishes the epistemic status of purposive or functional explanation from that of mechanistic explanation. In fact, he expresses puzzlement that Kant should privilege mechanistic explanations.²³ Fichte accords to teleological forms of explanation an a priori constitutive status.²⁴ He denies outright that the formation of organisms is determinable by mechanistic laws.²⁵ So while for Kant teleology has a regulative status and all genuine explanations are mechanistic, for Fichte teleological explanations are perfectly legitimate,

²¹Kant, *KU* 5:360–61; cf. 375, 409–11.

²²Kant, *KU* 5:415, 417.

²³Fichte, *Gesamtausgabe*, II–3:242. This and several further citations in this paragraph are drawn from the set of notes titled “Praktische Philosophie, Anhang zu eigene Meditationen über Elementarphilosophie” (*Gesamtausgabe*, II–3:179–266, written late in 1793 and/or early 1794, according to editors of the *Gesamtausgabe*), where Fichte works through a set of themes in the third *Critique* in a way that shows his clear consciousness of the distance that has already opened up between his way of thinking about organisms and Kant’s. (For a clear example, see Fichte, *Gesamtausgabe*, II–3:241, where he remarks, “here I would be again with Kant, and not at all where I want to be.”)

²⁴Fichte, *Gesamtausgabe*, II–3:255. Bertolotti takes some comments in Fichte’s notes to the lectures on Platner’s *Aphorisms* (Fichte, *Gesamtausgabe*, II–4:285–86) to suggest that he takes the “Naturgesetz des Organismus” to be constitutive; see *Impulso, formazione e organismo*, 87. I agree that it is most natural to read Fichte’s remark that the first principle of any systematic doctrine of nature has to be that the organic arises from the inorganic, on the supposition that the *Bildungstrieb* lies “within nature” (Fichte, *Gesamtausgabe*, II–4:285), as an endorsement of Blumenbach’s view on the latter’s own conception of it. Many additional passages could be cited. For instance, in the 1798 lectures on logic and metaphysics, Fichte described the laws of nature to include “not only the mechanical, but also the chemical, which one could also call the organic or the laws of organization,” and chided Kant for failing, in the third *Critique*, to “say clearly enough that 1. our organization is a unity of inner forces, not of outer parts, and 2. that an organized being produces itself, and excludes from itself the unnecessary parts that it contains and draws into itself and forms [the parts] that it does need” (*Gesamtausgabe*, IV–3:260–62). In the Collegium on moral philosophy of 1796, Fichte described “organization” as an “immanent” natural law, which intelligence attributes to nature itself; described the causality of the drive to organization as an object of knowledge (*Gesamtausgabe*, IV–1:45–46); and said that, just as certainly as I must ascribe activity to myself, I must ascribe it to nature as well (*Gesamtausgabe*, IV–1:46). In **Über Geist und Buchstabe in der Philosophie**, Fichte discusses an “Erkenntnistrieb” as something that “manifests itself in its effects; from these we infer the cause in the self-acting subject, and only in this way do we arrive at the idea of the existence of that drive” (*Werke*, VIII.278–79), language that (as we will see) echoes Blumenbach’s quite strikingly.

²⁵Fichte, *Sittenlehre*, IV.110–15; cf. *Gesamtausgabe*, IV–1:45.

because the form of causation they appeal to is constitutive of nature as the object of experience. Fichte also emphasizes the continuity among different levels of explanation, from the science of motion through the science of plants and animals to the science of morality.²⁶ It looks as though he is suggesting a sort of ecumenical nonreductive naturalism (as we would call it today) about the objects of all of these sciences.

A second important departure concerns the conception of teleology itself. It was common to distinguish, as Kant himself does, between immanent and extrinsic teleology. Aristotle took organisms to have the former: an internal end-directedness that explains their development and final composition. Early modern philosophers typically assumed only the latter possible in nonhuman nature: if organisms are ends at all, they are the ends of a rational agent external to them.²⁷ When Kant considered whether we should view organisms as “as if” purposes, the sense of teleology involved was the extrinsic one.²⁸

In Fichte’s writings in this period, by contrast, we find no suggestion that our understanding of organisms would be helped along in any way by thinking about them (at least problematically or by analogy) as the products of an intelligent author. Indeed, we find arguments directed against this very idea. In the Mirbach notes on the 1796 Collegium on **Moral Philosophy**, for instance, Fichte is reported to have said not only that it is “necessary” and lies in the “laws of nature” that it organize itself, but also that insight into this fact should put to rest the “lazy” argument that one can explain organization by recourse to an intelligent orderer of the world.²⁹ What is lazy about the inference from organization to intelligent designer as its best explanation? We “still have no idea how intelligence could have influence in nature.”³⁰ The thought is not fully spelled out, but the idea seems to be that if we think there is only mechanism and no self-organization in nature, then we cannot understand how any intelligence *could* order nature in the organic way. Machines are very different from organisms: they are not self-maintaining or self-reproducing; the explanation of their parts is independent of the explanation of their wholes. So to try to understand natural organization via the posit of divine intelligence is to get things backwards. Fichte here denies that thinking of organisms as “as if” designed (extrinsic teleology) could possibly help us, if we did not already have an account of how nature has the power to organize itself (intrinsic teleology). (This is a point Schelling will later emphasize.)

In sum, there is textual evidence dating to as early as the end of 1793 that Fichte wants to do precisely what Kant cautioned against in §73 of the third *Critique*, namely, to treat organisms and their formation, subsistence, and reproduction as involving a sort of causality distinct from mechanistic but ontologically and epistemologically on a par with it. Fichte takes there to be two distinct, mutually

²⁶Fichte, *Gesamtausgabe*, II-3:261–62.

²⁷See Jorati, “Teleology in Early Modern Philosophy and Science,” for discussion.

²⁸There is a tension in Kant’s presentation at this point, since we also find in Kant the idea, which Fichte will emphasize in the texts discussed in the following paragraph, that organisms are fundamentally different from machines. See Ginsborg “Aesthetic and Biological Purposiveness,” 333; “Two Kinds of Mechanical Inexplicability,” 462; and Zuckert, *Kant on Beauty and Biology*, 119–25.

²⁹Fichte, *Gesamtausgabe*, IV-1:45.

³⁰Fichte, *Gesamtausgabe*, IV-1:45.

irreducible forms of natural causation (taking 'natural' to encompass the empirical; less the distinctively mental) on all fours so far as their ability to figure in explanations goes. That is why, when he discusses the particular character of the spontaneous causation that is unique to rational agents (in the quotation above from *Sittenlehre* IV.134), he distinguishes it from these *two* forms of natural causation. Moreover, he is thinking of organisms not as "as if" products of an intelligent designer, but instead as possessing an immanent force that allows them to form themselves.³¹ This picture does not have its source in Kant.

But to find its source we do not have to look far. In the *System of Ethics* and in a number of other texts in which Fichte discusses moral psychology, he describes human activity, viewed objectively, as a "drive."³² In those same texts, he describes the component of that drive that is given by nature as a *Bildungstrieb*.³³ That term points to a very specific source for this account of organism: Johann Friedrich Blumenbach's *Über den Bildungstrieb und das Zeugungsgeschäfte* (*On the Formative Drive and the Process of Generation*). My claim in section 4 will be that if we apply the conception of organism derived from Blumenbach to the moral psychological project that occupies Fichte in these texts, we will come away with an understanding of Fichte's account of rationality and its place in nature that both dissolves the apparent puzzles outlined in section 1 and explains why Fichte takes himself to have solved the problem articulated by Schiller (and also why Schiller agreed). But first we must examine in some detail the ways in which Blumenbach's conception of organism differed from Kant's.

3. BLUMENBACH AND KANT'S BLUMENBACH

Blumenbach's *Bildungstrieb* book came out in three editions, in 1781, 1789, and 1791. Along with his other works on natural history,³⁴ it was very widely read

³¹A passage in the summer semester 1797 lectures on logic and metaphysics (Fichte, *Gesamtausgabe*, IV-1:173–450) provides further confirmation that this was Fichte's view. He there discusses the *Bildungstrieb* as a natural force through which organisms bring forth other organisms (IV-1:410) right alongside a denial that there are rational grounds for "positing final causes" (by which he means: positing intelligent design) in the world: one must explain things by appeal to physical causes, and if one can, there is no need to appeal to anything else (IV-1:411). This would be a strange juxtaposition if we think of Fichte conceiving Blumenbach's theory as Kant presents it, namely as a theory of what mechanism a creator might have implanted in animals to allow them to reproduce themselves. But as we will see in the next section, it is consistent with Blumenbach's theory as he himself presents it.

³²Fichte describes the task of moral psychology as being to conceptualize our activity as agents in objective terms, and "activity, regarded as object, is drive" (*Sittenlehre*, IV.105). "I am, myself, from a certain perspective, despite the absoluteness of my reason and my freedom, nature; and this, my nature, is drive" (IV.109).

³³Fichte uses the term *Bildungstrieb* in the published part of the *System of Ethics* (*Sittenlehre*, IV.121, 123, 144), in the posthumously published appendix on ascetics (*Werke*, XI.132–33), in the deduction of applicability in the *Foundations of Natural Right* (*Naturrecht*, III.78–79), in the second volume of that work (III.232), and in many other places in written works and lecture notes of the 1790s—for instance, in the Mirbach and Hoijer lecture notes, in the notes on practical philosophy, and in the notes for his lectures on Platner's *Aphorisms*.

³⁴His 1775 dissertation, *De generis humani varietate nativa*, was widely read, its 1795 third edition having been translated into German in 1798; the same is true of his two-volume *Handbuch der Naturgeschichte* of 1779–80, which by 1799 was already in its sixth edition. The 1790 first volume of his *Beyträge zur Naturgeschichte* was also often cited in the ensuing decade, and had come out in a second edition by 1806. His journal, *Medicinische Bibliothek* (1783–95), also seems to have had a wide readership.

and influential to a degree that we have largely lost sight of today. Blumenbach's ambition in the book was to offer a unified explanation of a set of phenomena of self-organization displayed by living things. He sorted these under three established rubrics: generation, nutrition, and reproduction. The main debate concerned the first: how is it that a new organism is produced, from what combination of what contributions on the part of the parents?

The prevailing theory was the preformationism of biologists like Haller and Bonnet. (This is what Blumenbach calls the "germ theory" and what was also called the theory of "evolution"—in a quite different sense of 'evolution' from the one we are used to.) On this theory, the new organism is contained already fully formed, but very, very small, in either the sperm or the egg (depending upon which version of the theory one accepts). Copulation acts as a trigger, causing this already-existing creature to grow. Its growth is a purely mechanical process: new material is incorporated and already-formed parts become larger.

Blumenbach's argumentative leverage against the germ theory came from appeal to the third phenomenon of self-organization, what he called "reproduction," by which he meant the ability of living organisms to repair themselves.³⁵ He pointed out that on the germ theory the repair of injuries, especially injuries that consist in the total removal of entire structures like limbs, is very difficult to explain. If the form is eternal and only the size changes, then once the form is corrupted it should be irreparable. But some creatures regrow entire severed body parts, and all creatures repair themselves after injury in a way that reconstitutes, to at least some extent, their initial form. The repair of the skin surface after an injury in human beings is an example of this. But Blumenbach's favored examples involved creatures whose capacity to reconstitute themselves is more extensive.

Once a limb is removed from a water polyp, what explains the fact that the polyp can regrow the limb and thereby resume its original form? On the germ theory there would, Blumenbach writes, need to be "germs" of the missing limb—indeed germs for every possible missing part of every organism—simply floating around, waiting to be found and incorporated by organisms in need of them.³⁶ He found this idea implausible. But the alternative was to acknowledge that organisms have the power to take unformed matter and form it; and that was exactly what proponents of the germ theory sought to avoid, thinking it inconsistent with a mechanistic account of nature. Blumenbach outlined a set of related problems for the germ theory, among them the explanation of certain regularities in deformities produced by parasites,³⁷ and the possibility of grafting.³⁸ These phenomena of

³⁵Nutrition—the second phenomenon of self-organization—was not an object of such controversy, and Blumenbach does not focus on it.

³⁶Blumenbach, *Über den Bildungstrieb und das Zeugungsgeschäfte*, 77; *Über den Bildungstrieb*, 85–86.

³⁷An example is the *Schlafäpfel* that are produced on rose canes by the gall wasp. These have clearly articulated internal structures that are regular in their form but that are not in any obvious way part of the form of the rose, appearing only sometimes, and at irregular points on the plant (Blumenbach, *Über den Bildungstrieb und das Zeugungsgeschäfte*, 30–31; *Über den Bildungstrieb*, 40–41).

³⁸How could two mutilated halves become one properly formed whole? What joined them? Although this seems to me a less telling example in Blumenbach's favor, it is one of the examples cited by Kant in §64 of the *Critique of Judgment* (*KU* 5:371). (Thanks to Justin E. H. Smith for pointing out how curious this Kantian discussion of grafting seems without the background provided by Blumenbach's text.)

subsequent formation, reformation, and deformation were more important than the absurd Russian-dolls picture of original generation in converting him to the theory of epigenesis.

On that theory, living organisms are able to give form to matter that is antecedently formless. Blumenbach did not take this to be a property of all matter (so he did not embrace hylozoism); instead, he took it to be a property unique to organic matter. He called the property that gave organisms this ability a *formative drive* (*nisus formativus* or *Bildungstrieb*), and described it as

a particular, life-long active, drive . . . to take on initially their determinate shape, then to maintain it over their lifetime, and whenever a part is mutilated, where possible to reconstitute it. A drive that therefore belongs to the life-force, but that is just as distinctly different from other sorts of life-force of organized bodies (contractility, irritability, sensibility, etc.) as it is from the general physical forces of bodies generally, [a force] that appears to be the most important force in all generation, nutrition and reproduction.³⁹

There is some controversy in the historical literature about what Blumenbach took to be the status of this drive as an explanatory principle, and whether Kant's depiction of that in §81 of the third *Critique* is accurate. In §81, Kant presents Blumenbach's theory as an effort to describe a candidate "mechanical law" that might serve as the "tool of an intentionally acting cause"⁴⁰ in designing beings that can reproduce themselves in the ways characteristic of living things. In a letter of August 5, 1790, thanking Blumenbach for the copy of the *Bildungstrieb* book that he had sent him the previous year, Kant describes Blumenbach's theory as a bridge "uniting two principles, that of the physical-mechanical and that of the purely teleological ways of explaining organized nature."⁴¹ Blumenbach's is the best of several candidate bridge theories, Kant argues in §81, because it makes "least possible appeal to the supernatural" in virtue of the fact that it "considers nature, at least as far as propagation is concerned, as itself producing rather than merely developing those things that can initially be represented as possible only in accordance with the causality of ends."⁴²

Timothy Lenoir argued, now some decades ago, that Kant and Blumenbach shared the view that the *Bildungstrieb* has a merely heuristic status: it is not an actual causal or explanatory principle, only a guide to inquiry.⁴³ Robert Richards has

³⁹Blumenbach, *Über den Bildungstrieb*, 24–25; cf. *Über den Bildungstrieb und das Zeugungsgeschäfte*, 12–13.

⁴⁰Cf. Kant, *KU* 5:421–22.

⁴¹Kant, *KU* 11:185.

⁴²Kant, *KU* 5:424.

⁴³See Lenoir, "Kant, Blumenbach, and Vital Materialism" and "The Göttingen School." Lenoir's evidence is Kant's praise for Blumenbach and Blumenbach's addition, in later works of natural history, of language echoing Kant's, to the effect that the *Bildungstrieb* unites mechanism and teleology. As far as the first claim goes, Lenoir must be thinking that since for Kant the *Bildungstrieb* is a principle subordinate to the teleological way of explaining organized nature (which it must be, since for Kant that is the only way available to us), it must have a merely heuristic status (since for Kant the teleological way of explaining organized nature rests on a principle that is merely regulative for our thinking about nature, not constitutive of nature as an object of experience). Müller-Sievers follows Lenoir: "Blumenbach's new version of epigenesis proved to be so successful in part because he consciously utilized the formative drive in a manner conforming with what Kant would call the regulative principle of teleological judgment" (*Self-Generation*, 44). But as we see in the first full paragraph on page

argued more recently, and to my mind more plausibly, that Kant misconstrued Blumenbach's theory, and that Blumenbach accepted Kant's praise because he was flattered by it, not because it presupposed an accurate view of his work.⁴⁴ Certainly, Kant's characterization of the theory seems very clearly at odds with the one in Blumenbach's text, in at least three ways.

First, to say that Blumenbach's theory makes the "least possible appeal to the supernatural" is, at best, faint praise for a theory that makes no appeal to the supernatural whatsoever. Blumenbach nowhere characterizes the *Bildungstrieb* as something that can or should be thought of as an instrument in the hand of an intentionally acting cause. In fact, he seems to avoid very scrupulously what Kant calls "the teleological manner of judging" on Kant's characterization of it, where that involves thinking of organisms as "as if" products of intelligent design.

Second, it is incorrect to characterize the *Bildungstrieb* as a mechanical or mechanistic principle, since Blumenbach is clearly out to distinguish the sort of explanation in which the *Bildungstrieb* figures from the mechanistic explanations of natural phenomena offered by his opponents. He presents the action of the *Bildungstrieb* as a causality of organized matter upon itself (as well as upon unorganized matter), determined by a force intrinsic to organized matter that is distinct from any force recognized in Newtonian mechanics. On no plausible understanding of what Kant means by "mechanistic" in the context of the critique of teleological judgment is the action of the *Bildungstrieb* mechanistic.⁴⁵

Of course, it is possible for some x to "unite" some y and z without having anything in common with either of them. But the *Bildungstrieb* does not seem to have that function. Blumenbach seems instead to take himself to be describing a third form of causation distinct from both mechanistic and intelligent purposive causation.

Finally, Blumenbach presents the formative drive as a natural cause on a par with "the general physical forces of bodies generally."⁴⁶ This puts it on all fours

53, Müller-Sievers is confused: he thinks that being "perceptible only in its effects" makes a principle regulative, and that something like this must serve as a "postulate." Of course the notion of a postulate is distinct from the notion of a regulative principle for Kant, and it does not suffice for regulative status that a principle be "perceptible only in its effects." Müller-Sievers does, however, agree with my assessment that for Fichte the *Bildungstrieb* is not a regulative principle (*Self-Generation*, 77).

⁴⁴See Richards, "Kant and Blumenbach" and *Romantic Conception of Life*. In the literature on this topic of Kant's relationship with Blumenbach, there is no consensus on the question of whether and to what extent Kant and Blumenbach even understood each other. Brandon Look proposes that Kant saw the distance between his characterization of Blumenbach's theory and that theory itself, but saw his own version as a philosophically sophisticated transformation of a philosophically naive idea ("Blumenbach and Kant"). John Zammito follows Richards in characterizing the relation as one of mutual misunderstanding on a number of points ("The Lenoir Thesis Revisited"). But there is emerging consensus on the view that, whether the two understood it or not, they were advancing quite different positions. See e.g. the more recent Gambarotto, *Vital Forces*.

⁴⁵Ginsborg takes Kant's claim that organisms are inexplicable mechanistically (at least by us) as the claim that they cannot be explained by Newtonian forces and arbitrary initial distributions of matter, motion, charge, and the like ("Two Kinds of Mechanical Inexplicability," 455, 462). Zuckert similarly takes the sense of mechanism at issue in the third *Critique's* contrast with teleology to be causation in accordance with the laws of mechanical physics as outlined in the *Metaphysical Foundations of Natural Science* (*Kant on Beauty and Biology*, 102–4). This understanding is consistent with Kant's emphasis on the contingency of organisms from a mechanistic point of view, in contrast with his denial of the contingency of e.g. planetary motion.

⁴⁶Blumenbach, *Über den Bildungstrieb*, 25; cf. *Über den Bildungstrieb und das Zeugungsgeschäfte*, 12.

with forces Kant certainly would not characterize as having a merely heuristic status, for instance the force of attraction. In case the reader of the first edition had doubts about that, Blumenbach makes it quite explicit in the second, slightly expanded edition, which appears to be the edition to which Kant refers in the letter.⁴⁷ There Blumenbach writes,

I hope that for most readers it will be superfluous to remark that the *word Bildungstrieb*, like the *words* attraction, gravity, etc., serves to do nothing more nor less than to denote a force whose constant effect is recognized in experience, but whose *cause*, like the causes of those just-mentioned, universally recognized natural forces, is for us a *qualitas occulta*. What Ovid said is true of all of these forces: *causa latet, vis est notissima* [the cause is hidden; the force is well recognized]. What is gained by studying these forces is only the more precise determination of their effects and their subsumption under ever more general laws.⁴⁸

Blumenbach's likening of the *Bildungstrieb* to the force of attraction rules out an understanding on which it, in contrast with the forces of Newtonian mechanics, has a merely heuristic status, or is part of a form of explanation in which the idea of an intentionally acting cause has any essential place.⁴⁹ This passage makes one wonder what Kant could mean by juxtaposing praise for Blumenbach with the denial of even the possibility that "there may yet arise a Newton who could make comprehensible even the generation of a blade of grass according to natural laws that no intention has ordered."⁵⁰ Blumenbach seems to be claiming for himself precisely that status.⁵¹

We see in Blumenbach, in particular, three features of late-eighteenth century Newtonianism that make it possible for him to embrace a view of the formative drive of just the sort that Kant cautions against in §73.⁵²

First, Blumenbach sees no barrier to positing explanations of the behavior of matter that appeal to the action of disembodied forces. This was a door opened by Newton, who replaced the Cartesian model, on which all dynamic action is by impact, with the model of dynamic action in which the fundamental notion is that of an impressed force (*vis impressa*), which need not be imparted through contact between bodies. Gravity is the paradigm, but the Newtonian model allowed in principle any number of disembodied forces, including vital and mental forces

⁴⁷Everything I discuss in this section except the reference to Newton and occult qualities—whose significance I will underscore—was present already in the first edition. Kant discusses Blumenbach's *Handbuch der Naturgeschichte* in the 1788 "*Über den Gebrauch teleologischer Principien in der Philosophie*," so it is clear that he has known Blumenbach's work for some time before composing the third *Critique*.

⁴⁸Blumenbach, *Über den Bildungstrieb*, 25–26.

⁴⁹Blumenbach is attempting to describe, in Kant's terms, not a regulative principle, but a constitutive one, albeit with the caveat that for Blumenbach (as for Newton) no principle is "constitutive" in the distinctly Kantian sense of being derivable from categories whose bona fides have been established by transcendental argument. Zammito thinks it likely that Blumenbach did not understand, much less endorse, Kant's regulative/constitutive distinction ("Lenoir Thesis Revisited").

⁵⁰Kant, *KU* 5:400.

⁵¹It is worth noting that Kant's blade-of-grass comment is a reiteration of a comment first made thirty-five years before, in the 1755 *Allgemeine Naturgeschichte und Theorie des Himmels* (1:230). So Kant's remark was not originally conceived as a response to Blumenbach in particular, although this is a striking juxtaposition if one has Blumenbach's description of the status of his *Bildungstrieb* in mind.

⁵²In the paragraphs that follow, I am indebted to the appendices in Papineau's *Thinking about Consciousness*, 232–56.

as well as chemical and electromagnetic ones. There is an explosion in appeal to such forces in the second half of the eighteenth century, especially in psychology and physiology.⁵³

Second, Blumenbach thought the inability to provide an account of the source of such a force no barrier to positing it. (This is stated explicitly in the quotation above.) What matters is formulating a sufficiently precise and complete description of the phenomena, and then finding the most general principles covering them. Leibniz thought it a criticism to say that the force of gravity acting at a distance in Newton's system was a "qualitas occulta"—but here we see Blumenbach embracing that term as a description of a methodological principle. What matters is what the posited forces can explain, not whether they can themselves be explained in turn.

Third, there is no evidence that Blumenbach sees any barrier to positing natural forces whose action is regular without being fully deterministic. Certainly, he characterizes the *Bildungstrieb* as producing regularities that are not exceptionless.⁵⁴ In this, he is in perfect order according to Newtonian principles, because until von Helmholtz's establishment of general conservation laws in the middle of the nineteenth century, there was no obligation for Newtonians to think that the physical was even causally closed, much less that it was deterministic. And many of them in fact did not.⁵⁵

Given how antithetical the Kantian view—that biology ineliminably involves a form of thinking that we cannot credit with literal truth—seems to the aspirations of a biology that would be a science, it is no surprise that most people thinking about the life sciences in the 1790s lined up behind Blumenbach rather than Kant. This is recognized to be true in the case of Fichte's contemporaries.⁵⁶ I believe that it is equally true of Fichte himself, and thus that it is no surprise that the view

⁵³“Once disembodied gravity was allowed as a force distinct from the action of impact, then there was no principled barrier to other similarly disembodied special forces, such as chemical forces or magnetic forces or forces of cohesion . . . or indeed vital and mental forces” (Papineau, *Thinking about Consciousness*, 238). Even opponents of Blumenbach who denied that there were *sui generis* formative forces were perfectly happy positing *sui generis* mental forces. One example Papineau cites is Albrecht von Haller—one of Blumenbach's predecessors at Göttingen—who thought the specifically *mental* force of sensibility is not determined by prior stimuli but responds to the spontaneous commands of the soul (*Thinking about Consciousness*, 241).

⁵⁴An example is the discussion of congenital deformities (themselves in turn displaying regularities that are likewise not exceptionless) at Blumenbach, *Über den Bildungstrieb und das Zeugungsgeschäfte*, 56–60. The textual evidence here is not entirely univocal, however, and both Fichte and Schelling take organic causality to be deterministic. What is important for Fichte is that such forces in general need not be deterministic: he takes reason to be such a force, knowable through its effects without being deterministic.

⁵⁵See Papineau, *Thinking about Consciousness*, 238–42. Kant was committed to the causal closure of the physical as described by the science of mechanics and to determinism about the entirety of the empirical world. But such commitments were not obligatory.

⁵⁶Richards writes, “Those biologists who found something congenial in Kant's third *Critique* either misunderstood his project (as did, for example, Blumenbach and Goethe) or reconstructed certain ideas to have very different consequences from those originally intended by Kant (as did Kielmeyer and Schelling). There were some, of course, who simply and explicitly rejected Kant's analysis of teleology (such as Reil). These latter two groups seemed to have understood more clearly than the rest that the *Kritik der Urteilskraft* delivered up a profound indictment of any biological discipline attempting to become a science” (“Kant and Blumenbach,” 26; see Richards, *Romantic Conception of Life*, for a more extended treatment).

of organism outlined in section 2 above is indebted to Blumenbach rather than to Kant.

4. *TRIEB, TRIEBFEDER, BILDUNGSTRIEB*

In Kant's *Groundwork*, *Metaphysics of Morals*, and second *Critique*, we find everywhere the discussion of human motivation in terms of *Triebfeder* but very little (not none at all, but little) discussion of human motivation in terms of *Trieb*. Fichte seldom uses the term *Triebfeder*, and he gives us a moral psychology in which *Trieb* is the basic concept. This might look like a trivial terminological difference, but Fichte tells us that it is not. He tells us that he is using the term *Trieb* to designate a sort of causality that is distinct from the mechanistic sort. At the time he is writing, *Triebfeder* is a perfectly standard term for motivation. But in its literal employment, it refers to the main spring in a clock or other spring-driven mechanism. Fichte contrasts the action of the will with the action of a steel spring in the first part of the deduction section of the *System of Ethics*,⁵⁷ and he tells us that it is critical for understanding the place of reason in nature that organisms have the distinctive kind of causality attributed to *Triebe*.⁵⁸

Fichte is not alone among Kant's followers in the 1790s in replacing *Triebfeder* with *Trieb* in his discussion of human motivation. K. L. Reinhold uses the talk of drives freely.⁵⁹ Indeed, it is Reinhold who introduces the idea of a pure rational drive as a drive toward pure self-activity. It is thus no surprise that some scholars find the source of Fichte's conception of drive most immediately in Reinhold.⁶⁰ But for Reinhold, drives are purely psychological items, and in this way his concept of drive is continuous with a philosophical usage that reaches back to at least the middle of the eighteenth century.⁶¹ Fichte breaks from that usage, insofar as he characterizes drive as the most basic mode of properly organic causation, the force

⁵⁷Fichte, *Sittenlehre*, IV.27–29.

⁵⁸Fichte, *Sittenlehre*, IV.115.

⁵⁹We find the frequent use of the term *Trieb* in the *Versuch einer neuen Theorie des menschlichen Vorstellungsvermögens* (1789); in the *Briefe über die Kantische Philosophie* (not so much in the first [1790] volume but especially in the second [1792] volume); in the *Beyträge zur Berichtigung bisheriger Missverständnisse der Philosophen* (again not so much in the first [1790] volume as in the second [1794] volume).

⁶⁰Claudio Cesa, for instance, writes, "As direct sources we can certainly cite K. L. Reinhold's *Versuch einer neuen Theorie des menschlichen Vorstellungsvermögens*, and also Platner" ("Praktische Philosophie und Trieblehre bei Fichte," 29). The reference to Platner is puzzling, given that in the *Philosophical Aphorisms* (from which Fichte did lecture for many years), Platner discusses only an *Erkenntnistrieb* (Fichte, *Gesamtausgabe*, II-4S:163–65).

⁶¹For a survey of eighteenth-century philosophical uses of the notion of drive, see Buchenau, "Trieb, Antrieb, Triebfeder." Buchenau argues that *Trieb* was primarily a philosophical notion, that its use by Fichte and his followers to solve the problem set by Kant's moral psychology picks up a philosophical tradition stretching from Thomasius to Crusius, and that "it is therefore wrong to think that this concept comes from natural science" ("Trieb, Antrieb, Triebfeder," 11). The point that the concept of *Trieb* had a place in the philosophical discussion of motivations well before Kant is indisputable (though as she notes, its meaning was broad and it was often used interchangeably with the concept *Triebfeder*, which, she agrees [18–19], has a mechanical connotation). She does not discuss Reinhold; but she takes the other philosophers she surveys to employ, like Reinhold, conceptions of drives on which they are wholly psychological items. It would seem correct to see Reinhold as the product of this tradition (and in particular to see his conception of the will as having been influenced by Crusius). But this does not settle the question of whether Fichte belongs within this tradition, and here I disagree with her assessment.

expressing itself in organisms' development and internal articulation as well as their behavior. Far from taking drive to be a term whose sole or even primary use is in the description of goal-directed behavior, Fichte sees an understanding of natural organization in terms of drive as itself a condition of possibility of explaining goal-directed behavior—even human behavior—as a phenomenon occurring in nature.⁶² Behavioral purposiveness is of a piece with (in fact a component of) the purposiveness of nutrition, reproduction, and generation. In this, Fichte follows Blumenbach, not Reinhold.

This should come as no real surprise. By 1790, the *Bildungstrieb* book was already in its second edition and was already a work that it was obligatory for anyone writing on organism in general, or on anthropology or psychology in particular, to cite. The major dictionaries of Kantian technical vocabulary (for example, those by Schmid, Maimon, and Mellin, to name just three) all point out that *Bildungstrieb* is not a specifically Kantian term; and all cite Blumenbach's work directly, often quoting or paraphrasing at length and in great detail.⁶³ Especially important for Fichte will have been two works published in 1791 by philosophers known to have been important for Fichte's early philosophical development. Salomon Maimon, in his *Philosophisches Wörterbuch* (1791), discusses the epigenesis debate in the context of the entry on the world-soul, and much of that entry is dedicated to a detailed exposition of Blumenbach's *Bildungstrieb* book, much of it direct quotation.⁶⁴ Blumenbach's theory also figures prominently in C. C. E. Schmid's *Empirische Psychologie* (1791).⁶⁵ No reader of Schmid's discussion of animal nature

⁶²Recall the discussion of the "lazy argument" from the Mirbach notes in section 2 above.

⁶³Two dictionaries by Georg Mellin, though published only in 1798 and so not works Fichte would have consulted, are nonetheless significant insofar as their treatment of the concept is typical. Mellin's *Encyclopädisches Wörterbuch* contains a nine-page entry on *Bildungstrieb*, which begins with Blumenbach's definition—"Bildungstrieb, nisus formativus, instinct formatrice. The capacity of the material in an organized body to take on its determinate form initially, then to maintain it through its lifespan, and, when it is damaged, where possible to reproduce it" (*Encyclopädisches Wörterbuch*, vol. 1, part 2, 710–11)—and then describes how Blumenbach developed this notion, describes the publication history of the *Bildungstrieb* book, and summarizes its contents. Mellin's *Kunstsprache*, a shorter work, gives a correspondingly shorter entry: "The capacity of the material in an organized body to produce organic material." (*Kunstsprache*, 44). In both cases, Mellin cites only Blumenbach himself as the source, though in the former he also gives the reference to Kant's third *Critique*. That is, Mellin also presents this as a technical term belonging entirely to Blumenbach, to whose meaning Kant himself made no contribution. Likewise, in the entry on *Bildungstrieb* in his widely read *Wörterbuch*, Schmid cites Blumenbach as the source of the notion and makes it clear that he does not take this to be a piece of peculiarly Kantian terminology (115; the entry appeared first in the 1795 edition, so likely was not consulted by Fichte).

⁶⁴Maimon, *Philosophisches Wörterbuch*, 182–89, 206–8. For example, Maimon reproduces the comment (from the second edition) about Newton and occult qualities that I quote above at *Philosophisches Wörterbuch*, 188.

⁶⁵In summarizing the literature on organization, Schmid cites three sources: Kant's *Critique of the Power of Judgment* (1790), Goethe's *Versuch die Metamorphosen der Pflanzen zu erklären* (1790), and Blumenbach's *Bildungstrieb* book (1789 edition) (*Empirische Psychologie*, 431). Schmid clearly has first-hand familiarity with Blumenbach, citing one of Blumenbach's own examples (the Schlafapfel [431]) and reiterating Blumenbach's point that (what Schmid calls) the "organic force" is something we see as the highest source of the laws that unite organic nature, but we know it only from its effects without being able to derive it from any other force of nature (431–32). Though Schmid denies that laws governing matter explain organic phenomena (432), he sets this claim alongside the Kantian view that we need to judge in terms of a cause whose operation is analogous to the causality we exercise in creating purposive items (434). Schmid's *Psychologisches Magazin* would have come too late to be an

in *Empirische Psychologie* could doubt that Fichte's deductions of applicability (in particular, the deduction of the body in the *Foundations of Natural Right*), as well as many comments in his early writings on the mind-body connection, must be indebted in some way to this work itself or to the literature Schmid surveys in it.⁶⁶ Significantly, Schmid describes the spiritual on the one hand and the material and the organic on the other hand as standing in a relation of reciprocal action (*Wechselwirkung*) in animals;⁶⁷ characterizes human nature in terms of a complex system of drives;⁶⁸ and points out that both the power of the will and the capacity for expending mental effort depend on the strength and direction of the life force.⁶⁹ (Fichte's later dispute with Schmid about the role of transcendental philosophy and the possibility of an empirical science of the *intellect* [as opposed to the natural drive] of course did not preclude agreement with quite a bit of Schmid's naturalistic approach to the psychology of moral motivation.⁷⁰) Goethe and Schelling were also in direct dialogue both with Blumenbach's writings and with Fichte.⁷¹

Another close associate in Fichte's early days in Jena to make extensive use of the notion of *Bildungstrieb* in his writings of the early 1790s was Schiller

important influence, but the topics it covers—the empirical psychology of the imagination (1:1–80) and of reason, the understanding, and judgment (2:161–224); and the investigation of the brain as the “organ” of the soul (3:102–11)—display the tenor of the time at which Fichte was composing his practical philosophy.

⁶⁶Schmid, *Empirische Psychologie*, part 5 (413–68). Fichte makes some striking comments concerning Kant's lack of an account of the mind-body connection already in the notes on *Praktische Philosophie*. Imagine that the pleasant arises from the harmony of some material stuff with my body, he writes. Why is this not a matter of complete indifference to me? (*Gesamtausgabe*, II-3:184–85). In the moral philosophy Collegium of 1796, he asks (but never answers) the question, “Where is my intelligence embodied?” (*Gesamtausgabe*, IV-1:48).

⁶⁷Schmid, *Empirische Psychologie*, 445.

⁶⁸Schmid, *Empirische Psychologie*, 450–51.

⁶⁹Schmid, *Empirische Psychologie*, 456.

⁷⁰In particular, their 1795 exchange (Fichte's “Vergleichung des vom Herrn Prof. Schmid aufgestellten Systems mit der *Wissenschaftslehre*,” in response to Schmid's “Bruchstücke aus einer Schrift über die Philosophie und ihre Principien”) is irrelevant to the question of whether and to what extent Fichte relied on Schmid's *Empirische Psychologie* from 1793 onward. The 1795 dispute, on Fichte's presentation of it, concerned whether there can be transcendental philosophy at all on the Kantian model: whether the cognitive faculties can be known through transcendental investigation (Fichte) or whether they can be known only through empirical introspection, with any claims not grounded in immediate consciousness amounting to transcendent metaphysics (Schmid) (Fichte, “Vergleichung,” II.440). Fichte's essay is very polemical, and it is far from clear that this presentation is fair to Schmid. But regardless of whether Fichte was being fair, it is quite clear that the 1795 dispute does not touch on any of the points of contact at issue here. Fichte mentions but does not object to Schmid's view that understanding and willing are given empirically and are natural forces in causal interaction with other parts of nature. He objects only to the conclusion he presents Schmid as drawing from it: that there can be no a priori knowledge about these faculties. He also states explicitly that he is concerned in the essay with Schmid's account of the understanding, not Schmid's account of the will (II.429, 446). That they later disagreed on the status of transcendental investigation of the understanding does not entail that Fichte also came to reject Schmid's empirical characterization of that aspect of the faculty of desire that is, on Fichte's own view, given by nature (namely, the natural drive). Thanks to an anonymous referee for requesting clarification here.

⁷¹This is hardly news. That Goethe's *Versuch die Metamorphosen der Pflanzen zu erklären* (1790) was indebted to Blumenbach is not a matter of dispute; and Goethe was, if we are to trust Fichte's own report, a friend and admirer after the latter's arrival in Jena (Kühn, *Fichte*, 215). Schelling was appointed to a professorship in Jena only in 1798, but his correspondence with Fichte began in September 1794 (see *Fichtes und Schellings philosophischer Briefwechsel*, 1).

himself. In “On Grace and Dignity,” where he first articulates the problem for Kantian moral psychology that would also occupy Fichte, he seems to be using the concept in the context of a still-Kantian picture in which teleological notions have merely subjective or regulative validity when applied to nature.⁷² In the *Letters on the Aesthetic Education of Humankind*, the notion recurs,⁷³ but it is no longer obvious that a heuristic principle is at issue. This change, if it is one, may be due to Fichte’s influence, though that is difficult to say with certainty. What is certain is that Schiller credits Fichte with the idea that one drive (Schiller calls it the “rational” drive) does not simply subordinate the other (“sensuous”) drive in morally virtuous action, but rather modifies it, interacting with it on the model of reciprocal action.⁷⁴ Schiller cites this as the important innovation that allows Fichte’s moral psychology to escape his own 1793 criticism of Kant’s.⁷⁵ Let us now look a bit more closely at this innovation.⁷⁶

Fichte’s proposal is that we replace Kant’s notions of lower and higher faculties of desire with the notions of natural and pure drives.⁷⁷ The former is the system of drives given to the agent by nature,⁷⁸ which Fichte follows Blumenbach in calling a *Bildungstrieb*.⁷⁹ The latter has its source in the intellect. It is not a natural drive, but it is on Fichte’s picture a drive nevertheless. Instead of seeing the pure drive as acting as a mere check or constraint on impulses that arise from the natural drive,⁸⁰ Fichte proposes that we should see it as a force that modifies the natural drive within limits determined by the natural drive itself. The product of that modification is what he calls the “mixed” or “ethical” drive, and it is this mixed drive that informs the intentional actions of normal human adults.

An animal with an intellect represents ends spontaneously and engages in goal-directed behavior that is not predictable in the way that the behavior of an organism without an intellect is. In the presence of the right external stimulus, such an animal can develop an ability to reflect upon this spontaneous end-setting and to engage in higher-order self-determination, for example, by employing strategies (which can be as simple as calling to mind more distant consequences of a proposed course of action) aimed at manipulating its own motivations. Employment of such strategies opens up a range of alternative ways of fulfilling its needs far beyond that available to any nonintelligent, nonreflective animal.⁸¹

⁷²Here I agree with Beiser, who (in *Schiller as Philosopher*) cites Schiller, “Über Anmut und Würde,” 20:259–60, as evidence. Schiller makes reference to a “lebendige Bildungstrieb” (20:275) and a “blinder Bildungstrieb” (20:275–76n) and also uses the related term ‘Bildungskraft’ (20:274) in that text.

⁷³Schiller refers to a “göttliche Bildungstrieb” (9th letter, Schiller, “Briefe über die ästhetische Erziehung des Menschen,” 20:335), a “nachahmende Bildungstrieb” (26th letter, 20:400; see also “Über das Erhabene,” 21:53), and an “ästhetische Bildungstrieb” (27th letter, 20:410) in that text.

⁷⁴Schiller, “Briefe über die ästhetische Erziehung des Menschen,” 20:349–50n.

⁷⁵Schiller’s account of the unification of these two drives in a “Spieltrieb” differs significantly from Fichte’s account of their unification in an “ethical” drive. But Schiller agrees that Fichte has achieved the required *unification* (Schiller, “Briefe über die ästhetische Erziehung des Menschen,” 20:316n).

⁷⁶I discuss Fichte’s moral psychology at greater length in Kosch, *Fichte’s Ethics*, especially chap. 2.

⁷⁷Fichte, *Sittenlehre*, IV.131.

⁷⁸Fichte, *Sittenlehre*, IV.123, 212.

⁷⁹Fichte, *Sittenlehre*, IV.121, 144.

⁸⁰That, he tells us, would entail an ethics of “self-denial” and moreover one on which morality counsels only omissions and contains no positive ends (Fichte, *Sittenlehre*, IV.147–48).

⁸¹Fichte, *Sittenlehre*, IV.126, 130, 138–41, 178–79. I discuss the nature of the stimulus and the changes it produces in Kosch, “Fichte on Summons and Self-Consciousness.”

The pure drive also gives such an animal an end distinct from the one supplied by the natural drive: independence for its own sake.⁸² Not all of the courses of action whose possibility reflection uncovers need be (equally) consistent with the end of independence dictated by the pure drive.⁸³ Some possible actions involve pushing back some limit on either rationality itself or the scope of possible plans of rational agents (improving education, nutrition, stability of social organization, etc.); others impose new limits or undermine capacities already in place (deception, ideological mystification, assault, extreme impoverishment, etc.). The action picked out by the ethical drive is the action, among those possible for an agent at a time, that involves the most of the former and the least of the latter.⁸⁴

Reflection performs this work of opening up possibilities and directing choices only by harnessing the material content of the natural drive. Every end the agent wills must be one that could in principle become an object of the natural drive.⁸⁵ Because the production of rational actions rests on a modification of the natural drive, it does not float free of environmental influences: an action is possible only if and to the extent that the natural drive is modifiable to enable it. Fichte is thus at liberty to treat environmental influences as limiting the extent to which agents are rational and even the extent to which they are morally responsible.

Relatedly, reflection produces effects in nature only to the extent that it is able to harness the causal efficacy of the natural drive. This picture of the empirical causal efficacy of the pure drive is underwritten by a theory of drives on which they involve even nonrational organisms in the exercise of a causality that is already nonmechanistic and is already a form of self-determination, if still a parochial, predictable, nonrationalized form. Fichte tells us that drive supplies a "middle term" by which we can unify nature and reason, a reconciliation that would be impossible if natural causation were limited to mechanism.⁸⁶ Insofar as they are constituted by drive, organisms are self-determining:

Drive is something that neither comes from without, nor goes out again: an inner force [*Kraft*] of the substrate upon itself. Self-determination is the concept by means of which a drive can be thought. Therefore my nature, insofar as it is supposed to consist in drive, is thought as determining itself through itself; for only in this way can drive be understood.⁸⁷

All of the characteristic functions of life are properly characterized as forms of self-determination, insofar as they involve the organism's acting upon itself (forming, healing, nourishing, growing itself) in ways that are mediated by its environment but that are determined ultimately by its own nature. "According to the concept of natural mechanism each thing is what it is through another, and externalizes its existence in a third. According to the concept of drive each thing is what it is through itself, and externalizes its existence in itself."⁸⁸ The structural isomorphism

⁸²Fichte, *Sittenlehre*, IV.131; cf. IV: 39–57, 59–60, 144–45, 149, 152–53, 209, 211–12, 229.

⁸³Fichte, *Sittenlehre*, IV.151.

⁸⁴Fichte also describes it as the action that is part of the series at whose limit (in the mathematical sense) would lie absolute material independence (Fichte, *Sittenlehre*, IV.149). It is not clear these descriptions are equivalent. I discuss this issue at greater length in Kosch, *Fichte's Ethics*, chap. 3.

⁸⁵Fichte, *Sittenlehre*, IV.148.

⁸⁶Fichte, *Sittenlehre*, IV.115.

⁸⁷Fichte, *Sittenlehre*, IV.111.

⁸⁸Fichte, *Sittenlehre*, IV.115.

of drive and reason (the latter itself a form of self-determining activity for its own sake, a “tendency to determine itself purely through itself”⁸⁹) is what allows the rational drive to interact with the natural one in the way that it does.

Against the background of Blumenbach’s theory of *Bildungstrieb*, the idea that rational beings should be self-determining, acting upon themselves for the sake of ends internal to themselves, does indeed appear less metaphysically extravagant than it had to against the background of Kantian assumptions.⁹⁰ Blumenbach’s picture also provides a model for our knowledge of its efficacy: *causa latet, vis est notissima*. Since science, technology, social organization, and the like are the work of reason, Fichte takes evidence of reason’s causal efficacy to be easily discernible in the empirical world. He takes history to provide evidence that human activity tends in fact to produce greater material independence (and greater causal power over nature) over time; and he takes this to be empirical confirmation of his theory of the influence of the pure drive in human action.

One reason for Schiller’s approval of Fichte’s innovation is surely that this model provides what Kant’s did not: a story on which reason is a cause of empirical events on all fours with other causes, and so is capable of nonmysterious interaction with nonrational sources of motivation.⁹¹ Kant had cited Blumenbach at precisely the point in the third *Critique* at which he considered how it might be possible to bridge the “incalculable gulf” between the “domain of the concept of nature” and the “domain of the concept of freedom.”⁹² Fichte no doubt took this hint as a starting point for his reflections. But Kant was committed to treating teleological ways of thinking as licensed only in a limited way, as heuristics, to be replaced by mechanistic explanations where possible; and he thought of them as based on analogy with our own ability to produce artifacts. When Fichte writes, “Every natural product is *its own end*; that is, it forms, simply in order to form, and forms *in such a way*, simply in order to form in such a way,”⁹³ he is not stating a Kantian view in a careless way. He is stating, carefully, a view subtly different from Kant’s, on which the phenomena of organization in nature are explained by a force unique to them, but one on all fours with other forces governing matter, irreplaceable by mechanistic explanation and no more epistemically problematic. The departure from Kant here makes perfect sense, given Fichte’s aim of explaining how reason can be a cause in nature, and thereby demonstrating at least the potential for harmony of rational and natural aspects of human character. How could that aim be fulfilled by appeal to the fact that reason is structurally isomorphic with a form of causality that is, by hypothesis, *not actually effective in nature*, but is instead a mere heuristic?

⁸⁹Fichte, *Sittenlehre*, IV.130.

⁹⁰Thanks to Anna Katsman and Francey Russell for pushing for clarification of this claim and to P. D. Magnus for reassurance that there is a genuine improvement in ontological commitment here.

⁹¹This is itself further evidence that Schiller himself adopted Fichte’s constitutive conception (as Schelling also would) along with Fichte’s causal model of the interaction of pure and natural drives in the *Letters on Aesthetic Education*.

⁹²Kant, *KU* 5:175–76.

⁹³Fichte, *Sittenlehre*, IV.128, emphasis in original.

CONCLUSION

One of the claims that Fichte makes on behalf of his moral psychology is that on it rational and natural components of human agency are harmonized, such that the moral end is the constitutive end of the whole agent, not only the rational part. One necessary condition of this achievement, he tells us, is a notion of drive that is absent in Kant. Previous twentieth- and twenty-first-century treatments of Fichte's theory of agency make that claim rather puzzling. Fichte's contemporaries evidently did not find it at all puzzling. When something like that situation occurs in the historiography of philosophy, the explanation is often that something in the historical context overlooked by later readers allowed contemporaries to interpret a claim in a way that makes sense. That seems to be the case here.

I have argued in this paper that the missing piece of historical background is the conception of *Bildungstrieb* derived from Blumenbach. I first explained some departures from Kant in Fichte's account of rational agency and its place in nature (section 1). I then explained some departures from Kant in Fichte's account of organism (section 2). It is usual, in Fichte scholarship, to assume that Kant would have been the major point of departure for Fichte in both areas, and the exclusive point of departure in the second. In section 3, I proposed an alternative source for Fichte's account of organism. In section 4, I explained how Fichte, along with several contemporaries, employed aspects of this account of organism in moral psychology, in order to solve the problem, first raised by Schiller, of the unity of rational and natural aspects of human character within a broadly Kantian moral philosophy.

To return to the view with which we started, of Fichte as someone whose philosophical disposition did not lead him to have much respect for the natural sciences as autonomous disciplines or for nature itself as possessing its own principles of order independent of our purposes concerning it—the view propagated mainly by Schelling (and by Hegel acting as his agent), primarily in response to Fichte's reaction to the *System of Transcendental Idealism*—we must conclude that it does not survive scrutiny. While it is true that Fichte, like Kant, denied the *transcendental* independence of nature, the thesis that nature as we experience it depends on our cognitive faculties in fact does not dictate a mechanistic view of nature, and is perfectly consistent with respect for the possibility that the empirical science of organisms might shed light on empirical human motivations. There is ample textual evidence that Fichte embraced this possibility. So rather than assuming that Fichte was trying, without success, to reproduce the view in Kant's third *Critique*, we do better to assume that Fichte was trying to offer a plausible response to a common worry about Kantian moral philosophy, on the basis of the best scientific theory available to him, and doing a reasonably well-informed job of it.⁹⁴

⁹⁴I am grateful for the generous feedback of audiences at the 9th International Fichte Congress at the University of Madrid Complutense (September 2015), the Practical Postulates and Philosophical Fictions conference at the Hebrew University of Jerusalem (December 2015), the Chicago Area Consortium in German Philosophy (September 2016), the New York German Idealism Workshop (February 2017), and the Constitutivism workshop at SUNY Albany (March 2019). Special thanks to commentators at two of those events, Jake McNulty and Francey Russell, to two anonymous referees for the *Journal of the History of Philosophy*, and to participants in the 2014–15 German Philosophical Texts reading group at Cornell (Nathan Birch, Zeyu Chi, Michael Demo, Stephen Klemm, and Catherine Smith) for their exceptional patience in working through Blumenbach's text with me.

BIBLIOGRAPHY

- Beiser, Frederick. *Schiller as Philosopher: A Re-Examination*. New York: Oxford University Press, 2005.
- Bertoletti, Stefano. *Impulso, formazione e organismo: Per una storia del concetto di Bildungstrieb nella cultura tedesca*. Florence: Olschki, 1990.
- Binkelmann, Christoph. "Phänomenologie der Freiheit." *Fichte-Studien* 27 (2006): 5–21.
- Blumenbach, Johann Friedrich. *Beyträge zur Naturgeschichte*. 2 vols. Göttingen: Dieterich, 1790–1811.
- . *De generis humani varietate nativa*. Göttingen: Rosenbusch, 1775.
- . *Handbuch der Naturgeschichte*. 2 vols. Göttingen: Dieterich, 1779–80.
- . *Handbuch der Naturgeschichte*. 6th ed. Göttingen: Dieterich, 1799.
- , ed. *Medicinische Bibliothek*. Göttingen: Dieterich, 1783–95.
- . *Über den Bildungstrieb*. Göttingen: Dieterich, 1789.
- . *Über den Bildungstrieb und das Zeugungsgeschäfte*. Göttingen: Dieterich, 1781.
- Buchenau, Stefanie. "Trieb, Antrieb, Triebfeder dans la philosophie morale prékantienne." In "Trieb, tendance, instinct, pulsion," edited by Myriam Bienenstock, special issue, *Revue Germanique Internationale* 18 (2002): 11–24.
- Cesa, Claudio. "Praktische Philosophie und Trieblehre bei Fichte." In *Fichtes praktische Philosophie: Eine systematische Einführung*, edited by Hans Georg von Manz and Günter Zöllner, 21–37. Hildesheim: Georg Olms Verlag, 2006.
- Eckardt, Georg, Matthias John, Temilo van Zantwijk, and Paul Ziche. *Anthropologie und empirische Psychologie um 1800*. Cologne: Böhlau Verlag, 2001.
- Fichte, J. G., and F. W. J. von Schelling. *Fichtes und Schellings philosophischer Briefwechsel*. Edited by I. H. Fichte and Fr. A. Schelling. Stuttgart and Augsburg: Cotta, 1856.
- Fichte, Johann Gottlieb. *Fichtes Werke*. 11 vols. Edited by I. H. Fichte. Berlin: de Gruyter, 1971.
- . *Gesamtausgabe der bayerischen Akademie der Wissenschaften*. 42 vols. Edited by Reinhard Lauth, Hans Jacob, and Hans Gliwitzky. Stuttgart-Bad Cannstatt: Friedrich Frommann, 1962–2011.
- . *Grundlage des Naturrechts nach Principien der Wissenschaftslehre*. Jena and Leipzig: Gabeler, 1796–97. In *Fichtes Werke*, III.1–385.
- . *System der Sittenlehre nach Principien der Wissenschaftslehre*. In *Fichtes Werke*, IV.1–365.
- . *Über Geist und Buchstabe in der Philosophie*. In *Fichtes Werke*, VIII.270–300.
- . "Vergleichung des vom Herrn Prof. Schmid aufgestellten Systems mit der Wissenschaftslehre." In *Fichtes Werke*, II.421–58.
- Franks, Paul. *All or Nothing: Systematicity, Transcendental Arguments, and Skepticism in German Idealism*. Cambridge, MA: Harvard University Press, 2005.
- Fuchs, Erich, Reinhard Lauth, and Walter Schieche, eds. *J. G. Fichte im Gespräch: Berichte der Zeitgenossen*. Stuttgart-Bad Cannstatt: Frommann-Holzboog, 1978.
- Gambarotto, Andrea. *Vital Forces, Teleology and Organization: Philosophy of Nature and the Rise of Biology in Germany*. New York: Springer, 2017.
- Goethe, Johann Wolfgang von. *Versuch die Metamorphosen der Pflanzen zu erklären*. Gotha: Ettinger, 1790.
- Ginsborg, Hannah. "Aesthetic and Biological Purposiveness." In *Reclaiming the History of Ethics: Essays for John Rawls*, edited by Andrews Reath, Barbara Herman, and Christine Korsgaard, 329–60. Cambridge: Cambridge University Press, 1997.
- . "Two Kinds of Mechanical Inexplicability in Kant and Aristotle." *Journal of the History of Philosophy* 42 (2004): 33–65.
- Hegel, Georg Wilhelm Friedrich. *Differenz des Fichteschen und Schellingschen Systems der Philosophie*. Vol. 2 of *Werke*. 20 vols. Frankfurt am Main: Suhrkamp, 1986.
- Jacobs, Wilhelm. *Trieb als sittliches Phänomen*. Bonn: Bouvier, 1967.
- Jorati, Julia. "Teleology in Early Modern Philosophy and Science." In *Encyclopedia of Early Modern Philosophy and the Sciences*, edited by Dana Jalobeanu and Charles T. Wolfe, 1–11. Springer Nature Switzerland, 2019. https://doi.org/10.1007/978-3-319-20791-9_546-1.
- Kane, Robert. *The Significance of Free Will*. New York: Oxford University Press, 1996.
- Kant, Immanuel. *Allgemeine Naturgeschichte und Theorie des Himmels*. In *Kants gesammelte Schriften*, 1:216–416.
- . *Grundlegung zur Metaphysik der Sitten*. In *Kants gesammelte Schriften*, 4:385–464. [GMS]
- . *Kants gesammelte Schriften*. Edited by the Deutsche Akademie der Wissenschaften zu Berlin. 29 vols. Berlin: Reimer, 1900–.
- . *Kritik der praktischen Vernunft*. In *Kants gesammelte Schriften*, 5:1–164. [KpV]
- . *Kritik der Urtheilskraft*. In *Kants gesammelte Schriften*, 5:165–486. [KU]
- . *Über den Gebrauch teleologischer Principien in der Philosophie*. In *Kants gesammelte Schriften*, 8:159–254.

- Kosch, Michelle. "Agency and Self-Sufficiency in Fichte's Ethics." *Philosophy and Phenomenological Research* 91 (2015): 348–80.
- . "Fichte on Summons and Self-Consciousness." *Mind* 130 (forthcoming). Published ahead of print, March 14, 2020. <https://doi.org/10.1093/mind/fzaa001>.
- . *Fichte's Ethics*. Oxford: Oxford University Press, 2018.
- Kühn, Manfred. *Johann Gottlieb Fichte: Ein deutscher Philosoph*. Munich: Beck, 2012.
- Lenoir, Timothy. "The Göttingen School and the Development of Transcendental *Naturphilosophie* in the Romantic Era." *Studies in the History of Biology* 5 (1981): 111–205.
- . "Kant, Blumenbach, and Vital Materialism in German Biology." *Isis* 71 (1980): 77–108.
- Look, Brandon. "Blumenbach and Kant on Mechanism and Teleology in Nature: The Case of the Formative Drive." In *The Problem of Animal Generation in Early Modern Philosophy*, edited by Justin E. H. Smith, 35–72. Cambridge: Cambridge University Press, 2006.
- Maimon, Salomon. *Philosophisches Wörterbuch, oder, Beleuchtung der wichtigsten Gegenstände der Philosophie*. Berlin: Unger, 1791.
- Mellin, Georg. *Encyclopädisches Wörterbuch der kritischen Philosophie*. 6 vols. Züllichau und Leipzig: Friedrich Frommann, 1797–1804.
- . *Kunstsprache der kritischen Philosophie*. Jena and Leipzig: Friedrich Frommann, 1798.
- Moiso, Francesco. *Natura e cultura nel primo Fichte*. Milan: Mursia, 1979.
- Müller-Sievers, Helmut. *Self-Generation: Biology, Philosophy, and Literature around 1800*. Stanford: Stanford University Press, 1997.
- Papineau, David. *Thinking about Consciousness*. Oxford: Oxford University Press, 2002.
- Reinhold, Karl Leonhard. *Beiträge zur Berichtigung bisheriger Missverständnisse der Philosophen*. 2 vols. Jena: Johann Michael Mauke, 1790–94.
- . *Briefe über die Kantische Philosophie*. 2 vols. Leipzig: Göschen, 1790–92.
- . *Versuch einer neuen Theorie des menschlichen Vorstellungsvermögens*. Prague: Widtman and Mauke, 1789.
- Richards, Robert. "Kant and Blumenbach on the *Bildungstrieb*: A Historical Misunderstanding." *Studies in History and Philosophy of Science Part C: Studies in History and Philosophy of Biological and Biomedical Sciences* 31 (2000): 11–32.
- . *The Romantic Conception of Life: Science and Philosophy in the Age of Goethe*. Chicago: University of Chicago Press, 2002.
- Schelling, Friedrich Wilhelm Joseph von. *Briefe und Dokumente*. 3 vols. Edited by Horst Fuhrmans. Bonn: Bouvier, 1962–75.
- . *Sämmtliche Werke*. 14 vols. Edited by Karl Friedrich August Schelling. Stuttgart: Cotta, 1856–61.
- Schiller, Friedrich. "Briefe über die ästhetische Erziehung des Menschen." In *Schillers Werke, Nationalausgabe*. 20:309–412.
- . *Schillers Werke, Nationalausgabe*. 44 vols. Julius Petersen, Gerhard Fricke, Goethe-und Schiller-Archive Weimar: Böhlau, 1943–.
- . "Über Anmut und Würde." In *Schillers Werke, Nationalausgabe*. 20:251–308.
- . "Über das Erhabene." In *Schillers Werke, Nationalausgabe*. 21:328–35.
- Schmid, Carl Christian Erhard. "Bruchstücke aus einer Schrift über die Philosophie und ihre Principien." *Philosophisches Magazin* III:2 1795, 95–132.
- . *Empirische Psychologie*. Jena: Cröker, 1791.
- . *Psychologisches Magazin*. 3 vols. Jena: Cröker, 1796–98.
- . *Wörterbuch zum leichteren Gebrauch der kantischen Schriften*. 3rd ed. Jena: Cröker, 1795.
- Schrader, Wolfgang. *Empirisches und absolutes Ich: Zur Geschichte des Begriffs Leben in der Philosophie J. G. Fichtes*. Stuttgart-Bad Cannstatt: Frommann-Holzboog, 1972.
- Zammito, John. "The Lenoir Thesis Revisited: Blumenbach and Kant." *Studies in History and Philosophy of Biological and Biomedical Sciences* 43 (2012): 120–32.
- Zantwijk, Temilo van, and Paul Ziche. "Fundamentalphilosophie oder empirische Psychologie? Das Selbst und die Wissenschaften bei Fichte und C. C. E. Schmid." *Zeitschrift für philosophische Forschung* 54 (2000): 557–80.
- Zuckert, Rachel. *Kant on Beauty and Biology: An Interpretation of the Critique of Judgment*. Cambridge: Cambridge University Press, 2007.

